



March 13, 2026

Via E-Filing

Ms. Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 West Saginaw Highway
Lansing, MI 48917

RE: MPSC Case No. U-21973

Dear Ms. Felice:

Please find enclosed the Direct Testimony of Liz Jacob on Behalf of Frontline Organizations (Urban Core Collective, Soulardarity, and We Want Green, Too) and Accompanying Exhibits FLO-101 to FLO-130 (Part 1 of 2), along with proof of service, for electronic filing in the above-referenced matter.

Please do not hesitate to contact my office with any questions or comments.

Sincerely,

Mark N. Templeton, *pro hac vice*
6020 S. University Avenue
Chicago, IL 60637
Phone: (773) 702-9611
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xc: Parties to Case No. U-21973

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of DTE	)	
GAS COMPANY for authority to increase	)	Case No. U-21973
its rates, amend its rate schedules and rules	)	
governing the distribution and supply of	)	ALJ Christopher S. Saunders
electric energy, and for miscellaneous	)	
accounting authority.	)	

DIRECT TESTIMONY OF ELIZABETH JACOB

ON BEHALF OF

URBAN CORE COLLECTIVE, SOULARDARITY, AND WE WANT GREEN, TOO
(“FRONTLINE ORGANIZATIONS”)

March 13, 2026

1 **I. INTRODUCTION**

2 **Q: Please state your name, business address, and occupation.**

3 **A:** My name is Elizabeth (Liz) Jacob (she/her/hers), and my business address is 4605 Cass
4 Avenue, Detroit, Michigan 48201. I am employed as the Lead Staff Attorney at the Sugar
5 Law Center for Economic and Social Justice.

6
7 **Q: On whose behalf are you testifying?**

8 **A:** I am testifying on behalf of Soulardarity, Urban Core Collective, and We Want Green
9 Too—collectively known as the Frontline Organizations (“FLO”)—in this proceeding.

10
11 **Q: Please describe your work experience and professional qualifications.**

12 **A:** I have a bachelor’s degree in sustainability marketing and environmental science and
13 policy from the College of William and Mary in Williamsburg, VA, and a juris doctorate
14 from Yale Law School in New Haven, CT. I am licensed to practice law in the state of
15 Michigan. I have attached my resume as an exhibit to this testimony.¹

16
17 **Q: Please describe your current professional work and its relevance to this case.**

18 **A:** The Sugar Law Center for Economic and Social Justice (“Sugar Law Center”) is a non-
19 profit law firm that provides free legal services to support low-income workers, their
20 families, and communities to advocate together for a fuller realization of their economic
21 and social rights. A core aspect of my legal practice at the Sugar Law Center is providing
22 direct legal services to low-income families to address a range of issues with DTE

¹ Ex. FLO-101, Elizabeth Jacob Resume.

1 Energy. As an environmental justice attorney, I support my clients in navigating and
2 enforcing effectively their customers' rights with respect to DTE Energy affordability
3 and collection issues, billing issues, service disconnections, and outages. The legal
4 services that I provide are unique to each client's specific needs and the facts of their
5 individual case. I have helped hundreds of DTE Energy customers enroll in utility
6 assistance programs, enforce their rights as utility customers, negotiate payment
7 agreements, resolve billing issues, avoid or navigate gas or electric shutoffs, and receive
8 compensation following an extended power outage. To address widespread customer
9 issues in low-income communities across Metro Detroit, I also collaborate with local
10 environmental justice groups and community-based organizations to present energy
11 justice education workshops and Know Your Rights clinics to help DTE customers
12 understand and enforce their customer rights. To date, I have served and supported more
13 than 300 families across metro Detroit who are struggling with issues related to DTE
14 Energy. All of the clients to whom I provide direct legal services are low-income
15 households, and the vast majority are households of color.

16
17 **Q: What is the purpose of your testimony?**

18 **A:** The purpose of my testimony is to provide my direct experience as a legal services
19 provider for ratepayers struggling with affordability and collections issues with DTE Gas.
20 I will also address specific challenges that the Company's low-income customers face in
21 accessing affordability programs, in leveraging shut-off protections, and in heating their
22 homes during frigid winter seasons.

1 **Q: How is your testimony organized?**

2 **A: I have organized my testimony as follows:**

3 I: Introduction

4 II: DTE Energy’s customers are facing an unprecedented affordability crisis

5 III: Existing customer assistance and affordability programs are insufficient to
6 address the energy affordability crisis

7 IV: DTE Energy’s shut-off protection programs provide insufficient support to
8 customers

9 VI: Recommendations

10

11 **Q: Have you provided testimony in a Michigan Public Service Commission (MPSC or**
12 **Commission) case before?**

13 **A: Yes, I provided testimony in Case No. U-21534 and Case No. U-21860 regarding DTE**
14 Electric’s last two sought electric rate increases.

15

16 **Q: Are you sponsoring any exhibits?**

17 **A: Yes, I am the following exhibits:**

18 FLO-101. Elizabeth Jacob Resume.

19 FLO-102. Steve Clemmer et al., *Data Center Power Play: How Clean Energy Can Meet*
20 *Rising Demand While Delivering Climate and Health Benefits*, UNION OF
21 CONCERNED SCIENTISTS (Jan. 21, 2026), <https://perma.cc/MX3Z-RHTC>.

22 FLO-103. Brian Allnutt, *Data Centers Could Drive Michigan Air Pollution Higher With*
23 *Climate Law Loophole: Science Nonprofit*, PLANET DETROIT (Jan. 21, 2026),
24 <https://perma.cc/NU8L-SPFU>.

- 1 FLO-104. ELIZA MARTIN & ARI PESKOE, HARV. L. SCH. ENV'T. & ENERGY L. PROGRAM,
2 EXTRACTING PROFITS FROM THE PUBLIC: HOW UTILITY RATEPAYERS ARE
3 PAYING FOR BIG TECH'S POWER (2025), <https://perma.cc/YF3L-T5FP>.
- 4 FLO-105. ENERGY AND AI, INT'L ENERGY AGENCY (2025), <https://perma.cc/EQ6E->
5 NJ49.
- 6 FLO-106. David Rotman, *AI Could Keep Us Dependent on Natural Gas for Decades to*
7 *Come*, MIT TECH. REV. (May 20, 2025), <https://perma.cc/3MXP-LKKE>.
- 8 FLO-107. Deep Vakil, *Riding the High From Data Centers, the Grid Cannot Kick Its*
9 *Gas Habit*, INSIDE CLIMATE NEWS (Sept. 14, 2025), <https://perma.cc/9ZXH->
10 LGLJ.
- 11 FLO-108. Nina Misuraca Ignaczak, *Data Centers in Michigan: What You Need To*
12 *Know*, PLANET DETROIT (Nov. 10, 2025), <https://perma.cc/E5XQ-RPUY>.
- 13 FLO-109. Dominic J. Bednar et al., *The Intersection of Energy and Justice: Modeling*
14 *the Spatial, Racial/Ethnic and Socioeconomic Patterns of Urban Residential*
15 *Heating Consumption and Efficiency in Detroit, Michigan*, 143 ENERGY &
16 BLDGS. 25 (2017).
- 17 FLO-110. RYAN RUGGIERO ET AL., U. MICH. POVERTY SOLS., A DECENT HOME: THE
18 STATUS OF HOME REPAIR IN DETROIT (2020), <https://perma.cc/2URC-VLSD>.
- 19 FLO-111. Reima Nasser & Hailey Barrus, *Prices in the Detroit Metro Area Rose 3.5*
20 *Percent Over the Year*, DTMB MICH. CTR. FOR DATA AND ANALYTICS (Oct.
21 7, 2024), <https://perma.cc/P7GD-UH6U>.
- 22 FLO-112. *Consumer Price Index, Detroit-Warren-Dearborn Area—December 2025*,
23 U.S. BUREAU LAB. STATS. (Jan. 13, 2026), <https://perma.cc/TS7G-DQ6A>.
- 24 FLO-113. *Gov. Whitmer Highlights Impact of Federal Tariffs on Michigan Employers*
25 *and Consumers Causing Price Hikes and Layoffs Across Affected Industries*,
26 GOVERNOR GRETCHEN WHITMER (July 15, 2025), <https://perma.cc/823G->
27 XY5L.

- 1 FLO-114. Leighton Ku et. al., *How Medicaid and SNAP Cutbacks in the “One Big*
2 *Beautiful Bill” Would Trigger Big and Bigger Job Losses Across States,*
3 COMMONWEALTH FUND (June 23, 2025), <https://perma.cc/9Q3V-FCPP>.
- 4 FLO-115. *DTE Foundation Commits \$300,000 to Address Rising Food Insecurity Across*
5 *Michigan,* DTE ENERGY (Nov. 20, 2025), <https://perma.cc/VM96-TJ9B>.
- 6 FLO-116. *Energy Burdens in Detroit,* AM. COUNCIL FOR ENERGY-EFFICIENT ECON.
7 (Sept. 2020), <https://perma.cc/SP8G-SCCV>.
- 8 FLO-117. DATA UPDATE: CITY ENERGY BURDENS, AM. COUNCIL FOR AN ENERGY-
9 EFFICIENT ECON. (2024), <https://perma.cc/U8VL-L68V>.
- 10 FLO-118. THE STATE OF ALICE IN MICHIGAN, UNITED WAY (2025),
11 <https://perma.cc/S2MS-PX5B>.
- 12 FLO-119. *Nearly Half of Detroit Seniors Spend at Least 30% of Their Income on*
13 *Housing Costs—Even as Real Estate Values Fall,* U. MICH. FORD SCH. (Jan.
14 22, 2026), <https://perma.cc/4VAK-TQMW>.
- 15 FLO-120. MICH. PUB. SERV. COMM’N & MICH. DEP’T HEALTH & HUM. SERVS.,
16 MICHIGAN ENERGY ASSISTANCE PROGRAM REPORT TO THE LEGISLATURE—
17 FISCAL YEAR 2024 (2024), <https://perma.cc/RT38-5SC2>.
- 18 FLO-121. MICH. PUB. SERV. COMM’N & MICH. DEP’T HEALTH & HUM. SERVS.,
19 MICHIGAN ENERGY ASSISTANCE PROGRAM REPORT TO THE LEGISLATURE—
20 FISCAL YEAR 2025 (2025), <https://perma.cc/M5BK-6UFL>.
- 21 FLO-122. *Heat & Utilities,* MICH. DEP’T HEALTH & HUM. SERVS.,
22 <https://perma.cc/KEH5-DAHE> (last visited Mar. 10, 2026).
- 23 FLO-123. *Low-Income Programs,* DTE ENERGY, <https://perma.cc/SAP7-C5XM> (last
24 visited Mar. 12, 2026).
- 25 FLO-124. *MI Bridges – State Emergency Relief (SER),* MICH. DEP’T HEALTH & HUM.
26 SERVS., <https://perma.cc/SM6W-SN7A> (last visited Mar. 11, 2026).
- 27 FLO-125. *State Emergency Relief (SER) Program,* MICH. DEP’T HEALTH & HUM.
28 SERVS., <https://perma.cc/DZ9S-PPJU> (last visited Mar. 3, 2026).

- 1 FLO-126. *State Emergency Relief Program: Low Income Home Energy Assistance*
2 *Program*, MICH. DEP'T HEALTH & HUM. SERVS., [https://perma.cc/B879-](https://perma.cc/B879-PTKH)
3 [PTKH](https://perma.cc/B879-PTKH) (last visited Mar. 11, 2026).
- 4 FLO-127. *State Emergency Relief Policy Manuals*, MICH. DEP'T HEALTH & HUM.
5 SERVS., <https://perma.cc/T27T-88Y5> (last visited Mar. 10, 2026) (excerpt).
- 6 FLO-128. *Home Heating Credit Information*, MICH. DEP'T TREASURY,
7 <https://perma.cc/5CYJ-LZ6E> (last visited Mar. 11, 2026).
- 8 FLO-129. OFFICE REVENUE AND TAX ANALYSIS, MICH. DEP'T TREASURY, 2022 HOME
9 HEATING EXPENSES REPORTED BY HOME HEATING CREDIT FILERS (2024),
10 <https://perma.cc/5LUM-7E3G>.
- 11 FLO-130. *Michigan Energy Assistance Program*, MICH. PUB. SERV. COMM'N,
12 <https://perma.cc/P3C6-QSFD> (last visited Mar. 9, 2026).
- 13 FLO-131. *2025 Michigan Energy Assistance Program Grants*, MICH. PUB. SERV.
14 COMM'N (2025), <https://perma.cc/2NBV-M8AJ>.
- 15 FLO-132. MICH. PUB. SERV. COMM'N, ENERGY ASSISTANCE: OUTREACH TOOLKIT
16 (2021), <https://perma.cc/D7CD-R6KM>.
- 17 FLO-133. DTE ENERGY, 2025-2026 PAYMENT ASSISTANCE PROGRAMS (2025),
18 <https://perma.cc/WY7W-MDXU>.
- 19 FLO-134. *Shutoff Protection Plan*, DTE ENERGY, <https://perma.cc/93HT-Y63Z> (last
20 visited Mar. 10, 2026).
- 21 FLO-135. DTE Gas's Response to the Attorney General, Michigan Environmental
22 Council, and Citizens Utility Board of Michigan's Second Discovery Request,
23 U-21973 AGMECCUBDG-2.1-2.8-01 Customer Data January 2022 through
24 December 2025.
- 25 FLO-136. *EAAC: Data Analysis & Regulatory Review, Billing Rules—Part 7 Data*,
26 MICH. PUB. SERV. COMM'N (July 21, 2022), <https://perma.cc/22BL-R3ZM>.
- 27 FLO-137. *BudgetWise Billing*, DTE ENERGY, <https://perma.cc/D3K3-Q9X2> (last visited
28 Mar. 9, 2026).

- 1 FLO-138. *Welcome to the DTE Document Submission Management Portal*, DTE
2 ENERGY, <https://perma.cc/V4F3-VW6P> (last visited Mar. 10, 2026).
- 3 FLO-139. *St. Vincent de Paul Energy Assistance*, SOC’Y ST. VINCENT DE PAUL DETROIT,
4 <https://perma.cc/L6B5-7N3E> (last visited March 4, 2026).
- 5 FLO-140. *Utility Assistance*, UNITED WAY SE. MICH., [https://perma.cc/5VK8-](https://perma.cc/5VK8-VZ9G?type=image)
6 [VZ9G?type=image](https://perma.cc/5VK8-VZ9G?type=image) (last visited March 4, 2026).
- 7 FLO-141. *Energy Assistance*, WAYNE METRO. CMTY. ACTION AGENCY,
8 <https://perma.cc/Q9GK-NSN9> (last visited March 4, 2026).
- 9 FLO-142. *The Salvation Army Energy Assistance*, THE SALVATION ARMY, GREAT LAKES
10 DIVISION, <https://perma.cc/8LQR-YF8M> (last visited March 4, 2026).
- 11 FLO-143. Michelle Jokisch Polo, *Michigan Exhausts Emergency Relief Program Funds*
12 *for the Fiscal Year*, WKAR NEWS (July 10, 2024), [https://perma.cc/KH5R-](https://perma.cc/KH5R-WE3D)
13 [WE3D](https://perma.cc/KH5R-WE3D).
- 14 FLO-144. Brian Allnutt, *Trump Cuts Jeopardize Energy Assistance for Over 400,000*
15 *Michiganders: ‘Devastating’*, PLANET DETROIT (Apr. 2, 2025),
16 <https://perma.cc/Y6LT-US2T>.
- 17 FLO-145. Brian Allnut, *How Government Shutdown Could Add to Strain on Michigan*
18 *Ratepayers*, PLANET DETROIT (October 30, 2025), [https://perma.cc/QX6C-](https://perma.cc/QX6C-TXF7)
19 [TXF7](https://perma.cc/QX6C-TXF7).
- 20 FLO-146. Melissa Nann Burke & Carol Thompson, *What Another Federal Government*
21 *Shutdown Would Mean for Michigan—If It Happens*, THE DETROIT NEWS
22 (Jan. 30, 2026), <https://perma.cc/TAY5-DDWA>.
- 23 FLO-147. Lucas Smolcic Larson, *As Heating Season Arrives, Federal Delays Threaten*
24 *Utility Bill Aid in Michigan*, MLIVE (Nov. 3, 2025), [https://perma.cc/R3KP-](https://perma.cc/R3KP-JRDW)
25 [JRDW](https://perma.cc/R3KP-JRDW).
- 26 FLO-148. U-21860, DTE Electric’s Response to DAAO’s Fourth Discovery Request,
27 DAAODE-4.22f Incoming Call Categories.
- 28 FLO-149. *Ways to Pay*, DTE ENERGY, <https://perma.cc/A7Q6-HS7A> (last visited March
29 4, 2026).

- 1 FLO-150. DTE Gas’s Response to the Attorney General, Michigan Environmental
2 Council, and Citizens Utility Board of Michigan’s First Discovery Request
3 AGMECCUBDG-1.2.
- 4 FLO-151. *Low-Income Programs – Michigan Community Action*, DTE Energy,
5 <https://perma.cc/RMP5-LP87> (last visited March 11, 2026).
- 6 FLO-152. *General Assistance - Winter Protection Plan*, DTE ENERGY,
7 <https://perma.cc/3LVD-XBKH> (last visited Mar. 4, 2026).
- 8 FLO-153. DTE Gas’s Response to FLO’s Second Discovery Request, FLODG-2.1-2.2.
- 9 FLO-154. DTE Gas’s Response to FLO’s Second Discovery Request, FLODG-2.3b.
- 10 FLO-155. DTE Gas’s Response to FLO’s Second Discovery Request, FLODG-2.3a.
- 11 FLO-156. DTE Gas’s Response to FLO’s Fifth Discovery Request, FLODG-5.26
12 Shutoff Protections Exemptions.xlsx.
- 13 FLO-157. NEW DETROIT, CREATING A HEALTHY DETROIT: UNDERSTANDING HOW THE
14 SYSTEMS WE LIVE IN IMPACT OUR HEALTH (2024), [https://perma.cc/B2MX-](https://perma.cc/B2MX-2L8T)
15 2L8T.
- 16 FLO-158. Sheena E. Martenies et al., *Disease and Health Inequalities Attributable to Air*
17 *Pollutant Exposure in Detroit, Michigan*, 14 INT’L J. ENV’T RSCH. & PUB.
18 HEALTH 1243 (2017), <https://perma.cc/A8DC-S2PC>, at 13–18.
- 19 FLO-159. Roshanak Mehdipanah et al., *Detroit’s Legacy of Housing Inequity Has*
20 *Caused Long-Term Health Impacts—These Policies Can Help Mitigate That*
21 *Harm*, U. MICH. SCH. PUB. HEALTH (July 3, 2024), [https://perma.cc/6ECG-](https://perma.cc/6ECG-5YW6)
22 5YW6.
- 23 FLO-160. *General Assistance - Medical Emergency and Critical Care*, DTE ENERGY,
24 <https://perma.cc/HLF5-4FM8> (last visited Mar. 4, 2026).
- 25 FLO-161. DTE Gas’s Response to FLO’s Fifth Discovery Request, FLODG-5.31b.
- 26 FLO-162. DTE Gas’s Response to FLO’s Fifth Discovery Request, U-21973 FLODG-
27 5.31d Medical and Critical Denials.

1 FLO-163. DTE Gas's Response to FLO's Fifth Discovery Request, FLODG-5.31f.

2 FLO-164. DTE Gas's Response to FLO's Fifth Discovery Request, U-21973 FLODG-
3 5.26 Shutoff Protections Exemptions.

4
5 **II. DTE ENERGY'S CUSTOMERS ARE FACING AN UNPRECEDENTED**
6 **AFFORDABILITY CRISIS**

7 **Q: In your opinion, are low- and middle-income customers generally able to access and**
8 **afford DTE Gas's services?**

9 **A:** No.

10 Thousands of customers rely on DTE Gas to keep their homes at safe
11 temperatures during frigid Michigan winters, heat their water, and power their stoves and
12 other essential appliances. Gas is an essential service for so many Michiganders.

13 However, as gas costs continue to rise, DTE's gas services are becoming out of reach for
14 the residents who depend on them. For an increasing number of Michiganders, rising gas
15 costs are straining the budgets of low-income, working-class, and middle-class
16 households. Simply put, for far too many families in Michigan, gas from DTE Gas is
17 unaffordable and inaccessible.

18 DTE's current rates for both gas and electric services are unaffordable for its
19 customers. In my conversations with low-income families across DTE's service territory,
20 I am dismayed to learn that so many household budgets are buckling under the weight of
21 rising electricity and gas costs. Many of my clients do everything they can to reduce their
22 energy use, stay consistent and on time with their DTE payments, and prioritize paying
23 off their DTE bills as quickly as possible. During Michigan's cold winters, I regularly
24 speak with families who seal off whole sections of their homes, light fires indoors, and

1 take other life-impacting measures to limit their gas use and mitigate the impact of high
2 DTE Gas bills.

3 Yet, despite their best efforts, far too many families are burdened by exorbitant
4 DTE bills—especially winter DTE gas bills—that far exceed the costs of other utilities
5 like water and internet, grocery bills, and, for some families, even rent and other housing
6 expenses. During a period of unprecedented rising costs for low- and middle-income
7 (“LMI”) households, my clients make it clear to me that their DTE bills are consistently
8 among the highest costs they must account for each month. The burden of these bills
9 continues to increase year after year as the Company seeks rate hike after rate hike, and
10 the Commission approves the vast majority of DTE’s requests.

11 Furthermore, many of my clients have raised serious concerns that the
12 proliferation of data centers in Michigan, and especially within DTE Energy’s service
13 territory, will add additional strain to their monthly energy costs and the energy grid on
14 which they depend.² DTE Energy and Consumers Energy have indicated that Michigan
15 could see at least 22 gigawatts of load growth from data centers across the state.³ These
16 data center projects represent an unprecedented strain on Michigan’s electric grids that
17 likely will increase demand for natural gas-generated electricity, drive up costs for
18 customers, strain grid capacity, threaten drinking water sources and local waterways, and
19 externalize pollution into local communities.⁴ Coupled with already crushing costs of

² Ex. FLO-102, Steve Clemmer et al., *Data Center Power Play: How Clean Energy Can Meet Rising Demand While Delivering Climate and Health Benefits*, UNION OF CONCERNED SCIENTISTS (Jan. 21, 2026), <https://perma.cc/MX3Z-RHTC>.

³ Ex. FLO-103, Brian Allnutt, *Data Centers Could Drive Michigan Air Pollution Higher With Climate Law Loophole: Science Nonprofit*, PLANET DETROIT (Jan. 21, 2026), <https://perma.cc/NU8L-SPFU>.

⁴ Ex. FLO-104, ELIZA MARTIN & ARI PESKOE, HARV. L. SCH. ENV’T. & ENERGY L. PROGRAM, EXTRACTING PROFITS FROM THE PUBLIC: HOW UTILITY RATEPAYERS ARE PAYING FOR BIG TECH’S POWER (2025), <https://perma.cc/YF3L-T5FP>; Ex. FLO-105, ENERGY AND AI, INT’L ENERGY AGENCY

1 DTE Energy's services, customers are deeply concerned that data center projects could
2 drive up costs and strain the grid to such a level that electricity and gas services are
3 unaffordable and inaccessible for even more residential customers.

4 Over the last year, I have seen DTE's customers face an ever-worsening
5 affordability crisis that threatens to make electricity and gas inaccessible for thousands of
6 families. Now, the rapid expansion of hyperscale data centers across Michigan raises new
7 and unprecedented affordability concerns and risks for ratepayers. This crisis must be met
8 with swift and immediate action that prioritizes the needs of customers—especially low-
9 income customers facing the greatest energy burdens—rather than increasing profits for
10 shareholders. As I support hundreds of customers in enforcing their rights and navigating
11 affordability programs, it is clear to me that the Commission must take immediate action
12 to ensure that DTE Energy's services are affordable and accessible to its customers.

13
14 **Q: Are your clients able to pay their monthly DTE Gas bill without sacrificing other**
15 **basic needs?**

16 **A:** No.

17 As an attorney at a non-profit legal organization, I primarily serve clients whose
18 total household income is below 200% of the Federal Poverty Limit (FPL) and who
19 cannot afford to pay for legal assistance. When I conduct an intake appointment with a
20 new client, I take the time to review their DTE bills with them carefully to gain a

(2025), <https://perma.cc/EQ6E-NJ49>, at 14; Ex. FLO-106, David Rotman, *AI Could Keep Us Dependent on Natural Gas for Decades to Come*, MIT TECH. REV. (May 20, 2025), <https://perma.cc/3MXP-LKKE>; Ex. FLO-107, Deep Vakil, *Riding the High From Data Centers, the Grid Cannot Kick Its Gas Habit*, INSIDE CLIMATE NEWS (Sept. 14, 2025), <https://perma.cc/9ZXH-LGLJ>; Ex. FLO-108, Nina Misuraca Ignaczak, *Data Centers in Michigan: What You Need To Know*, PLANET DETROIT (Nov. 10, 2025), <https://perma.cc/E5XQ-RPUY>.

1 comprehensive understanding of their energy usage, monthly costs, and the DTE
2 programs in which they are enrolled. Further, as many DTE customers are confused by
3 their bills, I take time to explain each aspect of the bill to the household so that they get a
4 better sense of their monthly energy consumption, understand the rates and fees charged
5 by the Company, and can review the Company programs they are enrolled in. I often feel
6 a sense of dread when we review their monthly utility costs. I see that far too many LMI
7 households are consistently paying hundreds of dollars a month to DTE for their electric
8 and gas service, often far more than they can afford.

9 Despite my clients' best efforts to reduce energy consumption and stick to a
10 monthly budget, they—like so many low-income customers throughout DTE's service
11 territory—are trapped in a cruel cycle of unaffordable energy. My clients face greater
12 energy burdens because they often reside in older, energy-inefficient homes that struggle
13 to retain heat, and combined with high gas costs, result in people living in homes with
14 uncomfortable levels of cold.⁵ Thus, they are unable to reduce their bills through
15 conservation efforts without sacrificing comfort or safety. As DTE gas and electric rates
16 increase year after year, it simply becomes impossible for these families to catch up and
17 keep up with their DTE bills.

18 Moreover, my clients face a variety of other affordability challenges that only
19 exacerbate the rising costs of DTE's service. In addition to their DTE Gas bills, my
20 clients are juggling rising costs of food, electricity, water, transportation, housing, and

⁵ Ex. FLO-109, Dominic J. Bednar et al., *The Intersection of Energy and Justice: Modeling the Spatial, Racial/Ethnic and Socioeconomic Patterns of Urban Residential Heating Consumption and Efficiency in Detroit, Michigan*, 143 ENERGY & BLDGS. 25 (2017); Ex. FLO-110, RYAN RUGGIERO ET AL., U. MICH. POVERTY SOLS., A DECENT HOME: THE STATUS OF HOME REPAIR IN DETROIT (2020), <https://perma.cc/2URC-VLSD>, at 12.

1 other necessities.⁶ Furthermore, many of my clients depend on federal safety net
2 programs, from Supplemental Nutrition Assistance Program (SNAP) benefits to
3 Medicaid to Social Security. As these programs face unprecedented cuts and changes,
4 many of my clients are forced to navigate these household costs with lower, and
5 increasingly uncertain, monthly budgets.⁷ Even the DTE Foundation has acknowledged a
6 “continued surge in food insecurity statewide”⁸ Far too many of my clients are forced to
7 make impossible choices each month between paying their DTE bills or paying their rent
8 and buying food for their families.⁹ Like thousands of other low-income customers
9 throughout DTE Gas’s service territory, my clients are facing an energy affordability
10 crisis, which is exacerbated and compounded by other systemic social and economic
11 challenges.
12

⁶ See Ex. FLO-111, Reima Nasser & Hailey Barrus, *Prices in the Detroit Metro Area Rose 3.5 Percent Over the Year*, DTMB MICH. CTR. FOR DATA AND ANALYTICS (Oct. 7, 2024), <https://perma.cc/P7GD-UH6U>, at 1–2; Ex. FLO-112, *Consumer Price Index, Detroit-Warren-Dearborn Area—December 2025*, U.S. BUREAU LAB. STATS. (Jan. 13, 2026), <https://perma.cc/TS7G-DQ6A>; Ex. FLO-113, *Gov. Whitmer Highlights Impact of Federal Tariffs on Michigan Employers and Consumers Causing Price Hikes and Layoffs Across Affected Industries*, GOVERNOR GRETCHEN WHITMER (July 15, 2025), <https://perma.cc/823G-XY5L>, at 1–3.

⁷ Ex. FLO-114, Leighton Ku et. al., *How Medicaid and SNAP Cutbacks in the “One Big Beautiful Bill” Would Trigger Big and Bigger Job Losses Across States*, COMMONWEALTH FUND (June 23, 2025), <https://perma.cc/9Q3V-FCPP>, at 1.

⁸ Ex. FLO-115 *DTE Foundation Commits \$300,000 to Address Rising Food Insecurity Across Michigan*, DTE ENERGY (Nov. 20, 2025), <https://perma.cc/VM96-TJ9B>.

⁹ This directly contradicts the Commission’s own definition of energy affordability as “[t]he extent to which a household has the resources to meet their home energy needs for heating, cooling and other uses in a healthy, sustainable and energy efficient manner without compromising a household’s ability to meet other basic needs.” *In re Response to the COVID-19 Pandemic*, MPSC Case No. U-20757, Order (Dec. 21, 2023), at 36.

1 **Q: Are energy burdens within DTE Gas’s service territory equitable?**

2 **A:** Energy burden is a measure of what proportion of household income is spent on energy
3 bills.¹⁰ An equitable household energy burden is generally understood to be no more than
4 6% of monthly household income dedicated to energy costs (i.e., combined electric and
5 gas (or other heating) costs).¹¹

6 However, dozens of my clients—and likely thousands of other low-income
7 customers across DTE Energy’s service territory—have an energy burden far greater than
8 6%. These inequitable energy burdens are not distributed equally throughout DTE’s
9 service territory. The vast majority of my clients are low-income people of color who
10 spend 10% or more of their monthly income solely on their DTE bills. This is consistent
11 with data that finds that 43% of Black households (183,997 households) and 38% of
12 Hispanic households (20,976 households) in metro Detroit experience a high energy
13 burden of more than 6%.¹² This trend has unfortunately persists as recent research finds
14 that low-income residents, renters, Black households, and Hispanic households tend to
15 experience higher median energy burdens than the median for all households in an area.¹³
16 This is consistent with other studies that find that Black Michiganders face significant

¹⁰ Ex. FLO-116, *Energy Burdens in Detroit*, AM. COUNCIL FOR ENERGY-EFFICIENT ECON. (Sept. 2020), <https://perma.cc/SP8G-SCCV>, at 1.

¹¹ *Id.* See also *In re Response to the COVID-19 Pandemic*, MPSC Case No. U-20757, MPSC Staff Energy Affordability Report (Sep. 10, 2025) [hereinafter Staff Energy Affordability Report], at 171 (“Subsidies should be based on a maximum 6% energy burden for dual commodity customers and electric heating households. Subsidies for single commodity households not using electric heat should be based on a maximum of 4% energy burden payment obligation for electric customers, and a maximum of 2% energy burden for natural gas households’ payments.”).

¹² Ex. FLO-116, at 1.

¹³ Ex. FLO-117, DATA UPDATE: CITY ENERGY BURDENS, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON. (2024), <https://perma.cc/U8VL-L68V>.

1 systemic challenges that limit Black households' ability to meet their basic costs of living
2 needs as compared to other racial groups.¹⁴

3 The median energy burden of low-income households in Detroit is 3.7 times
4 greater than that of non-low-income households.¹⁵ Some of my lowest-income clients
5 have an energy burden of 30%, which means that these low-income DTE customers are
6 spending *approximately one-third of their income just on their monthly DTE bill*. This is
7 a grossly inequitable energy burden that threatens residents' ability to stay in their homes,
8 pay for basic necessities like food and healthcare, maintain a household budget, and
9 invest in their families and communities.

10 Furthermore, many of the clients I serve are seniors living on fixed incomes. As
11 many of the seniors I serve live in older housing stock, their homes—like those of so
12 many other seniors—require greater energy use because they often lack critical
13 weatherization investments like modern insulation, updated appliances, and sealed
14 windows and doors.¹⁶ Especially in Detroit, seniors pay more for utilities, including gas,
15 water, and electricity, compared to other urban communities such as Milwaukee and
16 Pittsburgh.¹⁷ These realities underscore how DTE's unaffordable rates disproportionately
17 impact low-income customers and compound other economic, social, and environmental
18 inequities.

¹⁴ Ex. FLO-118, THE STATE OF ALICE IN MICHIGAN, UNITED WAY (2025), <https://perma.cc/S2MS-PX5B>, at 6.

¹⁵ *Id.*

¹⁶ Ex. FLO-119, *Nearly Half of Detroit Seniors Spend at Least 30% of Their Income on Housing Costs—Even as Real Estate Values Fall*, U. MICH. FORD SCH. (Jan. 22, 2026), <https://perma.cc/4VAK-TQMW>.

¹⁷ *Id.*

1 **Q: Do any of your clients struggle with chronic affordability challenges and hardships?**

2 **A:** Yes.

3 Dozens of my clients have high arrearages owed to DTE Energy that have built up
4 over months to years of rising gas and electric costs. For many low-income families,
5 consistently paying each monthly DTE bill—which can be several hundred dollars—
6 remains an ongoing struggle. From losing a job to having a family emergency,
7 unforeseen circumstances arise that cause households to miss a DTE payment at times.
8 These challenges are compounded by DTE’s rising gas rates that strain a household’s
9 finances and make it impossible for customers to keep up with their monthly payments.
10 Accordingly, I regularly provide legal services to clients with unpaid DTE arrears
11 exceeding \$500. Some of my clients have even had arrears exceeding \$10,000.

12 Customers with high arrears balances struggle to access financial assistance
13 sufficient to pay off outstanding utility balances, stay up to date with current gas and
14 electricity bills, and maintain consistent payments. As a result, this subset of low-income
15 customers faces chronic affordability challenges that constantly put them at risk of
16 service disconnection. Over the last year, I have been deeply troubled to learn that some
17 of my clients, who are struggling to pay thousands of dollars in arrears or are falling
18 behind on their increasing bills, have been forced to end their DTE service completely.
19 For these households, some of which include seniors and children, the unsustainable costs
20 of DTE’s service have forced residents to live without lights, refrigeration, appliances,
21 heating, and cooling. The unaffordability and inaccessibility of DTE’s services push
22 these residents—many of whom are already facing significant health, social, and
23 economic challenges—even further into the margins.

**III. EXISTING CUSTOMER ASSISTANCE AND AFFORDABILITY PROGRAMS
ARE INSUFFICIENT TO ADDRESS THE ENERGY AFFORDABILITY CRISIS**

Q: What is your overall perspective on the effectiveness of DTE Energy's various energy assistance and affordability programs to support energy-burdened customers?

A: When DTE customers fall behind on their bills, they can face significant difficulty to: (1) identify assistance programs, (2) determine whether or not they are eligible for those assistance programs, (3) apply for financial assistance programs for which they are eligible, and (4) access the financial assistance programs in a timely manner to avoid service disconnection. I regularly support my clients and provide public education and training for DTE customers to understand these programs, review program offerings, identify programs for which they may be eligible, and complete applications for financial assistance and shut-off protection programs. Overall, while these programs provide some assistance to some customers some of the time, there are not enough funds to meet all the needs of all customers. Fundamentally, what is needed is more affordable power.

My clients—like so many other LMI customers across Michigan—do everything that they can to stay on top of their bills and make consistent payments for their energy usage. My clients neither misunderstand their responsibility nor exhibit irresponsible payment behavior. LMI customers *want* to be able to afford their bills, and they are doing everything they can to keep the lights on for their households. Yet, due to unaffordable and rising electricity and gas rates, LMI customers experience continuous strains on their household budgets that challenge their ability to make consistent payments.

1 While the structures of the Company's affordability programs suggest that if LMI
2 customers only had more discipline, responsibility, or empowerment, they would not
3 struggle to pay their monthly DTE bills, that in fact could not be further from the truth.
4 DTE customers across the board are struggling to keep up with the ever-rising costs of
5 electricity and gas services. With less disposable income and fewer household resources,
6 DTE's LMI customers bear the greatest burdens of our unaffordable energy system, and
7 they have the least ability to adapt to these rising costs. LMI customers' inability to
8 afford rising DTE costs is not the result of personal moral failings. The unprecedented
9 energy affordability crisis is a *constructed crisis* caused and exacerbated by the high rates
10 charged by DTE Gas and DTE Electric. Affordability programs that actually serve the
11 needs of LMI customers would allow them to have energy bills they can consistently
12 afford, rather than facing ever-increasing, variable amounts that disempower and stress
13 them without providing the necessary support.

14
15 **A. PERSPECTIVES ON PARTICULAR PROGRAMS AND OFFERINGS**
16 **AVAILABLE TO DTE CUSTOMERS**

17 **Q: What assistance and affordability programs does DTE currently offer?**

18 **A:** DTE Gas offers a handful of programs that provide limited financial assistance to some
19 low-income customers. The Company currently offers the following payment assistance
20 programs: (1) State Emergency Relief Program; (2) Home Heating Credit; (3) Michigan
21 Energy Assistance Program/Low-Income Self-Sufficiency Program; (4) the Residential
22 Assistance Credit; (5) the Low-Income Assistance Credit; (6) the Shut-Off Protection

1 Program; and (7) the BudgetWise Program.¹⁸ It is important to note that the assistance
2 programs offered by the Company, such as the LIA and RIA, are funded by ratepayer
3 funds and taxpayer dollars via federal and state funding and generally not by corporate
4 profits.¹⁹

5 However, as I will explain in my review of each program below, these programs
6 are insufficient individually and collectively to meet current customer needs and address
7 the broader energy affordability crisis in Michigan.

8
9 **Q: What is your perspective on the effectiveness of the State Emergency Relief**
10 **Program’s ability to support energy-burdened customers?**

11 **A:** The State Emergency Relief (“SER”) Program is funded by the Federal Low-Income
12 Home Energy Assistance Program (“LIHEAP”) and provides millions in crisis assistance
13 for eligible low-income Michigan residents to pay for electric and gas service.²⁰ The
14 Michigan Department of Health and Human Services (“MDHHS”) administers the SER
15 program.²¹

16 To be eligible for the SER program, a customer must be at or below 150% Federal
17 Poverty Level (“FPL”) and have a current emergency need for utility assistance, such as

¹⁸ While BudgetWise may not be strictly be an affordability program, I include an analysis of the program here because many of my clients—and presumably other customers too—misunderstand BudgetWise to be a financial assistance program.

¹⁹ *In the matter of the application of DTE Gas Company and DTE Electric Company for approval of a Low-Income Payment Stability Plan Pilot Program*, MPSC Case No. U-20929, DTE Energy PSP Report (Jan. 29, 2025), at 32.

²⁰ *See generally* Ex. FLO-120, MICH. PUB. SERV. COMM’N & MICH. DEP’T HEALTH & HUM. SERVS., MICHIGAN ENERGY ASSISTANCE PROGRAM REPORT TO THE LEGISLATURE—FISCAL YEAR 2024 (2024), <https://perma.cc/RT38-5SC2>; Ex. FLO-121, MICH. PUB. SERV. COMM’N & MICH. DEP’T HEALTH & HUM. SERVS., MICHIGAN ENERGY ASSISTANCE PROGRAM REPORT TO THE LEGISLATURE—FISCAL YEAR 2025 (2025), <https://perma.cc/M5BK-6UFL>.

²¹ Ex. FLO-122, *Heat & Utilities*, MICH. DEP’T HEALTH & HUM. SERVS., <https://perma.cc/KEH5-DAHE> (last visited Mar. 10, 2026), at 1–2 (discussing temporary heat and utility assistance).

1 having their gas or electric service shut off or being at risk of energy utility service
2 disconnection (by having a past due energy bill, for example).²² The MDDHS website
3 states that “[t]he SER program is primarily designed to maintain low-income households
4 who are normally able to meet their needs but occasionally need help when unexpected
5 emergency situations arise. The SER program is not an appropriate solution to ongoing or
6 chronic financial difficulties.”²³

7 In the past, the SER Program has not had sufficient funds to meet the high level of
8 financial needs of low-income customers. For the 2023-24 program year, the SER
9 Program exhausted all available funds on June 15, 2024, more than three and a half
10 months earlier than its programmatic end date of September 30, 2024.²⁴

11 For the SER program year that ran from October 2024 to September 2025,
12 MDHHS reduced the maximum service cap amount that households could receive from
13 \$850 for gas and \$850 for electric to \$500 for gas and \$500 for electric,²⁵ presumably to
14 allow more customers to receive some (but less) assistance. It is unlikely that funds went
15 down because utility bills have been decreasing—since the customer experience is quite
16 the opposite, and customers are experiencing higher bills after rate hikes—so this change
17 was likely motivated by a desire to stretch funds to a greater number of households. And,

²² Ex. FLO-123, *Low-Income Programs*, DTE ENERGY, <https://perma.cc/SAP7-C5XM> (last visited Mar. 10, 2026), at 1-3; Ex. FLO-124, *MI Bridges – State Emergency Relief (SER)*, MICH. DEP’T HEALTH & HUM. SERVS., <https://perma.cc/SM6W-SN7A> (last visited Mar. 12, 2026).

²³ Ex. FLO-125, *State Emergency Relief (SER) Program*, MICH. DEP’T HEALTH & HUM. SERVS., <https://perma.cc/DZ9S-PPJU> (last visited Mar. 3, 2026), at 1.

²⁴ Ex. FLO-120 at 3.

²⁵ Ex. FLO-126, *State Emergency Relief Program: Low Income Home Energy Assistance Program*, MICH. DEP’T HEALTH & HUM. SERVS., <https://perma.cc/B879-PTKH> (last visited Mar. 11, 2026), at 1. These amounts may have increased to \$600 for each in 2026. *See* Ex. FLO-127, *State Emergency Relief Policy Manuals*, MICH. DEP’T HEALTH & HUM. SERVS., <https://perma.cc/T27T-88Y5> (last visited Mar. 10, 2026) (excerpt), at 56–57.

1 new for the 2025 Program Year, SER requests for energy-related services are now subject
2 to a limit of one payment per household for heat-related expenses and one payment for
3 non-heat electricity,²⁶ which is a significant change from years prior when customers
4 could apply for SER assistance multiple times until they exhausted their respective dollar
5 caps for gas and electricity support.

6 The SER Program is only an emergency stopgap that provides limited funds to
7 households at risk of, or already experiencing, shut-offs.²⁷ So, for many of the clients I
8 support, the SER funds are far too low to cover the assistance customers need to be in
9 good standing with their utility bills. Moreover, since these funds can only be used in an
10 emergency, customers are not able to access these funds when they start falling behind on
11 their bills, which could allow them to stay on track with their payments. Instead, since
12 these funds are only available when a household is at risk of service disconnection due to
13 non-payment, these funds cannot be used to help a customer avoid a crisis in the first
14 place. While these funds do allow customers to pay off a portion of their bills and keep
15 the lights on for at least another month, far greater financial assistance is needed to meet
16 the needs of low-income customers.

17 Additionally, the changes to the SER Program in Fiscal Year 2025 reduced the
18 amount of money available to each household and limited their ability to seek multiple
19 SER assistance payments until they reached their household caps. These changes created
20 significant confusion, stress, and burden for low-income customers. For instance, I
21 supported a client who, in February 2026, faced a significant risk of both gas and electric

²⁶ *Id.*

²⁷ *Id.* (stating that “[t]o receive a single payment, an individual or household must have a past due account or shot-off notice on an energy bill . . .”).

1 service disconnection due to unforeseen challenges impacting their children and were
2 unable to make their DTE payments in a timely manner. Given the very cold winter
3 weather in February, the client was very concerned about her children's health and safety
4 if they lost access to heat during a snowstorm or as temperatures were below freezing.
5 However, the client's ability to access SER funding was limited because the customer
6 had already applied for and been awarded a modest SER payment for both gas and
7 electric services in November 2025. While the amount they received from SER was
8 under their SER cap for gas and for electric, the program limitations did not allow them
9 to apply again for additional SER assistance once they had applied during the program
10 year. As a result, they were unable to access additional financial assistance from SER due
11 to the single-payment restriction instituted in the 2025 SER Fiscal Year, even though they
12 still had not reached their SER cap for electricity. During the same time, metro Detroit
13 area Community Action Agencies that evaluate and distribute supplemental Michigan
14 Energy Assistance Program paused applications, had processing delays, or were unable to
15 accept new applications²⁸—which created additional stress, challenge, and confusion for
16 my client.

17 Additionally, for many awardees, the SER Program's down payment or
18 copayment requirement hinders their ability to receive their SER award. For many
19 awardees, the SER Program requires that customers pay a down payment or copayment
20 to their utility before they can access their award. In my experience working with low-
21 income households, these down payments or copayments can range from a few dollars to
22 several thousand dollars. I have observed and supported low income-customers to apply

²⁸ See discussion *infra*.

1 for additional funding from the Michigan Energy Assistance Program (“MEAP”) in order
2 to pay their SER Program down payment or copayment; however, depending on their
3 needed amount of assistance and the level of funding remaining in the MEAP budget,
4 they may not be able to access sufficient funds from this program to cover their payment
5 amount and receive their SER award. Once a customer successfully makes an SER down
6 payment or copayment, they must then provide proof of the payment online or in person
7 to MDHHS.²⁹ The payment and associated requirements create significant challenges and
8 confusion for customers that often prevent them from actually accessing critically needed
9 SER funds, even when they have already qualified for the program.

10 Since the SER program is restricted to 150% of the FPL, many Michiganders who
11 are unable to pay their bills but have a household income slightly above the program’s
12 income limit are entirely cut off from these much-needed financial resources. As more
13 households struggle with affordability challenges amid rising electric and gas rates,
14 assistance funding that is overly income-restricted limits households at risk of
15 disconnection from the resources they need.

16 Taken together, while the SER Program does provide limited financial assistance
17 to some low-income DTE customers, its many challenges limit its ability to support
18 households experiencing financial hardship adequately.
19

²⁹ See Ex. FLO-127 at 42.

1 **Q: What is your perspective on the effectiveness of the Home Heating Credit’s ability**
2 **to support energy-burdened customers?**

3 A: The Michigan Department of the Treasury administers the Home Heating Credit
4 (“HHC”).³⁰ As with the SER Program, the HHC is funded primarily through the federal
5 Low-Income Home Energy Assistance Program (“LIHEAP”) and provided
6 approximately \$67 million in heating credits in tax year 2022 to eligible low-income
7 customers in Michigan.³¹ To be eligible for the HHC, a household must be at or below
8 110% of the FPL, so this program is even more income-restricted than other financial
9 assistance programs available to DTE customers.³²

10 In my experience working with residents, the HHC can cause significant
11 confusion and logistical challenges. The application itself is akin to a tax form.
12 Calculating an estimated credit is a complex process, particularly for those living in
13 shared housing or transitioning between homes, so many customers struggle to
14 understand and fill out the form correctly. While there are some resources available to
15 help residents fill out the HHC and other tax forms at no cost, many DTE customers are
16 unaware of such services. Furthermore, while many customers receive their HHC as a
17 credit sent directly to DTE, some receive it as an Energy Draft—a credit issued by the
18 state—that they must submit to DTE, a process that can be confusing and burdensome for
19 residents with limited access to resources.

³⁰ Ex. FLO-128, *Home Heating Credit Information*, MICH. DEP’T TREASURY, <https://perma.cc/5CYJ-LZ6E> (last visited Mar. 11, 2026), at 2 (describing the credit and the process for accessing it).

³¹ Ex. FLO-129, OFFICE REVENUE AND TAX ANALYSIS, MICH. DEP’T TREASURY, 2022 HOME HEATING EXPENSES REPORTED BY HOME HEATING CREDIT FILERS (2024), <https://perma.cc/5LUM-7E3G>, at 2–3.

³² Ex. FLO-123, at 1.

1 **Q: What is your perspective on the effectiveness of the Michigan Energy Assistance**
2 **Program’s support for energy-burdened customers?**

3 **A:** The Michigan Energy Assistance Program (“MEAP”)³³ is administered by Community
4 Action Agencies throughout Michigan and received approximately \$54 million in
5 funding from the state Low-Income Energy Assistance Fund (“LIEAF”) and LIHEAP for
6 2025.³⁴ The Community Action Agencies that administer MEAP include Barry County
7 United Way, Bureau of Community Action and Economic Opportunity, Society of St
8 Vincent de Paul, Superior Watershed Partnership, the Heat and Warmth Fund, the
9 Salvation Army, TrueNorth Community Services, United Way for Southeastern
10 Michigan, and United Way Ventures LLC/United Way of South Central Michigan.³⁵

11 MEAP provides supplemental utility assistance to low-income utility customers
12 who are at or below 60% of the State Median Income (“SMI”).³⁶ There are two options
13 for eligible low-income customers to access MEAP.³⁷ An eligible low-income DTE
14 customer can choose to receive a one-time payment toward their arrears, or they can
15 choose to enroll in the Low-Income Self-Sufficiency Plan (LSP), which I will discuss in
16 more detail below.

³³ Ex. FLO-130, *Michigan Energy Assistance Program*, MICH. PUB. SERV. COMM’N, <https://perma.cc/P3C6-QSFD> (last visited Mar. 9, 2026), at 3. Based on individual factsheets at <https://www.michigan.gov/mpsc/consumer/energy-assistance/2026-meap-grant-program-fact-sheets>, for 2026, MEAP grantees received the following: Barry County United Way (\$249,915), Bureau of Community Action and Economic Opportunity (\$6,000,000), Society of St Vincent de Paul (not provide), Superior Watershed Partnership (\$5,000,000), the Heat and Warmth Fund (\$8,500,000), the Salvation Army (\$17,280,000), TrueNorth Community Services (\$18,592,635), United Way for Southeastern Michigan (\$8,000,000), and United Way Ventures LLC/United Way of South Central Michigan (\$8,480,000).

³⁴ Ex. FLO-130 at 2–4.

³⁵ Ex. FLO-131, *2025 Michigan Energy Assistance Program Grants*, MICH. PUB. SERV. COMM’N (2025), <https://perma.cc/2NBV-M8AJ>, at 1.

³⁶ Ex. FLO-123 at 1.

³⁷ See Ex. FLO-132, MICH. PUB. SERV. COMM’N, *ENERGY ASSISTANCE: OUTREACH TOOLKIT* (2021), <https://perma.cc/D7CD-R6KM>, at 5.

1 I have helped dozens of residents seek help from these programs, and they and I
2 have found the process burdensome and time-consuming. It can take several hours for
3 residents to fill out the necessary SER and MEAP applications, which can be especially
4 onerous for residents who lack consistent access to technology, those who must go in
5 person to an MDHSS office or Community Action Agency to fill out the application, and
6 those who must gather appropriate paperwork from several household members.
7 Furthermore, since a customer only has a few weeks to provide proof of an SER down
8 payment to access their SER award, they are often left with a very limited window to
9 apply for and have their MEAP assistance applications in time to access the financial
10 resources needed from both the SER and MEAP. This can put significant pressure and
11 stress on customers to navigate confusing application processes quickly, to provide
12 supporting documentation as requested, and to finalize their participation in two separate
13 energy assistance programs.

14
15 **Q: What is your perspective on the effectiveness of the Residential Income Assistance**
16 **Credit to support energy-burdened customers?**

17 **A:** The Residential Income Assistance Credit (“RIA”) is currently a \$14.50 per month DTE
18 Gas credit for eligible low-income households.³⁸ “Over 115,000 unique gas customers
19 received the RIA credit in 2024 with an annual monthly average of 70,000.”³⁹

20 The credit may be renewed annually at the Company’s discretion based on the
21 eligibility requirements. On its website, DTE Energy outlines a number of required

³⁸ Ex. FLO-123, at 2. The Company is not proposing any eligibility changes in this case. *See* Sparks Direct Testimony at 41.

³⁹ *Id.* at 42.

1 documents—establishing identity, dependents, and income—that customers must submit
2 via DTE’s online Document Submission Portal in order to be considered for the program.
3 While the LIA is technically available to any customer who has a total household income
4 at or below 150% of the FPL,⁴⁰ it is unclear whether any additional criteria or factors
5 influence an applicant’s ability to receive the RIA.⁴¹ The Company does not provide clear
6 information on its website about the application review process or the criteria used to
7 assess applications. In this case, the Company is not proposing changes to how the RIA
8 credit is applied to eligible customers,⁴² although it requests an increase to \$15.40,⁴³
9 consistent with the increased monthly customer charge.⁴⁴

10 In my experience, many customers, including those receiving the RIA as noted on
11 their DTE bill, do not understand either the RIA or how to access this credit. Once I
12 inform a client that they are receiving the RIA and explain the program, they are
13 appreciative of the credit. However, they quickly note that the small amount of the RIA
14 Credit is insufficient to mitigate the rising costs of their DTE bills or address their
15 struggles to afford their gas bill meaningfully. Additionally, clients who have navigated
16 the RIA online application have expressed confusion about the RIA’s eligibility,
17 application process, document submission process, and the Company’s determination of
18 whether customers receive the RIA.

⁴⁰ *Id.* at 41.

⁴¹ *See id.* *See also* Ex. FLO-133, DTE ENERGY, 2025-2026 PAYMENT ASSISTANCE PROGRAMS (2025), <https://perma.cc/WY7W-MDXU> at 7.

⁴² Sparks Direct Testimony at 43.

⁴³ *Id.*

⁴⁴ Huffman Direct Testimony at 64.

1 **Q: What is your perspective on the effectiveness of the Low-Income Assistance Credit**
2 **to support energy-burdened customers?**

3 **A:** The Low-Income Assistance Credit (“LIA”) is a \$40 per month credit available for some
4 low-income DTE Gas customers.⁴⁵ The LIA is technically available to any customer who
5 has a total household income at or below 150% of the FPL.⁴⁶ “In 2024, 43,000
6 households enrolled in the program with a monthly average of 36,000.”⁴⁷ In this case, the
7 Company is not proposing to change the LIA amount, and it is basing its recovery request
8 on an average enrollment of 33,000 customers per month.⁴⁸

9 In my experience, customer awareness and understanding of this program and
10 their ability to access it is very low. While the MPSC Energy Assistance Outreach
11 Toolkit states that “customers interested in applying for the LIA should contact their
12 utility,” neither the MPSC nor DTE Energy provides specific information as to how
13 exactly customers should contact their utility to enroll in the LIA or what the application
14 process is to apply for the LIA.⁴⁹ The Company provides insufficient information as to
15 (1) how customers can know about the existence of the LIA and the availability of LIA
16 funds in a given year;⁵⁰ (2) what the process is to apply for the LIA with the Company;
17 and (3) for how long they can receive the LIA credit. As with the RIA, many customers,
18 including those who are actually receiving the LIA as noted on their DTE bill, do not
19 understand either the LIA credit or how they can apply to receive it. Once I inform a

⁴⁵ Sparks Direct Testimony at 43. The Company is not proposing any eligibility changes in this case. *See id.* at 41.

⁴⁶ *Id.* at 43.

⁴⁷ *Id.*

⁴⁸ *Id.* at 44.

⁴⁹ Ex. FLO-132 at 6.

⁵⁰ Ex. FLO-133 (not including LIA on list of programs).

1 client that they are receiving the LIA and explain the program to them, clients are
2 appreciative of the credit. However, they quickly note that \$40 per month is insufficient
3 to address their rising DTE bills that frequently exceed hundreds of dollars per month.⁵¹
4

5 **Q: What is your perspective on the effectiveness of the Shut-Off Protection Program to**
6 **support energy-burdened customers?**

7 **A:** The Shut-Off Protection Program (“SPP”) is a payment agreement that DTE provides for
8 Company-verified low-income customers at or below 200% of the FPL.⁵² Importantly,
9 since the SPP is available to customers at 200% of the FPL, rather than 150% of the FPL
10 level for SER and MEAP, more low-income customers are eligible for the SPP.⁵³ Seniors
11 age 65 or older are also eligible to participate in SPP regardless of income.⁵⁴ To
12 participate in the SPP, customers must both submit income verification documentation
13 online and pay a down payment to DTE. Applicants must submit the income verification
14 documentation online via DTE’s Customer Document Submission Portal.⁵⁵ There was a
15 total of 15,684 customers enrolled in the shut-off protection program as of December
16 2025.”⁵⁶

17 There are several practical problems with applying to the SPP. First, the document
18 submission portal can be very confusing and difficult for customers with limited digital

⁵¹ Sparks Direct Testimony at 43.

⁵² Ex. FLO-134, *Shutoff Protection Plan*, DTE ENERGY, <https://perma.cc/93HT-Y63Z> (last visited Mar. 10, 2026), at 2.

⁵³ *Id.* at 1–4.

⁵⁴ *See id.* at 1–2.

⁵⁵ *Id.* at 2–4.

⁵⁶ Ex. FLO-135, DTE Gas’s Response to the Attorney General, Michigan Environmental Council, and Citizens Utility Board of Michigan’s Second Discovery Request, U-21973 AGMECCUBDG-2.1-2.8-01 Customer Data January 2022 through December 2025.

1 literacy and access to technology to navigate. Moreover, the documents required by DTE
2 for low-income verification—(1) identification for the account holder; (2) legal
3 documents verifying the household size; and (3) documentation of household income—
4 are often challenging for clients to obtain and present. I have spent considerable time
5 supporting clients to track down necessary documents like tax returns, birth certificates,
6 and social security cards and helping them learn how to upload those documents online.
7 It is important to note that many of my clients do not have access to these specific legal
8 documents for all their family members, so despite being eligible for this program based
9 on their household size and income, they are unable to participate due to a lack of
10 documentation.

11 Problems persist even after a low-income customer successfully uploads their
12 documents to DTE Gas’s document submission portal. It can take several days for the
13 Company to contact the customer and provide the details needed to enroll in SPP. Since
14 many customers attempt to enroll in SPP after receiving a shut-off notice, they have a
15 limited timeline of ten days or less to enroll and make the minimum payment necessary
16 to avoid service disconnection. The delayed follow-up from DTE to share program
17 details and enrollment information can add even more stress and burden to the already
18 stressful experience of receiving a notice of utility shutoff.

19 Customers also struggle with the SPP’s required down payment and set monthly
20 payment amounts. To enroll in SPP, DTE requires a customer to pay at least 10%, and in
21 my clients’ experiences, typically between 20% and 40%, of their outstanding balance for
22 both gas and electric services (which includes their total arrears) as a down payment.⁵⁷

⁵⁷ See FLO-136, *EAAC: Data Analysis & Regulatory Review, Billing Rules—Part 7 Data*, MICH. PUB. SERV. COMM’N (July 21, 2022), <https://perma.cc/22BL-R3ZM>, at 9.

1 SPP does not provide any financial assistance to support them in making this down
2 payment, paying off their arrears, or making consistent payments once enrolled. My
3 clients work diligently to pay off their bills to the best of their abilities, even while they
4 are struggling to cover other basic necessities. For customers with high arrearages,
5 payment agreement programs like SPP are simply inaccessible due to high down payment
6 requirements and unaffordable monthly payment amounts. For clients who have arrears
7 upwards of \$1,000, it is simply impossible for them to make a down payment of \$100 to
8 \$400, on top of high monthly bills and other essential expenses.

9 Moreover, I have witnessed numerous customer experiences that illustrate the
10 serious shortfalls of SPP even after a customer has successfully enrolled. For instance, I
11 have seen clients fall behind on an SPP payment by just a few days—for instance, due to
12 an unforeseen crisis such as losing a job or getting into a vehicular accident—and then
13 face immediate removal from the program. Also, recently, the Company seems to have
14 made a modest change to ensure that if a customer’s average energy use is 5% higher or
15 lower than the original calculation, they will adjust the monthly plan amount,⁵⁸ rather
16 than assess a massive “recalculation fee.” While this is a positive step, the variability of
17 the amount makes it hard for residents to budget effectively and stay up to date on their
18 SPP payments and can cause my clients to fall out of the program. Once they fall out of
19 SPP, they typically need either to pay another down payment to rejoin the program or, if
20 DTE no longer offers the SPP option, to negotiate a payment agreement if the Company

⁵⁸ *Id.* at 1 (As noted by the Company, “We will re-calculate your energy usage every three months and adjust for fluctuations. If your average energy usage is 5% higher or lower than our original calculation, we will adjust your monthly plan amount.”).

1 makes that option available to them. It is incredibly burdensome for customers to have to
2 navigate, enroll, and re-enroll in SPP.

3 These issues highlight how one of DTE's primary company-managed low-income
4 payment programs fails to meet the needs of low-income customers.

5
6 **Q: What is your perspective on the effectiveness of the BudgetWise Billing Program to**
7 **support energy-burdened customers?**

8 **A:** The BudgetWise Billing Program is a program that allows a DTE customer to divide their
9 estimated annual energy usage into a more standard monthly bill. The Company reviews
10 the difference between the energy a customer actually used and the amount the Company
11 charged them each month based on the Company's estimate.⁵⁹ The Company assesses
12 these differences quarterly, after nine months, and after a full year to determine whether a
13 recalculation fee will need to be assessed based on the difference between the customer's
14 estimated and actual usage.⁶⁰ If the customer's actual energy usage is higher than the
15 estimate after a quarter, nine months, or a year, then DTE will charge the customer a
16 "recalculation charge" for the additional usage.

17 Many customers mistake the purpose and functions of the BudgetWise Billing
18 Program. The BudgetWise Billing Program is not an affordability program or financial
19 assistance program; it is really a cash-flow management program for customers. The
20 program is not income-restricted, meaning any DTE residential customer can access it.
21 However, many customers believe the program is an income-based affordability program,

⁵⁹ Ex. FLO-137, *BudgetWise Billing*, DTE ENERGY, <https://perma.cc/D3K3-Q9X2> (last visited Mar. 9, 2026), at 4–5.

⁶⁰ *Id.*

1 akin to a percentage-of-income payment plan. I have aided several DTE customers who
2 enrolled in the BudgetWise Billing Program because they believed that participation
3 would allow them to receive a monthly DTE bill based on their income that they could
4 afford to consistently pay. However, as they realized these payments were unaffordable,
5 most of the clients I supported fell behind on their BudgetWise Billing payments and
6 were subsequently removed from the program. Moreover, many of them have been
7 unable to afford the recalculation charge, even if they could afford the level monthly bill,
8 and their inability to pay the recalculation charge on top of their monthly bill resulted in
9 them falling out of the BudgetWise Billing Program.

10
11 **Q: What is your perspective on the effectiveness of Payment Agreements to support**
12 **energy-burdened customers?**

13 **A:** Under Mich. Admin. Code R. 460.146(1), if a customer claims that they cannot pay a bill
14 in full, “[a] utility shall establish a policy to allow a residential or small nonresidential
15 customer the opportunity to enter into a minimum of 2 documented payment plans for an
16 amount owed to the utility that is not in dispute, if the customer claims an inability to pay
17 in full.”⁶¹ Furthermore, as a regulated utility, DTE “shall not require the residential or
18 small nonresidential customer to pay more than a reasonable amount of the outstanding
19 bill upon entering into the plan, and not more than reasonable installments until the
20 remaining balance is paid.”⁶² The regulation further outlines that the parties shall
21 consider all the following factors to determine an appropriate payment agreement: (a)
22 “[t]he size of the delinquent account,” (b) “[t]he customer’s ability to pay,” (c) “[t]he

⁶¹ See MICH. ADMIN. CODE r. 460.146(1).

⁶² See MICH. ADMIN. CODE r. 460.146(2).

1 time that the debt has been outstanding,” (d) “[t]he reasons that the customer has not paid
2 the bill,” (e) “[t]he customer’s payment history,” [and] (f) “[a]ny other relevant factors
3 concerning the circumstances of the customer.”⁶³

4 Despite these legal requirements to build a payment plan based on what a
5 customer can actually afford to pay for a down payment and monthly payments, in my
6 experience supporting clients, DTE rarely takes into real consideration a customer’s
7 needs or ability to pay when establishing a payment agreement. Currently, low-income
8 customers cannot even provide additional, relevant information about their circumstances
9 when trying to access a payment agreement on DTE’s online webpage.⁶⁴ Calling DTE’s
10 customer service phone line is the only way to even attempt to negotiate a payment
11 agreement.

12 When negotiating a payment agreement over the phone, I have seen several times
13 how DTE’s customer service representatives simply give a customer a computer-
14 generated payment agreement with a set amount already established for both the down
15 payment and the monthly payment amounts. When pressed to negotiate with a customer,
16 DTE’s customer service representatives will often state that they cannot make any
17 changes to the agreement generated by the system and tell the customer to take or leave
18 the proposed payment agreement on the spot. Instead of following the regulations and
19 working with customers to develop responsive plans that allow both the customer to pay
20 off their balance with dignity and DTE to recover the full amount owed, DTE pushes
21 unsustainable payment agreements onto customers that many cannot afford. Once a low-

⁶³ See MICH. ADMIN. CODE r. 460.146(2)(a)–(f). By parties, presumably the code is referring to both the utility and the customer.

⁶⁴ See generally Ex. FLO-138, *Welcome to the DTE Document Submission Management Portal*, DTE ENERGY, <https://perma.cc/V4F3-VW6P> (last visited Mar. 10, 2026).

1 income customer defaults on the agreement, they continue to accrue arrears that only
2 make it more difficult for them to ever pay what DTE demands.

3 Because there are limited legal protections for customers who are not able to
4 make consistent payments under a payment agreement, and accordingly, fall out of a
5 payment agreement, it is critical that the payment agreement reflects their actual ability to
6 pay. Michigan law does not require a regulated utility to enter into more than two
7 payment agreements with a customer if the customer has defaulted on a payment
8 agreement within the last twelve months.⁶⁵ Because customers have such limited
9 opportunities to enter into payment agreements in the first place, it is critical that they can
10 negotiate payment amounts they can actually afford without risk of default.

11 Customers who cannot secure an additional payment agreement under these
12 circumstances are once again at immediate risk of service disconnection and the ongoing
13 problem of ever-growing arrears. This toxic cycle traps customers struggling with
14 affordability or collections issues.

15
16 **Q: Are DTE Energy's assistance programs sufficient to meet the needs of low-income**
17 **customers?**

18 **A:** No.

19 The Sugar Law Center has experienced significant increases in customer outreach
20 as more and more households find themselves unable to afford their monthly bills. From
21 the hundreds of clients and community members that I have served, it is apparent to me
22 that the existing energy assistance programs fall far short of meeting the needs of low-

⁶⁵ See MICH. ADMIN. CODE r. 460.146(3).

1 income customers. There has not been and is not enough funding available in existing
2 programs, such as SER and MEAP, to address the full depth of need of eligible low-
3 income customers. Furthermore, the existing programs are so restricted that they do not
4 capture the full breadth of need throughout DTE's service territory, as thousands of
5 customers with incomes above 150% of the FPL are struggling to afford their monthly
6 electricity and gas bills and are in dire need of financial assistance. Therefore, the current
7 energy assistance programs offered by DTE Energy lack both the depth and breadth of
8 financial support necessary to mitigate the affordability crisis facing DTE's customers.

9 There has been insufficient funding in SER and MEAP in recent years to address
10 customers' needs. In 2024, the SER program ran out of money on June 15, more than
11 three and a half months before its September 30 expiration date.⁶⁶ In 2026, many Metro
12 Detroit-area Community Action Agencies ran out of MEAP funding, limited acceptance
13 of new MEAP applications to short windows, and experienced significant delays in
14 processing completed applications, which limited customers' ability to enroll in LSP or
15 receive a one-time payment to pay off arrears or make a down payment to access an SER
16 award.⁶⁷ Prior to 2020, when additional funding was provided to utility assistance

⁶⁶ Ex. FLO-120 at 3.

⁶⁷ See, e.g. Ex. FLO-139, *St. Vincent de Paul Energy Assistance*, SOC'Y ST. VINCENT DE PAUL DETROIT, <https://perma.cc/L6B5-7N3E> (last visited Mar. 4, 2026) (only accepting limited MEAP applications on Monday mornings between 6 and 10 AM), at 1; Ex. FLO-140, *Utility Assistance*, UNITED WAY SE. MICH., <https://perma.cc/5VK8-VZ9G?type=image> (last visited Mar. 4, 2026), at 1 (applications closed for United Way); Ex. FLO-141, *Energy Assistance*, WAYNE METRO. CMTY. ACTION AGENCY, <https://perma.cc/Q9GK-NSN9> (last visited Mar. 4, 2026) (applications closed for MEAP); Ex. FLO-142, *The Salvation Army Energy Assistance*, THE SALVATION ARMY, GREAT LAKES DIVISION, <https://perma.cc/8LQR-YF8M> (last visited Mar. 4, 2026) (MEAP application closed until Wednesday, March 11, from 2 to 6 PM).

1 programs during COVID, it was commonplace for SER and MEAP to run out of
2 funding.⁶⁸

3 The fact that the only energy assistance programs that provide monetary
4 assistance are running out of money as customer need is skyrocketing further underscores
5 what low-income customers need: more affordable and less expensive electricity and gas.
6 Even for low-income customers who are eligible for SER and MEAP, there are not
7 enough funds available to serve every household struggling to pay its bills. And those
8 who do receive funding do not receive awards large enough to actually cover the full cost
9 of their outstanding DTE balances. I regularly have repeat clients, as customers need
10 ongoing support to reapply for SER and MEAP assistance year after year because their
11 bills are only getting more unaffordable. Accordingly, even when these programs provide
12 stopgap funding to keep a family's lights on, they fail to provide a meaningful solution to
13 long-term affordability challenges, especially as electricity and gas rates continue to
14 increase.

15 Based on my experience, energy affordability issues are affecting a growing
16 percentage of the population. While most clients I serve are low-income households
17 below 200% of the FPL, I am dismayed to be receiving an increasing number of calls
18 from households above this income limit who are facing greater and greater challenges in
19 affording their bills. For customers within this population, there are essentially no energy
20 assistance programs to provide them with the assistance that they need to pay off their
21 outstanding DTE bills.

⁶⁸ Ex. FLO-143, Michelle Jokisch Polo, *Michigan Exhausts Emergency Relief Program Funds for the Fiscal Year*, WKAR NEWS (July 10, 2024), <https://perma.cc/KH5R-WE3D>, at 2.

1 Finally, given the federal government shut-down in Fall 2025, the Department of
2 Health and Human Services' Low-Income Home Energy Assistance Program (LIHEAP)
3 funding was delayed to states across the country.⁶⁹ Adding insult to injury, the Trump
4 Administration also terminated federal LIHEAP staff, creating additional delays in
5 disbursing vitally needed LIHEAP funding to states. These delays created significant
6 challenges for Michiganders as the LIHEAP funding supports critical utility assistance
7 programs such as SER and MEAP. As a result of these funding delays, the Michigan
8 Department of Health and Human Services, which administers SER, and the Community
9 Action Agencies, which administer MEAP, faced significant delays in processing and
10 approving utility assistance applications.⁷⁰ This resulted in longer processing time,
11 confusion, stress, and anxiety for families—right at the start of the winter heating
12 season—in urgent need of utility assistance who were unsure when—and if—they would
13 receive the financial support they needed to keep heat and electricity on in their homes.
14 While LIHEAP funding was eventually distributed to Michigan, confusion, extended
15 application processing timelines, and other issues persist for customers applying for
16 much-needed MEAP funding.

17 In short, the current energy assistance programs are, at best, bandages on a broken
18 system. Meeting the needs of DTE Energy's customers—especially those low-income
19 customers most burdened by the Company's astronomical and increasing rates—requires

⁶⁹ Ex. FLO-144, Brian Allnutt, *Trump Cuts Jeopardize Energy Assistance for Over 400,000 Michiganders: 'Devastating'*, PLANET DETROIT (Apr. 2, 2025), <https://perma.cc/Y6LT-US2T>; Ex. FLO-145, Brian Allnut, *How Government Shutdown Could Add to Strain on Michigan Ratepayers*, PLANET DETROIT (October 30, 2025), <https://perma.cc/QX6C-TXF7>; Ex. FLO-146, Melissa Nann Burke & Carol Thompson, *What Another Federal Government Shutdown Would Mean for Michigan—If It Happens*, THE DETROIT NEWS (Jan. 30, 2026), <https://perma.cc/TAY5-DDWA>.

⁷⁰ Ex. FLO-147, Lucas Smolcic Larson, *As Heating Season Arrives, Federal Delays Threaten Utility Bill Aid in Michigan*, MLIVE (Nov. 3, 2025), <https://perma.cc/R3KP-JRDW>.

1 swift and meaningful action to reduce the costs of electricity and gas and ensure that all
2 customers can access affordable and reliable energy bills.

3
4 **B. INACCESSIBILITY OF ENERGY ASSISTANCE PROGRAMS IN GENERAL**

5 **Q: Is it difficult to understand and navigate DTE Energy's Assistance Programs?**

6 **A:** Yes. DTE's low-income assistance programs are difficult to understand, hard to navigate,
7 and harder still to access successfully.

8 I receive dozens of calls from DTE customers who are confused and unable to
9 understand and access DTE Energy's programs. Many of my clients have not completed
10 high school, lack internet access, and are not digitally literate. Additionally, several of my
11 clients have limited English proficiency. I see firsthand how difficult it is for these clients
12 to understand which steps to take when they fall behind on a bill or receive a notice of
13 service disconnection due to non-payment. When talking to DTE customer service
14 representatives on the phone, my clients more often than not are met with cold
15 indifference from customer representatives who simply demand that they pay their bills
16 as soon as possible. Of course, for many low-income, energy-burdened customers with
17 extremely limited financial resources, immediately paying their bill in full is simply not
18 possible.

19 Further, customers are not getting the information and support they need to apply
20 for these programs. DTE customer service representatives and digital self-service tools
21 should focus on providing accessible, understandable information to all customers that
22 allows them to access any and all resources available to help them reduce and catch up on
23 their bills. I have heard from customers regularly that, even when a DTE Customer

1 Service professional tells them on the phone to apply for a program, they do not receive
2 sufficient instructions or assistance to complete the application. The lack of clear and
3 accessible information and support for these customers often makes it virtually
4 impossible for them to access the assistance they desperately need. DTE should certainly
5 treat customers with greater respect and provide them with the information that they need
6 to seek relief from unaffordable bills. This is not only in the best interest of vulnerable
7 communities, but also of the Company: if more customers can access the resources they
8 need to continue or resume making their monthly payments, this will undoubtedly lead to
9 cost savings for DTE.

10
11 **Q: Are customers confused by the difference between affordability programs and**
12 **optional non-energy programs?**

13 **A:** Yes.

14 Dozens of clients that I supported have mistakenly enrolled in DTE Energy's non-
15 energy optional programs—in particular, the Surge Protection and TreeGuard
16 Programs—because they believed that those programs provided affordability assistance
17 and/or they misunderstood the programs and felt compelled to enroll in them after
18 speaking with a DTE customer service representative. While I understand that these
19 programs are generally focused on electric-related services, I am still discussing them
20 here because most of my clients are dual DTE Electric and DTE Gas customers: they see
21 one bill that reflects all of the charges that they receive from DTE, whether regulated
22 electric, regulated gas, or optional non-energy programs, and how DTE markets and

1 administers these programs in conjunction with their regulated gas and electric service
2 affects them.

3 When I serve a client, I take the time to walk them through their DTE bill to make
4 sure they understand all their costs and the programs in which they are enrolled. I make
5 sure to review each program to ensure they understand it, confirm they intended to enroll,
6 and discuss whether they would like to remain in it. In particular, I review the non-energy
7 programs with clients carefully, as many clients have questions, concerns, or confusion
8 regarding those programs.

9 A number of clients have shared with me that when calling DTE's customer
10 service phone line to seek assistance with billing or other matters, they received
11 information that led them to believe that if they enrolled in the Surge Protection and/or
12 TreeGuard programs, they would receive payment assistance and/or see lower monthly
13 bills. As a result, I have several clients who enrolled and then began paying additional
14 monthly fees for these programs, which then pushed them deeper into non-payment
15 rather than providing the affordability assistance they sought. To make matters worse,
16 these clients could not receive financial assistance from the SER or MEAP programs to
17 contribute to those additional costs incurred from the non-energy programs.

18 Some clients had been enrolled in these programs for years without understanding
19 what they were being charged for, and, consequently, as their service bills rose and
20 forced them to fall behind on payments, they also accumulated unpaid non-energy fees,
21 deepening their existing DTE arrears. As I explained the nature of these programs to
22 clients, many expressed interest in disenrolling. Unfortunately, it has often taken several
23 phone calls to disenroll their accounts from these non-energy programs. Clearly, the

1 Company needs to make additional efforts to inform customers about what these non-
2 energy programs offer and what enrolling in them means for their monthly bills. DTE
3 should also make efforts to ensure that customers are provided with accessible and
4 understandable program information, the ability to ask questions of Company customer
5 service representatives, and resources to understand the impact that the non-energy
6 programs will have on their monthly bills to ensure that all customers, especially low-
7 income customers, understand the additional financial burdens these programs place on
8 customers. DTE must also provide customers who enroll in these non-energy programs
9 with opportunities to ask questions and deepen their understanding of the programs.
10 Finally, the Company must make it easier for customers to disenroll from these programs
11 if they determine that they cannot afford or do not benefit from them.

12
13 **Q: Have you found DTE's phone service for customers undergoing affordability or**
14 **collections issues to be adequate?**

15 **A:** No. I have not found DTE's phone service for customers undergoing affordability or
16 collections issues to be adequate.

17 Many of the low-income clients I serve do not have consistent access to
18 technology or the internet. Furthermore, many of my clients lack the digital literacy and
19 skills needed to navigate a webpage or use a chatbot. When these customers face
20 affordability or collections issues, their only option to get help is to call DTE's customer
21 service line.

22 Unfortunately, a consistent problem with DTE Energy's phone service is
23 excessive waiting times that cause customers significant stress, frustration, and delays. In

1 my experience supporting clients, I have found that DTE's call wait times can range from
2 a few minutes to several hours. When I must wait several hours with a client to speak
3 with a live representative during a high-volume time, I see firsthand how these lengthy
4 wait times add unnecessary anxiety to a client's already stressful situation. Furthermore,
5 many of my clients are working one or more jobs and caring for family members, which
6 makes it difficult for them to stay on the phone for long periods. While DTE Energy does
7 offer a feature that calls customers back when they are at the front of the queue, it can be
8 very difficult for working customers to be available for a callback that will come at an
9 unspecified time during the phone line's limited hours of operation between 8:00 a.m.
10 and 5:00 p.m. Regardless of whether one chooses to stay on the line or requests a
11 callback, DTE offers wait-time estimates that vary widely from actual wait times, making
12 it difficult for customers to plan their work or personal schedules accordingly. These
13 persistent challenges lead many customers to give up entirely on their calls and stop
14 working to resolve their issues. Insufficient staffing and investment in the customer
15 service phone line thus compounds many customers' affordability challenges and
16 especially burdens low-income customers, who often have more limited time and
17 capacity.

18 A further inadequacy of DTE Energy's phone service is how often customer
19 service representatives do not treat their customers with respect or dignity when the
20 customers are attempting to navigate a complex affordability or collections issue. Many
21 of my clients have shared traumatic experiences and personal stories with customer
22 service representatives to explain why the clients need a payment deadline extension or
23 payment agreement. In these instances, they expected to be heard and received with grace

1 and understanding, but instead they received cold and, at times, painful responses. Rather
2 than truly listening to their experiences, customer service representatives provided
3 computer-generated, standard payment agreements and formulaic verbal responses that
4 provided no evidence that the customer's needs were heard and understood.

5 Yet another problem is customers receiving insufficient or inconsistent
6 information. My clients have emphasized that DTE customer service representatives have
7 not directed them to the appropriate state utility assistance programs (i.e., SER or MEAP)
8 or DTE's Shut-Off Protection Program, even when they may be eligible for such
9 programs. Further, numerous clients have told me that they will talk to one DTE
10 customer service representative and receive certain information, and then, the next time
11 they call DTE, there is no record of that conversation. Instead, a different customer
12 service representative gives them entirely different information. The lack of consistency
13 creates confusion, mistrust, and apprehension in my clients and undermines their
14 reasonable expectations that DTE will provide them with reliable information and
15 assistance.

16 Despite these challenges, the ability to call the Company and speak to a
17 representative to navigate a collection or other affordability challenge is a critical need
18 for low-income customers. Most of my clients have had to call the Company to navigate
19 collections and billing issues. For instance, in DTE Electric's recent rate case, the
20 Company's own data indicates that approximately 20% of the Company's incoming calls
21 are related to Collection issues.⁷¹ Therefore, while improvements are greatly needed, the

⁷¹ Ex. FLO-148, U-21860, DTE Electric's Response to DAAO's Fourth Discovery Request, DAAODE-4.22f Incoming Call Categories.

1 Company's call center remains an important resource for customers, especially low-
2 income customers navigating collections, affordability, and other challenges.

3
4 **Q: Have you found DTE Energy's digital self-service tools for collections and**
5 **affordability issues to be responsive to the needs of your clients and customers like**
6 **them?**

7 **A:** No.

8 As mentioned above, many low-income customers, senior citizens, and people
9 with disabilities, among other energy-burdened customers, have limited digital and
10 technological literacy. As a result, even when my clients may have access to the internet,
11 many are not able to open, use, or effectively navigate DTE Gas's self-service digital
12 tools for collections and affordability issues. Given the absence of expanded internet
13 access and digital literacy education, these customers have immense difficulty even
14 opening and navigating a website.

15 For the clients I serve who are digitally literate, many cannot afford computers or
16 even consistent internet service at their homes. Consequently, the only way they can
17 access DTE Energy's digital self-service tools is by traveling to a public space with free
18 internet access and free computers, such as a library or community center. This puts an
19 additional burden on customers to find, travel to, and potentially pay for access to the
20 internet and/or a computer. Moreover, resolving utility issues frequently involves
21 accessing and disclosing sensitive personal information that many customers may
22 understandably be hesitant to share on a public device or network. As the Company
23 pushes more and more customers to digital self-service solutions, clients have

1 increasingly reached out to my office with questions about how to log into their DTE
2 customer account, communicate with a chatbot, find their bills online, or make an online
3 payment.

4 Further, I have seen several instances in which clients who have missed as few as
5 one payment are required to pay in cash at DTE kiosks. I have personally witnessed that
6 for at least some customers who have missed or defaulted on one payment, DTE has
7 limited their access to other digital self-service tools from their phone or computer to
8 make payments online. Instead, the Company is forcing them to find and travel to DTE's
9 other so-called "digital" self-service tool: a physical DTE kiosk into which they must
10 insert cash payments. The only other option for customers required to make a cash-only
11 payment is to travel to an "Authorized Pay Agent," which can incur additional service
12 fees that only further strain the finances of already struggling customers.⁷²

13 Furthermore, much of DTE's information about energy assistance programs is not
14 accessible to customers who are not proficient in English. For instance, clients have told
15 me that the Company translates information about some programs into different
16 languages, while information about other programs is not available in translated formats.
17 Moreover, I have heard from many non-English speaking clients that it can be difficult—
18 on top of the aforementioned difficulties of using technology—to navigate DTE's
19 automated emails, text messages, or voice prompts. This can make utilizing DTE's
20 communication channels confusing and inconsistent. More targeted and comprehensive

⁷² Ex. FLO-149, *Ways to Pay*, DTE ENERGY, <https://perma.cc/A7Q6-HS7A> (last visited March 4, 2026), at 2. See generally Ex. FLO-150, DTE Gas's Response to the Attorney General, Michigan Environmental Council, and Citizens Utility Board of Michigan's First Discovery Request AGMECCUBDG-1.2.

1 outreach to non-English speaking communities is needed for customers to be able to learn
2 about, access, and utilize DTE’s customer service resources.

3 Lastly, DTE’s automated emails, text messages, and voice prompts often contain
4 outdated or inaccurate information. For instance, the 2024-2025 Michigan Energy
5 Assistance Program ran out of funding in early May 2025, meaning customers could not
6 get additional one-time financial assistance or enroll in LSP. Yet, the DTE website still
7 referenced that customers could apply for LSP and reach out to the relevant Community
8 Action Agencies that provided MEAP for additional resources.⁷³ The outdated and
9 inaccurate information provided by DTE’s digital self-service tools only further burdens
10 and confuses low-income customers.

11
12 **IV. DTE ENERGY’S SHUT-OFF PROTECTION PROGRAMS PROVIDE**
13 **INSUFFICIENT SUPPORT TO CUSTOMERS**

14 **Q: What are the basic legal requirements regarding winter shutoffs and reconnections**
15 **for eligible low-income and senior customers?**

16 **A:** Under Michigan law, eligible low-income customers have a right not to have their power
17 shut off during the heating season of November 1 to March 31 under certain
18 circumstances.⁷⁴ For a low-income customer to qualify, they must pay to the utility a
19 monthly amount equal to 7% of the estimated annual bill (plus portion of their arrearages)
20 and must demonstrate that they have applied for state or federal heating assistance.⁷⁵ The

⁷³ Ex. FLO-151, *Low-Income Programs – Michigan Community Action*, DTE Energy,
<https://perma.cc/RMP5-LP87> (last visited Mar. 11, 2026), at 1–2.

⁷⁴ MICH. ADMIN. CODE r. 460.131 (describing low-income customer protections); MICH. ADMIN. CODE r.
460.102a(c) (defining “heating season”); MICH. ADMIN. CODE r. 460.102(s) (defining “eligible low-
income customer”).

⁷⁵ MICH. ADMIN. CODE r. 460.131(1).

1 utility may shut off an eligible low-income customer's power if they do not pay the
2 monthly amounts, after providing notice.⁷⁶

3 Under Michigan law, eligible senior citizen customers have a right not to have
4 their power shut off during the heating season.⁷⁷ Further, seniors who have had service
5 disconnected are to have their service reconnected during the heating season without the
6 Company requiring any "payment of the amount due, deposits, reconnection fees, or
7 other charges."⁷⁸ The law does not require seniors to pay during the heating season, but at
8 the conclusion of the heating season, they must pay any owed amounts in equal monthly
9 installments between April 1 and October 31.⁷⁹

10
11 **Q: Does DTE Energy's Senior Winter Protection program provide adequate support to**
12 **senior citizens?**

13 **A:** No.

14 DTE offers a Winter Protection Plan (WPP) for seniors and eligible low-income
15 customers between November 1 and March 31.⁸⁰ In addition, during the "heating
16 season," any senior citizen over the age of 65, regardless of income, is to be protected
17 from a service disconnection due to non-payment.⁸¹ Further, seniors who have had

⁷⁶ MICH. ADMIN. CODE r. 460.131(2), (3). "Subject to prior commission approval, a utility may offer an optional shutoff protection program to its customers, provided that the optional shutoff protection program offers eligibility and shutoff protection that meets or exceeds the eligibility criteria and customer protections" contained in the rule. MICH. ADMIN. CODE r. 460.131(10).

⁷⁷ MICH. ADMIN. CODE r. 460.132(1) (describing protection for eligible senior citizen customers); MICH. ADMIN. CODE r. 460.102(u) (definition "eligible senior citizen customer").

⁷⁸ MICH. ADMIN. CODE r. 460.132(2).

⁷⁹ MICH. ADMIN. CODE r. 460.132(3).

⁸⁰ Ex. FLO-152, *General Assistance - Winter Protection Plan*, DTE ENERGY, <https://perma.cc/3LVD-XBKH> (last visited Mar. 4, 2026); *see also* Ex. FLO-153, DTE Gas's Response to FLO's Second Discovery Request, FLODG-2.1-2.2 (listing the time period for seniors).

⁸¹ *Id.* at 2.

1 service disconnected for non-payment prior to the heating season are to have their service
2 reconnected during the winter without the Company requiring any payments.

3 I have served several senior citizen clients, all over the age of 65, who were not
4 enrolled in DTE's Winter Protection Plan. Many of the clients were not even aware of the
5 Winter Protection Plan, and they did not understand that they were eligible based on their
6 age alone. Furthermore, my clients did not realize that the Winter Protection Plan both
7 protected seniors from utility disconnection during the heating season *and* restored power
8 for already disconnected seniors during those months. Furthermore, despite the fact that
9 the Company states that seniors are automatically enrolled in the Senior Winter
10 Protection *Program*, it is confusing to see that so few seniors are enrolled in the Winter
11 Protection Plan and many more are enrolled in the Shutoff Protection Plan.⁸² That raises
12 concern that seniors may may be receiving confusing information from the Company and
13 do not understand the options available to them and the respective pros and cons.

14 For example, one client I served was a 75-year-old, low-income senior who had
15 been living without power in his home for several years due to high arrears that resulted
16 in a service disconnection. I was devastated to learn that this senior had been living for
17 years through dangerously cold winters without access to the life-sustaining heat and
18 electricity that he needed. It greatly saddened me to see the physical, mental, and health
19 toll that living without power, especially throughout the winter, had taken on him. At the
20 time that I served this client, winter temperatures were well below freezing in Michigan,
21 and it pained me to hear the great lengths he went to survive in a freezing home without
22 access to heat. While I was able to support this senior client to enroll in a winter

⁸² Ex. FLO-154, DTE Gas's Response to FLO's Second Discovery Request, FLODG-2.3b.

1 protection offering and later apply for financial assistance through SER and LSP, it is
2 imperative that no other seniors are ever again put in this position. While the Company
3 says it identifies all eligible customers, it is not clear that the Company is successfully
4 doing so or advising all of them of all of their options. My client's story illustrates that
5 sometimes eligible senior customers fall through the cracks in the program.⁸³ So,
6 additional resources—for instance with manual quality control checks of the Company's
7 Customer Relationship Management System, additional resources explaining protection
8 offerings during the winter, and proactive outreach to seniors and their families—from
9 the Company would alleviate the risk of senior customers not accessing needed winter
10 protections.

11 Additionally, since seniors are entitled to shut-off protections throughout the
12 winter heating season, even if they cannot make payments, the Company must make
13 additional efforts to inform and support seniors in applying for energy assistance
14 programs that will allow them to retain their electric service after the heating season ends.
15 I have supported countless seniors who face high arrears balances after the heating season
16 and would benefit greatly from more proactive and supportive outreach from DTE to
17 navigate the affordability programs for which they are very likely eligible.

18
19 **Q: Does DTE Energy's Winter Protection Plan provide adequate support to low-**
20 **income customers?**

21 **A:** No.

⁸³ See Ex. FLO-154 (stating that “[a]ll customers profiled as seniors are automatically enrolled in the Senior Winter Protection program, but also noting that “seniors may enroll in the Shutoff Protection Plan (SPP) or Winter Protection Plan,” implying that seniors need to take additional action to receive the benefits to which they are entitled under the Winter Protection Plan).

1 As required under Michigan regulations, DTE Energy offers the Winter
2 Protection Plan to prevent service disconnections during the heating season to low-
3 income households who are at or below 150% FPL or receive: (1) supplemental security
4 income or low-income assistance through the Department of Human Services; (2) Food
5 stamps; or (3) Medicaid.⁸⁴ This Winter Protection Plan requires participating low-income
6 households to pay at least seven percent of their estimated annual energy bill each
7 month.⁸⁵

8 Based on my experience serving low-income clients who have attempted to enroll
9 or were enrolled in DTE's Low-Income Winter Protection Program, I can attest to the
10 very low level of awareness of this program amongst low-income clients. Many are
11 entirely unfamiliar with this program, how to apply, and the requirements to participate.
12 There is neither an easily accessible online application for the program, nor an option on
13 DTE's automated phone service menu to speak to a customer service representative
14 specifically about this shut-off protection program.

15 Also, in addition to a monthly payment requirement equivalent to 7% of their
16 annual DTE bill, the program makes customers pay a portion of their arrears in order to
17 access the shut-off protection of this program. As discussed previously, such additional
18 charge makes it even harder the low-income customers in most dire need of support, in
19 this case, keeping them from being able to access critical, life-sustaining shut-off
20 protections as temperatures drop. Additionally, even making payments of 7% can be a
21 significant financial barrier for low-income customers, especially those who live in less
22 energy-efficient homes that require higher energy use to keep at a safe temperature.

⁸⁴ MICH. ADMIN. CODE r. 460.102(s) (definition for "eligible low-income customer"); Ex. FLO-152.

⁸⁵ *Id.*

1 Functionally, the cost savings of this program are minimal as compared to the non-
2 income restricted BudgetWise, under which a customer would pay 8.3% (1/12) of their
3 annual usage per month in the winter heating season.

4 In a highly energy-burdened household, 7% of an annual bill can be significant,
5 even upwards of several hundred dollars, beyond customers' means. Further, when
6 combined with a customer's arrears, this threshold often makes monthly bills so high that
7 they are entirely unaffordable for low-income households.

8 Finally, as noted by the Company's own website, "If you enroll in [the Winter
9 Protection Plan] you will not be able to apply for State Emergency Relief while
10 enrolled."⁸⁶ So customers, who need to access as many programs as possible to help them
11 meet their financial and physical needs, are forced to do their best to navigate, weigh, and
12 juggle the benefits of various insufficient affordability programs and then enroll in
13 whichever program they guess is best, but often insufficiently, meets their needs.

14 These accessibility issues reflect in the number of low-income customers enrolled
15 in the Winter Protection Plan. While thousands to tens of thousands of low-income
16 customers enroll in the Company's Shut-Off Protection Plan, during the heating season
17 months in 2025, as few as 85 and no more than 228 customers enrolled in the low-income
18 Winter Protection Plan.⁸⁷ Given the crisis level of need for so many households to access
19 utility assistance in the winter months as increase gas use strains energy bills, it is
20 shocking how few customers access this critical Winter Protection Program. The low
21 program enrollment signals the difficulties customers have understanding and accessing

⁸⁶ Ex. FLO-152 at 2.

⁸⁷ Ex. FLO-155, DTE Gas's Response to FLO's Second Discovery Request, FLODG-2.3a.

1 the program, as well as the inability of the program to effectively meet the needs of low-
2 income customers during the Winter heating season.

3 Taken together, these requirements render the Winter Protection Plan ineffective
4 at protecting the low-income customers from life-threatening shutoffs during the winter
5 months.

6
7 **Q: Does DTE Energy's Critical Care Protection program provide adequate support to**
8 **customers?**

9 **A:** No.

10 Under Michigan law, a critical care customer means any customer who requires,
11 or has a household member who requires, home medical equipment or a life support
12 system and for whom an interruption of service would be immediately life-threatening.⁸⁸
13 To be categorized as a Critical Care Customer, a customer must demonstrate to DTE
14 using an MPSC-approved medical certification form that an interruption of utility service
15 would be life-threatening. From January 2023 through December 2025, inclusive, there
16 have been 873 months of critical care locks placed on accounts, with an average of
17 approximately twenty accounts having a critical care lock per month.⁸⁹ I was surprised to
18 learn how low the enrollment numbers are for the critical care locks—under 1,000 critical
19 care holds for three years—given the high health burdens that I see amongst the client

⁸⁸ MICH. ADMIN. CODE r. 460.102(n); *see also* MICH. ADMIN. CODE r. 460.102(n) (describing critical care customer shut off protection).

⁸⁹ Ex. FLO-153, DTE Gas's Response to FLO's Second Discovery Request, FLODG-2.1-2.2; Ex. FLO-156, DTE Gas's Response to FLO's Fifth Discovery Request, FLODG-5.26 Shutoff Protections Exemptions.xlsx.

1 population I serve in Detroit due to overlapping environmental burdens, social injustices,
2 and economic inequities.⁹⁰

3 In my experience supporting disabled clients and clients with serious medical
4 conditions, I have found that the Critical Care Protection program is very difficult for
5 customers to access. In my experience supporting customers, many customers are not
6 aware of the Critical Care or Medical Emergency Protections. So, often, a customer
7 learns about these programs after receiving a shut-off notice and is in the midst of
8 navigating an imminent service disconnection. In those instances, customer with a serious
9 medical condition or a household member of a person with a serious medical condition
10 must—on top of taking other steps to pay off their outstanding balance like apply for
11 affordability programs—then make a doctor’s appointment in order to get the medical
12 certification form completed, travel to their doctor’s office and work with their doctor to
13 complete the form, and then finally submit the completed medical certification form
14 online. For many of my clients, this process causes health-jeopardizing delays and creates
15 immense difficulty for customers and their caregivers. I have seen several times how
16 customers who are not aware of these protections prior to receiving a shut-off notice must
17 then make an additional medical appointment—often resulting in additional insurance,
18 appointment, and transportation costs, which only further adds to their financial burden—
19 for the primary purpose of getting their medical certification form completed.

⁹⁰ See generally Ex. FLO-157, NEW DETROIT, CREATING A HEALTHY DETROIT: UNDERSTANDING HOW THE SYSTEMS WE LIVE IN IMPACT OUR HEALTH (2024), <https://perma.cc/B2MX-2L8T>, at 4–22; Ex. FLO-158, Sheena E. Martenies et al., *Disease and Health Inequalities Attributable to Air Pollutant Exposure in Detroit, Michigan*, 14 INT’L J. ENV’T RSCH. & PUB. HEALTH 1243 (2017), <https://perma.cc/A8DC-S2PC>, at 13–18; Ex. FLO-159, Roshanak Mehdipanah et al., *Detroit’s Legacy of Housing Inequity Has Caused Long-Term Health Impacts—These Policies Can Help Mitigate That Harm*, U. MICH. SCH. PUB. HEALTH (July 3, 2024), <https://perma.cc/6ECG-5YW6>, at 2–5.

1 DTE does not provide a list online of what types of medical conditions and/or
2 medical equipment make a customer eligible for the Critical Care Protection program,⁹¹
3 even though based on the denial emails sent to customers attempting to qualify for
4 Critical Care Protection the Company appears to have internal information about grounds
5 for denial of Critical Care Protections that include unclear denials grounds such as
6 “medical condition does not meet program criteria” and “account does not meet
7 eligibility requirements”.⁹² Copies of the Company’s own messages to customers
8 applying for Critical Care Protections note denials stating “equipment listed does not
9 meet criteria for medical hold” without explaining (1) what the criteria is to determine
10 whether a particular piece of equipment meets the medical hold requirement and (2) why
11 the customer’s specific medical equipment did not meet the medical hold criteria.⁹³
12 Consequently, the Company should do more to notify customers which conditions and
13 equipment, in certain circumstances, it has determined are eligible.

14 Moreover, the Company does not appear to have a staff of doctors and medical
15 experts with individualized information about customers’ health situations that they can
16 use when making eligibility determinations. The Company itself notes that it is the
17 customer’s physician’s duty to complete and certify the medical form, and the
18 Company’s role is simply to “verify that the submitted form is complete and aligns with
19 the MPSC regulatory requirements.”⁹⁴ Accordingly, the Company should defer to the
20 impacted person seeking the Critical Care Hold and their doctors and medical

⁹¹ Ex. FLO-160, *General Assistance - Medical Emergency and Critical Care*, DTE ENERGY, <https://perma.cc/HLF5-4FM8> (last visited Mar. 7, 2026).

⁹² Ex. FLO-161, DTE Gas’s Response to FLO’s Fifth Discovery Request, FLODG-5.31b.

⁹³ Ex. FLO-162, DTE Gas’s Response to FLO’s Fifth Discovery Request, U-21973 FLODG-5.31d Medical and Critical Denials.

⁹⁴ Ex. FLO-163, DTE Gas’s Response to FLO’s Fifth Discovery Request, FLODG-5.31f.

1 professionals who take the time to evaluate the customer or their family member
2 thoroughly and complete the medical certification form based on their experience and
3 assessment.

4 The Company should avoid discretionary decisions as to what medical devices or
5 equipment meet the eligibility requirement for protection, and instead, defer to the
6 determination of the qualified physician. The Company should protect the lives and
7 health of its customers, which means streamlining applications and approval for Critical
8 Care Protection rather than needlessly exposing vulnerable customers to life-threatening
9 shutoffs.

10
11 **Q: Does DTE Energy's Medical Customer Protection Program provide adequate**
12 **support to customers?**

13 **A:** No.

14 Michigan law requires that if a utility customer or a member of their household
15 has a serious medical condition, then the utility must restore their service or postpone
16 their energy shut-off for up to twenty-one days.⁹⁵ This protection can allow a household
17 to keep the power on to protect their health and safety, while also giving them time to
18 gather the resources needed to pay the amount due on their energy bill. The utility cannot
19 charge a customer an after-hours reconnection fee or a deposit as a condition of restoring
20 service following a twenty-one-day medical emergency shut-off hold.⁹⁶ Between January

⁹⁵ MCL § 460.9s.

⁹⁶ MICH. ADMIN. CODE r. 460.130(2).

1 2023, and December 2025, DTE Gas has had a total of 2,578 Medical Emergency ...
2 Exemption [s].”⁹⁷

3 Unfortunately, the Medical Customer Program shares many similar downfalls and
4 challenges as the Critical Care Program. The most significant of these is the lack of
5 awareness of customers about Medical Customer Program Protections and how to apply
6 for and receive these protections, especially when they are already facing an imminent
7 risk of service disconnection.

8 9 **V. RECOMENDATIONS**

10 **Q: What are your concerns with DTE Energy’s current rate request?**

11 **A:** I am dismayed that DTE Gas is once again proposing to raise rates significantly, which
12 will exacerbate the already-dangerous crisis of shut-offs and collections. The
13 Commission must see energy as a basic necessity to live a healthy, safe, and fulfilling
14 life. As such, this Commission must not allow DTE Gas to continue to benefit at the
15 expense of low-income ratepayers. Allowing DTE Gas to increase rates repeatedly as
16 inflation continues to undermine the ability of low-income customers to pay their bills is
17 cruel and inhumane.

18 Everyone deserves access to affordable, consistent, reliable, and non-polluting
19 energy. We should be doing everything we can to address the root problems of our
20 energy affordability crisis: reducing the exorbitant costs of energy, solving the deep racial
21 and economic inequities in our energy system, and ending our reliance on polluting fossil

⁹⁷ Ex. FLO-164, DTE Gas’s Response to FLO’s Fifth Discovery Request, U-21973 FLODG-5.26 Shutoff Protections Exemptions (2,578 is the sum of 1,640 for Medical Emergency 1st Exemption, 631 Medical Emergency 2nd Exemption, and 307 Medical Emergency 3rd Exemption).

1 fuels. No family should live without critically needed heat during Michigan's freezing
2 winters. This Commission should direct DTE to focus resources and efforts on improving
3 the reliability of its services and reducing costs for ratepayers.

4
5 **Q: What recommendations do you have for the Commission regarding affordability?**

6 **A:** I have a few specific recommendations regarding affordability:

- 7 1. A universal Percentage of Income Payment Plan ("PIPP") is critically and
8 urgently needed to address the affordability crisis impacting hundreds of
9 thousands of low-income DTE Gas customers. All LMI customers should be
10 transitioned immediately to a PIPP that provides meaningful levels of support
11 for LMI customers. As laid out in FLO Witness Cira-Reyes' testimony, to
12 most effectively support LMI customers, the PIPP should have a 6% of
13 income payment cap for combined electrical and gas service and 2% for gas
14 only service, no arrears cap, and an enrollment term of at least two years.
- 15 2. In the absence of such a PIPP program, DTE Energy needs to make its low-
16 income, winter, and emergency assistance program offerings more robust and
17 more accessible, as I detail in my testimony.
- 18 3. Finally and fundamentally, I urge the Commission to direct DTE Energy to
19 focus its investment and efforts on programs and initiatives that meet and
20 center the needs of low-income and energy-burdened customers. These
21 investments should include efforts to reduce energy burdens, improve
22 affordability, ameliorate dismal service issues, reduce high customer arrears,
23 and invest in the health and well-being of all customers.

1 **Q:** **Does this conclude your written Direct Testimony?**

2 **A:** Yes.

Elizabeth R. Jacobljacob@sugarlaw.org | 313-993-4505**EDUCATION****YALE LAW SCHOOL**, New Haven, CT | J.D. May 2023

Honors: Office of Student Affairs (*Dean's Advisor*); Robert & Patricia Switzer Foundation (*Fellow*); Professor Sam Moyn (*Coker Fellow in Constitutional Law*)

THE COLLEGE OF WILLIAM AND MARY, Williamsburg, VA | B.A., *summa cum laude*, 2017

Majors: Environmental Science and Policy; Sustainability Marketing
 Honors: Bill and Melinda Gates Foundation (*Gates Millennium Scholar*)

LEGAL EXPERIENCE**Sugar Law Center for Economic and Social Justice**, Detroit, MI | Lead Staff Attorney Aug. 2025-Present

Serve as an environmental justice and civil lawyer to advance environmental, social, and economic justice alongside communities of color and low-income residents in Michigan. Provide litigation, legal advocacy, and transactional lawyering services to community-led campaigns for energy justice, community-centered development, environmental justice, and the advancement of civil rights. Licensed to practice law in the state of Michigan.

Sugar Law Center for Economic and Social Justice, Detroit, MI | Skadden Fellow Sept. 2023-Aug. 2025

Provide direct legal services, community education, and systemic advocacy alongside low-income communities of color in Detroit experiencing environmental injustice and energy insecurity exacerbated by climate-impacted weather changes, energy rate hikes, electricity shut-offs, and rising utility debt.

Community and Economic Development Clinic, New Haven, CT | *Student Attorney* Aug. 2022-Aug 2023

Provide direct legal support to community-based organizations promoting economic opportunity and socioeconomic mobility for low- and moderate-income people. Support clients in transactional legal matters, including resolving zoning and environmental issues, forming values-centered business entities, drafting and negotiating contracts, and appearing before administrative agencies.

Medical Legal Partnership, New Haven, CT | *Student Attorney* Aug. 2022-Aug 2023

Interview and counsel low-income clients at local health clinics and assist clients with their legal and social needs as they receive critical affordable healthcare. Identify clients' areas of legal need and legal tools available in a multi-disciplinary setting. Serve a largely geriatric client base to provide legal work on elder abuse, public benefits access and qualification standards, and environmental health issues in clients' homes.

Land Loss Prevention Project, Durham, NC | *Legal Intern* July 2022-Aug. 2022

Worked alongside a historically Black community to resist unaffordable and unjust development within the community that would jeopardize community wellbeing and health. Provided direct legal services to farmers of color to navigate heirs' property issues, establish legal structures to communally own land, and advance agricultural environmental justice. Work included client interviewing and counseling, drafting wills and estate plans, and creating regenerative agriculture-centered farm leases.

Sugar Law Center for Social and Economic Justice, Detroit, MI | *Law Clerk* May 2022-July 2022

Assisted on litigation matters to support farmworkers, disaster relief workers, and residents participating in the oversight of local development projects. Supported people seeking unemployment benefits and navigated administrative adjudications. Conducted legal research regarding community benefits agreements and Justice40 initiative to identify legal solutions to serve the needs of low-income residents.

New Haven Legal Aid Immigrant Rights Clinic, New Haven, CT | *Student Attorney* Aug. 2021-July 2022

Provided direct legal services to New Haven residents seeking asylum and other permanent immigration statuses. Responsibilities included providing direct representation in immigration court, developing cross and direct examinations, interviewing and counseling clients, supporting clients in employment issues, developing and presenting Know Your Rights trainings for community organizations, and preparing and filing case documents, including affidavits, briefs, and motions.

WE ACT for Environmental Justice, New York, NY | *Legal Intern* May 2021-Aug 2021

Assisted policy, law, and organizing teams to advance climate and environmental justice legislation at the local, state, and federal levels. Responsibilities included drafting memos; identifying, analyzing, and tracking legislation related to climate and environmental justice issues; and coordinating an in-home clean energy retrofit pilot program in NYC public housing.

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Water Protector Legal Collective, Albuquerque, NM | *Legal Fellow* May 2021-Jan. 2022
Supported ongoing civil rights litigation on behalf of Water Protectors, who experienced state violence and injustice during protests at Standing Rock. Worked alongside Indigenous leaders to craft a Tribal Cultural Resource Handbook that elevates strategies to advance indigenous environmental and climate justice alongside cultural and historic preservation.

Gulf Coast Center for Law and Policy, Slidell, LA | *Legal Intern* May 2021-Aug. 2021
Conducted legal research, policy analysis, and legislative tracking for federal and state water equity policy and law programs. Supported efforts of the Red, Black, and Green New Deal Initiative of the Movement for Black Lives to advocate for a low-income water affordability program by creating accessible policy analysis and popular education trainings.

COMMUNITY-BASED EXPERIENCE

Peoples Solar Energy Fund, National | *Board Member* April 2024-Present
Serve as a board member to advance PSEF's work to support under-resourced communities in developing solar projects, through a resource commons of capital, technical assistance, capacity building and shared learning.

Detroit-Michigan National Lawyers Guild, Detroit, MI | *Board Secretary* Nov. 2024-Present
Serve as the board secretary to advance the National Lawyers Guild's mission to use law for the people, uniting lawyers, law students, legal workers, and jailhouse lawyers to function as an effective force in the service of the people by valuing human rights and ecosystems over property interests.

CT Coalition for Environmental and Economic Justice, Hartford, CT | *Environmental Justice Fellow* Sept. 2021-Aug 2023
Selected as an inaugural fellow at the Yale Center for Environmental Justice. Work as an organizer with the CT Coalition for Environmental Justice to advance climate and environmental justice alongside communities in Connecticut. Developing a People's Guide for Climate and Environmental Justice to provide accessible legal resources to local organizers.

City Food System Policy Department, New Haven, CT | *Food Justice Intern* Sept. 2021-Aug. 2023
Collaborate alongside residents to research, analyze, and draft city ordinances and zoning laws to further equitable and inclusive urban agriculture policies that advance food justice, increase food affordability, and reflect community benefits. Coordinate New Haven's first-ever community-rooted composting program between the City of New Haven and Common Ground High School.

Washington-Baltimore NewsGuild, Washington, DC | *Organizer* April 2021-Aug. 2024
Organize alongside workers at the *Hill*, the Virginia Federation of Teachers, and other newsroom workplaces to form workplace unions and negotiate collective bargaining agreements. Provide strategic training on organizing techniques and bargaining process to newspaper and non-profit staff to build power within their workplaces by exercising their right to bargain collectively.

League of Conservation Voters, Washington, DC | *Associate Digital Campaigns Manager* July 2017-Aug. 2020
Managed the organization's digital advocacy and storytelling programs to mobilize a racially diverse base of three million supporters to advance local, state, and federal environmental policies. Led digital coordinated electoral program and endorsed pro-environment candidates with their environmental platforms and campaign materials.

**REPORTS & MULTIMEDIA / REPORT**

Data Center Power Play

How Clean Energy Can Meet Rising Electricity Demand While Delivering Climate and Health Benefits

Steve Clemmer, Maria Fernanda Chavez, Samuel Dotson,
James Gignac, Sandra Sattler, Lee Shaver

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Introduction

The US electricity sector is at an inflection point. After nearly two decades of flat demand, US electricity use is projected to surge over the next decade and beyond due primarily to the growth of data centers for artificial intelligence (AI). The emergence of large language models and other forms of generative AI has led to proposals for larger and larger "hyperscale" data centers, with some consuming more electricity than mid-sized cities (Marshall 2025). Over the longer term, greater electrification of transportation, buildings, and industry will drive up demand for electricity even further.

Until recently, data centers accounted for a small share of US electricity demand. Improved efficiency in energy use and computing power offset most of the past growth in demand. But the rise of AI has caused data center electricity use to more than double, from 1.9 percent of US electricity use in 2018 to 4.4 percent in 2023. By 2028, the proportion could increase to the range of 6.7 to 12 percent, according to a Lawrence Berkeley National Laboratory projection (Shehabi et al. 2024). Some projections are even higher (Pilz, Yusuf, and Lennart 2025; IEA 2025).

The number of data centers anticipated to be built in the United States and how much electricity they will need are both highly uncertain quantities. Recent actions by electric utilities indicate that many proposals to build data centers are redundant (Martucci 2025; Skidmore 2025). In addition, utilities, which earn a guaranteed return on investment, have an incentive to overestimate future demand. This could lead to overbuilding the electricity system, higher costs, and stranded assets (Carvallo et al. 2018; Sward et al. 2025). Also uncertain are efficiency improvements in AI training practices, data center hardware, software, and cooling technology, yet these all could significantly reduce demand or enable companies to increase data-processing capacity (Liebreich 2024; Lovins 2025).

A lack of transparency compounds the uncertainties, even for the utilities themselves. Proposals to build data centers, as with power plants to serve them, are typically confidential. Communities often lack information on energy use, water consumption, emissions, and other environmental impacts of proposed data centers (Wittenberg 2025; Hedgepeth and Isom 2025). Many communities already experience high levels of pollution from existing sources (NAACP 2025; Dulani and Zaidi 2025). And many local and state decisionmakers, seeking to attract multibillion-dollar investments, overlook these risks and sign confidentiality agreements with developers.

The stakes are high. How the nation and the states choose to power data centers and electrify the economy has important implications for energy affordability, grid reliability, climate change, and public health. A path that accelerates the clean energy transition can mitigate the harmful environmental and health impacts of data center development and operations while keeping overall costs affordable and limiting the worst impacts of climate change. But a path that increases reliance on

fossil fuels to power AI will expose customers to greater volatility in fuel prices, lead to higher emissions, and result in adverse environmental, climate, and public health impacts.

Options for Powering Data Centers

The surge in demand from data centers comes at a time when the power sector, as well as the broader economic and policy environment, is undergoing a significant transition, leading to complicated questions about how to meet new electricity demand. While many utilities are turning to traditional resources like methane gas, the cost of new gas power plants has increased significantly over the past five years, and gas turbine shortages are causing delays of up to seven years in building new plants (DiGangi 2025; Webb and Plautz 2025; Cohen, Fitch, and Shwisberg 2025; GridLab, Energy Futures Group, and Halcyon 2025). Increases in exports of liquified natural gas are projected to lead to higher, more volatile prices for gas and electricity (EIA 2025a; Penrod 2025).

Fears of electricity supply shortfalls have led to proposals for other regressive solutions—for example, delaying the retirements of coal plants—that could not only mean even higher costs and adverse public health impacts but also jeopardize state and corporate climate goals (see box) (Goggin 2025; Tosado, Massey, and Daniel 2025; Behr, Northy, and Reilly 2025). Building new nuclear plants utilizing small modular reactors or advanced reactor designs would rely on unproven technologies that have long lead times, high projected costs, and important safety and security risks (Liebreich 2024; Lyman 2024; Lyman 2021).

Alternatively, combining wind and solar with battery storage and greater data center flexibility offers a promising solution for powering data centers and meeting overall electricity demand.¹ Deployment of wind, solar, and storage has accelerated, with more than 45 gigawatts (GW) of capacity added in 2024 and another 60 GW projected through the end of 2025. This represents 93 percent of total additions to US electricity capacity in 2025 (EIA 2025b).

Costs for wind and solar have fallen 70 to 90 percent over the last 15 years, making them cheaper in many cases than new gas and existing coal plants even without subsidies and before factoring in environmental and health benefits (Wiser et al. 2024; Seel et al. 2024; Lazard 2025). The lead time to plan and build wind and solar projects is also much shorter than it is for new gas or nuclear plants. Co-locating these projects near existing generators that have excess capacity and approved interconnection to the grid could allow for faster approval, while also reducing emissions, maintaining reliability, and lowering costs (Engel, Varadarajan, and Posner 2025).

In striking contrast to this forward momentum is the Trump administration's stated preference for using dirty, outdated fossil fuel generation to power emerging technology. Clean energy resources face significant headwinds due to rollbacks of federal incentives, restrictive administration actions, and the slow expansion of transmission capacity (Walton 2025). Even as the Trump administration boasts of leading the global AI race, it is sidelining the clean, plentiful, affordable, and efficient energy technologies that are best poised to power such a future, rendering the United States more vulnerable to international fuel price volatility.

The Union of Concerned Scientist (UCS) has analyzed the economic, health, and climate impacts of different approaches to meeting near- and longer-term demand growth under varying policies and assumptions. The results of our modeling inform recommendations calling on policymakers and regulators to require that utilities and data center developers increase transparency and accountability and do better long-term planning for meeting data center demand—and, at the same time, protect other customers from cost increases and negative health impacts. Ensuring that clean energy powers data centers also requires stronger state and federal policies, while utilities and big tech companies must follow through on their sustainability commitments. With climate and clean energy policies under federal attack, states, utilities, and corporations must continue pressing ahead with the clean energy transition.

Box 1. Powering Data Centers with Clean Energy Aligns with State Laws and Corporate Goals

Renewable Portfolio Standards (RPS) and Clean Electricity Standards (CES), which together set requirements for utilities to procure clean electricity, have been successful, cost-effective state-level policies for driving the deployment of renewable resources (Barbose 2024). As of August 2024, 29 states and the District of Columbia had adopted RPSs and CESs. Sixteen states have both an RPS target of at least 50 percent of retail electricity sales and a broader 100 percent CES that reaches these targets between 2040 and 2050.

Paralleling moves toward clean energy in state policies, big tech companies like Google, Microsoft, Meta, and Amazon have committed to achieving 100 percent carbon-free electricity and net zero heat-trapping emissions across their operations and supply chains (Meta 2025; Amazon 2025; Brandt 2025; Smith and Nakagawa 2025). With those goals set for either 2030 or 2040, each of these companies has made major purchases of renewable energy and significantly reduced emissions from data centers. For example, Google entered into 170 agreements between 2010 and 2024 to purchase more than 22 GW of clean electricity, including procuring more than 8 GW in 2024 (Brandt 2025).

Unfortunately, progress has been mixed. Google's overall emissions have risen 51 percent compared with a 2019 baseline. Microsoft's overall carbon footprint has increased more than 23 percent since 2020. And Amazon's emissions rose 6 percent in 2024 after two years of declines (Johnson 2025; Stiffler 2025a; Stiffler 2025b).

Many utilities also have ambitious climate and clean energy goals. However, most utilities are failing to meet their commitments, according to a study of 75 of their long-term plans. Many are using load growth from data centers as a reason to delay retiring coal plants or to build new gas plants (Anderson 2025).

Methodology

UCS analyzed the impact of meeting projected growth in electricity demand from AI data centers. We modeled several policy and sensitivity scenarios using the National Renewable Energy Laboratory's (NREL)² Regional Energy Deployment System (ReEDS) electricity planning and dispatch model (Cole et al. 2024). The results of our modeling focus on changes over time in US electricity generation and capacity, carbon dioxide (CO₂) emissions, and electricity system costs. In addition, we calculated the public health benefits of reducing air pollution from fossil fuel generation.

Modeling Assumptions

UCS based the assumptions used in its analysis primarily on the NREL's 2024 Standard Scenarios version of the ReEDS model and Annual Technology Baseline 2024 mid-case cost and performance assumptions (NREL 2024; Gagnon et al. 2024), with these exceptions regarding electricity demand:

- We used electricity demand projections developed by Evolved Energy Research (EER) for its Annual Decarbonization Perspective 2024 report (Jones et al. 2024).
- Most of our scenarios used EER's reference load growth trajectory for data centers because this projection is in the middle of the range of most recent studies.
- We made adjustments to include more recent projections from S&P Global and announced data center projects in select states.
- To address the uncertainty in data center proposals, we assumed that half of the capacity from announced projects would actually be built and that it would take up to five years for projects to reach full capacity (MISO 2024a; S&P Global 2025).

The UCS projections for data center demand are consistent with those in a 2024 Lawrence Berkeley National Laboratory report informed by recent academic and industry studies (Figure 1) (Shehabi et al. 2024).

We project overall demand to increase 62 percent between 2025 and 2050 under the UCS Mid Demand Growth scenario and 79 percent under the UCS High

Demand Growth scenario. Data centers account for 46 to 59 percent of total demand growth by 2030 under these scenarios. However, this share falls as electrification increases in other sectors (especially transportation).³²³³ We made other assumption changes based on literature reviews and our analysis. For details, see the technical appendix.

Modeling Scenarios

UCS modeled three scenarios. One scenario represents current policies. Two scenarios represent stronger national climate and clean energy policies. Within each policy scenario, we modeled different levels of electricity demand attributable to data centers.

Current Policies scenario: This is a reference case scenario. It reflects recent changes in federal tax credits, as enacted by the One Big Beautiful Bill Act (OBBBA) on July 4, 2025. It excludes Environmental Protection Agency (EPA) power plant carbon standards; the EPA was in the process of repealing these when UCS conducted the modeling. It includes NREL's representation of state-level electricity sector policies adopted as of August 2024.

Restored Tax Credits scenario: This scenario includes the electricity sector tax credit provisions in the 2022 Inflation Reduction Act (IRA). As a point of comparison with the Current Policies scenario, it isolates the impacts of recent rollbacks in federal tax credits.

Low-Carbon Policy scenario: This scenario analyzes the impact of national policies to nearly decarbonize the power sector by 2050. It assumes the United States would reduce power-sector CO₂ emissions to 70 percent below 2026 levels by 2035, 80 percent by 2041, and 95 percent by 2050. This scenario includes policies that would:

- Restore federal tax credits for wind, solar, energy storage, and other low-carbon technologies after they expire under the OBBBA, using the IRA provisions as a proxy;

- Adopt federal power plant carbon standards in 2030, using as a stand-in EPA's rules finalized under the Biden Administration but delayed by five years; and
- Facilitate development of new transmission capacity needed to integrate higher levels of wind and solar, using NREL's assumptions for mid-case transmission availability.

We modeled each policy scenario under different levels of data center electricity demand, while assuming the same level of electricity demand in other sectors under all scenarios (Table 1):

- **Mid Demand Growth:** This scenario uses our core, mid-level assumption for data center demand growth.
- **No Demand Growth:** This counterfactual scenario enabled UCS to isolate the impacts of data centers.
- **High Demand Growth:** This is a sensitivity scenario. It assumes data center electricity demand to be near the higher end of the range of recent projections.

Model and Policy Limitations and Opportunities for Future Research

The UCS analysis did not include the impacts of several recent but highly uncertain changes in energy policy and technology. While we assumed that the Trump administration would delay offshore wind deployment and repeal EPA power plant carbon standards, we did not include the potential impact of other recent actions that could limit deployment of wind, solar, and storage.

We did not explicitly include the impacts of recent Trump administration actions to increase deployment of fossil fuels and nuclear power. We also did not include the increased costs and limited availability of gas turbines and potential increases in gas prices triggered by administration policies to increase liquefied natural gas exports; these could result in a lower contribution from gas than shown in our analysis. In addition, we did not include the impact of new tariffs on technology costs and energy prices, which vary by technology. Also, ongoing changes in tariff policies make it highly difficult to estimate the impacts.

We did not consider the potential for increased operational flexibility at data centers, which recent studies show could reduce peak loads, reduce the need for new generation, and lower overall costs (Norris et al. 2025; Knittel, Senga, and Wang 2025; Cox, Schwartz, and Stenclik 2025). Although data center flexibility solutions are not fully proven, pilot projects are underway. For example, Google is working with utilities in three states to increase demand flexibility during periods of high demand by shifting model training workloads and reducing data center power usage (Terrell 2025).

ReEDS can provide a solid understanding of the evolution of US electricity generation, storage, transmission, and production technologies, but more localized and temporally granular reliability analysis would be needed to identify the preferred mix for any specific location. ReEDS represents a broad range of technology types but not individual units, transmission lines, or detailed operating characteristics. Also, it only includes a sample of representative time periods within a year. It neither directly links storage nor assumes it to be co-located with renewable energy technologies. Nor does ReEDS consider long-duration energy storage.

While our electricity demand forecast includes modest increases in electrification in the transportation, buildings, and industrial sectors, further electrification would be needed to achieve economy-wide net zero emissions by 2050 (Clemmer et al. 2023; Jones et al. 2024). Because ReEDS is an electric power system model, we did not capture reductions in energy costs and emissions that would result from replacing fossil fuel use with clean electricity in other sectors.

Modeling yields an approximation of the least-cost generation mix needed to meet data center demand under a given policy scenario. Our results may not reflect actual decisions made by data center developers and utilities that the model does not consider cost-effective. Because ReEDS is a least-cost planning model, it does not capture proposals by large tech companies to pay above-market costs to restart existing nuclear plants, build new nuclear plants, or install other behind-the-meter generation to power data centers.

Modeling Results

The United States can meet the growth of electricity demand from data centers and modest electrification of other sectors primarily with clean energy, while phasing down the use of fossil fuels and providing important economic, climate, and public health benefits.

Taken together, our results show that powering data centers with clean energy is more affordable, safer, and healthier than using fossil fuels. However, these beneficial outcomes require stronger federal, state, and local policies.

Current Policies Increase Reliance on Fossil Fuels

Under the Current Policies scenario, the United States risks increasing its reliance on fossil fuels to meet the growth in electricity demand from data centers and other sectors (Figure 2; Table 2). To supply this power, the nation adds more than 90 GW of new gas capacity between 2026 and 2035 and 335 GW by 2050 (Figure 3). Coal generation declines between 2026 and 2029 in response to planned retirements; it then remains relatively flat despite continued retirements; remaining coal plants are dispatched more to help meet the growth in demand.

Wind and solar generation increase under Current Policies to help meet demand growth and the requirements under states' climate and clean energy policies. Significant growth in wind and solar occurs through 2029 when tax credits are potentially available for projects that meet the beginning of construction and safe-harbor requirements. Growth is much slower after the tax credits expire.⁴

While most existing nuclear plants continue to operate through 2050, no new nuclear capacity is added, as it is more expensive than other options even with tax credits available through 2035. Because ReEDS is a least-cost planning model, it does not capture proposals by big tech companies to pay above-market costs to restart existing nuclear plants or build new ones to power data centers.

Isolating the impacts of data center demand, under the Current Policies scenario more than 60 percent of the generation needed to power data centers comes from gas and coal by 2035. Wind and solar provide nearly 40 percent (Figure 4).

Stronger Policies Ensure That Clean Energy Powers Data Centers

Restoring tax credits accelerates the deployment of wind and solar to power data centers. It also reduces reliance on gas and coal generation to meet the growth in electricity demand.

Adopting policies to reduce US power sector emissions of CO₂ to 95 percent below 2026 levels by 2050 would go even further, facilitating the clean energy transition to help meet economy-wide emission reduction targets. Wind and solar generation nearly triple between 2026 and 2035 and increase five-fold by 2050 to replace coal and gas. Combined, all renewable energy sources provide more than 60 percent of total US electricity generation by 2035 and 81 percent by 2050. Total low-carbon generation from renewables, nuclear, and carbon capture and storage (CCS) supply 75 percent of US electricity generation in 2035 and 97 percent by 2050.

To meet the emission reduction targets and comply with power plant carbon standards, coal generation is nearly phased out by 2038. Gas generation stays relatively flat through 2038 and then declines to 10 percent of US electricity generation by 2050. Gas with CCS increases near the end of the forecast, providing more than half of remaining gas generation in 2050. Most existing nuclear plants continue to operate through 2050. A small amount of new nuclear capacity (2.3 GW) is added near the very end of the forecast.

Under the Restored Tax Credits scenario, nearly half of the generation for data centers comes from gas and coal through 2032, but after that wind and solar meet nearly all of the growth in data center demand. Under the Low-Carbon Policy scenario, wind and solar meet most of the growth in demand from data centers; these sources replace generation from conventional coal and gas plants in the later years of the forecast. Gas with CCS and a small amount of coal with CCS also increase in the later years under the Low-Carbon Policy scenario.

The Role of Gas Plants Changes in A Decarbonized Electricity System

Gas capacity increases by a modest amount to meet the increase in demand during the transition to clean energy resources, but use of that capacity dramatically declines over time. By 2050, conventional gas plants (without CCS) operate at 6 percent of their rated capacity on average across the United States, down from 36 percent in 2026, as they help maintain reliability and integrate high levels of wind and solar over longer, seasonal timeframes.

Meeting the Growth of Data Center Demand Increases Electricity Costs

Data center growth puts electricity ratepayers at risk of large cost increases. Wholesale electricity costs attributable to data center-driven demand growth range from \$411 billion to \$524 billion, cumulatively from 2026 to 2035 and \$886 billion to \$978 billion from 2026 to 2050. This represents 18 to 24 percent of total costs across the three scenarios (Figure 5).

Restoring federal clean energy tax credits results in higher cumulative electricity costs of \$202 billion (8 percent) from 2026 to 2035, but cumulative savings of \$248 billion (4 percent) through 2050 compared with the Current Policies scenario. Adopting more ambitious climate and clean energy policies under the Low-Carbon Policy scenario results in slightly higher costs of \$291 billion (12 percent) from 2026 to 2035 and \$412 billion (7 percent) through 2050 compared with Current Policies.

Investing in Clean Energy Reduces Heat-Trapping Emissions and Air Pollution

Under the Current Policies scenario, reliance on fossil fuels to power data centers and meet overall US electricity demand results in higher power plant CO₂ emissions, jeopardizing science-informed climate goals and resulting in greater climate-related damages (Figure 6) (Biden Administration 2024). CO₂ emissions decline between 2023 and 2029 as growth in wind and solar generation, accelerated by tax credits, replaces retiring coal generation and limits increases in gas generation. However, after tax credits for wind and solar expire, CO₂ emissions

steadily increase as gas generation grows and more coal generation sticks around to meet demand growth.

The additional fossil fuel generation used to power data centers increases the annual CO₂ emissions from US power plants by 19 percent (229 MMT) by 2035 under Current Policies when comparing the No Demand Growth scenario with the Mid Demand Growth scenario. In contrast, CO₂ emissions continue declining after 2029 in the Restored Tax Credits and Low-Carbon Policy scenarios as much higher levels of wind and solar generation replace coal and gas.

The Climate and Health Benefits of Reducing Fossil Fuel Use Outweigh the Costs of the Clean Energy Transition

Replacing electricity generation from fossil fuel combustion with clean electricity resources yields important public health benefits. It decreases emissions of the harmful air pollutants, such as nitrogen oxides (NO_x) and sulfur dioxide (SO₂), that contribute to respiratory ailments, heart attacks, other illnesses, and even mortalities (Lelieveld et al. 2023) (Figure 7).

The transition also results in a significant reduction in the heat-trapping emissions that drive climate change, which yields towering economic benefits by reducing future damages from climate impacts (EPA 2022). Between 2020 and 2024, the United States experienced 115 extreme weather and climate disaster events, each with losses exceeding \$1 billion and causing more than \$746 billion in total damages (NOAA 2025). Without action to curb emissions, these costs will continue to grow as the severity and frequency of extreme weather and climate disasters increase.

The increases in air pollution and heat-trapping emissions that result from using fossil fuels to power data centers also results in tens of billions of dollars of health costs and trillions of dollars in climate damages under Current Policies (Table 4 and Figure 8). Adopting clean energy policies as reflected in the Low-Carbon Policy scenario would result in much lower costs compared with Current Policies.

Clean Energy Policies Save Lives and Lower Health Costs

Reducing emissions of NO_x and SO₂ avoids thousands of premature deaths and saves billions of dollars due to avoided mortalities. This underscores the importance of a rapid clean energy transition to reduce the public health harms resulting from fossil fuel-fired electricity generation.

Avoiding Climate Impacts Significantly Boosts Overall Benefits

Unlike public health damages, for which the impacts are more local, the damages from climate change are global, affecting the United States and other countries. These impacts include, but are not limited to, property damage, changes in agricultural productivity, and disrupted energy systems resulting from extreme heat, drought, wildfires, flooding, extreme weather, and other impacts. Using the social cost of carbon (EPA 2022), the Restored Tax Credits and Low-Carbon Policy cases deliver \$8.3 trillion to \$13.1 trillion in avoided climate damages when compared with Current Policies (Table 5).

Without Stronger Policies, High Data Center Demand Results in Additional Emissions and Costs

Without stronger policies, high growth of data center demand results in greater reliance on fossil fuels, higher emissions, and additional costs. Under the Current Policies, High Demand Growth scenario:

- **Generation from gas and coal** is 11 percent higher by 2035 and 15 percent higher by 2050 than the Mid Demand Growth scenario.
- **Power plant CO₂ emissions** from data centers are 342 MMT in 2035 and 416 MMT in 2050, which is 50 to 72 percent higher than the Mid Demand Growth scenario.
- **Electricity system costs** that can be attributed to this higher data center demand exceed \$1.6 trillion, cumulatively, from 2026 to 2050. This is 73 percent higher than the Mid Demand Growth scenario costs of \$924 billion.

Adopting Clean Energy Policies Limits Emissions and Cost Increases from High Data Center Demand Growth

Under the Restored Tax Credits, High Demand Growth scenario, wind and solar generation meet most of the increased demand while the share of gas and coal generation gradually declines. Power plant CO₂ emissions are 44 percent (690 MMT) lower in 2050 than in the Current Policies, High Demand Growth scenario; electricity system costs are \$292 billion (4 percent) lower.

Recommendations for Policymakers, Regulators, Utilities, and Big Tech Companies

The UCS modeling illustrates that clean energy can meet the challenge of increased demand caused by data centers even as the electricity sector simultaneously transitions away from fossil fuels. Our recommendations provide a starting point for ensuring that primarily clean, affordable, and healthy energy sources power new load growth from data centers and electrification, rather than meet new demand by increasing the nation's reliance on dirty and outdated fossil fuels. This outcome will require action at both the state and federal levels. State Public Utility Commissions (PUCs) have jurisdiction over retail electricity sales and rates; the Federal Energy Regulatory Commission (FERC) has jurisdiction over interstate transmission, wholesale electricity markets and rates, and the setting of reliability standards.

The UCS recommendations are broad in scope, drawing not only on insights from our modeling but also from on-the-ground advocacy, best practices emerging at the state and regional levels, and other policy and regulatory changes needed to accelerate the clean energy transition.

Require Data Centers to Pay for Additional Electricity Costs

State PUCs should require data centers and other large electricity customers (such as manufacturing facilities) to pay a fair share of any incremental costs for generation, transmission, grid upgrades, and operations, ensuring that these costs do not fall on other ratepayers. In our analysis, the cumulative costs of meeting data center electricity demand could be more than \$900 billion by 2050, representing more than 18 percent of total US electricity system costs. Minimum revenue obligations, as well as prepayments or letters of credit for those costs, should be conditions for utilities to serve data center customers.

Regulators must hold utilities accountable for developing new electricity supplies required by data centers, basing accountability on firm commitments with financial backing from data center customers. The Federal Energy Regulatory Commission should also require utilities to utilize rate-setting processes to track transmission costs caused by specific customers. States must then require data center customers and other large loads to pay the costs of direct transmission connection. State PUCs should require utilities to recognize these costs in retail-cost-of-service studies so that costs can be allocated appropriately (Jacobs 2025).

State PUCs should require utilities to develop tariffs and other rate structures that lead data centers to acquire 24/7 carbon-free electricity (CFE) and protect other customers from rate increases; such requirements should build off current examples from leading states (Linvill et al. 2024; Fisher et al. 2024). The requirements should include mandates to procure additional, deliverable, and time-matched clean energy.

“Bring your own capacity and energy” is another 24/7 CFE model that enables data centers to identify resources that meet their own needs while the utility serves as purchaser, schedules the delivery of power, and passes costs and benefits to the buyer. Data centers and other large customers can also directly procure 24/7 CFE from suppliers through power purchase agreements.

Require Utilities to Conduct Long-Term Planning for Data Center Load Growth

State PUCs and legislatures should require utilities to develop long-range integrated resource plans that include transparent reporting of projected increases in electricity demand from data centers, other large loads, and electrification. The UCS analysis highlights the importance of detailed scenario modeling that projects the sources of electricity generation needed to meet this demand and fulfill state climate and clean energy requirements. Requiring utilities to publicly disclose their assumptions and bases for load and generation forecasts will improve planning and help avoid overbuilding the electricity system.

Due to the uncertainty in forecasting load growth due to data centers, utilities should model multiple scenarios that identify a range of generation, storage, transmission, and demand-side solutions. This would help minimize the risks of over- or underinvesting. Scenarios and iterative planning cycles also enable utilities to adjust as better information becomes available.

Adopt Fair Interconnection and Transmission Rules That Reduce Barriers to Deploying Clean Energy

As the UCS analysis shows, adopting policies to decarbonize the power sector by 2050 could nearly triple wind and solar generation by 2035; by 2050, wind and solar generation would increase five-fold and replace coal and gas. This would require a significant increase in energy storage and transmission capacity. FERC should require regional grid operators to reform generator interconnection processes to ensure that they treat all resources fairly. That can be accomplished largely through the timely implementation of FERC Order 2023; initially issued in 2023, its implementation has been slow.

Utilities and regional grid operators should increase transmission capacity to enable the delivery of power from new resources to consumers. This progress starts with smart, forward-looking investments identified through robust planning processes envisioned in FERC Order 1920, issued in 2024. In recent years, the Mid-Continent System Operator's Long Range Transmission Planning process—a good example of such planning—has produced two project portfolios that represent more than 40 individual investments designed to enable new resource additions and address forecasts of load growth, including from data centers (MISO 2024b).

Utilities and regional grid operators should consider other cost-effective solutions and strategies as well. Examples include grid-enhancing technologies, non-wires alternatives, virtual power plants, the reconductoring of existing lines, and demand flexibility.

Require Generation for Data Centers to Be Additional and Carbon-Free

State PUCs and legislatures should require utilities to meet the growth in electricity demand from data centers with new low-carbon or zero-carbon generation. States with renewable or clean electricity standards should require data centers and other large loads to contribute financially to ensuring the standards can be met cost effectively and to avoid imposing additional costs on other customers.

In addition, state PUCs should not allow co-location of data centers with existing power plants being used to meet electricity demand from existing customers. Replacing this existing generation with other sources of generation could increase emissions and costs for other customers.

On the other hand, co-locating data centers with new wind, solar, and storage projects that are sized to meet the load and located near existing generators with excess capacity and approved interconnection could allow for faster approval processes. At the same time, this type of co-location would reduce emissions, help maintain reliability, and lower costs (Engel, Varadarajan, and Posner 2025).

To reduce emissions and public health impacts on local communities, data centers and other large loads should use energy storage instead of diesel or gas generation for back-up power.

Increase Transparency and Accountability

The UCS analysis highlights the importance of tracking and publicly reporting air pollution and heat-trapping emissions to protect public health and meet climate goals. State and federal policymakers should require data center companies and

utilities to negotiate power purchase agreements and grid interconnection terms in public proceedings rather than behind closed doors and non-disclosure agreements.

Policymakers should also require data center companies and utilities to publicly report power needs, onsite and induced emissions, water use, and other data—and to do so with enough advance notice for communities to make informed decisions. State legislatures should direct environmental and utility regulators to hold data center companies accountable for avoiding, minimizing, or mitigating any negative reliability, environmental, or public health impacts.

Adopt Stronger Climate and Clean Energy Policies

The UCS analysis shows the need for stronger policies to accelerate the clean energy transition and provide important economic, climate, and public health benefits. State and federal policymakers should adopt policies that require utilities to meet a growing share of overall electricity demand with renewable energy and other carbon-free electricity sources, combined with investments in storage, new transmission capacity, energy efficiency, and demand-flexibility.

Policy changes include, but are not limited to, restoring federal clean energy tax credits, establishing binding emission reduction targets and carbon-free electricity standards, adopting strong power plant carbon standards, and providing incentives to increase transmission capacity. Policies supporting the development of data centers should include standards and guardrails that protect public health while reducing emissions, energy and water use, and other environmental impacts (NAACP 2025; Dulani and Zaidi 2025)

Setting a Proper Course

The path that states and the nation choose on how to power data centers has wide-ranging implications for energy affordability, reliability, public health, the climate, and the economy as a whole.

Alarmingly, the federal government is moving in the wrong direction. Recent congressional rollbacks of federal clean energy tax credits and incentives, combined with regulatory and executive actions favoring fossil fuels, repealing power plant carbon standards, undermining climate science, and attacking renewable energy and environmental, social, and governance (ESG) policies are dramatically heightening the risks to people and the environment. Limiting cost-effective clean energy solutions like solar, wind, and energy storage that can be deployed quickly and at scale to meet data center load growth could lead to electricity shortages, higher prices, and greater climate and public health impacts. It also undermines the nation's ability to compete as a global leader on clean energy innovation.

Despite the compelling economic and societal benefits of investing in clean energy, they will not be fully realized without stronger policies at the state and national levels. Already, states and local communities across the country are facing proposals to build power-hungry data centers with uncertain trajectories for development and concerns about costs and benefits.

Strong leadership from Congress, future administrations, and the states can get the United States back on track. Such efforts can build on the foresight of leading states that have adopted carbon-free electricity standards and targets to achieve deep reductions in heat-trapping emissions. Utilities and big tech companies must follow through on their commitments to power data centers with carbon-free electricity and achieve net zero emissions across their operations and supply chains. And achieving science-based climate goals will require stronger policies to clean up other sectors of the economy, including by replacing fossil fuels with carbon-free electricity.

Throughout, it is critical to monitor and prioritize energy affordability. This includes requiring data centers to pay a fair share of any additional costs they impose on the system. Increased investments in energy efficiency and demand flexibility will also help limit future increases in demand and lower consumer energy bills.

Better planning, regulatory reforms, and increased transparency and accountability will be needed to make informed decisions that enable the responsible growth of electricity demand from AI and avoid overbuilding the electricity system. Only bold action will ensure that the nation meets electricity demand growth with clean energy, achieves its climate goals, and protects consumers from added costs brought on by the growth of data centers. The path for the United States to achieve these benefits is clear.

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Notes

1 Data center flexibility refers to the ability of data centers to reduce demand during periods of high demand or high stress on the grid (e.g., during extreme weather). While data center flexibility is not currently being deployed, big tech companies have initiated several pilot projects with utilities (Terrell 2025). It has the potential to significantly reduce peak demand and the need for new generation while lowering overall costs (Norris et al. 2025; Knittel, Senga, and Wang 2025; Cox, Schwartz, and Stenclik 2025).

2 On December 1, 2025, the US Department of Energy announced that the National Renewable Energy Laboratory (NREL) would be renamed the National Laboratory of the Rockies. In our report and supporting materials, we have chosen to use the original name for clarity.

3 As electrification of other sectors grows, the share of electricity demand growth from data centers falls to 27 percent by 2050 under our Mid Demand Growth scenario and 55 percent under our High Demand Growth scenario. However, UCS based our electricity demand projections for other sectors on data from Evolved Energy Research that only included modest increases in electrification. Using EER projections for a high-electrification scenario that would be necessary for the United States to reach economy-wide net zero emissions by 2050, the data center share of total demand growth would fall to 17 to 29 percent by 2050 under the Mid and High Demand Growth cases (Jones et al. 2024).

4 In updated guidance issued on August 15, 2025, the Internal Revenue Service (IRS) revised beginning-of-construction and safe-harbor tax credit eligibility requirements for wind and solar projects. Construction is considered to have started if projects can demonstrate that physical work of a significant nature has begun onsite or offsite of the energy facility property. Previous IRS "safe harbor" guidance also allowed projects that incurred 5 percent or more of total costs to be eligible. The updated IRS guidance only allows smaller solar projects with a nameplate capacity of less than 1.5 MW (AC) to qualify. Wind and solar projects meeting these requirements before July 4, 2026, have up to four years to be placed in service to qualify for the tax credits. If they do not meet these requirements, projects must be placed in service by December 31, 2027 (Sweeney, Hanlon, and Kaercher 2025). For our modeling, we assumed that

larger wind and solar projects could meet these requirements and receive tax credits until July 4, 2030. See the technical appendix for more details.

Figures and tables for this report are available in the full report PDF, [available here](#).

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DATA CENTERS

Data centers could drive Michigan air pollution higher with climate law loophole: Science nonprofit

Data center power demands, emissions loophole for Michigan utilities could add to the state's air pollution in decades ahead, The Union of Concerned Scientists says.



by **Brian Allnutt**
January 21, 2026



Factory smokestack photo by yurok via iStock.

Overview:

- A loophole exempts Michigan utilities from state climate targets when selling energy to other states, the Union of Concerned Scientists says.
- This could result in more air pollution as data centers add demand to Michigan's electric grid, according to the science advocacy group.
- The UCS projects that fossil fuel emissions by Michigan utilities will rise by 26% between 2023 and 2050 if the loophole is not closed.

Data center demand could lead to higher natural gas plant emissions in Michigan, increasing air pollution and undermining climate action, according to a nonprofit report.

As data centers come online and add demand to Michigan’s electric grid, natural gas power plants could emit more nitrogen oxide and sulfur dioxide pollution, according to a Wednesday report from the nonprofit Union of Concerned Scientists (UCS), a science advocacy organization.

State law requires a 100% clean energy portfolio by 2040 for retail electric sales — but those rules don’t apply to electricity sold to other states, the UCS report said.

The report calls for a “CO2 Reduction Policy” to address this dynamic and projects that Michigan electricity exports will increase from “minimal” levels today to more than 56 gigawatt-hours annually.

Michigan Public Service Commission spokesperson Matt Helms told Planet Detroit in an email that Michigan’s clean and renewable energy standards do not cover energy sales by utilities to other states.

Michigan’s two largest utilities have indicated they could see up to 22 gigawatts of load growth from data centers, the UCS report said. Even 5 GW of additional demand could combine with increases in electric transportation and building electrification to double the state’s energy consumption by 2050, the nonprofit said.

In addition to the energy export loophole identified in the UCS report, Michigan’s climate law contains an “off ramp” provision that allows utilities to keep fossil fuel generation online if there’s not enough capacity to meet demand.

Consumers Energy didn’t respond to a question about emissions from electricity exports.

The company will address state climate goals in its upcoming Integrated Resource Plan, which the company will file later this year, said spokesperson Matt Johnson.

DTE Energy did not answer questions about the potential impact of data centers on the utility’s emissions.

Data center-driven pollution could add to growing health risk: Nonprofit

Controlling carbon dioxide pollution would help rein in sulfur dioxide and nitrogen oxide pollution, which natural gas generation emits in direct proportion to CO2, said Lee Shaver, senior energy analyst for the UCS.

Nitrogen oxides and sulfur dioxide are precursors to fine particulate matter, or PM 2.5, a pollutant linked to cardiopulmonary problems and premature death. Nitrogen oxides also contribute to ozone formation, which can cause respiratory problems and increase the frequency of asthma attacks.

Shaver praised Michigan's renewable energy and clean energy standards, but said the buildout of data centers could threaten the state's clean energy progress.

"But what we see is that, due to the load growth from data centers, even with those policies, carbon emissions and health damages from air pollution are going to continue to increase," he said.

This pollution would come as climate change and climate-driven wildfires contribute to a deterioration in U.S. air quality.

In 2025, The American Lung Association gave the Detroit area an "F" rating for air quality in its annual State of the Air Report.

Science group: Michigan Legislature should close loophole

The Union of Concerned Scientists' proposed CO2 reduction policy would create a hard limit on how much gas Michigan utilities can burn, Shaver said. The report calls on the Michigan legislature to enact this policy.

By closing the loophole that allows Michigan utilities to burn fossil fuels for energy exports, the policy would achieve net zero emissions by 2050, the UCS said.

UCS projects that fossil fuel emissions by Michigan utilities will otherwise rise by 26% between 2023 and 2050.

UCS proposes a phased policy, with an 80% emission reductions for out-of-state sales by 2040 and a 100% reduction by 2045.

Michigan exports minimal energy to other states, the USC report said. Demand from data centers in Illinois combined with increased transmission capacity will contribute to higher exports of electricity from Michigan in the future, Shaver said.

Adopting a CO2 reduction strategy in Michigan would also help limit the damage from climate change in the state, including rising temperatures and more intense storms, the report said. Deaths related to increased heat are already on the rise, Shaver said.

“If carbon emissions continue, that trend is going to continue.”

What's next? Tips for civic action

Why it matters

⚡ Data center power demands could lead to more natural gas plant air pollution via a loophole that allows Michigan utilities to circumvent carbon reduction goals for energy exports. Increases in CO2 pollution will entail corresponding increases in other harmful air pollutants.

Who's making civic decisions

🏛️ Michigan legislators could draft a bill to close the climate loophole for energy exports.

How to take civic action now

- 🌱 **Follow** the [Union of Concerned Scientists](#), a science advocacy nonprofit.
- ✉️ **Email** your [state legislator](#), [state senator](#) and [Gov. Gretchen Whitmer](#).
- 📣 **Ask** lawmakers if they support a CO2 reduction policy that would close Michigan's loophole for energy exports.

What to watch for next

📅 Legislation that would address Michigan's energy export loophole.

Civic impact

🌍 Engaging with your lawmakers on data center policy is one way you can influence the impact these facilities have in the state.

★ Please let us know what action you took or if you have any additional questions. Please send a quick email to connect@planetdetroit.org.

MORE FROM PLANET DETROIT



Data center protest in Van Buren Township targets 1-gigawatt proposal

Data center opponents say the 800,000-square-foot facility could strain local utilities. The data center will use as much as 3.6 million gallons of water a day, according to the township.



by [Brian Allnutt](#) January 14, 2026



Lyon Township 'may be revisiting' data center site plan: Residents pack meeting

Approval for a 1.8-million-square-foot data center depends on review of sound study and energy audit, Lyon Township says.



by [Brian Allnutt](#) January 13, 2026



Allen Park officials postpone decision on 26-megawatt data center

Allen Park residents say they're concerned the data center could increase electric rates, while developers say the project will have minimal impacts.



by [Brian Allnutt](#) January 9, 2026

Extracting Profits from the Public: How Utility Ratepayers Are Paying for Big Tech's Power



Eliza Martin
Ari Peskoe

March 2025

Extracting Profits from the Public: How Utility Ratepayers Are Paying for Big Tech’s Power

Eliza Martin and Ari Peskoe*

Executive Summary

Some of the largest companies in the world — including Amazon, Google, Meta, and Microsoft — are looking to secure electricity for their energy-intensive operations.¹ Their quests for power to supply their growing “data centers” are super-charging a growing national market for electricity service that pits regional utilities against each other. In this paper, we investigate one aspect of this competition: how utilities can fund discounts to Big Tech by socializing their costs through electricity prices charged to the public. Hiding subsidies for trillion-dollar companies in power prices increases utility profits by raising costs for American consumers.

Because for-profit utilities enjoy state-granted monopolies over electricity delivery, states must protect the public by closely regulating the prices utilities charge for service. Regulated utility rates reimburse utilities for their costs of providing service and provide an opportunity to profit on their investments in new infrastructure. This age-old formula was designed to motivate utility expansion so it would meet society’s growing energy demands.

The sudden surge in electricity use by data centers — warehouses filled with power-hungry computer chips — is shifting utilities’ attention away from societal needs and to the wishes of a few energy-intensive consumers. Utilities’ narrow focus on expanding to serve a handful of Big Tech companies, and to a lesser extent cryptocurrency speculators, breaks the mold of traditional utility rates that are premised on spreading the costs of beneficial system expansion to all ratepayers. The very same rate structures that have socialized the costs of reliable power delivery are now forcing the public to pay for infrastructure designed to supply a handful of exceedingly wealthy corporations.

To provide data centers with power, utilities must offer rates that attract Big Tech customers and are approved by the state’s public utility commission (PUC). Utilities tell PUCs what they want to hear: that the deals for Big Tech isolate data center energy costs from other ratepayers’ bills and won’t increase consumers’ power prices. But verifying this claim is all but impossible. Attributing utility costs to a specific consumer is an imprecise exercise premised on debatable claims about utility accounting records. The subjectivity and complexity of ratemaking conceal utility attempts to funnel revenue to their competitive lines of business by overcharging captive ratepayers. While PUCs are supposed to prevent utilities

from extracting such undue profits from ratepayers, utilities' control over rate-setting processes provides them with opportunities to obscure their self-interested strategies.

Detecting wealth transfers from ratepayers to utility shareholders and Big Tech companies is particularly challenging because utilities ask PUCs for confidential treatment of their contracts with data centers, which limits scrutiny of utilities' proposed deals and narrows the scope of regulators' options when they consider utilities' prices and terms. Meanwhile, regulators face political pressure to approve major economic investments already touted by elected officials for their economic impacts. Rejecting new data center contracts could lead potential Big Tech customers to construct their facilities in other states. Indeed, Big Tech companies have repeatedly told utility regulators that unfavorable utility rates could lead them to invest elsewhere.²

In the following sections, we investigate how utilities are shifting the costs of data centers' electricity consumption to other ratepayers. Based on our review of nearly 50 regulatory proceedings about data centers' rates, and the long history of utilities exploiting their monopolies, we are skeptical of utility claims that data center energy costs are isolated from other consumers' bills. After describing the rate mechanisms that shift utility costs among ratepayers, we explain how both existing and new rate structures, as well as secret contracts, could be transferring Big Tech's energy costs to the public. Next, we provide recommendations to limit hidden subsidies in utility rates. Finally, we question whether utility regulators should be making policy decisions about whether to subsidize data centers and speculate on the long-term implications of utility systems dominated by trillion-dollar software and social media companies.

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I. Government-Set Rates Incentivize Utilities to Pursue Data Center Growth at the Expense of the Public

Data centers are large facilities packed with computer servers, networking hardware, and cooling equipment that support services like cloud computing and other data processing applications. While data centers have existed for decades, companies are now building much larger facilities. In 2023, companies began developing facilities that will consume hundreds of megawatts of power, as much as the city of Cleveland.³ As several companies race to develop artificial intelligence (AI), the scale and energy-intensity of data center development is rapidly accelerating. By the end of 2024, companies started building gigawatt-scale data center campuses and are envisioning even larger facilities that will demand more energy than the nation's largest nuclear power plant could provide.⁴

The sudden and anticipated near-term growth of cloud computing infrastructure to accommodate the development of AI is driving a surge of utility proposals to profit from Big Tech's escalating demands. By 2030, data centers may consume as much as 12 percent of all U.S. electricity and could be largely responsible for *quintupling* the annual growth in electricity demand.⁵ This growth is likely to be concentrated in regions with robust access to telecommunications infrastructure and where utilities pledge to quickly meet growing demand. Data centers could substantially expand utilities' size, both financial and physical, as they develop billions of dollars of new infrastructure for Big Tech.⁶

Data center growth is overwhelming long-standing approaches to approving utility rates. Nearly every consumer pays for electricity based on the utilities' average costs of providing service to similar ratepayers. A handful of special interests, particularly large industrial users, pay individualized rates that are negotiated with the utility and often require PUC approval. Data center growth could flip the current ratio of consumers paying general rates to special-interest customers paying unique contracts pursuant to special contracts. In this section, we summarize the potential for massive data center growth and then explore how this growth is challenging long-standing ratemaking practices and is causing the public to subsidize Big Tech's power bills.

A. Utilities Are Projecting Massive Data Center Energy Use

Industry experts and utilities are forecasting massive data center growth, and their projections keep going up. In January 2024, one industry consultancy projected 16 GW of new data center demand by 2030.⁷ But by the end of the year, experts were anticipating data center growth to be as high as 65 GW by 2030.⁸ Individual utilities are even more bullish. For example, Georgia Power anticipates its total energy sales will nearly double by

the early 2030s, a trend it largely attributes to data centers.⁹ In Texas, Oncor announced 82 gigawatts of potential data center load,¹⁰ equivalent to the maximum demand of Texas' energy market in 2024.¹¹ Similarly, AEP, whose multi-state system peaks at 35 GW, expects at least 15 GW of new load from data center customers by 2030,¹² although AEP's Ohio utility added that "customers have expressed interest" in 30 GW of additional data centers in its footprint.¹³

There are reasons, however, to be skeptical of utilities' projections. Utilities have an incentive to provide optimistic projections about potential growth; these announcements are designed in part to grab investors' attention with the promise of new capital spending that will drive future profits.¹⁴ When pressed on their projections, utilities are often reticent to disclose facility-specific details on grounds that a data center's forecasted load is proprietary information.¹⁵ This secrecy can lead utilities and analysts to double-count a data center that requests service from multiple utilities.¹⁶ To acquire power as quickly as possible, data center companies may be negotiating with several utilities to discover which utility can offer service first.

Technological uncertainty further complicates the forecasting challenge. Future innovation may increase or decrease data centers' electricity demand. The current surge in data center growth is traceable to the release of ChatGPT in 2022 and the subsequent burst of AI products and their associated computing needs.¹⁷ Computational or hardware advancements might reduce AI's energy demand and diminish data center demand.¹⁸ For instance, initial reports in January 2025 about the low energy consumption of DeepSeek, a ChatGPT competitor, fueled speculation that more efficient AI models might be just as useful while consuming far less energy. Even if more energy efficient AI models materialize, however, their lower cost could lead consumers to demand more AI services, which could drive power use even higher.¹⁹

Nonetheless, investment is pouring into data center growth. At a January 21, 2025 White House press conference, OpenAI headlined an announcement of \$100 billion in data center investment with the possibility of an additional \$400 billion over four years.²⁰ Earlier that month, Microsoft revealed that it would spend \$80 billion on data centers in 2025, including more than \$40 billion in the U.S.²¹ Two weeks earlier, Amazon said it would spend \$10 billion on expanding a data center in Ohio.²² And two weeks before that, Meta announced its own \$10 billion investment to build a new data center in Louisiana.²³

While the scale and pace of data center growth is impossible to forecast precisely, we know that utilities are projecting and pursuing growth. In the next section, we explore the ratemaking and other regulatory processes that socialize utilities' costs and risks. Unlike

companies that face ordinary business risks to their profitability, utilities rely on government regulators to approve their prices and can manipulate rate-setting processes to offer special deals to favored customers that shift the costs of those discounts to the public. This “hidden value transfer,” a term coined by Aneil Kovvali and Joshua Macey, is a strategy employed by monopolist utilities to increase profits at the expense of their captive ratepayers.²⁴ Regulators are supposed to protect against hidden value transfers by aligning rates with the costs utilities incur to serve particular types of consumers. But this rate design strategy is rife with imprecision. In reality, ratepayers are paying for each other’s electricity consumption, and data center growth could potentially exacerbate the cross-subsidies that are rampant in utility rates.

B. Utility Rates Socialize Power System Costs Using the “Cost Causation” Standard

The U.S. legal system bestows significant economic advantages on investor-owned utilities (IOUs), which are for-profit companies that enjoy state-granted monopolies to deliver electricity. Government-approved electricity prices reimburse utilities for their operational expenses and provide utilities an opportunity to earn a fixed rate of return on their capital investments. With a monopoly service territory and regulated prices designed to facilitate earnings growth, a utility is insulated from many ordinary business risks and shielded from competitive pressures.

Public utility regulators, or PUCs, must protect the public from a utility’s monopoly power and, in the absence of competition, motivate the company to provide reliable and cost-effective service. To meet those goals, PUCs determine whether utility service is offered to all consumers within a utility’s service territory at rates and conditions that are “just and reasonable.”²⁵ This standard, enshrined in state law, requires PUCs to balance captive consumers’ interests in low prices and fair terms of service against the utility’s interest in maximizing returns to its shareholders. A utility rate case is the PUC’s primary mechanism for weighing these competing interests by setting equitable prices for consumers that provide for the utilities’ financial viability.

“Cost causation” is a guiding principle in ratemaking that dictates consumer prices should align with the costs the utility incurs to provide service to that customer or group of similar ratepayers. By approving rates that roughly meet the cost causation standard, PUCs prevent “undue discrimination” between utility ratepayers, a legal requirement that is typically specified in state law.

While the PUC makes the final decision to approve consumer prices, the utility drives the ratemaking process. In a rate case, the utility’s primary goal is to collect enough money to

cover its operating expenses and earn a profit on its capital investments. A utility proposes new rates by filing its accounting records and other data and analysis that form the basis of its preferred prices. Once it establishes its “revenue requirement,” the utility then proposes to divide this amount among groups of consumers based on their usage patterns, infrastructure requirements, and other characteristics that the utility claims inform its costs of providing service to those consumers. Typical groups, also known as ratepayer classes, include residential, commercial, and industrial consumers. Finally, the utility proposes standardized contracts known as tariffs for each ratepayer class that include uniform charges and terms of service for each member of that ratepayer class.

Under this ratemaking process, residential ratepayers often pay the highest rates because they are distributed across wide areas, often in single-family homes that consume little energy.²⁶ The utility recovers the costs of building, operating, and maintaining its extensive distribution system to serve residential ratepayers by spreading those costs over the relatively small amount of energy consumed by households. By contrast, an industrial consumer uses far more energy than a household and is likely connected to the power system through higher voltage lines and needs less local infrastructure than residential ratepayers. The utility can distribute lower total infrastructure costs over far greater energy sales to generate a lower industrial rate. Properly designed rates should “produce revenues from each class of customers which match, as closely as practicable, the costs to serve each class or individual customer.”²⁷

But ratemaking is not “an exact science,” and there is not a single correct result.²⁸ In a utility rate case, various parties advocate for their own self-interest by contesting the utility’s filing. Consumer groups and other parties urge the PUC to reduce the utility’s revenue requirement, which could potentially lower all rates. But once the revenue requirement is set, consumer groups are pitted against each other as they try to reduce their share of the total amount. Their arguments are based on competing approaches to cost causation, with each party claiming that lower rates for itself align with economic principles, fairness, and other subjective values. Well-resourced participants, such as industrial groups that have a significant incentive to argue for lower power costs, hire lawyers and analysts to comb through the utility’s filings and argue that their rates should be lower.

But parties face an uphill battle challenging the utility’s accounting records, engineering studies, and other evidence the utility files to justify its preferred rates. Because it initiates the rate case and generates the information needed for the PUC to approve a rate, the utility is inherently advantaged. The information asymmetry between utilities and other parties, as well as the imprecision and subjectivity of the cost causation standard, can facilitate

subsidization across classes of ratepayers. We highlight three reasons that PUCs may purposefully or unwittingly approve rates that depart from the cost causation standard.

First, attributing the utilities' costs to various ratepayer classes depends on contested assumptions and disputed methodologies. Different approaches to cost allocation will yield different results. As a pioneer in public utility economics once explained, there are "notorious disagreements among the experts as to the choice of the most rational method of [] cost allocation — a disagreement which seems to defy resolution because of the absence of any objective standard of rationality."²⁹ Parties, including the utility, provide the PUC with competing analyses that are designed to meet their own objectives. For instance, industrial consumers will sponsor a study that concludes lower rates for the industrial rate class is consistent with the cost causation principle. Other parties favor their own interests in what can be a zero-sum game over how to divide the utility's revenue requirement.

Second, the PUC may have its own preferences. In most states, utility commissioners are appointed by the governor, but in ten states they are elected officials. Either commissioner may face political pressure to favor a particular ratepayer class. For instance, an elected commissioner may be inclined to provide lower rates to residential ratepayers who will vote on the commissioner's reelection. An appointed commissioner may choose to align utility rates with a governor's economic development agenda by providing lower rates to major employers, such as the commercial or industrial class. Other pressures may bias regulators in favor of other interests. As it weighs competing evidence about cost allocation provided by various parties in a rate case, the PUC has discretion to find a particular study more credible and may choose a rate structure that aligns with the sponsoring party's goals and the PUC's own preferences. While other parties may challenge a PUC's decision in court, courts are unlikely to overturn a PUC's judgment about cost allocation.³⁰

Third, the utility may exploit its informational advantages and intentionally provide false information. A rate case is premised on detailed accounting records filed by the utility about the expenses it incurs to provide service. The spreadsheets and other information that the utility files are based on internal records not available to the PUC or rate-case parties. Even if the utility provides some of its records in response to a party's request, the information might be too voluminous for the PUC or other parties to verify. Ultimately, the PUC relies on the utility's good faith. However, recent cases show that utilities are filing fabricated or misleading records.³¹

A random audit of multi-state utility company FirstEnergy by the Federal Energy Regulatory Commission (FERC) found that the utility had hidden lobbying expenses tied to political corruption by mislabeling them as legitimate expenses in its accounting books. According to

the audit, the utility's internal controls had been "possibly obfuscated or circumvented to conceal or mislead as to the actual amounts, nature and purpose of the lobbying expenditures."³² The audit concluded that the utility's mislabeling allowed the inappropriate lobbying expenses to be included in rates.³³ Rate cases did not detect this deception. Only an audit, informed by an extensive federal sting operation, revealed the utility's deceit. Regulators have recently uncovered other utilities filing false or misleading information in regulated proceedings.³⁴

Once the regulators approve utility rates, some consumers can shift costs to other ratepayers by fine-tuning their energy consumption. As we discuss in more detail in part II.B.3, rates for commercial and industrial ratepayers typically include demand charges that are tied to each consumer's energy consumption during the utility's or regional power system's moment of peak demand that year. By anticipating when that peak will happen and reducing consumption of utility-delivered power at that moment, a data center or other energy-intensive consumer can substantially reduce its bill. While this "peak shaving" can reduce power prices for other consumers, it also forces other ratepayers to pay part of the energy-intensive consumer's share of infrastructure costs.

Despite its flaws, ratemaking continues to be the dominant approach to financing power sector infrastructure. Uniform, stable prices provide predictable revenue that motivates investors to fund utility expansion. Rate regulation typically insulates investors from many ordinary business risks by putting ratepayers on the hook for the company's engineering, construction, or procurement mistakes. For instance, regulators often allow utilities to increase rates when their projects are over-budget. The utility rarely faces financial consequences for missteps that would cause businesses that rely on competitive markets to lose profits.

Some energy-intensive consumers can be exempted from this ratemaking process that socializes costs and shifts risks to the public. The special rates for these consumers are set in one-off agreements that can lock in long-term prices and shield it from risks faced by other ratepayers. These contracts, which typically require PUC approval, allow an individual consumer to take service under conditions and terms not otherwise available to anyone else. Special rates are, in essence, "a discriminatory action, but one that regulators can justify under certain conditions."³⁵

To protect ratepayers, some state laws authorizing special contracts require PUCs to evaluate whether the contract meets the cost causation standard.³⁶ However, the "notorious disagreements" about how to measure whether a consumer is paying for its costs of service still plague the special-contract cost causation analysis. And, as we describe

below, proceedings about special contracts present unique obstacles to evaluating cost causation.

In other states, however, laws authorizing special contracts do not prevent PUCs from approving below-cost contracts. For instance, Kansas law allows regulators to approve special rates if it determines that the rate is in the state's best interest based on multiple factors, including economic development, local employment, and tax revenues.³⁷ A recent law enacted in Mississippi strips utility regulators of any authority to review contracts between a utility and a data center.³⁸

Regardless of the standard for reviewing special contracts, there is significant political pressure on regulators to approve these deals, even if such development results in higher electricity costs for other ratepayers. Regulators do not want to be seen as the veto point for an economic development opportunity, which may have already been publicized by the company and the governor. Because utilities may be competing for the profitable opportunity to serve a particular energy-intensive consumer, they have an incentive to offer low prices, even if that reduced rate results in higher costs for the utility's other ratepayers. As noted, despite their wealth, Big Tech companies seek low energy prices and make siting decisions based in part on price.³⁹ Regulatory scrutiny of special contracts is therefore a critical backstop for protecting ratepayers.

II. How Data Center Costs Creep into Ratepayers' Bills

When a utility expands its system in anticipation of growing consumer demand, it typically seeks to include the capital costs of new infrastructure in its rates. If approved, ratepayers share the costs of the utility's expansion pursuant to a cost allocation formula accepted by the PUC. This approach, while imperfect for the reasons described in the previous section, has facilitated population growth and economic development by forcing ratepayers to subsidize new infrastructure that will allow new residents and businesses to receive utility-delivered energy.

For many utilities, their expectations about growth are now dominated by new data centers. Rather than being dispersed across a utility's service territory like homes and businesses, these new data center consumers that are benefitting from utility expansion are identifiable and capable of paying for infrastructure that will directly serve their facilities. If PUCs allow utilities to follow the conventional approach of socializing system expansion, utilities will impose data centers' energy costs on the public. The easiest way for utilities to shift data centers' energy costs to the public is to simply follow long-standing practices in rate cases.

In our view, however, utilities are often using more subtle ratemaking methods to push data centers' energy costs onto consumers' bills.

In this section, we focus on three mechanisms that can force consumers to pay for data center's energy costs. First, special contracts between utilities and data centers, approved through opaque regulatory processes, are transferring data center costs to other consumers. Second, disconnected processes for setting federally regulated transmission and wholesale power rates and state-set consumer prices are: A) causing consumers to pay for interstate infrastructure needed to accommodate new data centers; B) putting consumers on the hook for new infrastructure built for data-center load that never materializes; and C) allowing data centers to strategically reduce energy usage during a few hours to reduce their bills and shift costs to other consumers. Third, data centers that bypass traditional utility ratemaking by contracting directly with power generators may also be raising electricity prices for the public. These co-location agreements between a data center and adjacent non-utility generator may trigger an increase in power market prices and distort regulated electricity delivery rates.

A. Shifting Costs through Secret Contracts

Special contracts are offered by utilities to energy-intensive consumers to attract their business. While regulators in many states are required to protect the public from such cutthroat practices that harm ratepayers, we explain in this section why we are skeptical about utility claims that special contracts for data centers do not force the public to pay for Big Tech's energy costs.

Our review of 40 state PUC proceedings about special contracts with data centers finds that regulators frequently approve special contracts in short and conclusory orders. While PUC rate case decisions are lengthy documents that engage with the evidence filed by the utilities and other parties, most PUC orders approving special contracts provide only cursory analysis of the utility's proposal. One challenge for PUCs is that few, if any, parties participate in these proceedings. As a result, the PUC has little or no evidence in the record to compete with the utility's claim that the contract isolates data center energy costs from other ratepayers' bills.

The PUC often deters parties from arguing against the utility's proposed special contract by reflexively granting utility requests to shield its proposal from public view.⁴⁰ The PUC's own grant of confidentiality adds a procedural barrier to greater participation and prevents the public from even attempting to calculate the potential costs of these deals.⁴¹ But perhaps the greater impediment to third-party analysis of proposed special contracts is that

ratepayers believe that they have little at stake in the proceedings. Unlike rate cases, which set the prices consumers pay, a special contract will only have indirect financial effects on other ratepayers if it shifts costs that the energy-intensive customer ought to pay on to other ratepayers' bills. Because meaningfully participating in a special contract case has a high cost and a generally low reward, otherwise interested parties have typically not bothered to contest them. But the scale of data center special contracts demands attention because the costs being shifted to the public could be staggering.

A special contract shifts costs to other ratepayers when the customer pays the utility a price lower than the utility's costs to serve that customer. To cover the shortfall, utilities will attempt to raise rates for other ratepayers in a subsequent rate case.⁴² The amount of the shortfall, and whether there is any shortfall at all, depends on how the utility calculates its costs of providing service to the data center. As discussed above, there are "notorious disagreements" about appropriate methodologies, and even the term "cost" can itself be subject to dispute. Experts debate, for instance, when to use average or marginal costs and whether short- or long-term costs are suitable metrics. When utilities use one metric in a rate case and another metric in a special contract proceeding, they could be causing spillover effects that harm ratepayers.⁴³

The disagreements about methodologies and complexities of the calculations underscore a foundational challenge to reviewing a special contract rate. As discussed above, PUC rate case decisions do not purport to assign utility costs to individual consumers but instead apportion cost responsibility among similar ratepayers grouped together as classes. But in a special contract proceeding, the utility makes the unusual claim that it can isolate its costs to serve a single consumer. Without contrary evidence filed by interested parties, the PUC may have little basis for rejecting the utility's analysis.

Even without the benefit of third-party analyses in special contract proceedings, PUC orders may summarize cross-subsidy concerns raised by their own staff. But challenging the utility's analysis is costly and time-intensive, and staff may not have the resources to provide robust analysis. Similarly, state ratepayer advocates occasionally participate in these proceedings and raise cross subsidy arguments, but they are also often stretched too thin to provide a detailed response to the utility's proposal. As a result, we find that many PUC orders approving special contracts simply conclude that the proposed contract is reasonable without meaningfully engaging with the proposal.⁴⁴

Such PUC orders are therefore not persuasive in assuaging concerns that the public may be subsidizing Big Tech's energy costs. Moreover, as discussed, state regulators may face political pressure not to veto a significant construction project in the state. The utility's

assertion that it is protecting other ratepayers may provide enough cover for regulators to approve a special contract. The obscurity and complexity of these proceedings provides utilities with opportunities to hide data center energy costs and force them onto other consumers' bills.

Recent litigation against Duke Energy, one of the largest utilities in the country, exposed that the company was acting on its incentive to shift costs of a special contract to its other ratepayers. Duke's scheme responded to a new power plant developer offering competitive contracts to supply small non-profit utilities that had been purchasing power from Duke.⁴⁵ Duke's internal documents disclosed through litigation revealed that the new company was far more efficient than Duke and the utility therefore could not compete for customers based on price. Nonetheless, Duke offered one of its larger customers a new contract that amounted to a \$325 million discount compared to its existing deal with Duke.⁴⁶ Additional internal utility documents revealed that Duke developed a plan to "shift the cost of the discount" to its other ratepayers by raising their rates.⁴⁷ Duke's strategy to force its ratepayers to subsidize the special-contract customer's energy was discovered only because the power plant developer sued Duke in federal court under antitrust law.

While our paper focuses on how consumers are likely subsidizing Big Tech's energy costs through their utility rates, we acknowledge that the reverse is also theoretically possible. A data center taking service under special contracts could be *overpaying*. A utility proposing a special contract might prefer to overcharge one deep-pocketed customer through a special contract in order to reduce rates for the public. While this pricing strategy may seem politically attractive for the utility and PUC, it seems unlikely to attract new data centers.

Regardless of a utility's motivation, regulators are supposed to be skeptical of a sudden surge in utility spending. Superficial reviews of special contracts are insufficient when they are collectively committing utilities to billions of dollars for Big Tech customers. The recent Duke litigation illustrates how utilities take advantage of their monopolies to force ratepayers into subsidizing their competitive lines of businesses. Discounted rates can give a utility an edge in the data center market,⁴⁸ and hiding the costs of discounts in ratepayers' bills boosts utility profits. To prevent utilities from overcharging captive ratepayers for the benefit of their competitive businesses, both PUCs and FERC have developed regulatory mechanisms that attempt to prevent such subsidies.⁴⁹ For instance, FERC applies special scrutiny to contracts between utilities and power plants that are owned by the same corporate parent. FERC's concern is that because state regulators must let the utility recover its FERC-regulated costs in consumer's rates, "such sales could be made at a rate that is too

high, which would give an undue profit to the affiliated [power plant] at the expense of the franchised public utility's captive customers."⁵⁰

Special contracts with data centers are the latest iteration of a long-standing problem with monopolist utilities. Policing cost-shifts in this context is particularly challenging due to the opaque nature of the proceedings, the complexity and subjectivity of assessing the utility's costs of serving an a single consumer, and political pressure on PUCs to approve contracts.

B. Shifting Costs through the Gap Between Federal and State Regulation

When a PUC approves a utility's revenue requirement, it must allow the utility to include interstate transmission and wholesale power market costs that are regulated by FERC.⁵¹ In much of the country, utilities procure power through markets administered by non-profit corporations called Regional Transmission Organizations (RTOs). Market prices are influenced by a host of factors, such as fuel and technology costs, and ultimately reflect generation supply and consumer demand. If supply is constrained by a data center demand surge, market prices would likely increase, at least in the short term. Consumers' utility bills will include these higher power market prices.

PUCs can protect ratepayers from market price increases by allocating the costs of higher prices to data centers. But PUCs rarely order utilities to adjust the formulae that spread FERC-regulated market and transmission costs to ratepayers. In this section, we illustrate how ratepayers can pay more for power due to data center demand by focusing on FERC-regulated transmission costs. Federal law provides FERC with exclusive authority to set utilities' transmission revenue requirements and allocate a utility's transmission revenue requirement to multiple utilities. Under FERC's rules, costs of a new transmission line can be paid entirely by a single utility or shared among utilities if there is agreement that the new line benefits multiple utilities. When costs are shared, a region-specific formula approved by FERC divides costs roughly in proportion to the power system benefits each utility receives, such as lower market prices and improved reliability.⁵²

Under either the single-utility or multi-utility approach, PUCs apply their own formula for dividing FERC-allocated transmission costs among ratepayer classes. These separate cost allocation schemes can allow data center energy costs to creep into other consumers' bills when new data centers trigger a need for transmission upgrades. We illustrate by discussing examples of each type of transmission cost recovery and then explain how rate designs embedded in special contracts or tariffs can allow data centers to reduce their bills at the expense of ratepayers.

1. Separate Federal and PUC Transmission Cost Allocation Methods Allow Data Center Infrastructure Costs to Infiltrate Ratepayers' Bills

In December 2023, the PJM RTO, a utility alliance stretching from New Jersey to Chicago and south to North Carolina, approved \$5 billion of transmission projects whose costs would be shared based among PJM's utility members.⁵³ PJM identified two factors driving the need for this transmission expansion: retirement of existing generation resources and "unprecedented data center load growth," primarily in Virginia.⁵⁴ Pursuant to its FERC-approved cost allocation method, PJM split half of the transmission costs across its footprint based on each utilities' share of regional power demand and allocated the remaining half using a computer simulation of the regional transmission network that estimates benefits each utility receives from the new transmission projects.⁵⁵ Under this approach, PJM assigned approximately half of the total cost to Virginia utilities, approximately 10% to Maryland utilities, and the remainder to utilities across the region.⁵⁶

Each state's PUC then allocates the costs assigned by PJM to ratepayer classes of each utility it regulates. In Maryland, across the state's three IOUs assign, an average of 66 percent of transmission costs are assigned to residential ratepayers.⁵⁷ The larger of Virginia's two IOUs includes more than half of its transmission costs in residential rates.⁵⁸ Thus, in both states, residential ratepayers are paying the majority of regional transmission costs that are tied to data center growth. From the public's perspective, this result appears to violate the cost causation principle. After all, residential ratepayers are not causing PJM to plan new transmission.

PJM's approach, however, recognizes that new regional transmission benefits all ratepayers by improving reliability, allowing for more efficient delivery of power, and providing other power system improvements that are broadly shared. PJM developed its cost-sharing approach with the understanding that new transmission would be designed primarily to provide public benefits. New transmission designed for a few energy-intensive consumers, and not broad public benefits, is inconsistent with PJM's premise. That said, by increasing transmission capacity, new regional transmission lines for data centers may provide ancillary benefits to all ratepayers. PJM's power system simulation, which it uses to allocate half the costs of transmission expansion, demonstrates the shared benefits of this new infrastructure. Proponents of transmission expansion argue that such power flow models validate the current approach of allocating transmission costs to benefiting ratepayers because the models can calculate with reasonable accuracy who benefits from new transmission and therefore who should pay for it.

But even assuming that ancillary benefits for all ratepayers are adequate to justify current methods for regional transmission cost allocation, PJM only spreads costs among the region's utilities. Each utility then has its own methods, approved by PUCs, for allocating transmission investment to its ratepayers. The PUC-approved methods typically presume that ratepayers share in the benefits of new transmission in proportion to their total energy consumption. This approach causes residential ratepayers in Maryland, which consume more than half of the state's electricity, to pay for the lion's share of Maryland utilities' costs of new PJM-planned transmission. Without reforms, consumers will be paying billions of dollars for regional infrastructure that is designed to address the needs of just a few of the world's wealthiest corporations.⁵⁹

Obsolete PUC cost allocation formulas can also cause ratepayers to pay for transmission costs that are not regionally shared. For instance, in July 2024, Virginia's largest utility applied to the PUC for permission to build infrastructure that would serve a new large data center. PUC staff reviewing the proposal found that but for the data center's request, the project "likely, if not certainly, would not be needed at this time."⁶⁰ In its application, the utility told state regulators that the \$23 million project would be paid for through its FERC-approved transmission tariff.⁶¹ Under the utility's existing state-approved tariff, about half of all costs assigned through the FERC-regulated tariff are billed to residential ratepayers, and the remaining half are billed to other existing ratepayers.⁶² The bottom line is that existing tariffs force the public to foot the bill for the data center's transmission.

2. Utilities May Be Saddling Ratepayers with Stranded Costs for Unneeded Transmission

If a utility's data center growth projections fail to materialize, ratepayers could be left paying for transmission that the utility constructed in anticipation of data center development. Claiming that it was addressing this "stranded cost" issue, American Electric Power (AEP) of Ohio proposed a new state-regulated tariff that that would require data center customers to enter into long-term contracts with the utility before receiving service. AEP's proposed contract would require the data center to pay 90 percent of costs associated with its maximum demand for a ten-year period, including FERC-regulated transmission costs.⁶³ According to the utility, this upfront guarantee protects AEP's other ratepayers from the risk that the utility builds new infrastructure for a data center that never materializes and prevents the utility from offloading all of these "stranded" costs on other ratepayers.

While these long-term contracts would at least partially insulate AEP's ratepayers from data center transmission costs, neighboring utilities pointed out that they could still be left paying

for stranded costs through PJM's allocation of transmission investments. Their protests explain that if AEP builds new transmission lines in anticipation of data center load growth, and those lines are paid for via PJM's regional cost allocation, then those costs would be split among all PJM-member utilities. As noted, PJM allocates half the costs of new transmission lines to its utility members based on their share of regional energy sales. If AEP's data center customers commence operations, AEP's own share of regional transmission costs would increase in proportion to its rising share of regional energy sales. In that scenario, other utilities in the region may not overpay for transmission needed for AEP's data center customers.

Protesting utilities in the Ohio PUC proceeding focus on the possibility that AEP's data center customers cancel their projects or consume less energy than anticipated after AEP has spent money developing new transmission to meet projected data center demand.⁶⁴ Under that scenario, total regional transmission costs would rise due to AEP's spending, but AEP's share of total costs would not increase proportionally. As a result, other regional utilities would face increasing costs to pay for infrastructure developed to meet AEP's unrealized data center energy demand. How much individual consumers pay for the new infrastructure would depend on how each utility allocates transmission costs to various ratepayer classes pursuant to a PUC rate case decision.

New transmission projects paid for by a single utility can also raise stranded cost concerns. In December 2024, FERC approved a contract that governed the construction of transmission facilities needed to provide service to a new data center.⁶⁵ Under the contract, the data center will immediately pay for new infrastructure needed to connect the facility to the existing transmission network but will not directly pay for necessary upgrades to existing transmission facilities. Instead, the utility AES pledged to include those upgrade costs in the transmission rates paid by all ratepayers through a subsequent regulatory process. A separate state-regulated tariff for energy-intensive consumers would require the data center, and not other consumers, to ultimately pay for the upgrades. In addition, the contract requires the data center to pay for the upgrades in the event it does not commence operations or uses less energy than would be required under the state-regulated tariff to pay for the upgrades over the time. Our understanding is that this approach to transmission cost recovery for new energy-intensive consumers is fairly common and not limited to data centers, but ratepayer advocates are concerned that data centers' commitments may be more uncertain than other types of energy-intensive consumers.

The Ohio ratepayer advocate therefore protested the contract, arguing that the language protecting other consumers from paying for the transmission upgrades was "unacceptably

ambiguous.”⁶⁶ The Ohio advocate urged FERC to require “specific language to preclude shifting data center costs” to other consumers.⁶⁷ FERC nonetheless approved the contract because it found that these concerns were premature and noted that they may be raised in future proceedings that directly address any proposed cost shifts.⁶⁸ In a short concurrence, FERC Commissioner Mark Christie questioned whether the rate treatment proposed by the utility that could burden consumers with stranded costs is justified.

3. By Slightly Reducing Their Energy Use, Data Centers Can Increase Ratepayers’ Transmission and Wholesale Market Charges

Like other ratepayers, data centers pay an energy price for each unit of energy they consume as well as a monthly flat fee. Data centers, and many non-residential ratepayers, also face utility-imposed demand charges that are tied to their peak consumption during a specified month, year, or other time period. These charges are intended to reflect the costs of building power systems that have sufficient capacity to generate and deliver energy when consumer demand is unusually high. In RTO regions, PUC-regulated data center special contracts and tariffs likely reflect FERC-approved demand charges that incorporate regional transmission costs and may also include costs of procuring sufficient power plant capacity to meet peak demand. By reducing their energy use during just a few hours of the year, data centers may be able to reduce their share of regional costs that are allocated to demand charges and effectively force other ratepayers to pick up the tab.

Electricity use is constantly changing, and it peaks when consumers ramp up cooling and heating systems during exceptionally hot or cold days. Meeting these moments of peak demand is very expensive. Consumers pay for transmission and power plant infrastructure that is mostly unused but nonetheless necessary for providing power during a few peak hours each year. While utilities have employed several methods for assessing demand charges, many energy-intensive consumers are billed based on their own consumption at the moment the regional system reaches its peak demand.⁶⁹

Data centers and other large energy users have significant incentives to forecast when this peak hour will occur and reduce their consumption of utility-delivered power during that hour. To avoid shutting down or reducing their production during hours when the system might hit its peak, energy-intensive consumers may install backup generators that displace utility-provided power. Large power users may already have their own power generators to protect against outages or improve the quality of utility-delivered power.⁷⁰ Needless to say, most consumers that face demand charges, such as small businesses, do not have a sufficient incentive to forecast the system peaks or install on-site generation. As data

centers' share of regional energy consumption grows, Big Tech will be able to shift an increasingly large share of the region's costs to other ratepayers, particularly if their demand charges are easily manipulable.

PUCs can often prevent these cost shifts among consumers who take service from rate-regulated utilities in their states. Federal law requires only that the total costs allocated through FERC-approved tariffs must be passed on to utilities and then ultimately to consumers through PUC-regulated tariffs or special contracts. PUCs can choose their own methods for allocating those costs among ratepayers. Because data centers' special contracts are confidential, we often do not know whether utilities and PUCs are facilitating cost shifts through demand charges. Whether data centers are taking service under tariffs or special contracts, PUCs should ensure that rate structures are not allowing data centers to shift costs through manipulable demand charges.

That said, as we discuss below in part III.E, cutting peak consumption can reduce costs for everyone if utilities build their systems for a lower peak that accounts for a data center's ability to turn off or self-power. The problem is that utilities are expanding based on an assumption that data centers will operate at full power with utility-delivered power during peak periods. When a data center uses its own generation during peak periods to avoid demand charges, it is shifting the costs of an overbuilt system to the public.

C. Shifting Costs by "Co-Locating" Data Centers and Existing Power Plants

Power plant owners have developed their own scheme for attracting data centers that could shift energy costs from data centers to ratepayers. Under "co-location" arrangements, a data center connects directly to an existing power plant behind the plant's point of interconnection to the utility-owned transmission network. By delivering and taking power without using the transmission network, power plant owners and data centers argue that they ought to be exempt from paying utility-assessed energy delivery fees. Utilities have contested this arrangement because it denies them profitable opportunities to build new infrastructure to connect data centers to their networks.

In their haste to secure power as quickly as possible, data centers are looking to contract with existing generation, particularly nuclear power plants. By connecting directly to a power plant, data centers aim to avoid a potentially lengthy process administered by a utility to connect the data center to the utility's power delivery system. Locating load behind a power plant's point of delivery to the transmission network is not new. But the potential scale of data center growth and possibility that some significant share of that growth will co-locate has spawned disputes between power plant owners and utilities.

We highlight the key points about co-location by focusing on regulatory proceedings that involve Constellation, the largest owner of nuclear plants in the U.S., and Exelon, the largest utility in the U.S. that owns only delivery infrastructure and not power plants. Until 2022, Constellation and Exelon were housed under the same corporate parent. The company's restructuring into separate generation and delivery companies allows each of those businesses to independently pursue policies that best meet their financial interests. Data center growth began to rapidly escalate shortly thereafter and has revealed tensions between utilities and companies that compete in wholesale electricity markets for profits.

Co-location is a vague term. Because financial consequences will follow from any regulatory definition of co-location, utilities and power generators dispute how co-location technically functions. Constellation claims that because a data center co-located with one of its nuclear plants cannot receive power from the grid, it is therefore "fully isolated" from the transmission network.⁷¹ Exelon counters that "as a matter of physics and engineering," the co-located data center is "fully integrated with the electric grid."⁷² Utilities and other parties point out that a nuclear plant must operate in sync with the other plants connected to the transmission network and claim that the data center benefits from this arrangement even if the transmission system is not delivering power to it.⁷³

This technical distinction could affect whether co-located entities are utility ratepayers that pay for delivery service. Constellation argues that because the utility is not delivering energy to the data center, the data center is not a utility customer, and it should not have to pay any FERC- or PUC-regulated delivery charges. Exelon opposes that result and has estimated that a single proposed co-location arrangement between a nuclear owner and a data center would shift between \$58 million and \$140 million of transmission and state-regulated distribution charges to other ratepayers.⁷⁴

But Constellation and other generators dispute that calculation, claiming that this "phantom . . . 'cost shift' is, at best, merely a back-of-the-envelope estimate" of the revenue a utility would collect if the data center signed up as its customer.⁷⁵ Co-location, according to the nuclear plant owners, does not actually cause other ratepayers to pay higher transmission rates but instead precludes them from receiving lower delivery rates that they might pay when a new energy-intensive customer becomes a utility ratepayer and pays its proportional share of the utility's cost of service (a hypothetical that likely does not occur when the new customer receives a one-off price pursuant to a special contract).

But analysts are concerned that co-location can actually raise prices in interstate power markets. Across much of the country, generators are constantly competing through auction markets to supply power. In a few regions, market operators conduct separate annual,

monthly, or seasonal auctions for capacity to procure sufficient resources for meeting peak consumer demand. Each power plant can offer capacity into the auction equivalent to its maximum potential for energy generation. In the PJM region, nuclear plants accounted for 21 percent of total capacity that cleared the most recent auction.⁷⁶

PJM's independent market monitor, who fiercely promotes and defends PJM's markets, recently warned that colocation could "undermine" PJM's markets. He posited that if all nuclear plants in the region attracted co-located customers, "the impact on the PJM grid and markets would be extreme. Power flows on the grid that was built in significant part to deliver low-cost nuclear energy to load would change significantly. Energy prices would increase significantly as low-cost nuclear energy is displaced by higher cost energy . . . Capacity prices would increase as the supply of capacity to the market is reduced."⁷⁷ Should this scenario play out, the region's ratepayers could be forced to pay higher prices due to data centers' purchasing decisions. However, as noted, steep increases in demand due to data center growth could increase wholesale market prices regardless of whether data centers co-locate with existing power plants.

For utilities, opposing co-location is not purely about protecting their ratepayers or upholding the integrity of interstate markets. Co-location threatens their control over power delivery by allowing data centers to take energy directly from a large power producer. In some states, utilities might claim that state laws prohibit co-location because they provide the utility with a monopoly on retail sales.⁷⁸ Co-location would also reduce the profits that utilities would otherwise stand to gain from constructing new infrastructure to serve data centers.

In an ongoing FERC proceeding, Constellation claims that utilities' opposition to co-location is an anti-competitive ploy to capitalize on their state-granted monopolies.⁷⁹ The company alleges that co-location arrangements at two of its nuclear plants are "being held hostage by one or two monopoly utilities . . . [that] have taken the law into their own hands, and are unilaterally blocking co-location projects unless the future data center customers accede to utility demands to take [] transmission services . . . from the utility and sign up for retail distribution services."⁸⁰ Utilities may be trying to delay Constellation's projects until FERC provides clear guidance on co-location arrangements, including whether data centers and nuclear plants will pay any transmission charges.⁸¹

Even if FERC sets new rules the two sides are likely to continue squabbling about the details. With billions of dollars on the line, each side might have an incentive to litigate, which would add risk to co-location schemes.

III. Recommendations for State Regulators and Legislators: Strategies for Protecting Consumers from Big Tech’s Power Costs

Without systematic changes to prevailing utility ratemaking practices, the public faces significant risks that utilities will take advantage of opportunities to profit from new data centers by making major investments and then shifting costs to their captive ratepayers. The industry’s current approaches of luring data centers with discounted contracts or lopsided tariffs are unsustainable.

We outline five recommendations for PUCs to better protect consumers from subsidizing Big Tech’s data centers: A) establishing guidelines for reviewing special contracts, B) shifting new data centers from special contracts to tariffs, C) facilitating competition and the development of “energy parks” that are not connected to any utility-owned network, D) requiring utilities to provide more frequent demand forecasts, and E) allowing new data centers to take service only if they commit to flexible operations.

A. Establish Robust Guidelines for Reviewing Special Contracts

PUCs rarely reject proposed special contracts with data centers. As we discussed, many states’ laws provide PUCs with broad discretion to approve special contracts, do not specify a particular standard of review, and even allow the PUC to approve a contract that shifts costs to other ratepayers. Given the unprecedented scale and pace of data center special contracts, PUCs should establish more rigorous guidelines for reviewing special contracts that are aimed at protecting consumers.

In Kentucky, the Public Service Commission must make several findings on the record before approving a special contract.⁸² Under the PSC’s self-imposed guidelines, special contracts that include discounts are allowed only when the utility has excess generation capacity. The guidelines limit discounts to five years and no more than half the duration of the contract. The PSC must also find that the contract rate exceeds the utility’s marginal costs to serve that customer and that the contract requires the customer to pay any of the utility’s fixed costs associated with providing service to that customer.

Applying its guidelines, the PSC recently rejected a utility’s proposed special contract with a cryptocurrency speculator because it found the contract did not shield consumers from the crypto venture’s power costs.⁸³ The PSC was critical of the utility’s projections about regional market and transmission prices and therefore did not find credible the utility’s claim that the contract would cover the utility’s cost to provide energy to the crypto speculator. Industrial

ratepayers, several environmental and local NGOs, and Kentucky's attorney general, acting on behalf of consumers, participated in the proceeding and criticized the proposed contract.

While the PSC's guidelines compel it to address vital consumer protection issues, the rule cannot force regulators to critically analyze the utilities' filing or prevent the PSC from merely rubber-stamping a utility's proposed special contract. Vigorous oversight cannot be mandated by law: it requires dedicated public servants. The effectiveness of any consumer protection guidelines depends on the people who implement it, including PUC staff that review utility proposals and the commissioners who make the ultimate decisions.

Nonetheless, we believe that establishing guidelines that require regulators to make specific findings about a proposed special contract would improve upon the status quo.

B. Require New Data Centers to Take Service Under Tariffs

Special contracts are vehicles for shifting special interests' energy costs to consumers. Approved in confidential proceedings by PUCs facing political pressure to approve deals and often with no competing interests participating, special contracts allow utilities to take advantage of the subjectivity and complexity of their accounting practices to socialize energy-intensive customers' costs to the public. The existing guardrails that ostensibly allow regulators to police special contracts are not working to protect consumers.

Guided by their consumer-protection mandate, regulators should stop approving any special contracts and instead require utilities to serve data centers through tariffs that offer standard terms and conditions for all future data-center customers. Unlike a one-off special contract that provides each data center with unique terms and conditions, a tariff ensures that all data centers pay under the same terms and that the impact of new customers is addressed by considering the full picture of the utility's costs and revenue. This holistic and uniform approach ends the race-to-the-bottom competition that incentivizes utilities to attract customers by offering hidden discounts paid for by other ratepayers.

That said, standard tariffs are not a talisman for protecting consumers. As we have emphasized, cost allocation is an imprecise exercise that depends on myriad assumptions and projections. However, tariff proceedings and rate cases are more procedurally appropriate forums than a special contract case to consider and address cost-allocation issues. Unlike special contracts, tariffs are reviewed in open dockets that allow the public and interested parties to scrutinize proposals and understand long-term implications of proposed rates should they go into effect. Once approved, a data-center tariff can be revisited in subsequent rate cases where the utility proposes to increase rates and allocate

its costs among ratepayers, including data centers. All ratepayers will have an incentive to participate in those cases and offer evidence that challenge data centers' interests.

Several utilities have already been moving away from special contracts to tariffs. Recent and ongoing proceedings are highlighting issues that demand careful scrutiny, including whether to create new data-center-only tariffs and how to protect existing ratepayers from costs of new infrastructure needed to meet data centers' demands. We briefly canvas these issues.

A threshold issue is whether an existing utility tariff for energy-intensive ratepayers is appropriate for data centers or whether a new tariff is necessary to address issues that are unique to data centers. Ratepayer classes are generally defined by the similar costs that the utility incurs to serve members of that class. Data centers may, of course, oppose new tariffs that impose more expensive prices than they would pay if they took service under existing tariffs for energy-intensive ratepayers.

In Ohio, for instance, AEP proposed to create classes for new data centers and cryptocurrency speculators and require ratepayers in those classes to commit to higher upfront charges and for a longer period of time than other energy-intensive consumers.⁸⁴ To justify the new data center class, AEP argued that data centers' unique size at individual locations and in the aggregate, as well as uncertainty about their energy use over the long-term and minimal employment opportunities, distinguish data centers from other energy-intensive consumers.⁸⁵ Data center companies responded that AEP had "failed to justify its approach to exclusively target data centers" and claimed that the utilities' costs to serve data centers was no different from other energy-intensive consumers that operate around the clock.⁸⁶ As of February 2025, the Ohio PUC has yet to rule on AEP's proposal.

FERC addressed similar issues in August 2024 when a utility proposed a new ratepayer class for energy-intensive cryptocurrency operations. Like AEP, the utility claimed that significant but uncertain demand growth justified approval of the new rate class, and therefore higher upfront payment commitments and longer terms for this new customer class were appropriate.⁸⁷ According to the utility, crypto speculators can more easily relocate their operations as compared to other energy-intensive consumers, and this mobility amplifies the risk of stranded assets built for new crypto customers that quickly set up shop elsewhere. FERC rejected the proposal because it found that the utility had provided insufficient evidence that new crypto operations "pose a greater stranded asset risk than other loads of similar size."⁸⁸ FERC's finding does not foreclose a utility from creating a crypto or data center ratepayer class, but instead signals that FERC will demand more persuasive evidence to justify approval of a new class.

State legislatures could remove any evidentiary hurdles by requiring large data centers to be in their own ratepayer class. With large data centers in their own class, regulators could more easily understand the effects data centers have on other ratepayers. For instance, parties might introduce evidence in a rate case showing how various cost allocation methods that raise costs for data centers would lower costs for other ratepayers. To avoid any claims of undue discrimination, the new rate class might include any new consumer above a specified capacity threshold that, as a practical matter, would likely capture only data centers.

Separating large data centers from other ratepayers could facilitate more protective cost allocation methods that better isolate data center costs from other ratepayers. Again, state legislatures might have a role to play. In Virginia, a bill proposed in January 2025 would require state regulators to determine whether cost allocation methods “unreasonably subsidize” data centers and to minimize or eliminate any such subsidies.⁸⁹ Such clear language would provide the PUC with guidance as it balances its obligations to protect ratepayers and facilitate growth in the state. In addition, it would force PUCs to revisit decades-old methods for dividing FERC-regulated transmission costs, as we discuss above.

As data centers shift to new tariffs, the largest potential cost shift in many states could be from the costs of new power plants built to meet data center growth. In most states, utilities are the dominant generation owners and can earn a PUC-set rate of return that they collect from ratepayers on their investments in new power plants. In general, utility expenses on new power plants are spread among ratepayer classes under the theory that all ratepayers benefit from the utility’s power plants. But the staggering power demands of data centers defy this assumption. Recent tariff proceedings highlight that many utilities are proposing schemes that are not adequately shielding ratepayers from the costs of new generation for data center growth.

In Indiana, the utility Indiana Michigan Power expects new data centers to increase the peak demand on its system from 2,800 to 7,000 megawatts.⁹⁰ To facilitate this growth, the utility proposed to create special terms for new customers that demand at least 150 megawatts of power, a threshold that in practice limits their applicability to new data centers.⁹¹ Like AEP Ohio’s proposal, the updated tariff would require a new data center to commit to paying 90 percent of the utility’s costs of new generation and transmission capacity needed to meet the data center’s demand.⁹² This 90 percent capacity payment and the tariff’s twenty-year term, according to the utility, would “provide reasonable assurance” that data centers’ payments to the utility “will reasonably align with the cost of the significant investments and financial commitments the Company will make to provide service.”⁹³

Consumer advocates generally supported the utility's efforts to insulate ratepayers from data centers' energy costs but argued that the proposed terms were "insufficient for protecting existing customers from large potential cost shifts in the event of the closure" of a large data center.⁹⁴ One of their solutions was to "firewall" the costs of new power plants built to meet data center growth from other ratepayers by requiring the utility to separately procure or build generation for data centers, and then allocating all costs solely to data centers.⁹⁵ Consumer advocates also urged regulators to require other modifications related to contract termination and other provisions to protect ratepayers from stranded costs if data center growth failed to materialize or decreased following an initial spike.⁹⁶

Data center companies argued the other side, claiming that the terms were too onerous and benefited the utility shareholders who "would be shielded from business risk, while reaping regulated returns on large potentially more risky expansion of rate base" that would be backed by data centers.⁹⁷ Amazon observed that the utility's proposed twenty-year term is based on the ordinary approach to cost recovery of utility capital investments. But instead of the utility building its own plants and earning a return on them, Amazon claimed that the utility could more efficiently support data center growth through short-term contracts with non-utility generators or purchases via PJM's regional markets.⁹⁸ Amazon argued that rather than "imposing virtually all risks" associated with power plant development on data centers and reaping all of the profits for itself, the utility should instead share the risks of infrastructure development with new data centers.⁹⁹

The Indiana proceeding highlights how utility ownership of generation can exacerbate cost shifts that benefit utility shareholders. The traditional utility business model of decades-long cost recovery of new utility-owned power plants through consumer rates is not designed to address a near-term tripling of a utility's demand due to just a few giant energy-guzzling warehouses. While "firewalling" data centers' power plant costs from other ratepayers is a viable approach, regulators must ensure that utility proposals actually protect consumers.

Under its "Clean Transition Tariff," Nevada Energy claims to insulate other ratepayers from data centers' energy generation costs by contracting with new clean energy resources and then passing those contract costs directly to a specific data center or other customer. In theory, this arrangement could isolate generation costs, but public utility staff and other intervenors concluded that the new tariff would not actually firewall data centers' generation costs from other ratepayers.¹⁰⁰ They found that complex interactions between the new tariff's proposed pricing structure and existing tariffs would shift costs to other ratepayers. For instance, PUC staff focused on the utility's proposal to account for the revenue it would have earned if the data center took service under a standard tariff and then charge other

ratepayers for a portion of its “lost” revenue.¹⁰¹ In February 2025, the utility agreed with intervenors to modify its proposal and defer consideration of some of these complicated cost allocation issues.¹⁰²

A better option for protecting ratepayers from power plant costs would be to allow data centers to purchase energy directly from non-utility retailers but still pay the utility for delivery service. Several states allow for such retail competition for energy-intensive consumers. To even further isolate data center energy costs, regulators could cut the cord entirely between the utility and data centers. Off-the-grid energy parks or energy parks that only export energy to the utility could completely insulate ratepayers from data centers’ energy costs.

C. Amend State Law to Require Retail Competition and Allow for Energy Parks

Competition can protect consumers from utility market power and insulate ratepayers from cost shifts. Starting in the 1970s, a few states began to allow limited competition for electricity service to certain energy-intensive consumers.¹⁰³ In the 1990s, about a dozen states permitted all ratepayers to shop for power supply while continuing to require them to pay state-regulated rates for utility-provided delivery service. Additional states allowed energy-intensive consumers to similarly choose a power supplier. To protect ratepayers, states could require new data centers to procure power through competitive processes rather than confining them to utility-supplied power. States could go further and allow or require new data centers to isolate entirely from the utility-owned network by creating new energy parks.

A mandate that new data centers procure power from non-utility suppliers would protect ratepayers from short-term costs and long-term risks. Requiring the data center to contract with a competitive supplier rather than with the utility would ensure that all stranded costs associated with the generation are allocated between the data center and its supplier. In addition, isolating the utility from the deal would obviate the need for the type of complex energy price calculations, integral to Nevada Energy’s proposal, that link the data center’s power price to the costs of the utility’s legacy assets.

The costs of utility-built power plants for data centers could be astronomical. In the Indiana proceeding discussed in the previous section, the utility’s own estimates revealed that if it met data center demand with self-built plants it could spend as much as \$17 billion on new power plants over the next several years.¹⁰⁴ The utility’s proposal to require data centers to commit to paying 90 percent of the infrastructure costs over a twenty-year period would

improve upon the status quo but would not completely isolate those costs from other ratepayers, particularly if data center demand did not meet the utility's forecasts.

Even with a state prohibition on new utility power plants for meeting data center demand, ratepayers could still face higher bills from cost shifts. A data center procuring energy from the market would still pay utility-imposed delivery charges that could obscure discounts for data centers or include various other cost shifts. Islanding the data center and its power supply from the utility-owned system is a sure-fire approach for protecting ratepayers.

An energy park, according to a recent paper by Energy Innovation, “combines generation assets, complementary resources like storage, and connected customers.”¹⁰⁵ Unlike typical behind-the-meter arrangements where a customer installs some on-site generation to complement utility-delivered power, an energy park would provide sufficient power for the connected customers' operations. This arrangement is “particularly compelling for large customers due to the cost advantages of sourcing electricity directly from the cheapest, cleanest sources and due to the challenges of connecting large capacities to the existing grid.”¹⁰⁶ Avoiding the protracted utility-run interconnection processes would be a benefit for Big Tech companies who tend to move faster than the lumbering utility industry.¹⁰⁷

A fool-proof way to insulate utility ratepayers from data center energy costs is to isolate a data center energy park from the utility-owned network. Isolation may be difficult, however, as an interconnected energy park could be more financially attractive to developers, even if it is only able to export power to the transmission system and unable to import utility-delivered power.¹⁰⁸ Connecting an energy park would require a utility-run interconnection process and would likely lead to the utility imposing transmission charges on the energy park. While transmission charges associated with an export-only energy park could facilitate cost shifts, they are likely to be much smaller than those embedded in special contracts and other arrangements for serving data centers with utility-delivered power that we have outlined in this paper.

Both competitive generation and energy park development face the same legal obstacle: state protection of utility monopolies. Under many states' laws, an entity that delivers or sells power to another entity is a “public utility.” For instance, if a generation company owns the park's generation assets and Big Tech company owns the data center, the generation company would be regulated as a public utility. This designation could doom the project. States typically prohibit competition for electric service and regulators and courts might enforce the state's monopoly protections by prohibiting a multi-owner energy park located within the territory assigned to the incumbent utility.¹⁰⁹ Even if a state allows the energy

park to move forward as a public utility, the PUC may be compelled to regulate its rates and terms of service in a way that render the project unviable.

One potential workaround is to locate an energy park outside a for-profit utility's service territory. But states' laws may nonetheless impose obstacles. In Georgia, for instance, state law allows a new energy-intensive consumer located outside existing utility service territories to choose a supplier but limits the premises to a single customer.¹¹⁰ An energy park in Georgia could therefore include only one data center owner. Energy parks might also be able to locate within the service territory of a municipal or cooperative utility. The service territories of these non-profit entities may not be protected by state law, or they may not be financially motivated to defend their monopolies and might instead welcome an energy park's investment in their communities.¹¹¹ That said, some non-profit utilities may regard an energy park as an infringement on their monopolies.¹¹²

State legislatures could amend anachronistic laws that prevent energy park development and block data centers taking utility service from procuring non-utility generation. To avoid interminable utility complaints that competition harms consumers,¹¹³ laws could be tailored to apply only to data centers or other energy-intensive consumers that would otherwise require a utility to incur significant costs to procure power or build new generation.

D. Require Utilities to Disclose Data Center Forecasts

For competition to be effective, market participants need information about potential data centers' location and power demands. When utilities withhold that information, they prevent generators and other infrastructure and technology developers from offering data centers solutions that compete with the utility's offering. PUCs could require utilities to file monthly or quarterly load forecasts, which would reduce utilities' informational advantages and better enable other companies to offer solutions that would protect ratepayers from a utility's ability to shift data centers' costs to other consumers.

In the AEP Ohio proceeding, a trade association representing non-utility companies that sell electricity to consumers uncovered that AEP was withholding information. It documented that the utility's demand forecasts it filed in prior proceedings were inconsistent with its projections about data center growth it revealed to justify its data center tariff proposal.¹¹⁴ The trade association's analyst explained that by holding back information AEP "conferred a *de facto* competitive advantage to build transmission rather than allowing a market response from competitive merchant generation" to meet data center demand.¹¹⁵ The analyst also conjectured that AEP's concealment might directly harm ratepayers if it delayed

development of generation that might be needed to meet growing regional demand, which could lead to increased prices in PJM's capacity auction.¹¹⁶

PUCs can order utilities to provide demand projections more frequently and specify that utilities include new energy-intensive consumers at various stages of development. Utilities could also provide potential locations and demands of new energy-intensive consumers with enough specificity to be useful to market participants but sufficiently obscured to protect consumers' potentially confidential business information. Because many utilities have substantially increased their demand forecasts over the past year,¹¹⁷ new reporting rules would be well justified as a means of protecting consumers, enabling competition, and ensuring reliability.

E. Allow New Data Centers to Take Service Only if They Commit to Flexible Operations that Can Reduce System Costs

State regulators could require utilities to condition service to new data centers on a commitment to flexible operations. This approach could benefit all ratepayers by avoiding or reducing the need for expensive infrastructure that would otherwise be needed when a new data center increases the utility's maximum demand. A study by researchers at the Nicholas Institute for Energy, Environment & Sustainability estimates that 76 GW of data centers could connect to the system if utilities curtail energy delivery for just a few hours per year.¹¹⁸

As discussed above, utilities and RTOs plan power system expansion to provide sufficient capacity for meeting consumers' maximum energy demand, which usually occurs on the hottest and coldest days of the year. Because the system is planned for these extreme weather days, a large portion of a power system's generation and delivery infrastructure is underutilized for most of the year. If a data center commits to reducing its consumption of utility-supplied power during peak demand periods, utilities could deliver power to the data center without building new infrastructure.

To implement a flexibility mandate, PUCs could order utilities to modify their tariffs and classify data center loads as interruptible customers whose power can be turned off under specified circumstances. Similarly, regulators could also require utilities to modify their interconnection procedures to designate data centers as controllable loads that must reduce their consumption under certain conditions.¹¹⁹ These strategies could defer the immediate need for costly infrastructure upgrades to serve new data centers. Utilities, however, have historically been hostile to regulatory attempts to require measures that would defer or avoid the need for costly infrastructure upgrades that drive utilities' profits.

IV. Subsidies Hidden in Utility Rates Extract Value from the Public

Utility rates have always been a means of achieving economic and energy policy goals. By financing favored investments through utility rates, rather than through general government revenue, policymakers can avoid having to raise taxes and instead conceal public spending through complex utility rate increases. From the public's perspective, hiding subsidies in utility rates may be acceptable if the benefits of the favored investments exceed their costs. For data centers deals, however, utilities do not publicly demonstrate that ratepayers pay lower rates as a result of the contract. To the extent data center development offers other benefits, such as expanding the local economy or advancing national security interests, we argue that these secondary effects are either already accounted for through other policies or irrelevant to utility regulators.

The economic harm to ratepayers from data center discounts extends beyond the short-term bill increases that utilities are imposing on the public. We are concerned that meeting data center demand is delaying opportunities to initiate power sector reforms that would benefit all ratepayers. To power new data centers, utilities are proposing more of the same: spending capital on large central-station power plants and transmission reinforcements. These types of projects have been fueling utility profits for generations, but the power sector today can do so much more. Deploying advanced technologies and adopting new operational and planning practices could squeeze more value from existing utility systems, but these low-capital-cost solutions are not profitable for utilities and therefore not pursued.¹²⁰ By approving special contracts for data centers and tariffs that do protect ratepayers from Big Tech's energy costs, PUCs may be inadvertently fostering an alliance between utilities and Big Tech that could reinforce the industry's technological status quo.

A. Data Center Subsidies Fail Traditional Benefit-Cost Tests

When a utility spends money to supply a new data center, the data center should pay for those investments. However, if ratepayers ultimately benefit from new infrastructure needed for a data center, it may be reasonable for the utility to charge ratepayers a portion of the costs. The "beneficiary pays" principle, an analogue of the cost causation standard, justifies short-term bill increases when they are offset by longer term benefits that reduce ratepayers' bills. Just as consumers should pay costs that reflect a utility's cost to serve them, a utility may charge consumers for projects that ultimately lower their rates.

PUCs have applied the beneficiary pays approach in numerous contexts. For example, many states fund energy efficiency programs through utility rates. These programs directly benefit the ratepayers that make use of the program's discounts for energy audits, new appliances,

and other interventions that can reduce power use. All ratepayers are billed for these subsidies that flow directly to a handful of individual consumers that take advantage of these benefits. PUCs approve of this spending when programs ultimately lower peak system demand or otherwise reduce power system costs more than the costs of funding the efficiency program. We acknowledge, however, that these calculations are premised on assumptions and judgments and can be as imprecise as the cost allocation exercises we critique in this paper. The best regulators can do is conduct these analyses transparently, which allows for judicial review, limits the potential for arbitrary regulatory decisions, and provides a basis for changing the policy in response to new evidence.

In special contract proceedings, utilities and PUCs offer no such transparency about data center deals. Instead, billion-dollar contracts are proposed and approved without public accounting of the costs and benefits. Given the stakes and the incentives of the parties, the burden ought to be on utilities to prove publicly that ratepayers are benefiting from these deals, or at worst are being held harmless.

Ratepayers should not be saddled with costs due to data centers' purported strategic national importance. In January 2025, the Biden administration declared that AI is "a defining technology of our era" that has a "growing relevance to national security."¹²¹ "Building AI infrastructure in the United States on the time frame needed to ensure United States leadership over competitors," according to the Biden administration, will "prevent adversaries from gaining access to, and using, powerful future systems to the detriment of our military and national security."¹²² If this frightening scenario proves true — that AI will be a privately owned global weapon — it's not clear what it has to do with utility rates.

Data center proponents also tout the economic benefits of new development, but the public is already paying for local job growth through their taxes. Apart from discounted utility rates, many data centers separately receive generous state and local subsidies that governments rationalize based on the supposed economic and employment benefits of permitting new development. Several states, for instance, offer sales tax exemptions that allow data center companies to purchase computers, cooling equipment, and other components without paying state tax. In Virginia, the exemption saved data center companies nearly a billion dollars in 2023 alone.¹²³ Data centers may also benefit from one-off incentive packages. Mississippi is providing an Amazon data center with nearly \$300 million of workforce training and infrastructure upgrades.¹²⁴ Mississippi will also reimburse Amazon for 3.15 percent of the data center construction costs and provide tax exemptions that could be worth more than \$500 million. In lieu of taxes, Amazon will pay approximately \$200 million in fees to the county over five years.¹²⁵

B. Data Center Subsidies Interfere with Needed Power Sector Reforms

The power sector needs major upgrades. Investment in new high-voltage transmission is historically low,¹²⁶ despite an acute need for new power lines that can connect consumers to cheaper and cleaner sources of energy and improve network reliability.¹²⁷ With low interconnectivity, the utility industry is siloed into regional alliances that make little engineering or economic sense. Meanwhile, utilities have been sluggishly slow to adopt monitoring, communications, and computing technologies that can improve the performance of existing high-voltage networks.¹²⁸ At the local level, utilities are failing to unlock the potential of distributed energy resources to lower prices.¹²⁹

Data center growth provides utilities with an excuse to ignore these inefficiencies. Utilities don't have to innovate to supply Big Tech's warehouses and are instead offering to meet data center demand with transmission reinforcements and gas-fired power plants, which have been the industry's bread-and-butter for decades. Some utilities are even propping up their oldest and dirtiest power plants to meet data center demand.¹³⁰ Neither data centers nor regulators are challenging utilities to modernize their systems.

Power sector stagnation is the fault of utilities and the regulatory construct that incentivizes inefficient corporate decisions. Rate regulation enables excessive utility spending that crowds out cheaper alternative investments. Because they are monopolists, utilities do not face competition that might expose their inefficiencies. Regulated rates rarely punish utilities for inefficiencies or reward them for improving their operations through low-cost technologies. Ultimately, regulators must try to align utility performance with consumers' interests, but achieving this straightforward objective is dauntingly complex.

Data center growth now overwhelms many PUC agendas. By law, regulators must respond to utility proposals about rate increases, special contracts, infrastructure development, and other issues. Utilities' messaging to regulators and investors is that meeting data centers' growth targets is an urgent priority. The implication is that there's no time to act differently. With utilities' push for growth dominating their dockets, PUCs may find it even harder to reform inefficient utility practices and block unneeded investments. For ratepayers, beneficial projects will remain unfunded, and wasteful utility practices will persist.

As utilities wring profits from the public through special contract approvals, they may be developing a new alliance with Big Tech. Uniting utilities' influence-peddling experience with the deep pockets of Big Tech could further entrench utility control over the power sector. Utilities are already among the largest donors to state elected officials and have a century of experience navigating state legislatures and agencies to protect their monopoly control and

otherwise advance their interests. A long-term partnership to push the common interests of utilities and data centers at statehouses, PUCs, and other forums could undermine reform efforts and harm ratepayers.

While energy-intensive consumers typically have a financial incentive to participate in PUC proceedings and argue for their own self-interest by opposing wasteful utility spending, we are concerned that a different scenario may play out for data centers. If utilities' growth predictions are realized, some utilities will have invested billions of dollars to serve data centers that will consume *a majority of all power* delivered by the utility. Under this scenario, the utility will be dependent on its data center customers for revenue and will need to retain them in order to justify its prior and future expansion. To prevent data center departures and attract new data center customers, utilities might continue to offer discounted rates. Rather than acting as watchdogs in PUC proceedings, data center companies may instead focus on securing more discounts. Insulated by special contract deals and favorable tariffs with friendly utilities, data center companies would focus on defending their discounts rather than disciplining the utility's spending in rate cases.

Outside of formal proceedings, utility-Big Tech alliances could amplify pro-utility political messages. Utilities have a pecuniary interest in the laws that govern PUC decisionmaking and push for changes that benefit their bottom lines. Utilities formally lobby state legislators and also pursue an array of public relations strategies to secure favorable legislative and regulatory outcomes. Big Tech has the financial capacity to significantly increase the amount of money supporting of pro-utility bills and regulatory actions.

An alternative approach — which requires data centers to power themselves outside of the utility system — sets up a formidable counterweight to utilities' monopoly power. If Big Tech is forced to power itself, it might defend against utility efforts to limit competition and return to the pro-market advocacy that characterized the Big Tech's power-sector lobbying efforts prior to the ChatGPT-inspired AI boom.

Appendix A

Big Tech Companies and Data Center Developers Testifying that Utility Prices Inform Where They Build New Facilities

- AEP Ohio Proposed Tariff Modifications, *supra* note 2, Motion to Intervene and Memorandum in Support of Sidecat, an Affiliate of Meta (Jun. 10, 2024) (“The applicable electricity rates and corresponding electric service tariffs for AEP Ohio will be a significant consideration for Meta when evaluating possible sites for new facilities, expansions at existing facilities, and otherwise operating its data center assets.”).
- AEP Ohio Proposed Tariff Modifications, Direct Testimony of Brendon J. Baatz in Opposition of the Second Joint Stipulation and Recommendation, at 4 (Nov. 8, 2024) (“the terms and conditions in Schedule DCT are far more restrictive and burdensome than those imposed by investor-owned utilities in other states, which could prompt some data center customers to consider investing outside of Ohio”).
- AEP Ohio Proposed Tariff Modifications, Second Supplemental Direct Testimony of Michael Fradette, on Behalf of Amazon Data Services, Inc., at 18 (Nov. 8, 2024) (“By rejecting a stipulation that unfairly discriminates against data centers, the Commission can help ensure that Ohio continues to be a leader in attracting investment from this vital industry.”).
- AEP Ohio Proposed Tariff Modifications, Motion to Intervene of Data Center Coalition, at 4 (May 24, 2024) (“AEP Ohio’s proposals, and potential proposals made by intervenors in the case, may have a significant impact on existing and planned data centers in AEP Ohio’s service territory.”).
- AEP Ohio Proposed Tariff Modifications, Direct Testimony of Brendon J. Baatz, at 11 (Oct. 18, 2024) (“If AEP Ohio’s proposal is adopted, it would create an unfavorable environment for data center development in the state, potentially causing companies to reconsider their investment plans.”).
- AEP Ohio Proposed Tariff Modifications, Direct Testimony of Kevin C. Higgins on behalf of The Data Center Coalition, at 7 (Oct. 18, 2024) (“If approved, the DCP tariff will adversely impact planned data center development in the Company’s service territory.”); *id.* at 11 (“At the same time, it is important that the Commission not take actions that would depress the growth of an important emerging industry by imposing unjust and discriminatory terms.”).
- Indiana Michigan Power Proposed Tariff Modification, *supra* note 15, Direct Testimony of Kevin C. Higgins on behalf of The Data Center Coalition, at 6 (Oct. 15, 2024) (“If

approved, the IP Tariff changes could adversely impact planned data center development in the Company's service territory.").

- Indiana Michigan Power Proposed Tariff Modification, Direct Testimony of Justin B. Farr on behalf of Google, at 23 (Oct. 15, 2024) ("Modifications . . . have the potential to limit opportunities for . . . the development of shared solutions that can provide significant benefit to I&M's system by removing the financial incentive for I&M to collaborate with its customers to pursue innovative solutions to support their growth.").
- Indiana Michigan Power Proposed Tariff Modification, Direct Testimony of Michael Fradette on behalf of Amazon Data Services, Inc., at 37 (Oct. 15, 2024) ("The proposed [tariff] is not reasonable and in fact has a negative impact on Amazon's view for future investment actions within I&M's service territory. I&M has offered no reasonable justification for revising Tariff I.P. as proposed.").
- Contracts for Provision of Electric Service to a New Large Customer's Minnesota Data Center Project, Minn. Pub. Util. Comm'n Docket No. 22-572, Petition, at 28 ("The customer has made clear that the CRR Rate is critically important to its decision to select a site in Minnesota for its new data center. Without the CRR Rate, the economic feasibility of this new data center would be jeopardized.").
- In re Application of Pub. Serv. Co. of Colorado for Approval of a Non-Standard EDR Contract, Pub. Util. Comm'n of Colorado Proceeding No. 23A-0330E, Direct Testimony & Attachment of Travis Wright on behalf of Quality Technology Services, at 8 (Jun. 23, 2023) ("QTS selects its new locations extremely carefully. Electricity is one of the major costs to operating a data center, so the low EDR rate provided by Public Service, and the term of the EDR agreement, is a critical factor in determining to locate in Aurora."); *id.* at 10–11 ("Given that approximately 40 percent of the Aurora QTS Campus's operational expense will be attributable to utilities, with electric being the largest component, the cost per kWh can easily make or break a project, or drive QTS or its customers to invest resources elsewhere. The EDR ESA that we have negotiated with Public Service and are requesting approval of in this Proceeding, is a critical component of our business model for the Aurora QTS Campus."); *id.* at 16 ("Was the cost of electricity a critical consideration for QTS in deciding where to site its new operations? Yes. 40 percent of the operational cost of a data center is electricity, and this will usually be the largest line item on the budget. Additionally, this cost will continue for 40 years, and will scale the business. In contrast, real estate and development costs are one-time, up-front expenditures that are watered down as the

volume of business increases. The largest and fastest growing operations in our portfolio are in markets where electricity costs are competitive.”).

- In re Application of Ohio Power Company and New Albany Data Center, LLC for Approval of a Reasonable Arrangement, Pub. Util. Comm’n of Ohio Case No. 23-0891-EL-AEC, Joint Application, at 7 (Sep. 28, 2023) (“Without this reasonable arrangement, NADC could construct its own dedicated substation and take lower-cost service under AEP Ohio’s transmission voltage tariff – to the extent it would decide to develop its facilities in AEP Ohio’s service territory.”).
- Application of Nevada Power Company for Approval of an Energy Supply Agreement with Lumen Group, Pub. Util. Comm’n of Nev. Docket No. 19-12017, Application, Attachment A: Long Term Energy Supply Agreement White Paper, at 17 (Dec. 19, 2019) (“The ESA provides Google with important benefits . . . the blended rate provided for in the ESA is cost-effective and competitively priced compared to other available options, the fixed-price nature of the agreement provides Google with important cost-certainty into its energy expenditures . . .”).

Endnotes

* Eliza Martin is a Legal Fellow in the Environmental and Energy Law Program at Harvard Law School. Ari Peskoe is the Director of the Electricity Law Initiative. We thank Kent Chandler, Josh Macey, Abe Silverman, and Megan Wachspress for thoughtful feedback on our draft.

¹ See, e.g., JOHN D. WILSON, ZACH ZIMMERMAN & ROB GRAMLICH, STRATEGIC INDUSTRIES SURGING: DRIVING US POWER DEMAND 8 (Grid Strategies, Dec. 2024) [hereinafter Grid Strategies Report]; Alastair Green et al., [How Data Centers and the Energy Sector Can Sate AI's Hunger for Power](#), MCKINSEY & Co., ("Much of data center growth — about 70 percent — is expected to be fulfilled directed or indirectly (via cloud services, for instance) by hyperscalers by 2030"); EPRI, POWERING INTELLIGENCE: ANALYZING ARTIFICIAL INTELLIGENCE & DATA CENTER ENERGY CONSUMPTION 7 (May 2024) [hereinafter Powering Intelligence]; Jennifer Hiller & Katherine Blunt, [Inside the Audacious Plan to Reopen Three Mile Island's Nuclear Plant](#), WALL ST. J. (Nov. 10, 2024), ("Analysts at Jefferies estimate Microsoft will pay between \$110 and \$115 per megawatt hour of electricity").

² See, e.g., In re *Application of Ohio Power Company for New Tariffs Related to Data Centers*, Pub. Util. Comm'n of Ohio Case No. 24-508-EL-ATA [hereinafter AEP Ohio Proposed Tariff Modifications], Direct Testimony of Kevin C. Higgins on behalf of The Data Center Coalition, at 7 ("If approved, the [proposed] tariff will adversely impact planned data center development in the Company's service territory."); *id.* at 11 ("At the same time, it is important that the Commission not take actions that would depress the growth of an important emerging industry by imposing unjust and discriminatory terms."). See Appendix A for additional evidence.

³ See, e.g., Rich Miller, [Skybox Plans 300-Megawatt Campus South of Dallas](#), DATA CENTER FRONTIER (Nov. 20, 2023); City of Cleveland, [Office of Sustainability & Climate Justice](#) (noting that the city has a 300-megawatt system).

⁴ Palo Verde is the largest nuclear power station in the U.S. Its three reactors produce approximately 3.3 gigawatts. Meta announced a two-gigawatt data center development in December 2024. See Dan Swinhoe & Zachary Skidmore, [Meta Announces 4 Million Square Foot, 2 GW Louisiana Data Center Campus](#), DATA CENTER DYNAMICS (Sep. 5, 2024).

⁵ See generally Powering Intelligence; Alastair Green et al., [How Data Centers and the Energy Sector Can Sate AI's Hunger for Power](#), MCKINSEY & Co.

⁶ See, e.g., Grid Strategies Report ("[A]nnual peak demand growth will average 3% per year over the next five years. While 3% growth may seem small to some, it would mean six times the planning and construction of new generation and transmission capacity.").

⁷ See FED. ENERGY REG. COMM'N, SUMMER ENERGY MARKET & ELECTRIC RELIABILITY ASSESSMENT 46 (May 23, 2024) (showing 19 GW actual demand in 2023); Newmark, 2023 U.S. DATA CENTER MARKET OVERVIEW & MARKET CLUSTERS 7 (Jan. 2024) (projecting 35 GW in 2030); [AI is Poised to Drive 160% Increase in Data Center Power Demand](#), Goldman Sachs (May 14, 2024).

⁸ See Grid Strategies Report, at 12.

⁹ See Georgia Power Company, Georgia Pub. Serv. Comm'n Docket No. 56002, [Budget 2025: Load and Energy Forecast 2025 to 2044](#) (Jan. 31, 2025); Drew Kann and Zachary Hansen, *Data Centers Use Lots of Energy: Georgia Lawmakers Might Make Them Pay More*, THE ATLANTA JOURNAL CONSTITUTION (Feb. 13, 2025) (stating that Georgia Power executives stated that 80 percent of the company's forecasted electricity demand growth is due to data centers).

¹⁰ Press Release, [Oncor Electric Delivery Company, Oncor Reports Third Quarter 2024 Results](#) (Nov. 6, 2024),.

¹¹ Robert Walton, [ERCOT Successfully Navigates Heat Wave, New Peak Demand Record](#), UTILITY DIVE (Aug. 26, 2024).

¹² See Ethan Howland, [AEP Faces 15 GW of New Load, Driven by Amazon, Google, Other Data Centers: Interim CEO Fowke](#), UTILITY DIVE (May 1, 2024); American Electric Power, [4th Quarter Earnings Presentation](#) (Feb. 13, 2025).

¹³ See, e.g., In re *Application of Ohio Power Company for New Tariffs Related to Data Centers*, Pub. Util. Comm'n of Ohio Case No. 24-508-EL-ATA [hereinafter AEP Ohio Proposed Tariff Modifications], Direct Testimony of Matthew S. McKenzie on Behalf of Ohio Power Company [hereinafter Ohio Power Company Testimony], at 2 (May 13, 2024).

¹⁴ Indeed, investors are taking note. The authors have on file numerous reports from utility stock analysts that tout the potential of data center growth. Utilities' presentations to investors claim that data center growth will drive future earnings. See, e.g., AEP 4th Quarter Earnings Presentation, *supra* note 13, at 13 (stating that "Load Growth Supports Financial Strength" and noting it is being driven by data centers).

¹⁵ See, e.g., *In re Verified Petition of Indiana Michigan Power Company for Approval of Modifications to its Industrial Tariff*, Indiana Util. Reg. Comm'n Cause No. 46097 [hereinafter *Indiana Michigan Power Proposed Tariff Modifications*], Testimony of Indiana Consumer Advocates, at 4 (Oct. 15, 2024) ("There has been a significant lack of transparency with these new loads . . . For example, with respect to new large loads coming to I&M's service territory, Google and Microsoft refused to answer CAC data requests about their anticipated load and electricity consumption, and Microsoft also refused to identify its forecasted load factor. CAC counsel reached out to counsel to these parties and requested to execute a non-disclosure agreement with each respective company so that CAC could obtain this pertinent information, but thus far, we have not received a proposed non-disclosure agreement or the confidential information."). Most of the figures in the Georgia Power filing cited at note 9 are redacted.

¹⁶ See, e.g., AEP Ohio Proposed Tariff Modifications, Ohio Power Company Testimony, *supra* note 13, at 2 ("Currently, AEP Ohio has limited ability to distinguish customers who are merely speculating on potential data center investments from customers who are willing to make long-term financial commitments to data center investments.") (original emphasis); *Large Loads Co-Located at General Facilities Technical Conference*, FERC Docket No. AD24-11-000, Transcript, at 26 (Aubrey Johnson, Vice-President, Systems & Resource Planning for the Midcontinent Independent System Operator explaining that "in many cases, these data centers are showing up in multiple places, so I have many members submitting loads that are all the same. So how do we have more clarity . . . to understand what the actual true load is?").

¹⁷ See *generally* Powering Intelligence, at 7.

¹⁸ See, e.g., David Uberti, [AI Rout Sends Independent Power Stocks Stumbling](#), WALL ST. J. (Jan. 27, 2025), ("DeepSeek's efficient approach have 'created panic among investors who question the sustainability of US data center and AI investments,' Guggenheim analysts wrote in a note"); JONATHAN KOOMEY, TANYA DAS & ZACHARY SCHMIDT, *ELECTRICITY DEMAND GROWTH AND DATA CENTERS: A GUIDE FOR THE PERPLEXED* (Bipartisan Policy Center & Koomey Analytics, Feb. 2025).

¹⁹ The Grainger College of Engineering, [Why DeepSeek Could be Good News for Energy Consumption](#), (Feb. 6, 2025); James O'Donnell, [DeepSeek Might Not be Such Good News for Energy After All](#), MIT TECH. REVIEW (Jan. 31, 2025).

²⁰ See Deepa Seetharaman and Tom Dotan, [Tech Leaders Pledge Up to \\$500 Billion in AI Investment in the U.S.](#), WALL ST. J. (Jan. 21, 2025).

²¹ Jordan Novet, [Microsoft Expects to Spend \\$80 Billion on AI-Enabled Data Centers in Fiscal 2025](#), CNBC (Jan. 3, 2025).

²² Press Release, State of Ohio, [Governor DeWine Announces \\$10 Billion Investment Plan from Amazon Web Services in Greater Ohio](#) (Dec. 16, 2024).

²³ Dan Swinhoe & Zachary Skidmore, [Meta Announces 4 Million Sq Ft, 2 GW Louisiana Data Center](#), DATA CENTER DYNAMICS (Dec. 5, 2024).

²⁴ See *generally* Aneil Kovvali & Joshua C. Macey, *Hidden Value Transfers in Public Utilities*, 171 PENN. L. REV. 2129 (2023).

²⁵ KEN COSTELLO, *ALTERNATIVE RATE MECHANISMS & THEIR COMPATIBILITY WITH STATE UTILITY COMMISSION OBJECTIVES*, NATIONAL REGULATORY RESEARCH INSTITUTE 2 (Apr. 2014).

²⁶ See U.S. Energy Information Administration, *Electric Power Monthly*, [Table 5.6.A. Average Price of Electricity to Ultimate Customers by End-Use Sector](#) (showing average residential, commercial, and industrial rates in each state).

²⁷ *Alabama Elec. Co-op., Inc. v. FERC*, 684 F.2d 20, 27 (D.C. Cir. 1982).

²⁸ *Co. Interstate Gas Co. v. Fed. Power Comm'n*, 324 U.S. 581, 590 (1945).

²⁹ JAMES C. BONBRIGHT, *PRINCIPLES OF PUBLIC UTILITY RATES* 338 (1961).

³⁰ See, e.g., *Off. of Consumer Counsel v. Dep't of Pub. Util. Control et al.*, 905 A.2d 1, 6 (Conn. 2006) ("In the specialized context of a rate case, the court may not substitute its own balance of the regulatory considerations for that of the agency, and must assure itself that the [department] has given consideration of the factors expressed in [the statute]."); *Iowa-Ill. Gas & Elec. Co. v. Ill. Com. Comm'n*, 19 Ill. 2d 436, 442 (Ill. 1960) (explaining that deference to the Commission is "especially appropriate in the area of fixing rates"); *Farmland Ind., Inc. v. Kan. Corp. Comm'n*, 37 P.3d 640, 650 (Kan. App. 2001) (providing that the Kansans Corporation Commission "has broad discretion in making decisions in rate design types of issues"); *Ohio Consumers' Counsel v. Pub. Util. Comm'n*, 926 N.E.2d 261, 266 (Ohio 2010) ("The lack of a governing statute telling the commission how it must design rates vests the commission with broad discretion in this area.").

³¹ See *2024 FERC Rep. on Enforcement*, FERC Docket No. AD07-13-018, at 51 (Nov. 21, 2024) ("Most audits find that public utilities recorded non-operating expenses and functional operating and maintenance expenses

in [Administrative and General] expense accounts, leading to inappropriate inclusion of such costs in revenue requirements produced by their formula rates”); see also *infra* note 34.

³² *FirstEnergy Corp.*, FERC Docket No. FA19-1-000, Audit Report, at 48 (Feb. 4, 2022).

³³ *Id.* at 16.

³⁴ See, e.g., *Application of Southern California Gas Company for Authority to Update its Gas Revenue Requirement and Bas Rates*, California Pub. Util. Comm’n Application 22-05-015, Decision 24-12-074, at 7 (Dec. 19, 2024) (“The decision [to use one-way balancing accounts] highlights a pattern of misclassification of costs at Sempra Utilities, where the company has charged ratepayers for lobbying, political activities, and expenses related to outside legal firms. These costs have been improperly booked as above-the-line expenses when forecasting future costs.”); *Order Instituting Rulemaking*, California Pub. Util. Comm’n Rulemaking 13-11-005, Decision 22-04-034 (Apr. 7, 2022) (“As an experienced utility, SoCalGas should have known that its billing of lobbying against reach codes implicates several basic legal principles that are central to its duties to the Commission and to customers . . . Thus, aside from billing ratepayers for lobbying contrary to the intent of the Commission, SoCalGas appears on the face of the record to have misled staff about the direction of its lobbying....”). See also 2024 FERC Rep. on Enforcement, FERC Docket No. AD07-13-018, at 58 (Nov. 21, 2024) (summarizing that FERC audits revealed “improper application of merger-related costs; lobbying, charitable donation, membership dues, and employment discrimination settlement costs; improper labor overhead capitalization rates....”).

³⁵ Costello, *supra* note 25, at 44. See also *Investigation into the Reasonableness of Rates & Charges of PacifiCorp*, Utah Pub. Serv. Comm’n Docket No. 99-035-10, 2000 WL 873337 (2000) (“[E]ach class of service does not pay precisely its ‘share’ of costs. This is true, for example, of the large customer groups, or special contract customers, according to some views of allocations.”).

³⁶ See, e.g., MINN. STAT. § 216B.162, subd.7 (2024); COLO. REV. STAT. ANN. § 40-3-104.3 (West 2018); MICH. COMP. LAWS § 460.6a(3).

³⁷ KAN. STAT. ANN. § 66-101i.

³⁸ See MISS. CODE ANN. § 77-3-271(3) (“A public utility may enter into a large customer supply and service agreement with a customer, which may include terms and pricing for electric service without reference to the rates or other conditions that may be established or fixed under Title 77, Chapter 3, Article 1, Mississippi Code of 1972. No approval by the commission of such agreement shall be required. With respect to such an agreement...the agreement, including any pricing or charges for electric service, shall not be subject to alteration or other modification or cancelation by the commission, for the entire term of the agreement....”).

³⁹ See Appendix A.

⁴⁰ See, e.g., *Application of El Paso Electric Company for an Economic Development Rate Rider for a New Data Center*, Pub. Util. Comm’n Texas Docket No. 56903, Order No. 1 (Aug. 2, 2024) (issuing standard protective order with no analysis); *Petition of Duke Energy Indiana for Approval of a Special Retail Electric Service Agreement*, Indiana Util. Reg. Comm’n Cause No. 45975, Order (Nov. 20, 2023) (granting Duke Energy’s motion for confidential treatment); *In re Cheyenne Light, Fuel & Power Co. Petition for Confidential Treatment of a Contract with Mineone Wyoming Data Center LLC*, Wyoming Pub. Serv. Comm’n Docket No. 20003-238-EK-24 (Record No. 17600), Letter Order (Oct. 9, 2024) (authorizing confidential treatment); *In re Xcel Energy’s Petition for Approval of Contracts for Provision of Service to a New Large Customer’s Minnesota Data Center Project*, Minn. Pub. Util. Comm’n Docket No. E-002/M-22-572, Order (excising significant portions of the proposed service agreement and staff analysis because it is a “highly confidential trade secret”); *Tariff Filing of Kentucky Power Company for Approval of a Special Contract with Ebon International, LLC*, Kentucky Pub. Serv. Comm’n Case No. 2022-00387, Order (Dec. 4, 2024), at 3 (granting confidential treatment for utility filing and providing that the information “shall not be placed in the public record or made available for public inspection for five years or until further order[ed]”).

⁴¹ See *id.*; see also Daniel Dassow, [University of Tennessee Professor Sues TVA for Records of Incentives to Bitcoin Miners](#), KNOXVILLE NEWS SENTINEL (Oct. 29, 2024) (explaining how there was no information about the incentives that TVA gave a cryptocurrency company to build within its footprint, but that the company used 9.4 percent of all Knoxville Utilities Board electricity in 2023 while employing just thirty people).

⁴² See Costello, *supra* note 25, at 21.

⁴³ See Peter Lazare, *Special Contracts and the Ratemaking Process*, 10 ELEC. J. 67, 68–70 (1997) (quoting a Commonwealth Edison filing that argues long-run costs are appropriate for rate cases and short-term costs are appropriate for special contract proceedings and explaining the implications of using different metrics).

⁴⁴ See, e.g., *In re Application of Ohio Power Company and New Albany Data Center, LLC for Approval of a Reasonable Arrangement*, Pub. Util. Comm’n of Ohio Case No. 23-0891-EL-AEC, Order Approving the Application with Modification (“The proposed arrangement meets the burden of proof for obtaining a

reasonable arrangement under Ohio Adm. Code Chapter 4901:1-38. Furthermore, we find that the proposed arrangement, as modified by Staff, is reasonable and should be approved.”). Occasionally, a state PUC applying its public interest standard will gesture at a utility’s static marginal cost analysis or no-harm analysis for analytical support. See, e.g., *Petition of Duke Energy Indiana for Approval of a Special Retail Electric Service Agreement*, Indiana Util. Reg. Comm’n Cause No. 45975, Order of the Commission (Apr. 24, 2024) (“In making such a determination [that the proposed agreement satisfies Indiana Code], two considerations are important: whether the rates negotiated between the utility and its customer are sufficient for the utility to cover the incremental cost of providing the service to the customer and still make some contribution to the utility’s recovery of its fixed costs, and whether the utility has sufficient capacity to meet the customer’s needs. As explained by [Duke Energy’s Vice President of Rates and Regulatory Strategy], the Agreement requires that Customer cover the incremental costs of providing service to it, as well as contributing to Petitioner’s recovery of fixed costs...Based on the evidence of record, we find and conclude that the terms and conditions contemplated in the Agreement are just and reasonable...Therefore, we find that the Agreement is in the public interest and is, therefore, approved....”); *In re Idaho Power Company’s Application for Approval of a Special Contract and Tariff Schedule 33 to Provide Electric Service to Brisbie, LLC’s Data Center Facility*, Idaho Pub. Util. Comm’n Case No. IPC-E-21-42, Order No. 35958 (“Commission Discussion and Findings: The Commission has jurisdiction over this matter under *Idaho Code* §§ 61-501, -502, and -503...We have reviewed the record in this case and find the Company’s August 30, 2023, Filing including an amended ESA, revised Schedule 33, and additional modifications is consistent with the Commission’s directive in Order No. 3577.”).

⁴⁵ See *Duke Energy Carolinas, LLC v. NTE Carolinas II, LLC*, 111 F.4th 337, 344–46 (4th Cir. 2024).

⁴⁶ *Id.* at 347.

⁴⁷ *Id.* at 349.

⁴⁸ See Appendix A.

⁴⁹ See generally Kovvali & Macey, *supra* note 24.

⁵⁰ Cross-Subsidization Restrictions on Affiliate Transactions, 73 Fed. Reg. 11,013 (2008) (codified at 18 C.F.R. pt. 35).

⁵¹ See, e.g., *Nantahala Power & Light Co. v. FERC*, 476 U.S. 953 (1986).

⁵² See, e.g., *Nat’l Ass’n of Reg. Util. Comm’rs v. FERC*, 475 F.3d 1227, 1285 (D.C. Cir. 2007); *Entergy Services, Inc. v. FERC*, 319 F.3d 536 (D.C. Cir. 2003); *South Carolina Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014).

⁵³ PJM, [PJM Board of Managers Approves Critical Grid Upgrades](#), PJM INSIDE LINES (Dec. 11, 2023).

⁵⁴ Sami Abdulsalam, Senior Manager, PJM Transmission Planning, [Reliability Analysis Update at Transmission Expansion Advisory Committee Meeting](#) (Dec. 5, 2023). See also *PJM Revisions to Incorporate Cost Responsibility Assignments for Regional Transmission Expansion Plan Baseline Upgrades*, FERC Docket No. ER24-843, Protest and Comments of Maryland Office of People’s Counsel (Feb. 9, 2024) [hereinafter Maryland People’s Counsel Protest].

⁵⁵ See generally *PJM Interconnection*, 187 FERC ¶ 61,012 at P 6 (2024); Maryland People’s Counsel Protest, Affidavit of Ron Nelson, at 5.

⁵⁶ See Maryland People’s Counsel Protest, Affidavit of Ron Nelson, at 5.

⁵⁷ See *Delmarva Power & Light Co. Modification of Retail Transmission Rates*, Maryland Pub. Serv. Comm’n Case No. 8890, Revised Tariff, Attachment E (Jul. 2, 2024) (allocating 68 percent of transmission costs to residential customers); *Potomac Electric Power Co. Modification of Retail Transmission Rates*, Maryland Pub. Serv. Comm’n Case No. 8890, Revised Tariff, Attachment F (Jul. 2, 2024) (allocating 53 percent of transmission costs to residential customers); *Baltimore Gas & Elec. Co. Updated Market-Priced Service Rates, Administrative Charges, and Retail Transmission Rates under Rider 1*, Maryland Pub. Serv. Comm’n Case Nos. 9056/9064, Attachment 2: Development of the Retail Transmission Rates (Apr. 30, 2024) (allocating 78 percent of transmission costs to residential customers).

⁵⁸ *Application of Virginia Electric and Power Co.*, Virginia Corp. Comm’n. Case No. PUR-2021-00102, Report of Chief Hearing Examiner Alexander F. Skirpan, Jr., at 9–10 (Jul. 14, 2021).

⁵⁹ The cost causation principle could require a shift from transmission rates based on average — or static marginal — costs, to dynamic marginal cost analyses. See *In re Application of Pub. Serv. Co. of Colorado for Approval of a Non-Standard EDR Contract*, Colorado Pub. Util. Comm’n Proceeding No. 23A-0330E, Commission Decision Denying Exceptions to Decision No. R24-0168 and Adopting Recommended Decision with Modifications, at 11–12 (May 15, 2024) (“[W]e emphasize that the Commission’s review of future Non-Standard EDR contracts must entail detailed examination of how the addition of large loads to the Public Service’s system may create a dynamic need for multi-billion new generation and transmission capacity investments that unpredictably show up with no meaningful notice to this Commission and may not be easily

captured in a static marginal cost analysis . . . To that end, the marginal cost analysis that Public Service applied to the EDR ESA with [the data center customer] may not be adequate in future proceedings where the Commission reviews a similar Non-Standard EDR contract especially in light of the rapidly evolving and dynamic interaction between rising demand and the potential costs of serving that growth.”).

⁶⁰ *Application of Virginia Electric Power*, Virginia Corp. Comm’n. Case No. PUR-2024-00135, Report of Hearing Examiner Bryan D. Stogdale, at 47 (Feb. 14, 2025).

⁶¹ *Application of Virginia Electric Power*, Virginia Corp. Comm’n. Case No. PUR-2024-00135, Report of Hearing Examiner Bryan D. Stogdale, at 23 (Feb. 14, 2025).

⁶² *Supra* note 58.

⁶³ See AEP Ohio Proposed Tariff Modifications, Ohio Power Company Testimony, at 18–20 (May 13, 2024).

⁶⁴ See AEP Ohio Proposed Tariff Modifications, Prepared Direct Testimony of Dennis W. Bethel on Behalf of Buckeye Power, Inc. and American Municipal Power [hereinafter Buckeye Power Comments], at 18–19 (Aug. 29, 2024).

⁶⁵ *Dayton Power & Light Co.*, 189 FERC ¶ 61,220 (2024).

⁶⁶ *Dayton Power & Light Co.*, FERC Docket No. ER25-192, Protest of the Office of the Ohio Consumers’ Counsel [hereinafter Protest of the Office of Ohio Consumers’ Counsel], at 4 (Nov. 13, 2024); *Dayton Power & Light Co.*, FERC Docket No. ER25-192, Limited Comments of Buckeye Power (Nov. 21, 2024).

⁶⁷ Protest of the Office of the Ohio Consumers’ Counsel at 5.

⁶⁸ *Dayton Power and Light Co.*, 189 FERC ¶ 61,220 at P 23 (2024).

⁶⁹ *PJM Interconnection and Virginia Electric and Power Company*, 169 FERC ¶ 61,041 (2019).

⁷⁰ See, e.g., Walker Orenstein, [Amazon Wants to Limit Review of 250 Diesel Generators at Its Minnesota Data Center](#), MINNESOTA STAR TRIBUNE (Feb. 17, 2025) (noting that Amazon wants to install 600 megawatts of on-site diesel-powered generators at its new data center).

⁷¹ *Constellation Energy Generation v. PJM*, FERC Docket No. EL25-20, Complaint Requesting Fast Track Processing of Constellation Energy Generation, LLC [hereinafter Constellation Complaint], at 20–21 (Nov. 22, 2024).

⁷² *Constellation Energy Generation v. PJM*, Docket No. EL25-20, Exelon Comments in Opposition to the Complaint, at 3 (Dec. 12, 2024) (“Constellation refers to Co-located Load as being ‘Fully Isolated’ and repeats that term again and again, but it remains untrue. If the loads at issue were truly ‘isolated,’ the PJM Tariff would not apply to them; no FERC-jurisdictional tariff would. And there would be no reason for this proceeding. As further discussed . . . the loads — whether they are what Constellation labels ‘fully isolated’ or not — unavoidably rely upon and use grid facilities and grid services in multiple ways. As a matter of physics and engineering, the load is fully integrated with the electric grid — this is the opposite of ‘Fully Isolated.’”).

⁷³ See, e.g., *Constellation Energy Generation v. PJM*, FERC Docket No. EL25-20, Comments of the Illinois Attorney General, at 12–13 (Dec. 12, 2024); *Large Loads Co-located at General Facilities*, FERC Docket No. AD24-11-000, Post Technical Comments of the Organization of PJM States, Inc., at 4 (Dec. 9, 2024) (stating that “[t]ransmission customers have paid the costs of supporting the grid necessary to allow [] nuclear facilities to operate”).

⁷⁴ *PJM Interconnection, LLC*, FERC Docket No. ER24-2172 [hereinafter Susquehanna Nuclear Interconnection Agreement], Protest of Exelon Corporation & American Electric Power Service Corporation, Declaration of John J. Reed & Danielle S. Powers, at 4 (Jun. 24, 2024).

⁷⁵ *Susquehanna Nuclear Interconnection Agreement*, Motion for Leave to Answer and Answer of Constellation Energy Generation and Vistra Corp., at 11 (Jul. 10, 2024).

⁷⁶ See PJM, [2025/2026 Base Residual Auction Report](#), at 11 (2024).

⁷⁷ See [2024 Quarterly State of the Market Report for PJM: January Through September](#), MONITORING ANALYTICS 3 (2024). See also Buckeye Power Comments, at 15 (Aug. 29, 2024) (“Co-location of data centers at existing multi-unit generators (nuclear plants are considered ideal) appears, at first blush, to be attractive as it can ‘free-up’ transmission capacity by reducing the net output of the generators that the transmission system must deliver. But co-location is a complicated scenario that can disrupt power markets and shift costs by removing large blocks of reliable base load power that will need to be replaced by other sources that will likely require transmission expansion elsewhere.”); *Constellation Energy Generation v. PJM*, FERC Docket No. EL25-20, Comments of the Illinois Attorney General, at 3–4 (Dec. 12, 2024) (“The OAG’s primary concern regarding co-location arrangements is the impact on resource adequacy and electricity energy and capacity prices The effect of removing the Illinois nuclear power plant capacity from the ComEd zone and from the PJM market generally can be expected to drive up prices In light of these multiple factors that are currently putting pressure on prices, co-location arrangements that reserve large blocks of power for discrete customers and prevent them from serving the grid as a whole can be expected to affect the 2027/2028 [capacity prices] . . .

. The OAG is concerned that co-location arrangements that abruptly remove large resources with high capacity values from the grid will cause further devastating price increases while the PJM markets struggle to respond.”).

⁷⁸ See *infra* Section III.C.

⁷⁹ See *Constellation Energy Generation v. PJM*, FERC Docket No. EL25-20, Constellation Complaint, at 6–7 (Nov. 22, 2024) (“competition to serve data center loads [is] a threat to [utilities] bottom line”).

⁸⁰ *Id.* (“Exelon’s utilities already have taken the position that this Commission has decreed that Fully Isolated Co-Located Load is ‘impossible’ — and shut down any attempt by customers to co-locate data center load in their utility systems. As detailed in their petition for declaratory order filed in Docket No. EL24-149, Exelon is refusing to process necessary studies on these grounds, demanding expensive upgrades under their unified interconnection procedures, delaying agreed-upon work which will force a nuclear plant to take additional outages, and forcing additional services to be procured.”).

⁸¹ See *PJM Interconnection, LLC*, 190 FERC ¶ 61,115 (Feb. 20, 2025) (instituting a show cause proceeding pursuant to section 206 of the FPA, and directing PJM and the Transmission Owners to either (1) show cause as to why the Tariff “remains just and reasonable and not unduly discriminatory or preferential without provisions addressing the sufficient clarity or consistency the rates, terms, and conditions of service that apply to co-location arrangements; or (2) explain what changes to the Tariff would remedy the identified concerns if the Commission were to determine that the Tariff has in fact become unjust and unreasonable or unduly discriminatory or preferential, and therefore, proceeds to establish a replacement Tariff”).

⁸² See *In the Matter of: Electronic Tariff Filing of Kentucky Power Company for Approval of a Special Contract with Ebon International, LLC*, Kentucky Pub. Serv. Comm’n Case No. 2022-00387, at 2–4 (Aug. 28, 2023) (citing *Investigation into the Implementation of Economic Development Rates by Electric & Gas Utilities*, Kentucky Pub. Serv. Comm’n Admin. Case No. 327 (Sep. 24, 1990), *aff’d*, Kentucky Power Co. v. PSC of Kentucky, Franklin Circuit Court, Div. 1, Civil Action No. 23-CI-00899 (Dec. 30, 2024)).

⁸³ *Id.*

⁸⁴ See AEP Ohio Proposed Tariff Modifications, Ohio Power Company Testimony, at 2 (May 13, 2024). AEP Ohio requested PUC approval to create two new customer classifications: data centers with a monthly maximum demand of 25 MW or greater, and mobile data centers (cryptocurrency miners) with a monthly maximum demand of 1 MW or greater. AEP’s proposed tariff would include new obligations for these customer classes, including a minimum demand charge of 90 percent for data centers, and 95 percent for cryptocurrency facilities, as opposed to the standard 60 percent minimum demand charge for other customers in the general service rate class. AEP Ohio would also require: the two customer classes enter into energy service agreements (ESAs) for an initial term of at least ten years, as opposed to the typical term of one to five years; requirements to pay an exit fee equal to three years of minimum charges should the customer cancel the ESA after five years; collateral requirements tied to the customer’s credit ratings; requirements to reduce demand on AEP Ohio’s system during an emergency event; and requirements to participate in a separate energy procurement auction than standard offer service customers

⁸⁵ *Id.* at 7–8.

⁸⁶ AEP Ohio Proposed Tariff Modifications, Initial Comments of Data Center Coalition, at 9–12 (Jun. 25, 2024).

⁸⁷ *Basin Electric Power Cooperative*, 188 FERC ¶ 61,132 at PP 15–16, 61 (2024).

⁸⁸ *Id.* at P 95.

⁸⁹ See [H.B. 2101](#), 2025 Gen. Assemb., Reg. Sess. (Va. 2025).

⁹⁰ See Indiana Michigan Power Proposed Tariff Modifications, *supra* note 15, Direct Testimony of Andrew J. Williamson on Behalf of Indiana Michigan Power Company, at 5 (Jul. 19, 2024).

⁹¹ *Id.* at 3, 6–7.

⁹² *Id.* at 14.

⁹³ *Id.*; *id.* at 16 (tariff terms ensure data center provides “reasonable financial support for the significant transmission and generation infrastructure needed to serve large loads”).

⁹⁴ Indiana Michigan Power Proposed Tariff Modifications, *supra* note 15, Direct Testimony of Benjamin Inskeep on Behalf of Citizens Action Coalition of Indiana, Inc. [hereinafter Citizens Action Coalition of Indiana Testimony], at 25 (Oct. 15, 2024).

⁹⁵ *Id.* at 36.

⁹⁶ *Id.* at 24–31.

⁹⁷ Indiana Michigan Power Proposed Tariff Modifications, *supra* note 15, Direct Testimony of Carolyn A. Berry on Behalf of Amazon Web Services, at 16 (Oct. 15, 2024).

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ See generally *Application of Nevada Power Company to Implement Clean Transition Tariff Schedule*, Nevada Pub. Util. Comm'n Docket No. 24-05023 [Nevada Power Clean Transition Tariff], Direct Testimony of Manuel N. Lopez on Behalf of Regulatory Operations Staff (Jan. 16, 2025); Nevada Power Clean Transition Tariff, Direct Testimony of Jeremy I. Fisher on Behalf of Sierra Club, Docket No. PUCN 24-05023, at 10–20 (Jan. 16, 2025).

¹⁰¹ See generally Nevada Power Clean Transition Tariff, Direct Testimony of Manuel N. Lopez on Behalf of Regulatory Operations Staff, at 7–8 (Jan. 16, 2025).

¹⁰² Nevada Power Clean Transition Tariff, Stipulation (Feb. 7, 2025).

¹⁰³ See, e.g., GA. CODE ANN. § 46-3-8 (allowing utilities to compete to provide service to certain new customers demanding at least 900 kilowatts).

¹⁰⁴ See Indiana Michigan Power Proposed Tariff Modifications, *supra* note 15, Citizens Action Coalition of Indiana Testimony, at 11 (Oct. 15, 2024) (“Using I&M witness Williamson’s example portfolio that has an average resource cost of \$2,000/kW and has an average accredited capacity of 50%, I&M will also need to make \$17.6 billion in new generation investments to serve 4.4 GW of new hyperscaler load.”).

¹⁰⁵ ERIC GIMON, MARK AHLSTROM & MIKE O’BOYLE, ENERGY PARKS: A NEW STRATEGY TO MEET RISING ELECTRICITY DEMAND 7 (Energy Innovation Policy & Technology, Dec. 2024).

¹⁰⁶ *Id.* at 8.

¹⁰⁷ See *id.* at 19.

¹⁰⁸ See *id.* at 8–21.

¹⁰⁹ See, e.g., *State ex rel. Utilities Commission v. North Carolina Waste Awareness and Reduction Network*, 805 S.E.2d 712 (N.C. Ct. App. 2017), *aff’d per curiam*, 371 N.C. 109, 617 (2018).

¹¹⁰ See *Sawnee Electric Membership Corporation v. Public Service Comm’n*, 371 Ga. App. 267, 270 (2024) (“ . . . [T]he text of the Act assigns each geographic area to an electric supplier but also includes the large load exception to allow customers to choose their electric supplier if certain conditions exist . . . the premises must be ‘utilized by one consumer and have single-metered service’”).

¹¹¹ See generally David Roberts, [Assembling Diverse Resources Into Super-Powered “Energy Parks:” A Conversation with Eric Gimon of Energy Innovation](#), VOLTS (Jan. 15, 2025) (featuring an Energy Innovation author describing energy parks in rural cooperative territory in Texas).

¹¹² See, e.g., *Paoli Mun. Light Dept. v. Orange County Rural Elec. Membership Corp.*, 904 N.E.2d 1280 (Ind. Ct. App. 2009) (ruling in favor of a cooperative utility that sued to prevent a municipal utility from providing electric service to a facility owned by that municipality but located within the cooperative’s service territory).

¹¹³ See, e.g., [Power for Tomorrow](#) (last visited Jan. 29, 2025), which claims to be “the nation’s leading resource” about the “regulated electric utility model” and generally opposes competition with utilities, in part by claiming that competition harms residential consumers. The effort is funded by utilities. See Energy and Policy Institute, [Power for Tomorrow](#) (last visited Jan. 29, 2025).

¹¹⁴ AEP Ohio Proposed Tariff Modifications, Testimony of Paul Sotkiewicz on Behalf of the Retail Energy Supply Association, at 9–10 (Aug. 29, 2024).

¹¹⁵ *Id.* at 15.

¹¹⁶ *Id.* at 14–15.

¹¹⁷ The trade group’s analyst observed that in January 2023 AEP projected only 248 megawatts of data center growth through 2038, but one year later AEP projected 3,700 megawatts of data center growth by 2030. *Id.* at 10 (citing PJM reports).

¹¹⁸ TYLER NORRIS ET AL., [RETHINKING LOAD GROWTH: ASSESSING THE POTENTIAL FOR INTEGRATION OF LARGE FLEXIBLE LOADS IN U.S. POWER SYSTEMS](#) 18 (Nicholas Institute for Energy, Environment & Sustainability, 2025).

¹¹⁹ *Id.* at 5–6.

¹²⁰ See Ari Peskoe, *Replacing the Utility Transmission Syndicate’s Control*, 44 ENERGY L. J. 547 (2023).

¹²¹ Exec. Order No. 14,141, 90 FR 5469 (2025).

¹²² *Id.*

¹²³ Va. J. Legis. Audit & Rev. Commission 2024-548, [Report to the Governor & the General Assembly of Virginia: Data Centers in Virginia](#), at viii (2024).

¹²⁴ Brody Ford & Matt Day, [Price Tag Jumps for Amazon’s Mississippi Data Centers Jump 60% to \\$16 Billion](#), BLOOMBERG (Jan. 31, 2025).

¹²⁵ *Id.*

¹²⁶ See generally NATHAN SHREVE, ZACHARY ZIMMERMAN & ROB GRAMLICH, [FEWER NEW MILES: THE US TRANSMISSION GRID IN THE 2020s](#), GRID STRATEGIES (Jul. 2024).

¹²⁷ U.S. Department of Energy, [National Transmission Needs Study](#) (Oct. 30, 2023).

¹²⁸ See Ari Peskoe, *Replacing the Utility Transmission Syndicate’s Control*, 44 ENERGY L. J. 547 (2023)

¹²⁹ Sonali Razdan, Jennifer Downing & Louise White, [Pathways to Commercial Liftoff: Virtual Power Plants 2025 Update](#), U.S. Department of Energy Loan Programs Office (Jan. 2025).

¹³⁰ See, e.g., Mississippi Power Company's Notice of IRP Cycle, Mississippi Public Service Comm'n Docket No. 2019-UA-231 (Jan. 9, 2025) (stating that because the utility has entered into two contracts with 600 MW of new load it will keep at least one coal plant open that had been slated for retirement); Mississippi Power Special Contract Filing, Mississippi Public Service Comm'n Docket No. 2025-UN-3 (Jan. 9, 2025) (showing that at least one of the two special contracts is with a data center).

Energy and AI

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World Energy Outlook Special Report

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Energy for AI

The evolution of energy demand and how to meet it

S U M M A R Y

- Artificial intelligence (AI) model training and deployment occur mainly in data centres. In total, electricity consumption from data centres is estimated to amount to around 415 terawatt hours (TWh), or about 1.5% of global electricity consumption in 2024. It has grown at 12% per year over the last five years.
- Our Base Case projections for data centre electricity consumption are grounded in the latest industry expectations for server shipments. Three sensitivity cases (Lift-Off, High Efficiency and Headwinds) capture uncertainties in efficiency improvements in hardware and software, AI uptake and energy sector bottlenecks.
- In the Base Case, electricity consumption from data centres rises to around 945 TWh by 2030, more than doubling from the 2024 level. The United States sees by far the largest absolute growth, followed by China and Europe. Data centres still account for less than 10% of the growth in global electricity consumption to 2030.
- The Lift-Off Case assumes stronger AI uptake and limited local constraints on data centre buildout. In this case, consumption reaches over 1 260 TWh by 2030. The High Efficiency Case is driven by energy savings in both software and hardware; consumption reaches around 800 TWh by 2030. In the Headwinds Case, it reaches around 670 TWh. By 2035, the spread of uncertainty widens further, spanning 700 TWh to 1 720 TWh across the four cases.
- Natural gas generation to meet data centre demand increases by around 175 TWh from today's level to 2035 in the Base Case, mostly concentrated in the United States. In the Lift-Off Case, it grows by 290 TWh. Renewables provide the largest contribution to meet data centre demand, increasing by 450 TWh to 2035 in the Base Case. This reflects their broad availability, short development times, economic competitiveness and technology sector procurement strategies. Nuclear power also contributes.
- Grid congestion and connection queues are growing in many regions, and supply chains for key components like transformers and gas turbines are stretched. In our analysis and modelling of these factors, we estimate that around 20% of the projected data centre additions by 2030 in our Base Case could be at risk of delay.
- Avoiding this risk will require a range of actions from both the energy and technology sectors. Permitting times for new projects need to be cut. Grid operators should streamline the confusing tangle of data centre connection applications. The technology sector should maximise the buildout of data centres in areas of high power and grid availability and explore strategies to incentivise their operational flexibility. Better management of the growing data centre load could be facilitated by better data on both grid constraints and the data centre demand outlook.

2.1 Introduction

Investment in new data centres has surged, increasing by nearly 70% in the last two years at the global level. One of the main drivers of this investment has been the rise of artificial intelligence (AI), alongside the deepening digitalisation of the global economy. The rapid increase in data centre investment is raising concerns about the ability of electricity systems to meet growing demand in a timely, secure and sustainable way.

Data centres – at least at the scale seen today – are relatively new actors in the energy system at the global level, and data collection and reporting on their electricity consumption remain limited. There is therefore substantial uncertainty about both their current and future consumption. Moreover, AI models are highly heterogeneous, and data on their uptake and electricity intensity are limited (see Chapter 1). As a result, it is challenging to analyse the link between AI demand and data centre electricity consumption.

On the electricity supply side of the equation, the sector is facing several challenges. Electricity demand is already growing strongly in emerging market and developing economies, driven especially by economic growth, industrialisation, increased adoption of appliances, and surging needs for cooling. Advanced economies are also returning to growth in electricity demand after two decades of stagnation. However, the electricity sector faces several bottlenecks, including permitting times and tangled supply chains.

This chapter explores these issues across the following sections:

- Section 2.2 sets the scene by describing the determinants of data centre electricity consumption and how much electricity data centres consume today.
- Section 2.3 presents new International Energy Agency (IEA) modelling on the outlook for electricity demand from data centres.
- Section 2.4 places data centres within the broader context of the information and communication technology (ICT) sector and discusses how the uptake of AI may influence the energy consumption of the ICT sector beyond data centres.
- Section 2.5 examines electricity supply scenarios to meet the demand growth from data centres.
- Section 2.6 discusses how data centres interact with grids and what can be done to avert the risk of project delays due to electricity sector constraints.

2.1.1 Case design

The uncertainty surrounding future data centre electricity demand requires a scenario-based approach to explore alternative pathways and provide perspectives on timelines relevant to energy sector decision making. While the technology sector moves quickly and a data centre can be operational in two to three years, the broader energy system requires longer lead times to schedule and build infrastructure, which often requires extensive planning, long build times and high upfront investment. At the same time, information on the project

pipeline for new data centres extends only a few years into the future. Industry forecasts for key variables – such as chip and server production and shipments – are likewise short term (three to five years), reflecting the rapid pace of innovation and inherent uncertainties surrounding key drivers of data centre demand, notably AI uptake.

For these reasons, we present our cases across two timeframes. Section 2.3.1 focuses on projections to 2030 and the results of our Base Case (see below). Section 2.3.2 takes a slightly longer-term, exploratory approach, presenting results to 2035 and for a wider range of cases. The underlying assumptions of these four cases are briefly described as follows, with more details provided in sections 2.3.1 and 2.3.2:

- The **Base Case** explores the trajectory of electricity consumption in data centres under current regulatory conditions and industry projections. The key driver in this case in the near term is industry projections for server shipments to 2028 and a continuation of this trend after 2028. Efficiency improvements are expected to continue playing a pivotal role in limiting strong growth in energy consumption, despite increasing demand for digital services.
- The **Lift-Off Case** assumes stronger growth in AI adoption than in the Base Case. A more resilient supply chain and greater flexibility in data centre location, powering and operations enable faster data centre deployment.
- The **High Efficiency Case** shares similar constraints and drivers with the Base Case but assumes stronger progress on energy efficiency in software, hardware and infrastructure. As a result, the same level of demand for digital services and AI is met with a reduced electricity consumption footprint.
- The **Headwinds Case** captures the impact of a downside in the outlook for data centre deployment, particularly due to slower than expected AI adoption. The emergence of local bottlenecks, along with a tight supply chain, causes delays in capacity expansion compared to the most ambitious industry projections.

Given the novelty and technical specificity of data centres as actors in the energy system, the next section presents a brief set of definitions to help readers navigate the rest of the chapter. Readers more familiar with the sector may wish to skip this section and move directly to section 2.2.1, where we present the historical trends in data centre electricity consumption.

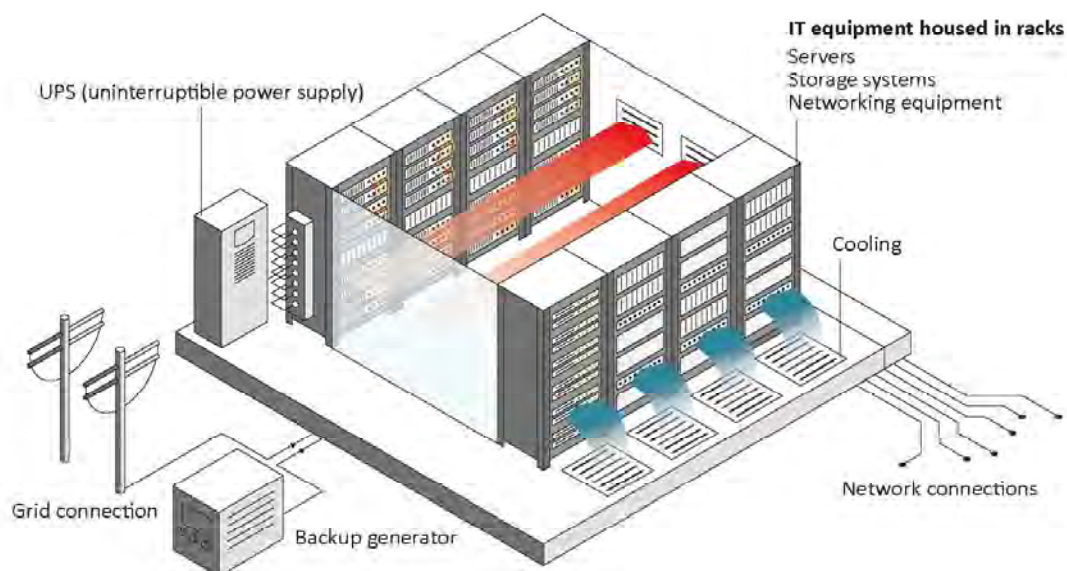
2.1.2 Key definitions and concepts

There are several types of data centres. In this report, we use the following categorisations:

- **Enterprise** data centres are run by businesses or institutions for their own use. They are typically smaller and less efficient than other types of data centres and represent around 28% of data centre capacity today. Their share has been steadily decreasing over time, from 85% in 2005.

- **Colocation and service provider** data centres lease space to customers to house their own computing and storage equipment (colocation) or provide both the space and computing equipment (service providers). Both types of data centres can accommodate hundreds or thousands of customers; an estimated 36% of capacity falls into this category today.
- **Hyperscale** data centres are massive facilities operated by major technology companies, such as Amazon Web Services, Google, Meta and Microsoft. They use scalable, highly efficient infrastructure to support cloud services, web hosting and, increasingly, AI services. Their role has grown quickly from around 10% of data centre capacity in 2010 to 37% today.

Figure 2.1 ► Data centre components



IEA. CC BY 4.0.

*Effective design and integration of key data centre components
ensure continuous operation and optimal performance*

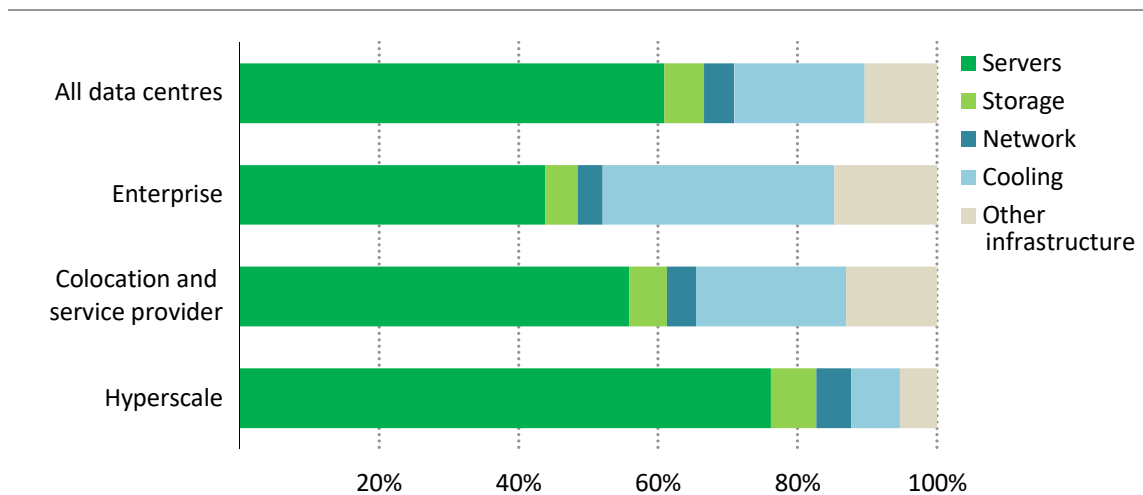
Data centres are facilities used to house servers, storage systems, networking equipment and associated components that are typically installed in racks and organised into rows (Figure 2.1). This information technology (IT) equipment, and the range of auxiliary equipment required to keep it in working order, comprises the following:

- **Servers** are computers that process and store data. They can be equipped with central processing units (CPUs) and specialised accelerators, such as graphics processing units (GPUs). On average they account for around 60% of electricity demand in modern data centres, although this varies greatly between data centre types (Figure 2.2).
- **Storage systems** are devices used for centralised data storage and backup and account for around 5% of electricity consumption.

- **Networking equipment** includes switches to connect devices within the data centre, routers to direct traffic and load balancers to optimise performance. Networking equipment accounts for up to 5% of electricity demand.
- **Cooling and environmental controls** consist of equipment that regulates temperature and humidity to keep IT equipment operating at optimal conditions. The share of cooling systems in total data centre consumption varies from about 7% for efficient hyperscale data centres to over 30% for less-efficient enterprise data centres.
- **Uninterruptible power supply batteries and backup power generators** keep the data centre powered during outages. These are rarely used but are necessary to ensure the extremely high levels of reliability that data centres must meet.
- **Other infrastructure** includes lighting and office equipment for onsite staff, etc.

The share of these different components in data centre electricity consumption varies greatly by data centre type, depending on the nature and efficiency of the equipment installed. Figure 2.2 presents the typical breakdown for different data centre types in operation today.

Figure 2.2 ▶ Share of electricity consumption by data centre and equipment type, 2024



IEA. CC BY 4.0.

*Hyperscale data centres are the most efficient,
with the bulk of electricity going to servers and other IT equipment*

Several technical characteristics determine data centre electricity consumption:

- **Installed IT capacity** refers to the operating servers, storage and networking devices and is measured in megawatts (MW). **Total installed capacity** includes both IT capacity and the power capacity of auxiliary equipment. In many cases, data centres are only partially filled with servers. **Maximum designed capacity** refers to the maximum capacity of a data centre if it is filled with servers; in many instances, it is smaller than the total installed capacity.

- The **utilisation rate** of IT equipment measures how much of the available computing resources are actively being used over a given period. Smaller and less-efficient enterprise data centres have average utilisation rates below 20%, while hyperscale data centres with optimised loads can have average utilisation rates of up to 50%.
- **Idle power** is the amount of electricity a device consumes to perform essential background operations when not actively processing workloads. It is typically expressed as a percentage of maximum rated power. A lower idle power is more efficient. Idle power has improved from around 60% in 2010 to around 35% of rated power in modern servers.
- **Power usage effectiveness (PUE)** is the ratio of total facility electricity consumption to the electricity consumption of the IT equipment ($PUE = \text{total consumption} / \text{IT consumption}$). It is commonly used as an important indicator of the energy efficiency of a data centre, with a focus on minimising infrastructure electricity consumption (such as cooling and lighting) compared to the electricity consumption of IT equipment. This measure can vary widely from around 2 (meaning 1 kilowatt hour [kWh] of electricity used for cooling and auxiliary equipment for every 1 kWh of electricity used by IT equipment) for enterprise data centres to just under 1.15 for hyperscale data centres (0.15 kWh used for cooling and auxiliary equipment for every 1 kWh used by IT equipment).

Data centre servers deploy several kinds of chips and server architectures:

- **Central processing units (CPUs)** are the primary components of a computer that carry out instructions from programs by performing operations.
- **Graphics processing units (GPUs)** and other “accelerators”, such as tensor processing units, are optimised for parallel computations, enabling faster processing of certain tasks.
- **Accelerated servers** are specialised servers equipped with GPUs or similar accelerator chips to enhance computing performance for specific tasks. They are particularly important for AI training and deployment.

2.2 Electricity consumption of data centres

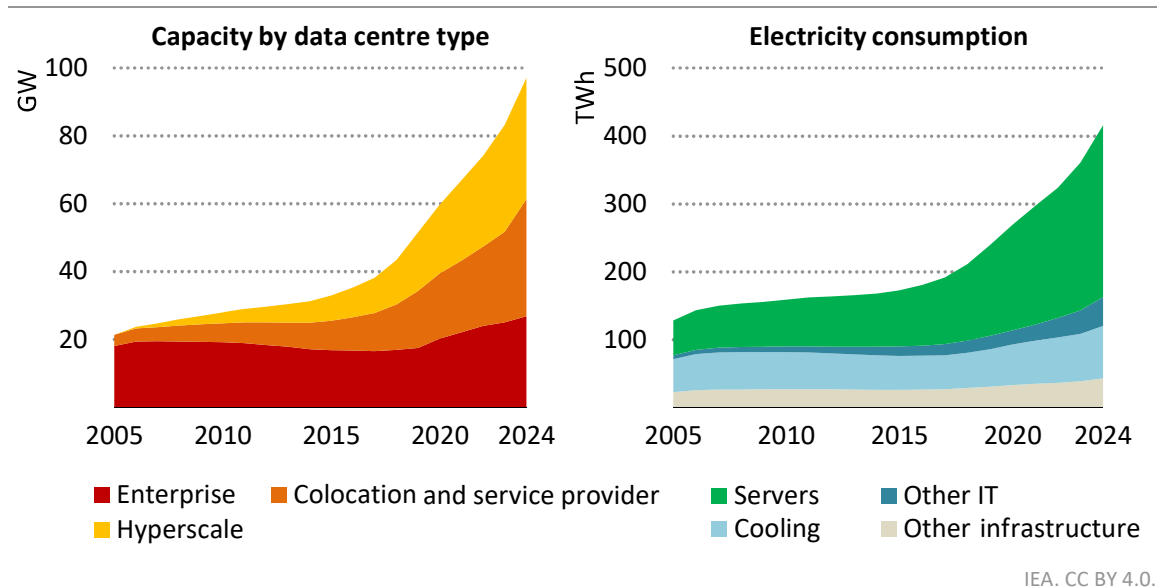
2.2.1 Historical electricity consumption of data centres

A sharp acceleration in recent years

The Internet revolution took off in the 1990s, and early growth in the demand for digital services was strong. The electricity consumption of data centres in the United States almost doubled between 2000 and 2005, raising concerns about runaway growth (Kooimey, 2007). An inflection point occurred around 2007-2008, when slowing growth in data centre electricity consumption indicated a decoupling from the still-booming demand for digital services. Several factors contributed to this slowdown in global data centre electricity

consumption, including the migration of service demand to more efficient, larger data centres (colocation, service provider and hyperscale), but also continued improvements in hardware efficiency and operating efficiency (declining idle power ratios, for example).

Figure 2.3 ▶ Total data centre electricity consumption by equipment type and data centre type, 2005-2024



After a decade of limited growth, data centre electricity consumption began to accelerate again after 2015

Note: GW = gigawatt; TWh = terawatt hour.

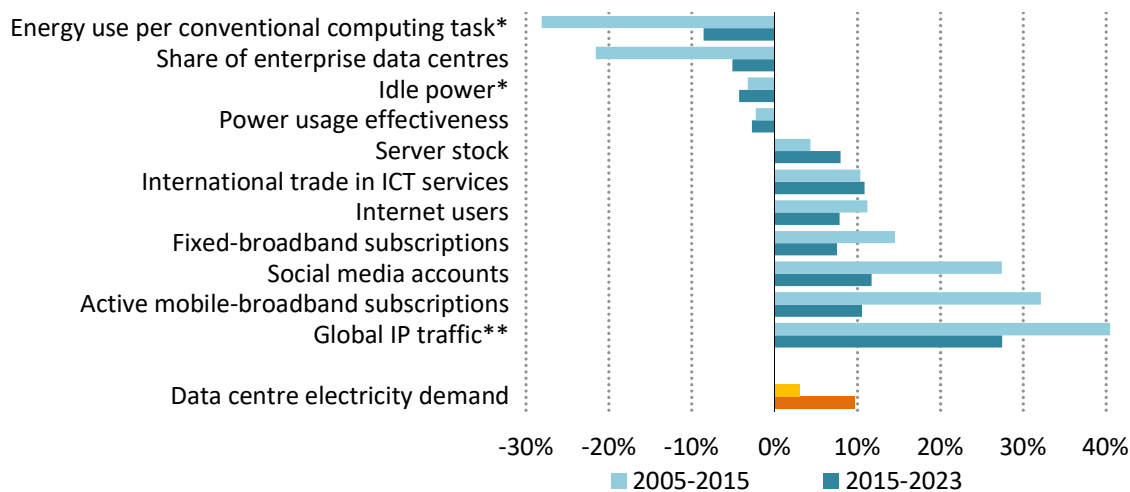
Sources: IEA analysis based on data from IDC (2024a), OMDIA (2025), and SemiAnalysis (2025).

However, a sharp acceleration in data centre electricity consumption took place from around 2017 onwards. Important drivers of this step change were the growth of cloud computing, the shift to online media consumption, the wider use of social media platforms and the rise of AI, which increased the demand for high-performance computing, facilitated by the rise of accelerated servers. Between 2015 and 2024, the capacity of accelerated servers grew four times faster than the total capacity of servers. While accelerated servers are much more efficient on a per-task basis, they also unlocked many new tasks, that were not possible on conventional servers. These new capabilities, among other factors, drove an increase in service demand that outstripped the pace of continued efficiency improvements.

Figure 2.4 provides another view of the drivers of electricity consumption by data centres from 2005 to 2015 and then from 2015 to 2023. From 2005 to 2015, global Internet Protocol (IP) traffic, mobile broadband subscriptions and active social media accounts grew by more than 25% per year. These are proxies for the rapid initial growth in demand for digital services. Growth rates moderated in the period from 2015 to 2023. In contrast, the growth rate of the total stock of servers in data centres accelerated from an annual growth rate of 4% seen in the period 2005 to 2015 to 8% per year from 2015 to 2023. Several key indicators

of efficiency saw faster improvements from 2005 to 2015, including the rate of the shift from less-efficient enterprise data centres to more-efficient hyperscale, colocation and service provider data centres. As a result of these trends, data centre electricity consumption growth accelerated from 3% annually from 2005 to 2015 to 10% annually from 2015 to 2024.

Figure 2.4 ▶ **Average annual change in key drivers of data centre electricity consumption globally, 2005-2015 and 2015-2023**



IEA. CC BY 4.0.

Robust service demand growth, an acceleration in the total number of servers and a slowdown in some efficiency indicators led to faster electricity consumption growth

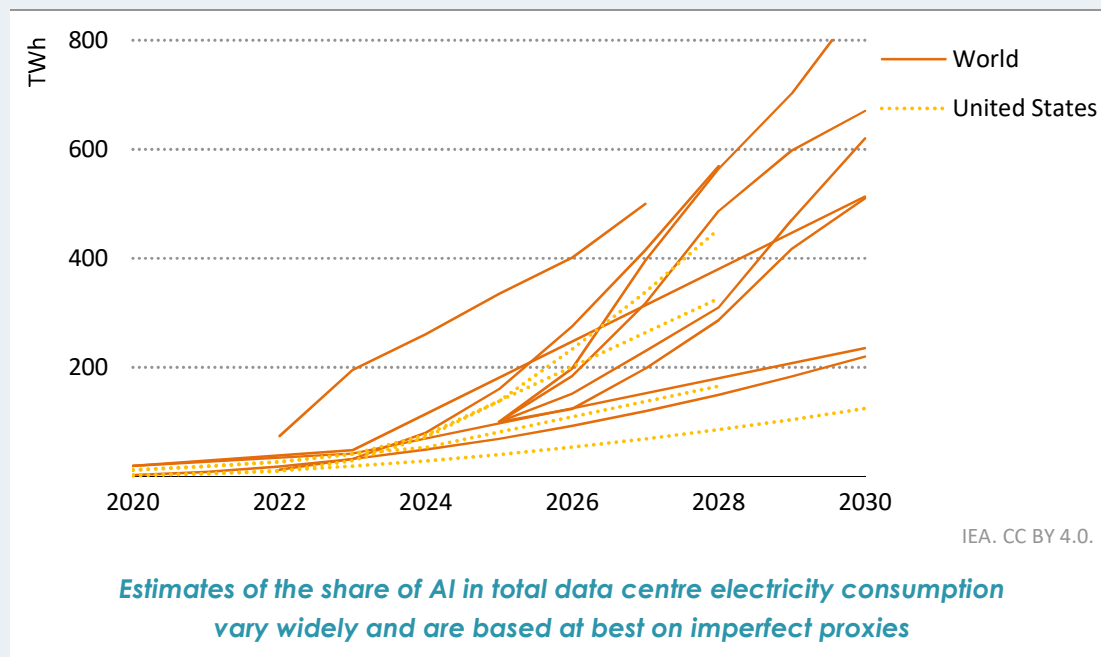
* Data starts in 2007. ** Data ends in 2022, estimated for 2022.

Sources: IEA analysis based on data from Cisco (2008), Cisco (2015), Cisco (2019), ITU (2025), Meltwater (2024), SPEC (2024), and World Bank (2024a).

Box 2.1 ▶ What share of data centre electricity demand comes from AI?

How much electricity demand comes from AI specifically is a challenging question to answer. AI is only one of the workloads that run on data centres, and as AI becomes increasingly pervasive, a clear distinction between AI-related and non-AI-related workloads becomes more challenging. There is no comprehensive data on the share of different kinds of workloads, and service providers or colocation data centre operators often have limited visibility over the specific workloads running in their facilities. Moreover, there are often differences in the definition of AI, with some traditional AI sometimes being excluded. In this context, the range of estimates for the share of AI in total data centre electricity consumption is very wide (Figure 2.5).

As a second-best approach, estimates often rely on the electricity consumption of accelerated servers as a proxy for the share of AI in total electricity consumption from data centres. Accelerated servers accounted for 24% of server electricity demand and 15% of total data centre demand in 2024.

Figure 2.5 ▶ Estimated data centre electricity demand due to AI, 2020-2030

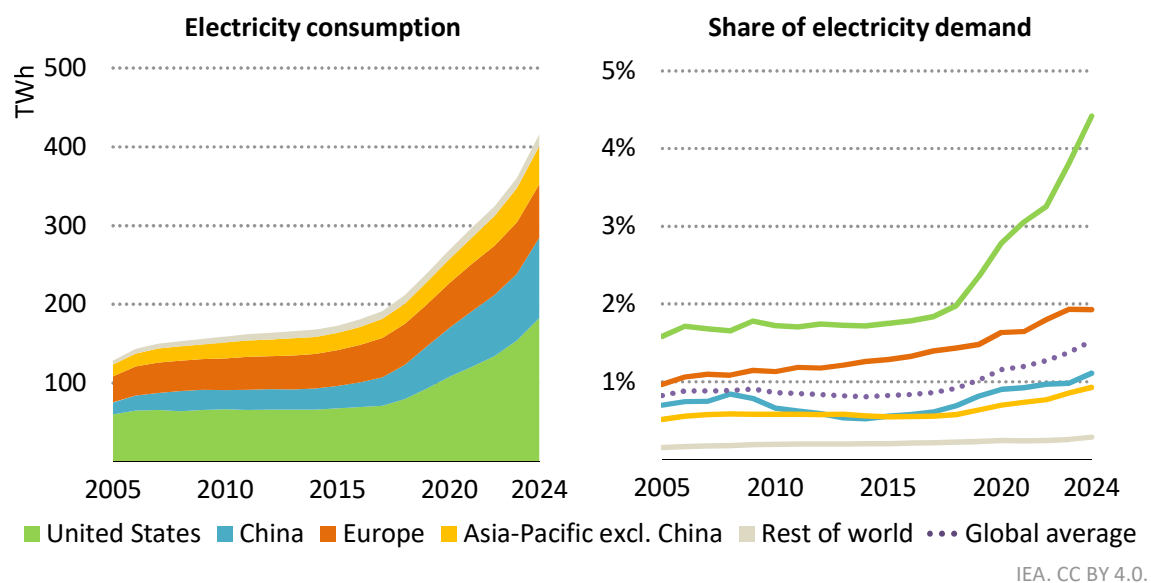
Sources: IEA analysis based on data from Deloitte (2024), Gartner (2024), Goldman Sachs (2024), Schneider Electric (2024), SemiAnalysis (2024), and Shehabi, et al., (2024).

However, this is an imperfect proxy for total AI electricity consumption. AI workloads, especially training, are often run on this type of specialised hardware, but some AI inferencing tasks also run on conventional servers, and some non-AI related tasks, such as high-performance scientific computing, are run on accelerated servers. Looking ahead, some AI inferencing workloads could move from data centres to end-user devices such as mobile phones and laptops (see section 2.4), further increasing uncertainty about AI-related electricity demand.

Data centre electricity consumption is not spread evenly around the world

The United States, Europe and China account for around 85% of global electricity consumption from data centres today. In the United States, electricity consumption from data centres grew by around 12% a year between 2015 and 2024. Data centres accounted for around 180 TWh of electricity consumption in 2024 in the United States, nearly 45% of the global total and more than 4% of US electricity consumption from all sources (Figure 2.6).

In China, the data centre sector started to expand significantly from 2015 onwards, with electricity demand growing 15% per year between 2015 and 2024, more than twice the rate seen between 2005 and 2015. Over the same period, electricity consumption across all sectors grew at an annual rate of around 7%. As of today, data centres account for approximately 100 TWh of electricity consumption, roughly equivalent to that of electric vehicles in China. The country accounts for around 25% of global data centre electricity consumption, up from less than 20% a decade ago. However, substantial data gaps make it challenging to accurately estimate China's data centre electricity consumption (IEA, 2025).

Figure 2.6 ▶ Electricity consumption of data centres by region, 2005-2024

The acceleration in data centre electricity consumption observed in 2017 was mainly driven by the United States and, to a lesser extent, by China

Data centres account for slightly less than 2% of Europe's electricity consumption, a share that is higher than China's (1.1%). However, in absolute terms, Europe's consumption is lower, at an estimated 70 TWh in 2024. Europe's share of the global electricity consumption of data centres has decreased over the past decade but still represents slightly above 15%. In Japan, we estimate that data centres account for less than 20 TWh of electricity consumption (about 2% of Japan's total consumption, on a par with Europe). We estimate that data centres account for around 9 TWh of consumption in India (Box 2.2), or about 0.5% of total consumption. However, the sector appears poised for rapid growth.

Box 2.2 ▶ Country focus: India

India has a thriving ICT sector, with the value of IT exports steadily growing to over USD 200 billion in 2024. By comparison, the world's largest oil exporter earned USD 220 billion on export revenues that year. India is also home to around 950 million Internet users. Spurred by data localisation requirements in some sectors, India is now emerging as a rapidly growing data centre market. As of June 2024 India had 2 GW of total installed data centre capacity in operation, together consuming electricity equivalent to 6.5 million Indian households. India's total installed data centre capacity has doubled in only four years, and over 2 GW of further maximum designed capacity is in the pipeline and planned to come online over the next two years. This means that total installed capacity is on track to reach nearly 5 GW by 2030 (Figure 2.7).

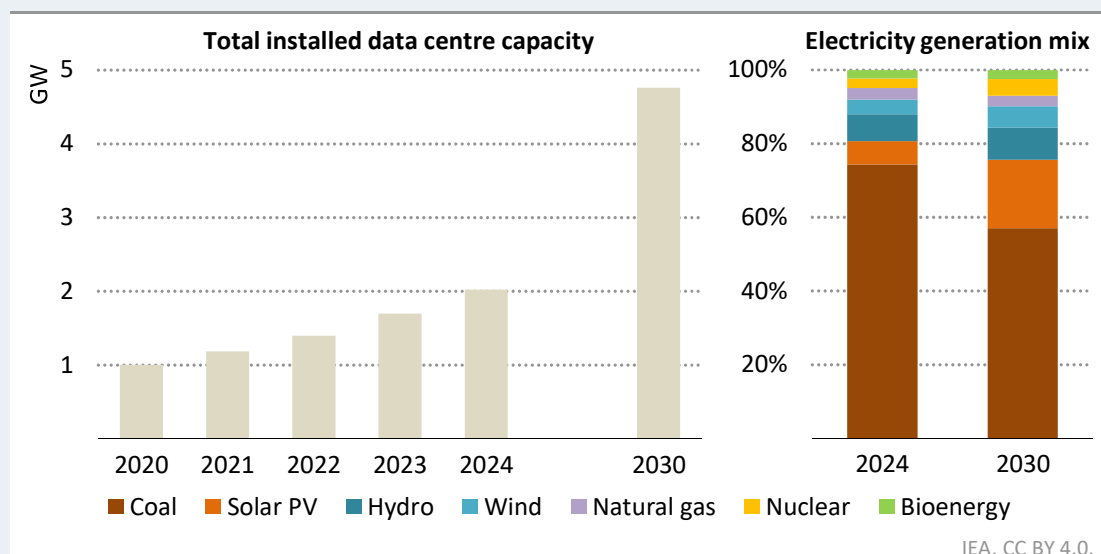
The government's IndiaAI Mission, with a budget of USD 1.2 billion, consists of several objectives, including the development of an AI computing ecosystem with over 18 000 GPUs to support AI start-ups and research. In addition, there are incentives from

state governments for data centres; for instance, Uttar Pradesh announced a 100% exemption on electricity duty and transmission charges for ten years for new data centres.

Electricity consumption from data centres is contributing to India's electricity demand growth at a time when India is already among the world's fastest-growing electricity markets. Coal fuels 74% of electricity generation in India today, providing much of the firm power to the grid, and the dominance of coal in the mix is likely to continue beyond 2030. However, since India's "open access" rules enable the direct purchase of power from generators, several technology companies are signing power purchase agreements (PPAs) directly with renewable energy generation companies to reduce their emissions. For example, the data centre subsidiary of Indian telecommunications major Bharti Airtel announced it would procure 140 GWh of renewable energy annually and has been working with generation companies to set up captive solar photovoltaic (PV) and wind capacity for their data centres.

To ensure that the upcoming wave of new data centre construction remains on target, India will need to address long-standing issues of grid reliability to capitalise on data centre and AI growth. In the current context, backup and captive power generation for data centres remains a critical consideration owing to the risk of power supply interruptions from the grid. Grid infrastructure creation and upgrades will also need to keep track of new data centre construction. Data centres are proving to be important energy consumers in India, creating additional demand for power generation, notably from solar PV and wind, and driving investment in power backup options (including battery storage) and transmission infrastructure upgrades.

Figure 2.7 ▶ India's total data centre capacity and electricity generation mix, 2020-2030

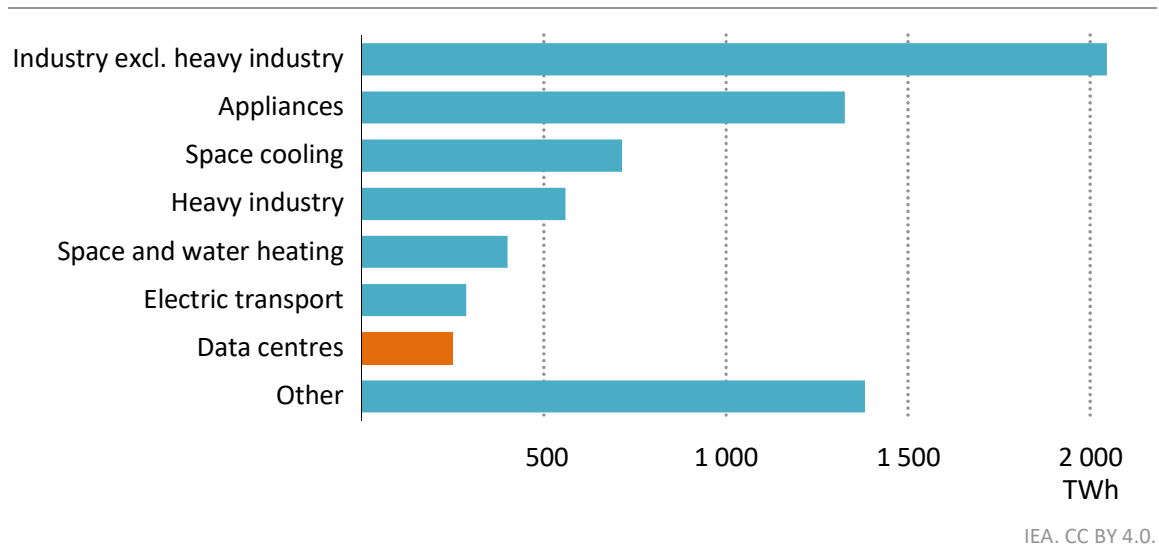


Data centre total installed capacity in India is set to double by 2030; while coal dominates the electricity mix in India, the share of renewables increases to 35% by then

Data centre electricity consumption from a broader perspective

With the rapid growth seen in recent years, the data centre sector accounted for around 4% of global growth in electricity consumption between 2014 and 2024. However, other drivers, such as growing appliance adoption in buildings and industrial electrification, were more significant. Data centres accounted for around 250 TWh of incremental electricity consumption in this period, roughly equivalent to the electricity demand of Spain. In comparison, the electricity consumption of space cooling grew by around 700 TWh (Figure 2.8).

Figure 2.8 ▶ Increase in electricity demand by sector in the Base Case, 2014-2024



Over the past decade, growth in electricity demand for data centres increased by almost as much as for transport

All historical data are estimates, not measurements

Currently, very few governments mandate reporting and publication of comprehensive statistics on data centre electricity consumption (see Chapter 5). As a result, all data on the historical consumption of data centres at the global level are the result of estimates based on a variety of sources. These sources come with different challenges and gaps; combined with the lack of common definitions (Masanet, Lei and Koomey, 2024), this results in widely divergent estimates, even for historical consumption.

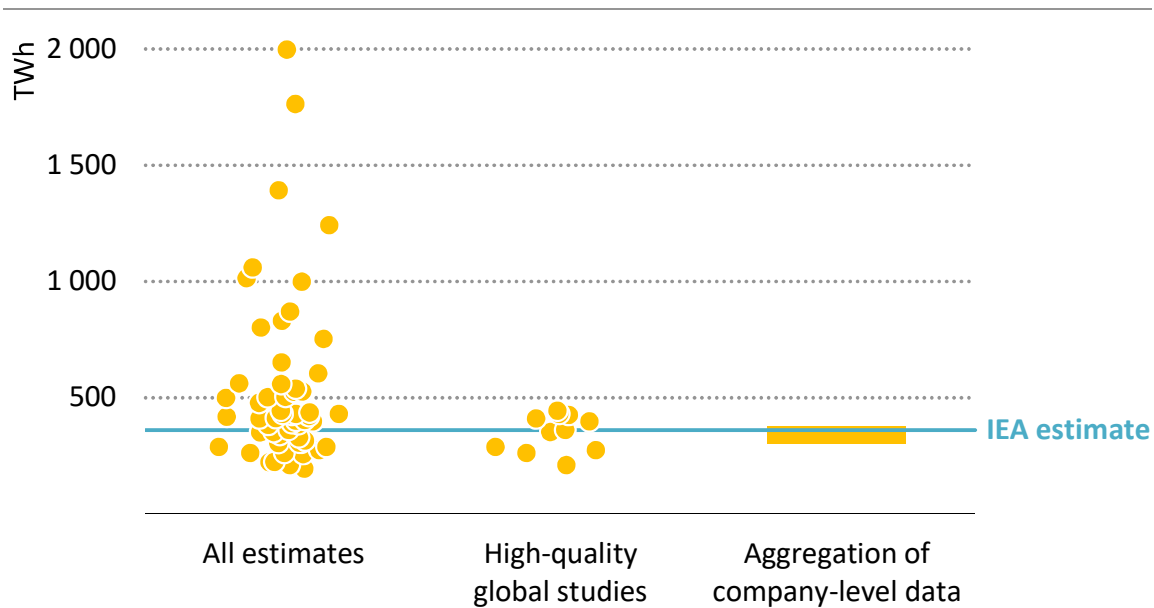
Often, companies and institutions that track or report on data centre capacity, including real estate companies, consulting companies and data centre operators, do not use a consistent scope or definitions. A key distinction is between the maximum designed capacity and the actual installed IT capacity. Data centres are often not filled to their maximum designed capacity, and IT capacity is usually ramped up progressively in new data centres. Access to detailed data on the installed capacity of data centres requires subscriptions to expensive third-party data services, an option that is often not available to many actors.

Several recent studies rely on outdated or overly simplistic PUE assumptions due to a lack of high-quality, publicly available data for different data centre types and regions. The load factor of data centres is also marked by uncertainty. This metric is determined by IT equipment utilisation rates and idle server power consumption, both of which vary greatly across different workloads and hardware configurations. Combined with a lack of available data, this complicates aggregate load factor estimations, leading to significant discrepancies in consumption estimates.

The rapid adoption of GPUs and other accelerated server designs further compounds these challenges. There are limited available data on annual shipments and the installed stock of accelerated servers. This has a large impact on demand estimations, as accelerated servers are much more power intensive than conventional servers. Finally, companies operating in the sector, including hyperscale and colocation providers, largely do not report their data centre electricity consumption specifically.

As a consequence, all historical data regarding global data centre electricity consumption are modelled estimates, not measured data, and the range of estimates is wide (Figure 2.9). Triangulating multiple data sources does lead to broadly converging estimates that align with the IEA estimates provided in this chapter (Kamiya and Coroamă, 2025a). However, the process is intensive in time, resources and expertise. The data and methodological annex to this report provides more details on the methodology used by the IEA to estimate data centre electricity consumption from data centres.

Figure 2.9 ▶ Comparison of three approaches to estimating global data centre electricity consumption, 2023



IEA. CC BY 4.0.

Different modelling approaches can lead to a wide range of estimates

Source: IEA analysis based on data from Kamiya and Coroamă (2025a).

2.3 Outlook for electricity consumption from data centres

Our modelling approach relies on a bottom-up methodology developed by Lawrence Berkeley National Laboratory, using IT equipment shipments as a key driver of data centre energy demand (Shehabi, et al., 2024). The rise of AI is accelerating the deployment of high-performance accelerated servers, leading to greater power density in data centres. Understanding the pace and scale of accelerator adoption is critical, as it will be a key determinant of future electricity demand. The key input to our modelling is therefore near-term industry projections for server shipments, considering the outlook for demand and supply constraints (IDC, 2024a). Readers interested in more methodological details can find these in the data and methodological annex to this report.

2.3.1 Outlook in the Base Case

Key drivers

In the Base Case, AI adoption alongside continuously deepening digitalisation drives the expansion of the data centre sector. The key drivers of electricity consumption from data centres evolve as follows in the Base Case:

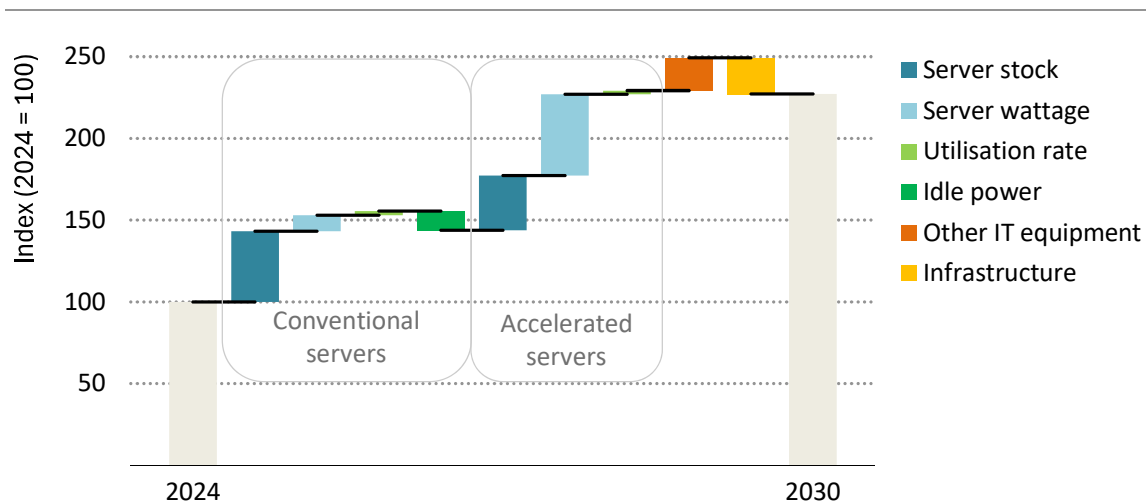
- The total stock of servers is projected to increase by more than 60% by 2030, with around a third of this increase due to the extended lifetime of servers. The total stock of accelerated servers increases even more strongly, but the share of accelerated servers in the total stock of servers remains below 10%.
- The total installed capacity of data centres, which includes all installed IT equipment, cooling systems and auxiliary equipment, increases by more than the increase in the stock of servers, because the power intensity of servers (watts/server) increases substantially. This is due to the increase in the size and number of accelerated servers. A key driver of the increase in the average wattage of accelerated servers is the rising number of accelerators per server, with servers containing eight accelerators representing a significant share of the stock of accelerated servers by the end of the decade. The rated power of such servers can cross the 10 kilowatt (kW) mark; in comparison, the rated power of servers with two accelerators is below 2 kW. In the Base Case, the total installed capacity of data centres more than doubles from around 100 GW today to around 225 GW in 2030. The total capacity of accelerated servers grows by almost five times, compared to an increase of 1.8 times for conventional servers.
- Cooling efficiency continues to improve in the Base Case. This is driven primarily by advancements in cooling technologies and data centre operational management, rather than a strong shift from enterprise data centres to more efficient colocation or hyperscale facilities. In the Base Case, the share of server capacity hosted by enterprise data centres slowly declines below 20% from 2024 to 2030. The global weighted average PUE is projected to improve, decreasing from 1.41 to 1.29 on average, saving around

90 TWh of electricity demand. This represents around a 30% reduction in cooling requirements per unit of IT electricity used.

- Continuous hardware development has driven ongoing improvements in energy efficiency, a trend expected to persist. However, the operational efficiency gains of accelerated servers may be reaching their limit due to high utilisation and limited scope for further idle power reductions. In contrast, conventional servers are expected to see significant efficiency improvements over the next decade, particularly through reductions in idle power consumption. Nonetheless, the Base Case factors in continued improvements in hardware efficiency of both conventional and accelerated servers.

2

Figure 2.10 ▶ Breakdown of the factors driving electricity demand growth in data centres in the Base Case, 2024-2030



IEA. CC BY 4.0.

The main drivers of growth in electricity consumption from data centres are the increases in the stock and wattage of servers

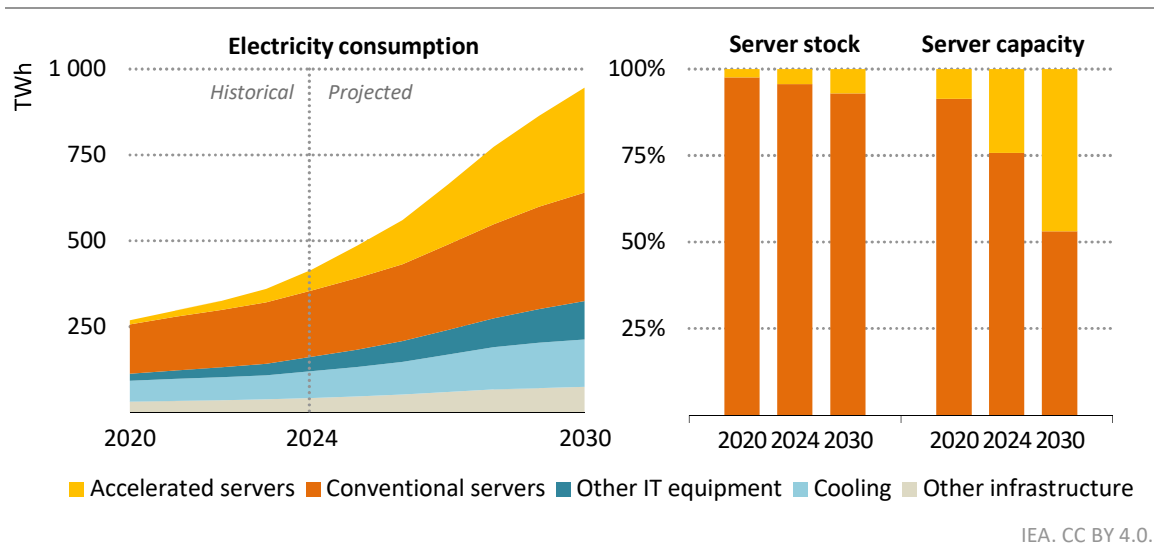
Global results

Global electricity consumption by data centres is projected to reach around 945 TWh by 2030 in the Base Case, representing just under 3% of total global electricity consumption in 2030. This is more than double the estimated approximately 415 TWh for 2024 (Figure 2.10), which accounted for around 1.5% of today's global electricity demand. From 2024 to 2030, data centre electricity consumption grows by around 15% per year, more than four times faster than the growth of total electricity consumption from all other sectors. However, in the wider context, a 3% share in 2030 means that the data centre share in global electricity demand remains limited.

Electricity consumption in accelerated servers, which is mainly driven by AI technology adoption (Box 2.1), is projected to grow by 30% annually in the Base Case, while conventional server electricity consumption growth is slower at 9% per year. Accelerated servers account

for almost half of the net increase in global data centre electricity consumption, while conventional servers account for only around 20%. Other IT equipment and infrastructure (cooling and other infrastructure) account for around 10% and 20% of the net increase, respectively (Figure 2.11). All three types of data centres – enterprise, colocation and server provider, and hyperscale – contribute to the growth in electricity consumption.

Figure 2.11 ▶ Global data centre electricity consumption in the Base Case, 2020-2030



Around 70% of the growth in electricity demand from servers between 2025 and 2030 comes from accelerated servers

Regional results

The United States, China and Europe are projected to remain the largest regions for data centre electricity demand over the coming years. However, other regions are experiencing strong growth in data centre development, positioning them to play increasingly important roles in the global data centre landscape. A notable example is Southeast Asia, where electricity demand from data centres is expected to more than double by 2030, partially due to the presence of a regional hub in Singapore and southern Malaysia (Johor province).

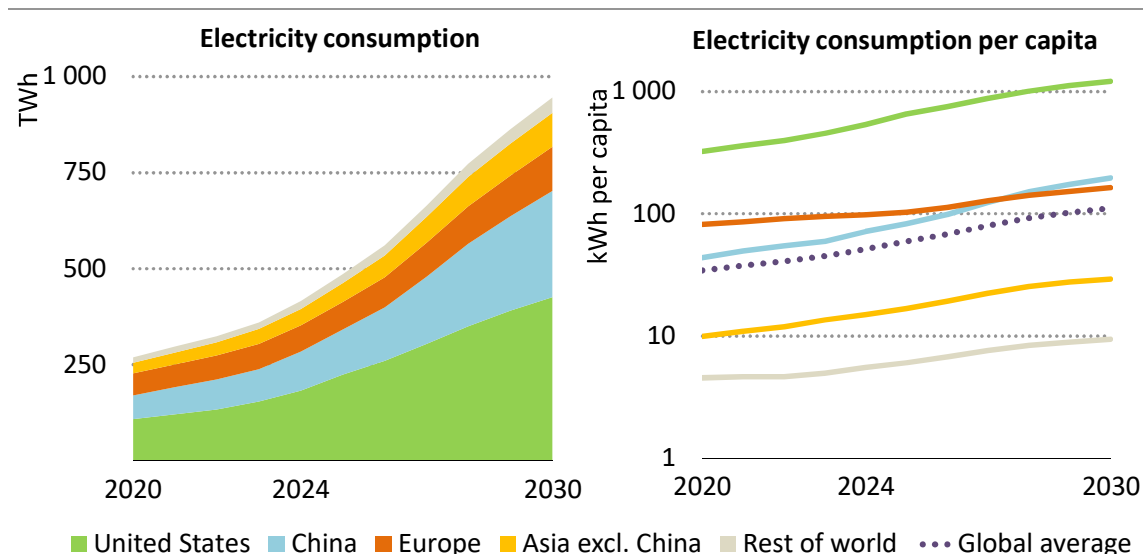
China and the United States are the most significant regions for data centre electricity consumption growth, accounting for nearly 80% of global growth to 2030. Consumption increases by around 240 TWh (up 130%) in the United States, compared to the 2024 level (Figure 2.12). In China it increases by around 175 TWh (up 170%). In Europe it grows by more than 45 TWh (up 70%). Japan increases by around 15 TWh (up 80%).

Comparing data centre electricity consumption normalised per capita can give a sense of the importance of this sector in different economies. Africa has the lowest consumption at less than 1 kWh of data centre electricity consumption per capita in 2024, rising to slightly less than 2 kWh per capita by the end of the decade. However, there are strong differences within

the region, with South Africa showing strong growth and per-capita consumption more than 15 times larger than the continental average in 2030, with an intensity higher than 25 kWh per capita. By contrast, the United States has the highest per-capita data centre consumption, at around 540 kWh in 2024. This is projected to grow to over 1 200 kWh per capita by the end of the decade, which is roughly as much as 10% of the annual electricity consumption of a US household. This intensity is also one order of magnitude higher than any other region in the world.

An interesting trend is observed in China, where data centre consumption normalised per capita – at around 70 kWh in 2024 – is poised to overtake that of Europe (slightly less than 100 kWh). By 2030, per-capita consumption in China reaches around 200 kWh, slightly less than the level seen in Japan (270 kWh) but more than the level in Europe (165 kWh). Per-capita consumption in India remains an order of magnitude lower, at around 15 kWh.

Figure 2.12 ▶ Data centre electricity consumption and data centre electricity consumption per capita by region in the Base Case, 2020-2030



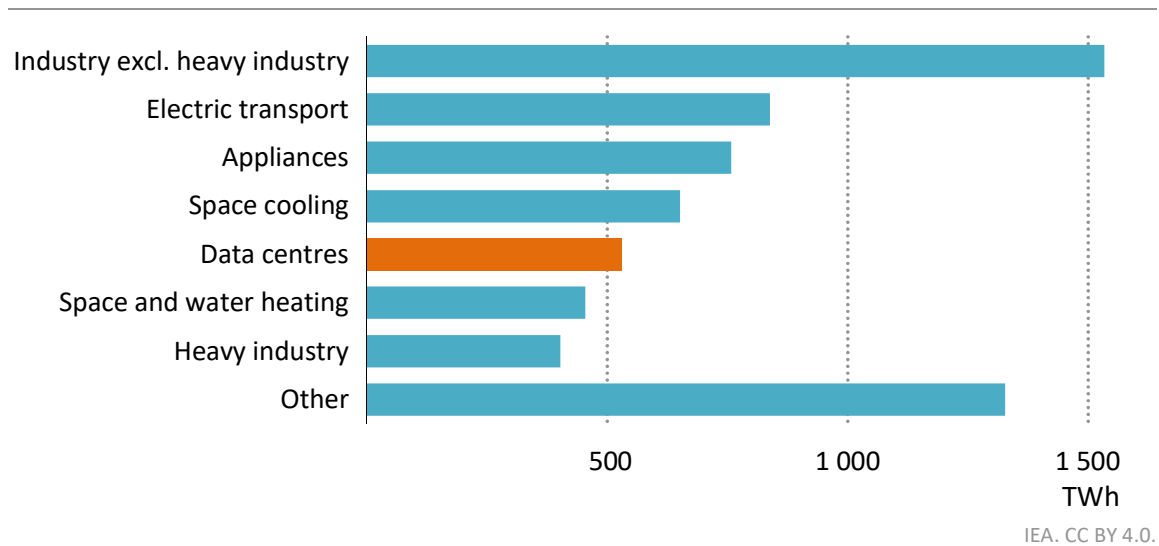
IEA. CC BY 4.0.

The United States and China combined account for 80% of the growth in data centre consumption

The growth of data centre consumption in the Base Case within the broader context

Despite the strong increase, data centre electricity demand growth accounts for less than 10% of global electricity demand growth between 2024 and 2030 in the Base Case (Figure 2.13). Other key drivers, such as industry output growth and electrification, the deployment of electric vehicles and the adoption of air conditioning, lead the way. However, while the absolute growth may appear smaller, data centres, unlike electric vehicles, tend to concentrate in specific locations (see section 2.6.2), making their integration into the grid potentially more challenging.

Figure 2.13 ▶ Increase in electricity demand by sector in the Base Case, 2024-2030



Data centres contribute more to global electricity demand growth than heavy industry or space and water heating

2.3.2 Outlook in the sensitivity cases

In this section, we present the results of our longer-term exploratory modelling of different potential outcomes for electricity demand. The results are presented to 2035, notably to inform the energy sector about possible outcomes on timelines consistent with energy sector planning horizons. These numbers serve as exploratory scenarios to inform technology and policy choices. It is crucial to consider the wide range of uncertainties, including the scale of AI adoption and the efficiency with which this additional service demand will be met (Luers, et al., 2024).

Lift-Off Case

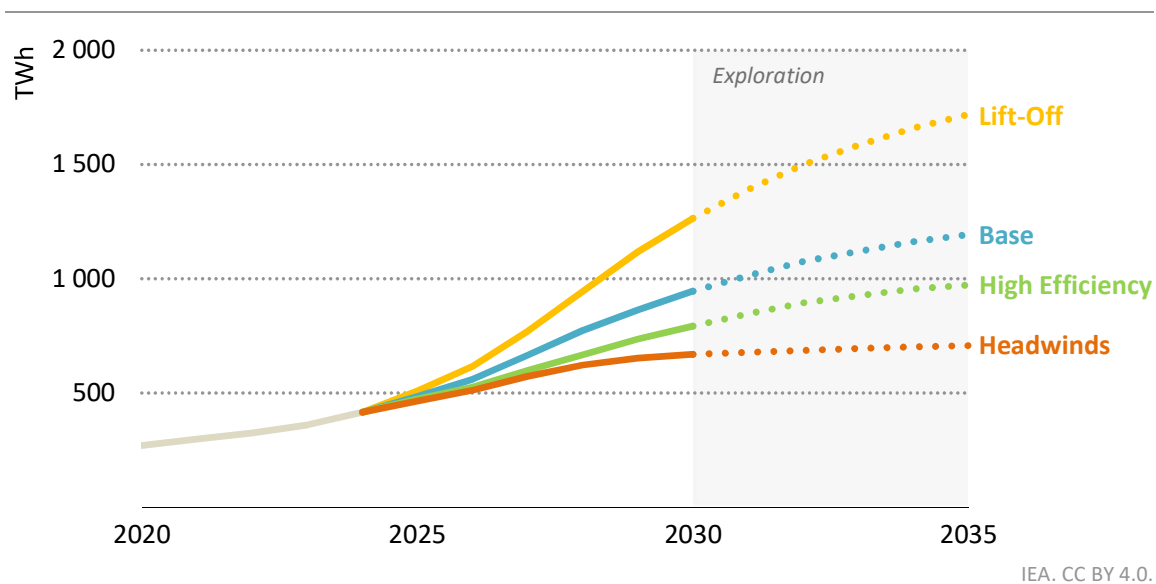
This case explores the impact of stronger AI adoption and increased global demand for digital services, leading to even stronger deployment of data centre facilities than in the Base Case. This drives higher demand for accelerated servers to handle complex, power-hungry workloads. It is assumed that the supply chain will be highly adaptable, with scalable production capacity and minimal inertia. This would prevent shortages of high-performance chips.

Importantly, it is assumed that various actions mitigate the local constraints on data centre development. First, data centres are assumed to have greater location flexibility than in the Base Case. The increased share of workloads with low latency requirements (e.g. AI training and several kinds of AI inference) reduces the need for proximity to customers. Instead, locational decisions can prioritise factors like generation capacity, grid availability and land accessibility. This shift reduces the risk of local project concentration and, in turn, opposition to new developments. Second, higher structural flexibility is assumed to make grid

integration less challenging. Combined with operational flexibility, the Lift-Off Case assumes a trend towards higher reliance on onsite generation for data centre demand, with the grid serving as backup. This approach could mitigate grid saturation risks. While clean power generation, such as renewables or even small modular nuclear reactors in the future, can be deployed for onsite generation, natural gas is also deployed for this purpose in the Lift-Off Case (see section 2.5.4).

The Lift-Off Case trajectory sees global electricity demand from data centres in 2035 that is around 45% higher than in the Base Case, exceeding the 1 700 TWh mark and reaching 4.4% of global electricity demand (Figure 2.14).

Figure 2.14 ▶ Global data centre electricity consumption by sensitivity case, 2020-2035



The outlook for data centre electricity demand is highly uncertain, driven by factors including efficiency improvements, AI uptake and potential energy sector bottlenecks

High Efficiency Case

In this case we assume that AI and digital services demand follows the same trajectory as in the Base Case. However, several efficiency strategies are implemented to counterbalance the increased energy demand resulting from the higher adoption of digital technologies, particularly AI. Efficiency improvements are primarily driven by a shift from enterprise data centres to colocation and service provider facilities, including highly efficient hyperscale data centres. This results in a reduction in the aggregated PUE, which falls to around 1.13 by 2035 compared with 1.21 in the Base Case.

Alongside these improvements, greater software efficiency plays a crucial role in the High Efficiency Case. This relies on approaches such as reducing energy demand per task through code optimisation and innovative algorithms, similar to past trends where improvements in algorithm efficiency significantly limited the growth of conventional computing demand. This

scenario assumes that models are “right-sized” for different tasks, with the technology sector aiming to reduce inference costs and consumers facing an information and incentive environment that supports decision making. OpenAI’s GPT-4.5 roadmap can be seen as a step in this direction, as it introduces the ability to adjust model compute use based on query complexity, thereby optimising resource use without compromising performance (OpenAI, 2025). Additional improvements are also projected on the hardware side, for example through the penetration of full- and semi-custom integrated circuits, application-specific integrated circuits and field-programmable gate arrays, which is higher than in the Base Case, enabling significant energy savings. These specialised processors deliver far better energy performance compared to general-purpose processors like GPUs (see the Spotlight below on the future of computing).

All these efficiency improvements result in a smaller installed IT capacity than in the Base Case, but one that still meets the same service demand. In aggregate, the High Efficiency Case unlocks energy savings of more than 15%, with global electricity demand from data centres reaching around 970 TWh by 2035. As a result, 2.6% of global electricity demand goes to data centres.

Headwinds Case

In this case, service demand does not grow as fast as in other scenarios, and AI sees a slower uptake. Difficulties in monetisation lead to a pullback in investment. This case also assumes stronger local constraints. Additional limitations, such as in the electricity supply chain (see Chapter 5), cause delays in data centre development in this case. As a result, the total installed IT stock by the end of the decade is projected to be smaller than in the Base Case, with growth plateauing beyond 2030 (this still means growing service demand, as the stock of IT equipment becomes more efficient over time). Similar to trends seen in the early 2010s, the improvements in efficiency are expected to offset most of the impact of increased IT stock utilisation, leading to a plateau in energy demand at around 700 TWh, limiting the growth of the data centre share of global electricity demand to less than 2% in 2035.

S P O T L I G H T

The future of computing

Energy efficiency has played a fundamental role in curbing energy demand growth from data centres over the past 20 years. Despite the massive growth in Internet users, data traffic and the digital intensity of the economy (Figure 2.3), data centre consumption as a share of global electricity demand has only increased from 1% in 2005 to 1.5% in 2024.

However, with the shift away from enterprise data centres mostly tapped, AI servers already being highly optimised and utilised, and the approaching limits to semiconductor miniaturisation, this raises questions over further energy efficiency opportunities in data centres and the extent to which technologies and approaches can help curb energy demand growth to 2030 and beyond.

Researchers have explored the opportunity of improvements in software, algorithms and hardware architectures (Leiserson, et al., 2020). These opportunities – some of which are specific to AI and others broadly across data centres and computing – can be generally categorised into hardware, software and cross-cutting approaches, which are briefly explained below. Table 2.1 outlines their current adoption levels, likely level of deployment in 2030 and scale of energy savings potential. These do not consider rebound effects that could counteract such energy efficiency improvements.

Hardware

- **Low-power processors:** processors designed to minimise power consumption, e.g. ARM-based CPUs, Intel Atom processors.
- **AI accelerators:** specialised hardware that can perform AI tasks quickly and efficiently, e.g. servers (Nvidia GPU, Google TPU) and devices (NPU, Apple Neural Engine).
- **Task-optimised hybrid processors:** processors that combine specialised processing units (“chiplets”) for specific tasks within a single package to maximise performance and energy efficiency, e.g. AMD Epyc CPUs.
- **Photonic integrated circuits:** using light (photons) instead of electricity (electrons) to process information, reducing energy waste and enabling faster, more efficient data handling.
- **Energy-efficient memory and storage:** using memory and storage technologies that minimise power consumption, e.g. low-power DDR5 memory and NVMe solid-state drives.
- **Memory proximity:** placing data closer to the processor to reduce data transfer distances and energy consumption, e.g. high-bandwidth memory integrated with GPUs.
- **Innovative cooling technologies:** advanced cooling methods to remove heat from data centres more efficiently, reducing energy use for cooling, e.g. liquid cooling systems (direct-to-chip, immersion).

Software

- **Energy-efficient algorithms:** developing AI algorithms that require less energy.
- **Task-specific models:** smaller and more specialised AI models that are tailored to specific tasks rather than large, general-purpose models.
- **Model and code optimisation:** refining existing model architectures, code and software to reduce computational resource and energy use.

Cross-cutting

- **Co-design of software/hardware:** co-designing software and hardware to leverage synergies to maximise energy efficiency and performance.

- **Edge computing:** running AI inference closer to end-users (devices, edge servers), reducing data transmission and running smaller models on more energy-efficient on-device processors and distributing energy use over many distributed devices.
- **Virtualisation:** running multiple virtual machines on a single physical server to increase utilisation rates and reduce the number of physical servers needed.
- **Intelligent energy management:** intelligent power and task management, e.g. allocating tasks to energy-efficient hardware, using AI to monitor and adjust cooling and computational resource allocation to reduce energy use at the data centre level.
- **Quantum computing:** computing that uses quantum mechanics to perform vastly more complex computation than classical computing techniques, e.g. IBM Quantum, Google Willow, Microsoft Majorana 1 and Amazon Ocelot.
- **Neuromorphic computing:** computing that mimics the brain's neural architecture to process data and computations more efficiently compared to classical computing, e.g. IBM TrueNorth and Intel Loihi 2.

Table 2.1 ► **Current and potential 2030 energy savings in data centres from key technologies and approaches**

Technology/approach	Current adoption	Expected adoption in 2030	Scale of energy savings potential
Hardware			
Low-power processors	●●	●●●	●●●●
AI accelerators	●●●	●●●●	●●
Task-optimised hybrid processors	●●	●●●	●●
Photonic integrated circuits	●	●●	●●●
Energy-efficient memory and storage	●●●	●●●●	●●
Memory proximity	●●	●●●	●●
Innovative cooling technologies	●●	●●●●	●●
Software			
Energy-efficient algorithms	●●	●●●●	●●●●
Task-specific models	●●	●●●●	●●●●
Model and code optimisation	●●	●●●	●●●
Cross-cutting			
Codesign of software/hardware	●●	●●●	●●
Edge computing	●●	●●●	●●●
Virtualisation	●●●●	●●●●	●●
Intelligent energy management	●●●	●●●●	●●
Quantum computing	●	●	●●●
Neuromorphic computing	●	●●	●●●●

Note: A greater number of dots indicates a higher scale.

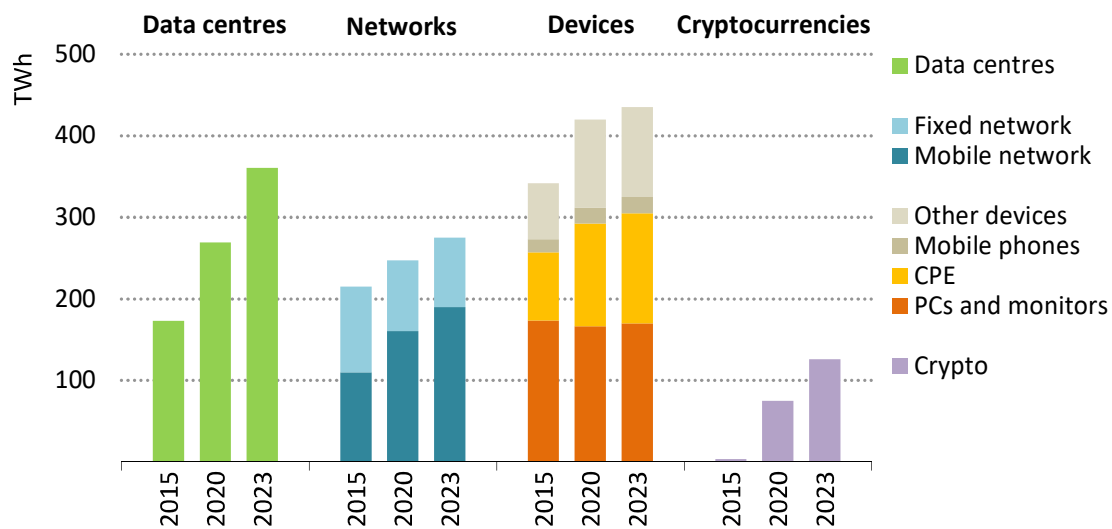
2.4 Implications of AI for ICT sector energy use

Data centres are part of the broader ICT sector,¹ which also includes telecommunication networks and end-user devices such as laptops and smartphones (ITU, 2018). The implications of AI for energy use in data centres – and in the broader ICT sector – depend largely on how generative AI is adopted and deployed, both of which are highly uncertain. This section explores possible scenarios and their implications.

2

Consuming around 360 TWh of electricity in 2023, data centres accounted for one-third of overall ICT sector electricity use, estimated at over 1 000 TWh² in 2023, equivalent to 4% of global electricity use (Figure 2.15). Telecommunication networks, including fixed and mobile access and core networks, consumed around 280 TWh, while personal computers, mobile phones and other connected devices used around 440 TWh.

Figure 2.15 ▶ Global electricity demand from data centres, data transmission networks, devices and cryptocurrency mining, 2015-2023



IEA. CC BY 4.0.

Energy use by data centres and cryptocurrencies have risen sharply since 2020, while devices and networks have seen slower growth

Notes: CPE = customer premises equipment, including routers and modems; PCs = personal computers, including laptops and desktops. Networks include core and access networks. Other devices include the Internet of Things and surveillance cameras.

Sources: IEA analysis based on data from Malmudin and Lundén (2018); IEA (2023); GSMA (2024) World Bank, (2024b); Malmudin, et al. (2024); Kamiya and Coroamă (2025); Cambridge Centre for Alternative Finance (2025), and company reports.

¹ According to the ITU-T L.1450 Recommendation, the ICT sector includes ICT end-user goods, ICT network goods, data centres and ICT services (e.g. software). User devices intended primarily for entertainment, such as televisions and gaming consoles, are accounted for in the entertainment and media sector.

² This figure excludes cryptocurrencies as well as the entertainment and media sector (including televisions, gaming consoles, cable television networks and content production), which are considered outside the ICT sector footprint.

Cryptocurrencies and televisions are large energy users often associated with the ICT sector but are technically outside the sector scope according to definitions from the International Telecommunications Union. Cryptocurrencies – primarily from Bitcoin mining – consumed around 125 TWh in 2023 (0.5% of global electricity), while televisions, peripherals and cable television networks consumed around 500 TWh (2% of global electricity).

Data centres have contributed most to ICT sector energy growth since 2020, increasing by over 90 TWh between 2020 and 2023. Energy used for cryptocurrency mining has also increased strongly, growing by over 50 TWh since 2020.

Energy use by telecommunication networks has grown slightly, driven by strong growth in 5G mobile networks but partially offset by reductions in fixed networks from the switch from copper to fibre optic networks. Energy use by devices decreased in the early 2010s due to efficiency gains (e.g. switching from personal computers to laptops and telephones and from cathode ray tubes to liquid crystal displays) but has since increased, driven by the growth in the number of devices and new segments, such as the Internet of Things and surveillance cameras. There is considerable uncertainty around overall energy use by devices due to a lack of comprehensive data regarding use patterns and stocks.

2.4.1 Drivers and outlook for edge applications of AI

Most AI-related energy demand currently comes from large, centralised cloud and hyperscale data centres – both for training and inference (Kaack, et al., 2022). Some inference tasks are already conducted on user devices, as well as hybrid approaches where initial processing is done on the device and the final request is sent to a data centre. A broader shift towards AI inference at the “edge” of the network (closer to end-users) could have important implications for energy use – both in terms of where energy is consumed and how much is needed to support AI applications.

Moving AI inference applications to the edge – to edge data centres and end-user devices such as laptops and smartphones – can be advantageous for use cases where fast response (reduced latency) is critical (Chen and Ran, 2019). On-device AI inference may also be important for operational resilience in situations where network connectivity is poor or when handling large volumes of data (e.g. video analysis). In addition, on-device AI inferencing offers improved data privacy by avoiding the transfer of sensitive data to centralised data centres.

To facilitate on-device AI inferencing, device manufacturers are increasingly integrating AI acceleration hardware into laptops and smartphones, such as neural processing units (NPUs), Google’s Tensor chip, and Apple’s neural engine (ANE). This specialised hardware consumes much less power than CPUs and GPUs for AI tasks and can offload tasks from CPUs and GPUs to save power. However, compared to large data centres, edge devices face important resource constraints on computation, storage and power, limiting the type and size of the AI models they can run (Box 2.3).

Box 2.3 ► Which AI models can run on smartphones and laptops?

AI models that can run on user devices are smaller and more efficient versions of their cloud-based counterparts. Given the computational and energy constraints of smartphones and laptops, these models are compressed and optimised to have fewer parameters, require less memory and use less power, and often involve trade-offs between efficiency and accuracy.

Many new smartphones sold today have processors that are capable of handling models with hundreds of millions of parameters, allowing them to complete tasks such as enhanced voice recognition and natural language processing for virtual assistants, real-time object detection and tracking for augmented reality, computational photography and some generative AI capabilities.

The latest flagship smartphones have processors that can handle models with well over a billion parameters, such as Google's Tensor G4 (30 to 45 tokens per second for a model with over 3 billion parameters) and Qualcomm's Snapdragon 8 Gen 3 (15 tokens per second for a 10 billion parameter model). AI acceleration hardware on flagship phones has become increasingly powerful. For example, the Apple A18 chip used in the iPhone 16 series (introduced in 2024) is capable of 35 trillion operations per second, around six times more powerful than the A13 Bionic on the iPhone 11 from 2019.

Laptops, edge servers and other devices with significant processing power (e.g. automated vehicles) can handle even larger models and complex tasks with higher accuracy. Nvidia announced its USD 249 Jetson Orin Nano Super computer in December 2024, capable of 67 trillion operations per second while consuming 25 watts (W). In January 2025, the company announced Project DIGITS, offering 1 petaflop of AI performance, enabling it to support AI models with up to 200 billion parameters. DIGITS will sell for USD 3 000 from May 2025.

Early studies estimate that NPUs on laptops consume in the range of 1 W to 5 W for most AI tasks. For example, generating 25 images with Stable Diffusion V2.1 consumed around 2 W to 4 W per image (Weinbach and Bajarin, 2024). Another study compared the power consumption of CPUs, GPUs and NPUs using the YOLOv5 object detection model at varying model sizes and precisions (Delli Abo, 2024). The NPU was found to use the least power (1.8 W to 2.5 W) compared with the CPU (27 W) and GPU (23 W to 51 W). Even factoring in the longer inference time, the NPU was still the most energy efficient, followed by the power-intensive but faster GPU. The power consumption of an NPU on a smartphone was estimated to be around 0.5 W, around 80% lower than the CPU (Tan and Cao, 2023).

Laptops typically consume between 20 W and 60 W during active use, making any incremental energy consumption from AI inference (1 W to 5 W) relatively small. With smaller and more optimised models at the edge, the shift towards AI inference at the edge is likely to reduce energy use in data centres with only a limited increase in energy use by

devices. Shifting inference tasks to edge devices can also help electricity systems by distributing power demand across different locations and time.

Beyond the likely net energy savings from edge AI, there are potential negative indirect energy and environmental impacts from manufacturing AI-enabled devices. On-device AI capabilities and minimum hardware requirements for increasingly prevalent AI-powered applications could accelerate device replacement cycles in the near term. This could reverse the slowing of turnover rates over the past decade, with average replacement cycles for smartphones reaching 3.5 years (GSMA, 2025). International Data Corporation projects sales of generative AI smartphones (with NPUs capable of 30 trillion operations per second) to grow by 80% annually to 2028, reaching around 900 million units (70% market share) (IDC, 2024b). Combined with the fact that AI acceleration hardware requires more energy to manufacture than conventional (non-AI) counterparts, shorter device lifespans and new demand for AI-enabled devices could increase manufacturing-related energy use and contribute to e-waste generation, particularly in the near term.

The impacts of widespread generative AI adoption on data traffic and the energy use of data transmission networks are highly uncertain. Ericsson predicts that most of the traffic increase from AI – particularly from uplink data – will be due to video-based generative interactions using smartphone cameras, smart glasses, or extended reality devices to engage their environment or ask questions to a video-based large language model (Ericsson, 2024). It also predicts that most of these AI workloads will be executed in the cloud in real time or pre-rendered to generate hyper-personalised content. Some medium-complexity AI workloads may migrate to smartphones, mitigating some traffic growth.

However, the extent to which increased data traffic would affect network energy use is uncertain. Recent studies have demonstrated that fixed and core networks generally use the same amount of energy regardless of data traffic (Mytton, Lundén and Malmmodin, 2024). In the case of mobile networks, capacity is just one factor that affects energy use, with coverage also being an important driver (Rouphael, et al., 2023). Within the context of other larger drivers of data traffic and connections – notably streaming video, the Internet of Things and extended reality – AI is unlikely to have a noticeable impact on network energy use, especially in the near term.

In addition to AI inferencing at the edge, training on edge devices could have impacts on energy use across the ICT sector. Federated learning enables AI models to be trained on decentralised data using edge devices such as smartphones and laptops. Instead of bringing the data to a central server, federated learning brings the model training to the data source. Early studies have shown the potential for federated learning to reduce energy use and emissions associated with AI training (Qiu, et al., 2021).

2.5 Electricity supply to meet data centre demand

2.5.1 Procurement strategies of technology companies

Procuring electricity supplies that are reliable and cost-effective is crucial to meeting the rapidly growing electricity demand from data centres. Many technology companies and large data centre operators have set ambitious goals for reducing emissions and procuring clean energy (Table 2.2). To meet these objectives, data centre operators use various procurement strategies. These vary by company and region, with liberalised electricity markets generally offering more procurement choices than regulated markets. In addition to sourcing the grid electricity mix, procurement strategies include acquiring electricity through PPAs. Many companies also purchase renewable energy certificates to meet their clean energy targets.

The recent surge in data centre electricity demand has led to significant interest in additional natural gas-fired power generation, largely in the United States, where natural gas is a low-cost fuel. Gas turbine manufacturers are reporting an uptick in orders, and several large data centre operators have announced partnerships with utilities and energy companies developing new gas-fired power capacity. In Louisiana, for example, Entergy Louisiana is planning more than 2 GW of additional gas-fired power generation to provide power for Meta data centres. NextEra Energy and GE Vernova also aim to develop natural gas-fired power generation projects across the United States, primarily to meet the growing electricity demand of data centres. At the same time, many US utilities are currently revising their integrated resource plans to account for rising data centre electricity demand, proposing additional natural gas-fired capacity to meet it. To bring down emissions, some data centre operators are considering fitting natural gas-fired plants with carbon capture in the long run.

Most renewable energy PPAs are financial agreements for annual volumes of electricity and are not tied to the hour-to-hour consumption profile of a data centre or the generation profiles of the renewable assets, which can also be located in different regions. While these PPAs help data centre operators meet their clean energy targets, the separation of renewable generation and data centre consumption often means other sources, like natural gas or coal, are used to meet physical electricity needs. This results in a physical electricity mix that differs from the procured, or “financial”, electricity mix.

To enhance their sustainability strategies and further support decarbonised grids where they operate, some technology companies are concluding PPAs with hourly matching. This means that some or all of their electricity consumption is matched hour-by-hour by a portfolio of renewable energy and storage assets, or other types of low-emissions power generators located in the same region. For instance, Google seeks to achieve hourly matching, and Microsoft has signed hourly PPAs in support of its goal to be carbon negative by 2030. In order to achieve these goals, they are moving to deploy portfolios of renewable energy and storage projects that can increase hourly matching, as well as signing PPAs with dispatchable sources of low-emissions electricity, such as hydro, nuclear, geothermal or natural gas with carbon capture. In September 2024, for example, Microsoft and Constellation Energy concluded a 20-year PPA for the restart of the Three Mile Island nuclear plant.

Table 2.2 ▶ Emissions reduction and clean energy targets of corporate data centre operators

Company	Estimated data centre capacity (MW)	Net zero emissions target year	Corporate clean, green or renewable electricity target*	Current share	Hourly matching target*
Meta	9 780	2030	100% renewable since 2020	100%	
Google	8 960	2030	100% renewable since 2017	100%	100% by 2030
Amazon	7 660	2040	100% renewable since 2023	100%	
Microsoft	6 970	2030	100% renewable by 2025	100%	100% by 2030
Digital Realty	2 740			66%	
Equinix	1 850	2030	100% renewable by 2030	96%	
Tencent	1 760	2030	100% green by 2030	12%	
Alibaba Cloud	1 660	2030	100% clean by 2030**	56%***	
Aligned	1 290	2040	100% renewable since 2020	100%	
Huawei	1 260	2040		> 50%	
Apple	1 240	2020	100% renewable since 2018	100%	
Vantage	1 180	2030		58%	
CyrusOne	1 120	2030	100% carbon-free energy by 2030	62%	
NTT Data	1 110	2035	100% renewable by 2030**	49%	
QTS Data Centers	1 060			65%****	
Baidu	980	2030		5%	
GDS	980	2030	100% renewable by 2030	36%	
Chindata	900	2060	100% renewable by 2040**	7%	
Switch	660	2021	100% renewable since 2016	100%	
Princeton Digital	620	2030	100% green by 2030	14%	

* Only targets with specified years are included. ** Target covers data centres only. *** Percentage of clean electricity consumed at Alibaba Cloud's self-built data centres. **** Percentage of low-emissions electricity utilised by QTS' facilities.

Notes: Data centre operators are ranked by their total estimated data centre capacity as of the end of the first half of 2024, based on OMDIA (2025). The OMDIA database may not be complete but was used to provide a consistent source across diverse companies for installed capacity. The net zero targets are for Scope 1 and Scope 2 emissions.

As part of these strategies, technology companies are also supporting the development and commercialisation of innovative low-emissions baseload technologies, such as small modular reactors (SMRs) and next-generation geothermal. To date, plans to build up to 25 GW of SMR capacity associated with supplying the data centre sector have been announced worldwide, almost all of them in the United States, although projects are at varying stages of maturity and certainty. The first projects are expected to start to materialise only towards the end of this decade.

Advances in geothermal technology, including horizontal drilling and hydraulic fracturing pioneered by the oil and gas industry, are promising to increase the number of locations in which geothermal energy could be harnessed to provide a cost-competitive source of baseload electricity. Google has partnered with Fervo Energy, which developed a 3.5 MW first-of-its-kind next-generation geothermal power pilot project in Nevada. This project started feeding electricity into the grid in November 2023. In June 2024, Google and NV Energy, Nevada's utility, entered into a power supply agreement for Fervo's 115 MW Corsac next-generation geothermal project, which is currently under development. Meta has signed an agreement with Sage Geosystems for 150 MW of capacity to power its data centres from 2027, while Microsoft and partner G42 are planning the construction of a data centre campus powered by geothermal power in Kenya.

As an alternative to procuring electricity from utilities or through PPAs, some technology companies are co-locating data centres with power generation facilities, enabling them to generate some or most of their own electricity directly. The primary benefit of co-locating generation is potentially faster development times, as this approach can allow them to downsize or opt for an interruptible grid connection, saving costs and helping to alleviate grid congestion. The downsides are higher complexity, increased permitting requirements, higher investment costs, potentially lower reliability and a greater maintenance burden.

Recent years have seen rising interest in co-locating data centres and generation assets. Google is partnering with Intersect Power and TPG Rise Climate to develop co-located clean energy projects with data centres, aiming for completion by 2027. Chevron and Engine No. 1 are partnering with GE Vernova, with plans to supply up to 4 GW of natural gas capacity to co-located data centres, aiming to start operations by the end of 2027. Amazon and Talen Energy have signed a 10-year PPA for 300 MW to 960 MW of nuclear energy from the Susquehanna nuclear plant to supply a co-located data centre, although a recent Federal Energy Regulatory Commission ruling on the repurposing of existing grid-connected power plants to directly provide power to co-located loads halted plans to expand the electricity supply beyond the initially awarded 300 MW. The commission has recently initiated a process to examine the colocation policy.

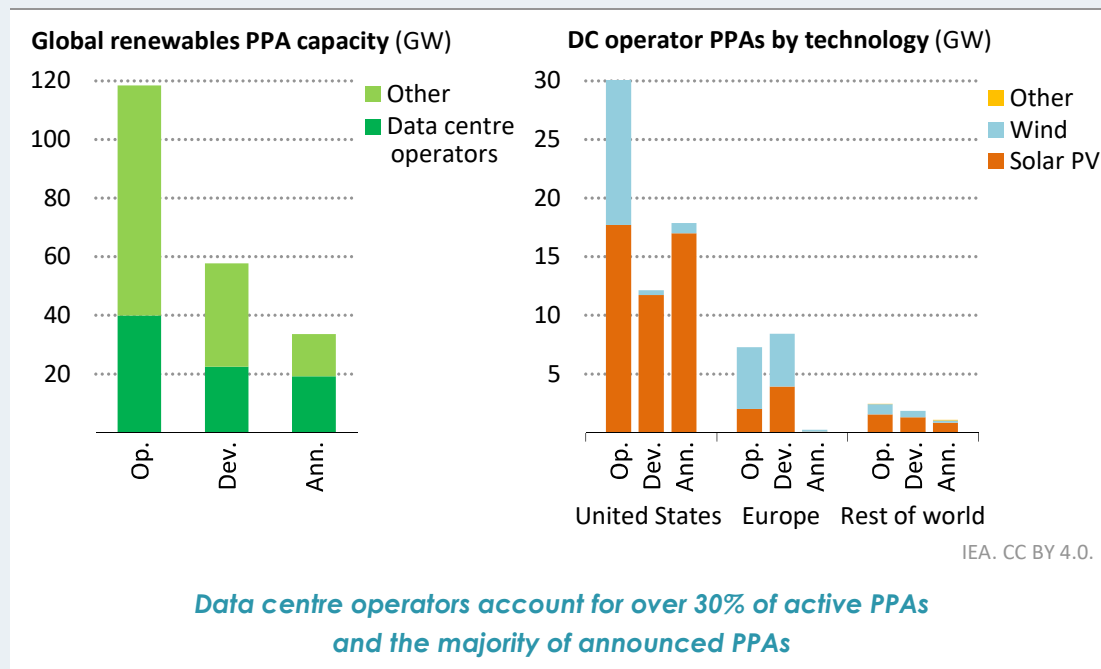
Box 2.4 ► Data centre operators are leading the corporate PPA push

A PPA is a long-term contract in which an electricity generator sells power to a buyer at a fixed price for a specified period. In regulated markets, green tariffs can serve a similar role, with a utility acting as an intermediary. To date, nearly 120 GW of operational renewables capacity has been procured through corporate PPAs globally (Figure 2.16). Technology companies operating data centres account for over 30% of this capacity. In 2024, technology companies' renewables PPAs were sufficient to cover roughly 20% of the estimated 415 TWh of global electricity demand from data centres.

An additional 60 GW of PPA-related capacity is currently under development – meaning projects for which financing and/or permits have been secured or which are under

construction. Almost 40% of this capacity is contracted by data centre operators. Data centre operators have also been responsible for the lion's share of recent announcements, accounting for almost 60% of the 34GW of the renewables capacity for which corporate PPAs have been announced but which has not yet entered the development stage. Projects that are under development or have been announced would provide sufficient capacity to cover approximately 15% of the projected electricity demand growth from data centres to 2030.

Figure 2.16 ▶ Global renewables capacity contracted through corporate PPAs by development status, offtaker and technology



Notes: Op. = operational; Dev. = under development; Ann. = announced; DC = data centre; PPA = power purchase agreement. The cut-off date is February 2025. Only individual known projects are considered. Other includes bioenergy and geothermal.

Source: IEA analysis based on data from BNEF (2025).

Of the operational renewables PPA capacity contracted by data centre operators, 75% is located in the United States, with nearly 20 GW of solar PV and about 12 GW of onshore wind under contract there, followed by Europe with 20%. Over 50% of the capacity under development is also located in the United States – almost of all of it solar PV, while Europe accounts for around 35%. In the European Union and United Kingdom, offshore wind farms account for most of the under-development capacity contracted by data centre operators in the region. Announcements for additional PPAs have so far focused mostly on the United States, with nearly 90% of the announced capacity. While there has recently been an increase in announcements from other parts of the world, including Southeast Asia and India, significant regulatory hurdles continue to limit the deployment of PPAs, in particular in emerging market and developing economies.

2.5.2 Matching electricity supply with data centre demand

Electricity supply to meet data centre demand can come from a wide set of sources, each with unique characteristics related to technical performance, cost, emissions, the development process and lead times. Consideration of these options, either to be developed onsite or connected through the grid, is critical to scaling up electricity supply to meet data centre demand.

2

Table 2.3 ► Sources of electricity to match the needs of data centres

Electricity source	Construction period	Variable or dispatchable	Global average CO ₂ intensity (g CO ₂ /kWh)	Global average LCOE (USD/MWh)
Utility solar PV	1-4 years	Variable	0	60
Wind onshore	2-5 years	Variable	0	50
Wind offshore	3-7 years	Variable	0	110
Hydropower plant	5-15 years	Variable (run-of-river) Dispatchable (reservoir)	0	80
Conventional geothermal	3-8 years	Dispatchable	0	80
Nuclear (new)	5-15 years	Dispatchable	0	90
Nuclear (restart)	2-5 years	Dispatchable	0	60
Coal	3-6 years	Dispatchable	960	80
Gas CCGT	2-4 years	Dispatchable	390	80
Gas GT	1-3 years	Dispatchable	620	220
Grid connection	3-7+ years	Dispatchable	United States: 350 China: 600 Southeast Asia: 610 Europe: 240 World: 460	-

Notes: CO₂ = carbon dioxide; g CO₂/kWh = grammes of carbon dioxide per kilowatt hour; CCGT = combined-cycle gas turbine; GT = gas turbine; LCOE = levelised cost of electricity; MWh = megawatt hour. Construction period refers to typical projects, excluding supply chain equipment delays. Average emissions intensity is assessed on direct emissions from the average mix between 2021 and 2023. Other assumptions come from the *WEO-2024* (IEA, 2024). Nuclear (new) includes small modular reactors.

As data centres are projected to grow rapidly over the years to come, the strategy to build out and ensure a stable and efficient source of electricity becomes crucial. Currently, the only reliable electricity sources that can be developed within a short timeframe – ideally one to two years (Table 2.3) – are solar PV and gas turbines, aligning with the typical construction timeline of data centres. Even in these cases, supply chain delays or tight supplies can further extend development times (Box 2.5). Wind turbines could also be a viable option in terms of deployment speed; however, lengthy permitting processes often extend their timeline to around five years, a similar development time to conventional geothermal, or longer. Other dispatchable technologies, such as large-scale nuclear reactors or hydropower plants,

typically require closer to a decade or more to complete. Once SMRs or next-generation geothermal become commercial, they may also offer medium-length development times of approximately three to five years.

Box 2.5 ► Will strained supply chains slow down the growth of natural gas-fired power generation?

Low fuel costs, high reliability and the ability to operate at high load factors make natural gas-fired generation an attractive option for data centre operations in the United States, in particular. Several gigawatts of new capacity targeting the data centre market have been announced by developers in late 2024 and early 2025. These announcements come on top of the substantial volumes of new gas-fired capacity planned by utilities to meet overall electricity demand growth.

As a result, orders for new gas turbines from utilities and project developers have surged over the past two years. However, this sudden increase in orders is hitting a global gas turbine supply chain that has seen limited investment in manufacturing capacity due to years of stagnant electricity demand in advanced economies and a recent slowdown in global additions of gas-fired power. Global additions of natural gas plants peaked at nearly 110 GW in 2002, have averaged around 60 GW per year since then and have fallen to an average of 40 GW per year since 2020.

Three main manufacturers – GE Vernova, Siemens Energy and Mitsubishi Power – supply turbines for about two-thirds of the gas-fired power plants currently under construction globally and are reporting growing backlogs. Turbine deliveries for new power plants now face delays of several years in many instances. The uptick in activity has meant that other elements of supply chains, including labour and other goods, are also tight, potentially delaying the commissioning of new gas-fired power plants beyond 2030.

These extended delivery timelines cast doubt on the ability of utilities and energy companies to scale up natural gas-fired generation as quickly as planned to meet rising demand, especially in the near term. They are also driving up capital costs for the developers of new gas-fired plants. High demand and constrained supply increase the pricing power of the turbine manufacturers. Longer delivery timelines lead to increased financing costs and can disrupt construction schedules, increasing the risk of cost overruns. Consequently, some developers are opting to pay premiums to move to the front of the queue for turbine deliveries.

The strained supply chain is also affecting existing plants. Servicing activity and new unit production compete for factory capacity, and as manufacturers prioritise the production of new turbines, this reduces the availability of refurbishment capacity and component parts, raising the risk of plant outages. Additionally, the increased demand has driven up the cost of new long-term gas turbine maintenance contracts, raising plant operating expenses.

The projected growth in electricity demand means that there is a need for additional secure capacity to ensure the reliability of the electricity supply. In the United States, the revised integrated resource plans of the country's utilities call for an additional 84 GW of natural gas-fired capacity by 2035 (see Box 2.6 for more details). The limited availability of gas turbines may require utilities and project developers to explore alternatives to new natural gas-fired plants to address near-term growth in the demand for electricity and secure capacity. This includes upgrading existing plants to enhance their electrical output, although tight supply chains have seen lead times for such measures go up as well. Technical improvements, such as retrofitting better turbine blades, water injection and inlet air cooling, can increase the efficiency and raise the capacity of simple open-cycle gas turbines by 3-10%. If applied to the United States' fleet of existing open-cycle gas turbines, such refurbishments could provide about 4 GW to 15 GW of additional capacity. If sufficient space is available at the site, open-cycle gas plants can also be upgraded to combined-cycle through the addition of a heat recovery steam generator and steam turbine. A combined-cycle gas turbine power plant can produce up to 50% more electricity from the same amount of fuel.

Technology costs are another important factor in considering supply options to meet data centre demand. Wind and solar PV technologies are currently among the cheapest sources of electricity. Additionally, in regions where natural gas prices are low, such as the United States and the Middle East, gas turbines offer an alternative. To be comparable with dispatchable sources of electricity, solar PV and wind need to be paired with storage to increase their availability throughout the day, but the cost comparison remains valid. Coal-fired power can be one of the lowest-cost sources of electricity in places where prices on CO₂ emissions are low or zero, but development times for coal plants can be quite long outside China.

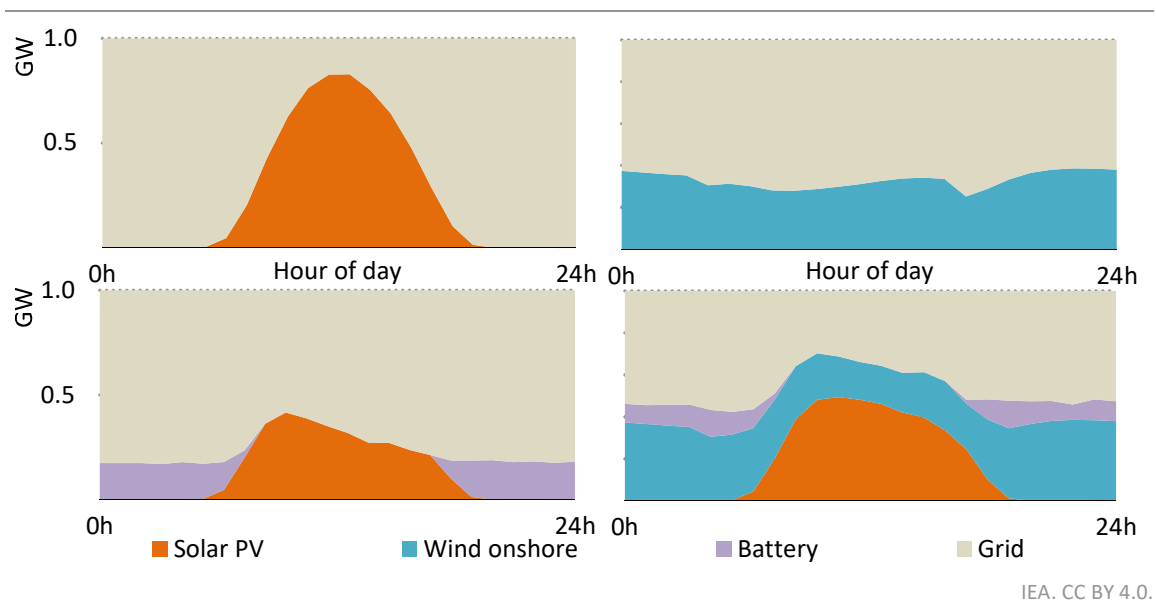
Emissions at the point of electricity generation are an important factor, especially in light of the sustainability targets set by many technology companies and national and international climate goals. Coal-fired power has the highest emissions intensity of the potential options (oil-fired power is of a similar level), with natural gas-fired power plants emitting roughly half as much CO₂ per unit of electricity output. Excluding indirect emissions from their life cycle – such as extraction, manufacturing and decommissioning – renewable energy and other low-emissions sources like nuclear energy have no direct CO₂ emissions.

Hourly matching: What does it really take?

The most common arrangements for procuring renewable electricity are based on annual volume matching. Annual matching means that enough capacity is procured to meet 100% of the user's electricity demand over the course of the year, without consideration of precisely when demand and supply occur. Conventional "annual matching" PPAs can help drive the installation of new renewables capacity. However, hourly matching of low-emissions electricity PPAs ensures that electricity consumption in each hour of the year is met by low-emissions energy sources.

Dispatchable sources of electricity generation, such as hydro, geothermal and nuclear, can generally match hourly demand throughout the year, but this is not the case with variable renewables. For example, where solar PV alone is procured to cover 100% of annual demand, the share of hourly demand covered can average 35-45%. Effectively this means that on an hourly basis, solar PV output is only able to meet 35-45% of data centre demand due to its output profile. In the hours when the procured solar PV is above data centre demand, the excess can be available to the grid and other consumers. In the hours when solar PV output is below hourly data centre demand, the remaining demand must be met by other sources. Again, this results in a physical electricity mix that differs from the procured, or “financial”, electricity mix. The associated CO₂ emissions for the electricity supply to meet data centre demand depend on the extent to which low-emissions sources cover data centre demand and the emissions intensity of the grid electricity.

Figure 2.17 ▶ Daily average electricity generation profiles of wind, solar PV and battery storage to meet baseload demand in Virginia, United States



Renewables, coupled with storage, can meet a flat demand profile

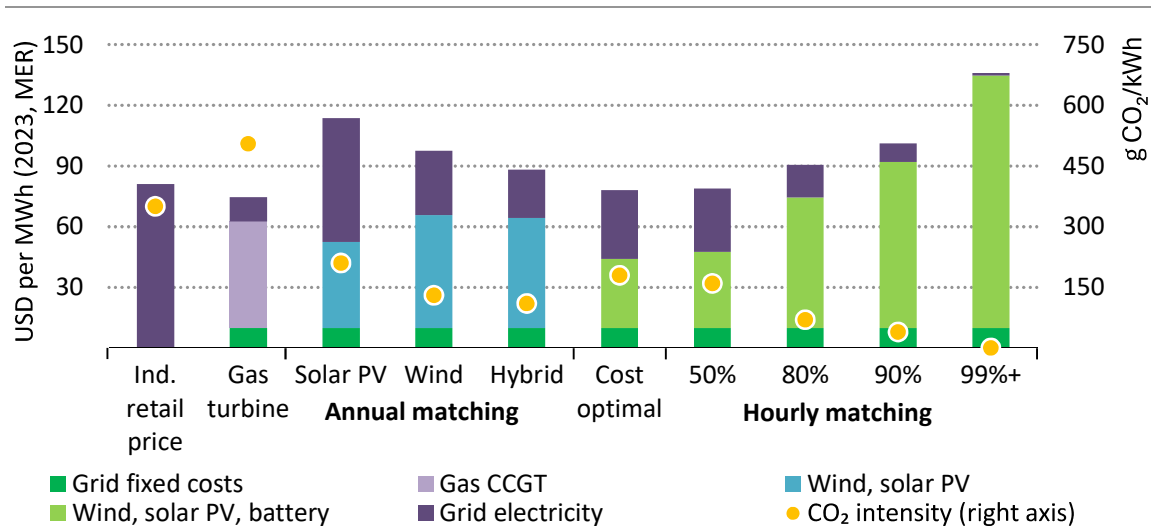
Note: The graphs depict four different use cases considering 1.5 GW of solar PV, wind or both, and a 1 GW battery with 4 GWh of storage.

Hourly matching of the procured electricity supply to the data centre electricity demand is an approach pursued by several large technology companies, but achieving this ambition with variable renewables comes with challenges. Solar PV and wind generation are inherently variable. Solar PV varies across the day and seasons. Wind production is less variable on average but can vary quickly from hour to hour, with extended periods of low or high generation. However, hybrid projects combining solar PV, wind and storage offer a better match to baseload demand, with storage helping to smooth out variable output from

renewables. Solar PV combined with battery storage has the advantage that it can be deployed quickly and provides a more constant supply. Combining solar PV, wind and battery storage results in an even flatter supply (see Figure 2.18). To align with baseload demand on an hourly basis, the installed capacity of renewable sources must be higher than the average demand.

In order to analyse the ability of solar PV, wind and battery storage to meet baseload demand, a new analysis of over 1 000 use cases covering eight configurations in more than 100 regions was carried out. The regions include European countries, each state of the United States and each province of China. Different procurement strategy configurations were tested, resulting in different combinations of renewable and storage technologies. The remaining portion of electricity demand not covered by renewable sources was assumed to come from the grid at the average industry retail price. The analysis measures the hourly matching of supply and demand, the average cost and the associated CO₂ emissions.

Figure 2.18 ▶ Average cost of electricity consumed by component for different portfolios and average CO₂ emissions intensity in the United States, 2025



IEA. CC BY 4.0.

80% hourly matching low-emissions portfolios are comparable in costs with annual volume matching projects in the United States.

Notes: MER = market exchange rate; Ind. = industrial; CCGT = combined-cycle gas turbine. Annual matching = portfolio of wind and/or solar PV optimised to meet 100% of annual demand; 50% hourly matching = portfolio of wind, solar PV and batteries to reach at least 50% hourly matching with demand; 80% hourly matching = to reach at least 80% hourly matching with demand; 90% hourly matching = to reach at least 90% hourly matching with demand; 99%+ hourly matching = to reach at least 99% hourly matching with demand. Assumptions for the industry retail price of electricity are taken from 2023 historical data. Assumptions for gas turbine costs are based on a natural gas price of USD 19/MWh and an 85% capacity factor for CCGT technology with 60% efficiency. Assumptions for capital expenditures and operational expenditures for solar PV, onshore and offshore wind, and battery storage are taken from IEA (2024) for the year 2025.

In the “annual match” configuration where solar PV alone is procured to cover 100% of annual demand, the share of hourly demand covered averages about 40% in the United States in most locations (see Figure 2.18). Where onshore wind alone is procured, hourly coverage averages almost 65% but ranges from 55% to 75% depending on the US state. In Europe and China, solar PV alone covers an average of 40%, with a wide range across countries and provinces, and wind alone covers similar shares to the United States. In China the range across provinces is wider for wind alone, ranging from 40% to 80%.

We assessed the optimal sizing of solar PV, onshore wind and hybrid projects to minimise costs while meeting annual electricity demand in volume (referred to as the “hybrid annual matching” configuration). For hybrid projects that combine wind and solar PV to meet annual electricity demand, the average hourly coverage share is 70%, with a range from 40% to 80% across different states of the United States. In Europe, the share of demand covered by renewables in the hybrid annual matching configuration averages 70% and ranges from 40% to 85% in countries with the best renewable potential. In China, the annual matching configuration for hybrid projects usually covers 65% of baseload demand, ranging from 40% to almost 85% across provinces.

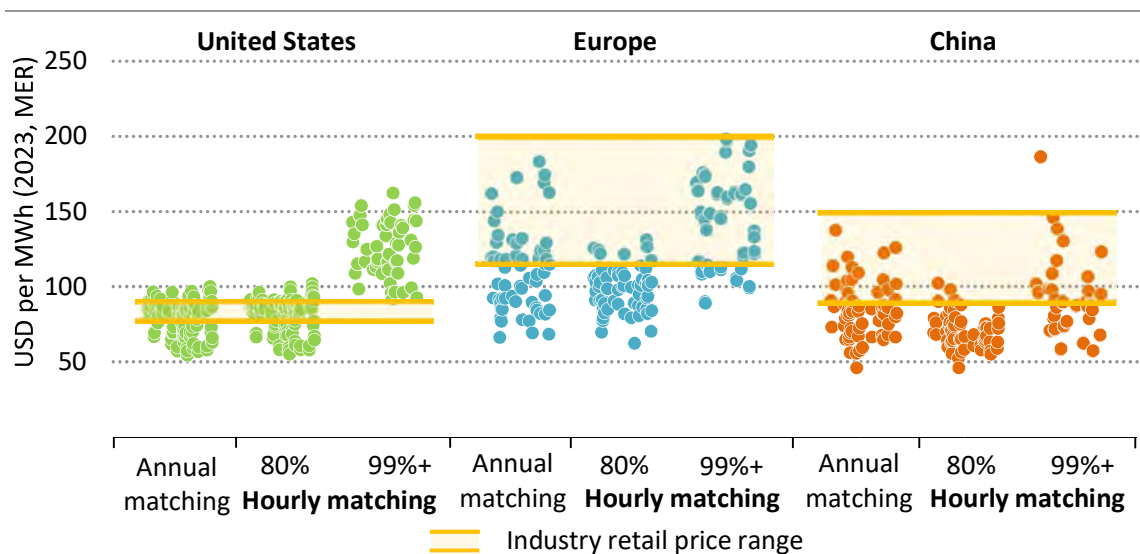
We also explored the cost optimal configuration of wind, solar PV, battery storage and purchasing of grid electricity. The assessment is based on resource potential and grid electricity costs, without specific constraints on volume or demand coverage. In this “cost optimal” configuration, renewables cover an average of 50% of demand in the United States, ranging from 25% to 70% in the most resource-rich states.

The last portfolios focused on the optimal sizing of wind, solar PV and battery storage portfolios to achieve a specific target of hourly matching between renewables supply and baseload demand. The analysis finds that ensuring 80% hourly matching of renewable sources with baseload demand is comparable in cost to the annual matching configuration in the United States, with the added benefit of guaranteeing 80% hourly matching with low-emissions sources. This 80% guarantee configuration aligns with the grid retail price in the United States at USD 80 per megawatt hour (MWh) (without including grid fixed costs like connection charges). Achieving nearly full hourly matching with hybrid projects adds a premium to overall costs, over 50% above the grid electricity price for industry in the case of the United States, because of the required additional capacity in both supply and storage. However, a higher share of hourly matching reduces exposure to electricity market price volatility, protecting consumers from high prices.

Looking across regions, we find several similar results, including that 80% hourly matching portfolios are comparable in cost and even more affordable than annual matching hybrid projects. Annual matching hybrid projects can be more expensive because of their lack of storage and greater reliance on grid electricity. In many countries in Europe and provinces in China, the respective average costs of USD 100/MWh and USD 70/MWh for the “80% hourly matching” configuration are below the 2023 average industry retail electricity price.

The analysis also revealed several regional differences. In the cost optimal configuration for Europe, the share of demand covered by wind, solar PV and battery averages 80%, which is notably higher than for the United States due to a generally more expensive electricity price. In China, the coverage share averages 70% and ranges between 30% and more than 90% in some provinces in the most cost-effective case because of the lower investment costs compared to the United States. When full hourly matching is the target, the cost premium in China is 5% above the 2023 average grid cost. In Europe, 90% hourly matching can be achieved for USD 105/MWh and 99% coverage for less than USD 150/MWh on average (see Figure 2.19).

Figure 2.19 ▶ Total cost of electricity per unit consumed for hybrid options of wind, solar PV and battery in the United States, Europe and China



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Hybrid wind, solar PV and battery portfolios can meet 80% of baseload demand at an average cost competitive with industry retail prices in the United States, Europe and China

Notes: MER = market exchange rate. Annual matching = portfolio of wind and solar PV optimised to meet annual volume demand target; 80% hourly matching = portfolio of wind, solar PV and batteries to reach at least 80% hourly matching with demand; 99%+ hourly matching = to reach at least 99% hourly matching with demand. Each dot represents a different use case based on the renewable potential of various locations in the United States, Europe and provinces in China. Assumptions for the industry retail price for electricity are taken from the minimum and maximum values across historical data between 2014 and 2023 for each country in Europe, US state and province of China. Assumptions for capital expenditures and operational expenditures for solar PV, onshore and offshore wind, and battery storage are taken from IEA (2024) for the year 2025.

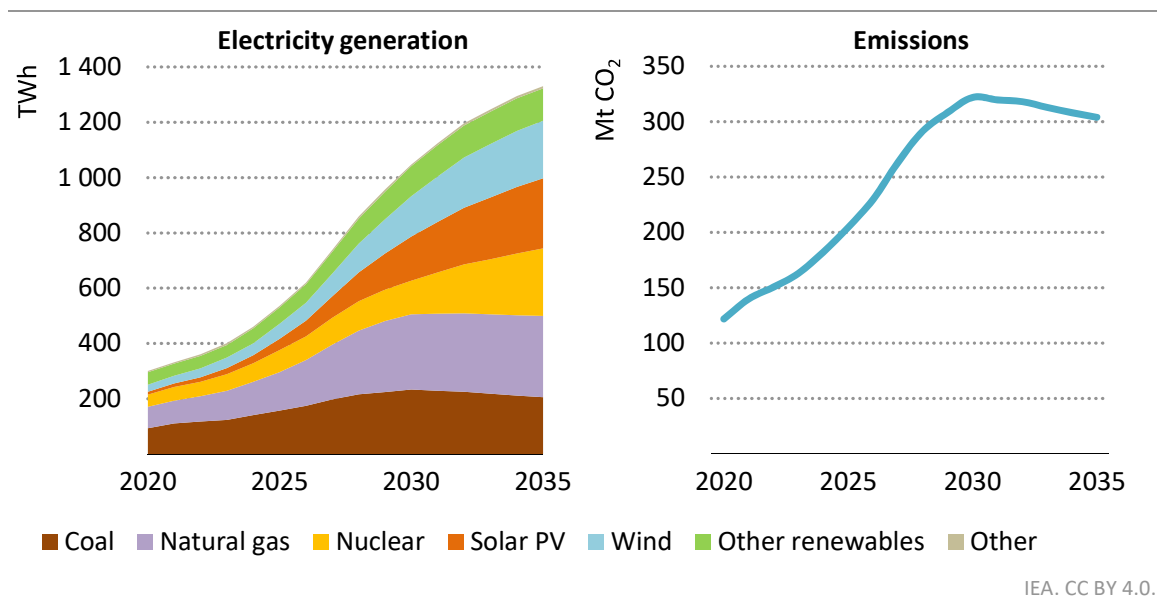
Constant baseload demand for data centres does not necessarily imply conventional dispatchable power sources. As variable renewables are now cheaper and faster to deploy in many regions compared to other technologies, pairing them with storage can increase their alignment with baseload-type demand. Hybrid portfolios of wind, solar PV and storage can cover a relatively high share of demand on an hourly basis at a competitive price. Aiming for a very high share of hourly matching raises the costs, which can exceed the average

industry retail price depending on the region. Compared with conventional annual matching PPAs, hourly matching PPAs with a high share of low-emissions sources provide a higher guarantee of covering electricity demand, reducing CO₂ emissions and mitigating the volatility risk associated with electricity prices. The role of renewables should also be analysed at the broader system level to better assess the balance of the variability.

2.5.3 Electricity supply in the Base Case

Global electricity generation to supply data centres is projected to grow from 460 TWh in 2024 to over 1 000 TWh in 2030 and 1 300 TWh in 2035 in the Base Case. Renewables meet nearly half of the additional demand to 2030, followed by natural gas and coal, with nuclear starting to play an increasingly important beyond 2030 (Figure 2.20).

Figure 2.20 ► Global electricity generation for data centres and the associated CO₂ emissions in the Base Case, 2020-2035



Between now and 2030, renewables meet nearly half of the increase in global data centre electricity demand, followed closely by natural gas and coal-fired electricity generation

Coal, with a share of about 30%, is the largest source of electricity, though this varies significantly by region, with the highest contribution found in China. Renewables – primarily wind, solar PV and hydro – currently supply about 27% of the electricity consumed by data centres globally. Natural gas is the third-largest source today, meeting 26% of the demand, followed by nuclear with 15%. It should be noted that this analysis considers the fuel mix of the electricity physically consumed by data centres (considering both onsite generation and electricity received through the grid, taking into account the fuel mix of the local electricity systems they are located in) rather than the contractual mix of different data centre operators.

Taken together, renewables remain the fastest-growing source of electricity for data centres, with total generation increasing at an annual average rate of 22% between 2024 and 2030, meeting nearly 50% of the growth in data centre electricity demand. This growth is primarily driven by the rising deployment of wind and solar PV in power systems across the globe, with some of the new capacity financed through PPAs with technology companies. Some data centre operators also invest directly in co-located renewables. Even so, new demand from data centres is a significant near-term driver of growth for natural gas-fired and coal-fired generation, through both higher utilisation of existing assets and new power plants. Natural gas and coal together are expected to meet over 40% of the additional electricity demand from data centres until 2030. After 2030, SMRs enter the mix, providing a source of baseload low-emissions electricity to data centre operators. Currently, hyperscalers are among the key corporate backers of SMR development. Coupled with the ongoing growth of renewable electricity generation, the resulting increase in nuclear electricity generation leads to an absolute decline in coal-fired generation for data centre operations by 2035. Consequently, CO₂ emissions from electricity generation for data centres peak at around 320 Mt CO₂ by 2030, before entering a shallow decline to around 300 Mt CO₂ by 2035. Despite rapid growth, data centres remain a relatively small part of the overall power system, rising from about 1% of global electricity generation today to 3% in 2030, accounting for less than 1% of total global CO₂ emissions (see Chapter 5 for more details).

Regional outlook

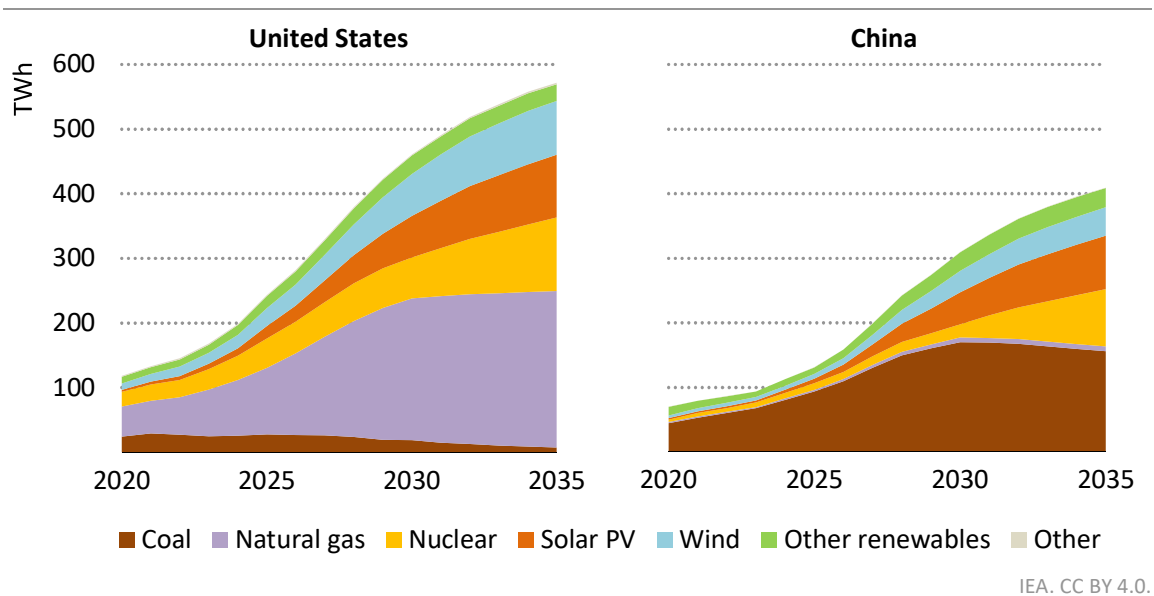
The United States and China are by far the largest data centre markets today. In both countries, most of the electricity consumed by data centres is produced from fossil fuels, which also meet most of the increase to 2030. However, the rising deployment of renewables, and later nuclear, is expected to slow the growth of fossil fuel power generation after 2030.

With a share of over 40%, natural gas is currently the biggest source of electricity for data centres in the **United States**, followed by renewables – mostly solar PV and wind – at 24%, as well as nuclear and coal power with shares of around 20% and 15%, respectively. As demand growth is particularly rapid over the next five years, natural gas is the largest source of additional supply, adding over 130 TWh of annual generation until 2030. Utilities are revising their integrated resource plans, with the construction of additional gas-fired power plants planned across the country, some of them to support the increase in data centre loads (see Box 2.6). Furthermore, some data centre operators are partnering with utilities and energy companies to expand gas-fired capacity, some of it directly co-located with data centres. Renewables are the second-largest source of additional electricity supply, adding 110 TWh to data centre electricity supply between 2024 and 2030. This is mainly due to the continuing increase in the share of wind and solar PV in the electricity mix of most states, as well as some data centre operators investing in co-located renewables.

Nuclear power plays a significant role in meeting data centre electricity demand in the United States, particularly after 2030 when the first SMRs are expected to be commissioned.

Technology companies have plans to finance more than 20 GW of SMRs to date, though successful development of the technology could open up even larger opportunities. Together with the ongoing increase in renewable electricity generation, the expansion of SMRs reduces the need for additional natural gas-fired generation so that by 2035, low-emissions sources account for over 55% of the US data centre electricity supply mix (Figure 2.21). Beyond 2035, the addition of carbon capture to some natural gas-fired power plants is expected to further boost the supply of low-emissions electricity to data centres.

Figure 2.21 ► Electricity generation for data centres in the United States and China in the Base Case, 2020-2035



Natural gas is set to continue to dominate the near-term data centre electricity supply in the United States, with coal predominant in China

In **China**, as data centres are located mostly in the east of the country, their electricity supply is dominated by coal with a share of about 70%, followed by renewables with nearly 20%, nuclear close to 10% and natural gas accounting for the remainder. Between 2024 and 2030 both coal and renewables – mostly solar PV and wind – add about 90 TWh to the data centre electricity supply. The increase in renewables is supported by their rising share in the grid electricity mix, provincial colocation mandates and policies to prioritise the construction of data centres in renewables-rich western China. After 2030, the introduction of SMRs significantly boosts the nuclear share of the data centre electricity mix. Between 2030 and 2035, the rise in renewables and nuclear pushes coal into decline. By 2035, both sources together make up 60% of China's data centre electricity supply (Figure 2.21).

In **Europe**, renewables and nuclear are set to supply most of the additional electricity required, with their combined share rising to 85% by 2030. **Japan** and **Korea** together account for about 5% of global data centre electricity demand today, a share they are expected to retain to 2030. Renewables and nuclear are set to provide nearly 60% of the

electricity consumed by data centres in 2030, up from 35% today. The rest of the world is responsible for about 10% of total data centre electricity generation, with **Southeast Asia** and **India** accounting for a significant portion of that. In both regions, coal remains a key pillar of the data centre electricity supply, but renewables are projected to eclipse it by 2035.

Box 2.6 ► How are utilities in the United States planning to meet additional electricity demand?

2

Over the course of 2024, many US utilities revised their load growth projections, anticipating a significant increase in electricity demand from data centres, manufacturing and – to a lesser degree – electric vehicles and electric heating. They are seeking to meet this additional demand primarily by building new natural gas-fired power plants and expanding the capacity of low-emissions sources of electricity, most notably wind and solar PV, as well as battery storage to facilitate the integration of variable renewables. In its updated integrated resource plan for North Carolina, Duke Energy, for example, has announced plans to build 7 GW of renewables capacity, 3.6 GW of natural gas-fired capacity, 1.8 GW of pumped storage hydro and 1.1 GW of battery storage until 2035, while Dominion Energy plans to add 21 GW of low-emissions power generation, including 1.3 GW of SMRs, as well as 5.9 GW of gas-fired capacity and 4.5 GW of battery storage across Virginia and North Carolina until 2039.

Integrated resource plans are comprehensive, regularly updated plans that utilities employ to outline their generation requirements over periods ranging from 5 to more than 20 years, identifying the necessary resources to meet anticipated demand and ensure reliable service while balancing economic, environmental and regulatory constraints and objectives. They are essential for planning and are mandated by regulatory authorities in 33 states.

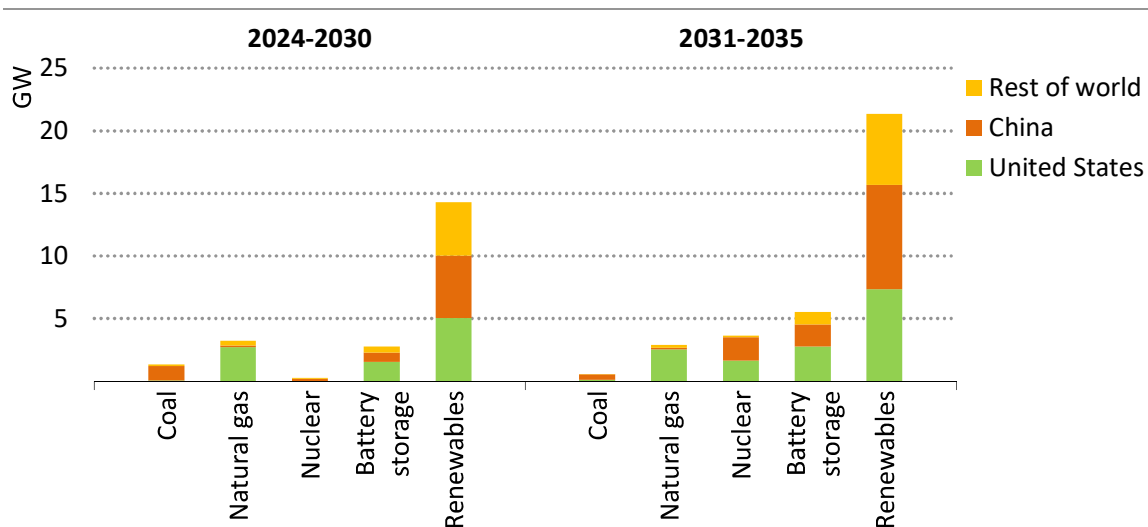
As of Q4 2024, the integrated resource plans of the United States' utilities call for the installation of an additional 260 GW of wind and solar PV capacity until 2035, 20 GW less than planned at the end of last year. Gas-fired capacity is set to grow by 84 GW over the same period, 32 GW higher than planned at the end of 2023 (RMI, 2025). Utilities cite grid constraints and low reserve margins in several systems, as well as the high reliability needs of data centres, as primary reasons for the renewed dash for gas.

Modernising and expanding the grid to facilitate the integration of variable renewables and ensure reliability is another key feature of many integrated resource plans. Grid modernisation involves upgrading infrastructure, rolling out smart grid technologies and enhancing cybersecurity measures. The goal is to manage electricity flows efficiently and minimise the risk of outages.

In the Base Case, the growth in global data centre electricity consumption sees the installation of over 320 GW of additional electricity generating capacity between 2024 and 2035, including around 45 GW of battery storage, nearly 80% of it in the United States and

China. Renewables account for nearly two-thirds of this additional capacity. Natural gas-fired capacity also grows, driven primarily by the expansion of natural gas plants to supply data centres in the United States. Gas turbines could also be deployed as a backup power source for large data centres receiving electricity from the grid (Box 2.7). More than half of the additional gas-fired capacity is installed before 2030 to meet immediate electricity needs, while after 2030, growth in nuclear picks up so that, together with renewables, low-emissions sources cover all of the additional demand growth. Nearly 20 GW of new nuclear capacity is commissioned between 2030 and 2035, mostly from SMRs in the United States and China (Figure 2.22).

Figure 2.22 ▶ Annual average data centre power supply capacity additions by fuel and region in the Base Case, 2024-2030 and 2031-2035



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While renewables account for two-thirds of the additional data centre electricity supply capacity, significant volumes of natural gas, coal and nuclear capacity are also added

Box 2.7 ▶ Backup power for data centres

Backup power sources for data centres are critical in ensuring uninterrupted operations during power outages. The primary technologies employed include batteries, diesel generators, gas generators and gas turbines. For additional redundancy, data centre operators also usually request a minimum of two lines to connect their facilities to the electricity grid.

Battery-based uninterruptible power supply systems provide instantaneous power during outages, thereby preventing operational disruptions. They frequently also offer protection against power surges and voltage fluctuations. However, the duration of power supply from these systems is typically limited, ranging from a few minutes to an hour. The system is therefore usually only designed to bridge the time it takes for alternative backup power sources to start up.

Diesel generators can deliver sustained power for extended outages. Their reliability and ability to handle substantial power loads are crucial for data centre operations. However, diesel generators emit pollutants. Additionally, they generate significant noise and require onsite storage of fuel, which can be a constraint in urban environments.

Gas generators provide a cleaner alternative to diesel, emitting fewer pollutants and generally exhibiting higher fuel efficiency. However, they are dependent on a continuous gas supply, which can be a vulnerability if the supply is disrupted. The initial capital expenditure associated with gas generators is also higher compared with diesel generators.

Gas turbines are another potential option. They offer a reliable and continuous power source, essential for maintaining operations during prolonged outages. Gas turbines are more efficient and less emissions-intensive than diesel generators. However, the initial investment for gas turbines, which tend to be significantly larger than generators, is substantial, and permitting burdens can be more significant. Their size and the need to combine several units to achieve the necessary reliability required of a backup power source make them suitable only for very large data centres. Just like gas generators, they are reliant on an uninterrupted supply of gas. As start-up times are longer than for gas or diesel engines (around one minute for aeroderivative turbines and five minutes for single-shaft, utility-size gas turbines), the battery backup will need to be sized for longer runtimes accordingly.

Each backup power technology must be evaluated according to the specific requirements and constraints of the data centre, especially the specified availability levels. A combination of different technologies can enhance the robustness and reliability of backup systems. Section 2.6.3 looks at the possibility of leveraging backup power systems for flexibility.

2.5.4 *Electricity supply in the sensitivity cases*

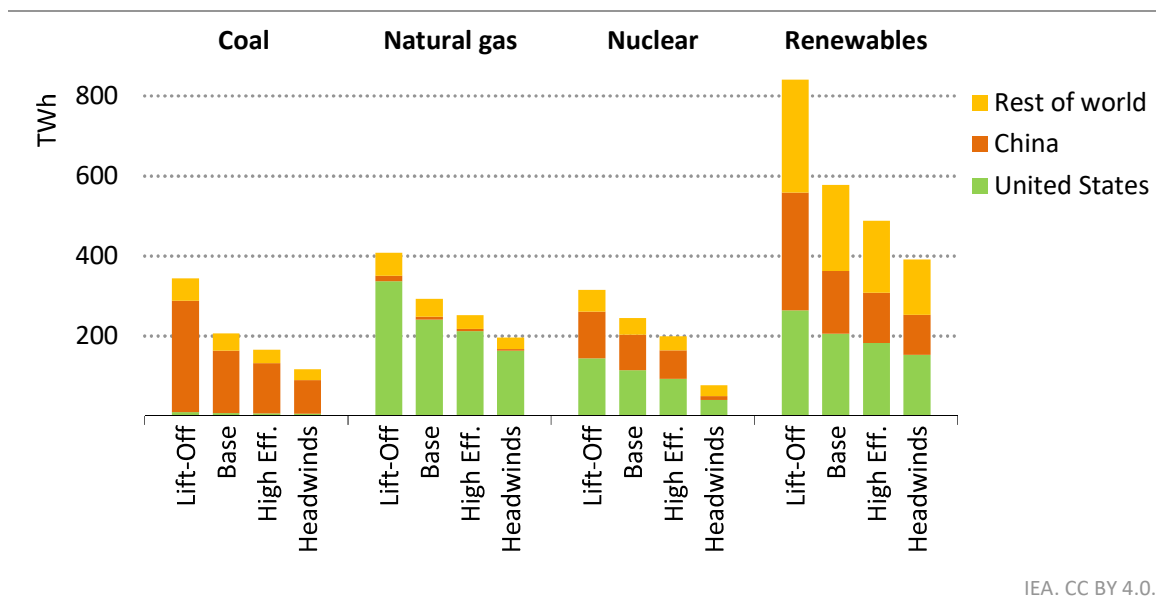
The sensitivity cases examine the uncertainties surrounding future electricity demand from data centres and the implications for electricity generation over the next five to ten years. Across all cases, renewables play a pivotal role in meeting the growing electricity demand. However, fossil fuels remain important for meeting the near-term surge in demand up to 2030.

Across all cases, **renewables** meet most of the additional electricity demand from data centres to 2035. In the High Efficiency Case and the Headwinds Case, global data centre-related electricity generation grows more slowly than in the Base Case. In the High Efficiency Case it rises to about 1 100 TWh by 2035, more than 15% lower than in the Base Case. In the Headwinds Case it reaches 790 TWh, more than 40% lower than in the Base Case. In both of these cases, renewables meet 55% or more of the increase in data centre electricity demand to 2035, compared with around 50% in the Base Case, although in both cases, the increase is smaller in absolute terms. In the Lift-Off Case, where global electricity generation

associated with data centres surges to nearly 2 000 TWh by 2035, 45% higher than in the Base Case, around 45% more renewable electricity generation is added between 2024 and 2035, but long grid connection queues mean that most of the additional increase beyond that is met by fossil fuels.

Across the outlook period, fossil fuels, particularly **coal** and **natural gas**, remain crucial for addressing potential demand spikes (2.24). In the Lift-Off Case, between 2024 and 2030, nearly 50% of the additional electricity generated for data centres comes from fossil fuels. Natural gas-fired power generation grows about 1.5 times faster than in the Base Case, with the United States experiencing the most significant absolute increase. Similarly, coal-fired generation grows twice as fast, with China contributing most of the additional generation. For the period between 2024 and 2035, fossil fuels account for about 35% of the additional electricity consumed by data centres globally. In the High Efficiency Case and the Headwinds Case, fossil fuels respectively supply around 35% and 15% of the additional electricity, as opposed to 28% in the Base Case. The share of fossil fuels in total electricity generation for data centres in 2035 remains at about 40% across all cases.

Figure 2.23 ► Electricity generation for data centres by fuel and case, 2035



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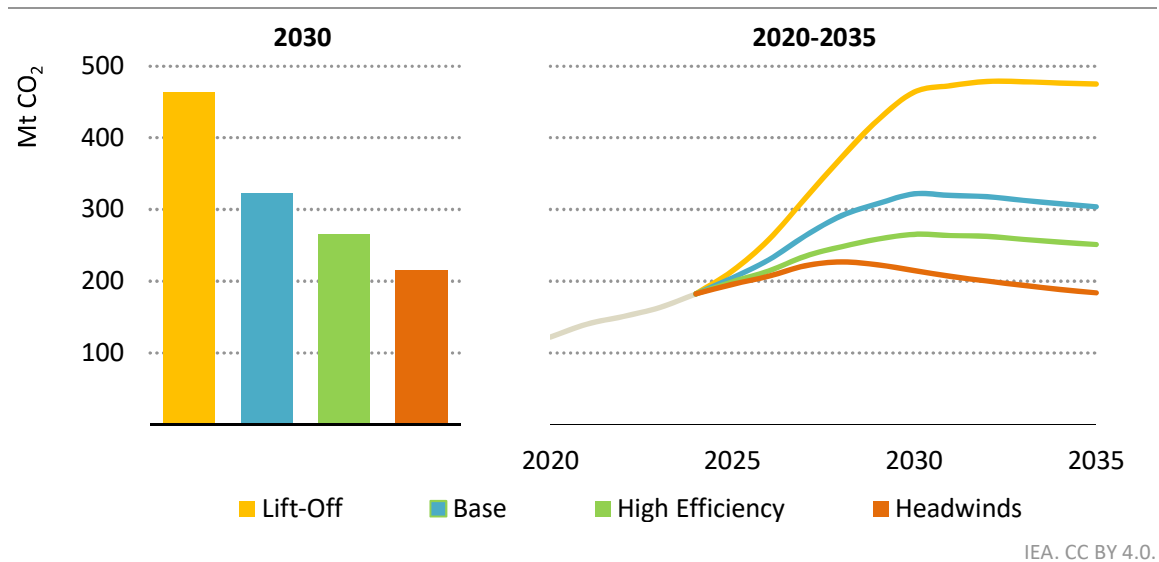
In all cases, fossil fuels remain an important element of the data centre electricity supply mix by 2035

Note: High Eff. = High Efficiency.

The Base, High Efficiency and Lift-Off Cases all see an increase in the contribution of **nuclear** power to the data centre electricity supply between 2030 and 2035, driven mainly by the commissioning of SMRs in the United States and China, which together account for over 80% of total global nuclear electricity generation for data centres. The share of nuclear in the data centre electricity mix ranges between 16% and 18% in the Base, High Efficiency and Lift-Off Cases. It is only in the Headwinds Case, with its less favourable environment for AI and data centre operators, that these investments do not materialise, and nuclear electricity is

sourced entirely from large-scale reactors connected to the grid, with the nuclear share dropping to about 10% of the data centre electricity supply mix by 2035.

Figure 2.24 ▶ CO₂ emissions associated with electricity generation for data centres by case, 2030 and 2020-2035



Data centre electricity supply-related CO₂ emissions peak at 215 Mt CO₂ to 320 Mt CO₂ in all cases except the Lift-Off Case, which sees a plateau at around 475 Mt CO₂ in the 2030s

In the Base, High Efficiency and Headwinds Cases, CO₂ emissions from electricity generation for data centres peak around or before 2030. However, in the Lift-Off Case, which sees significantly higher levels of fossil fuel-based electricity generation, they continue to increase until the early 2030s, peaking at nearly 1.5 times the maximum emissions level of the Base Case.

In the Headwinds Case, emissions peak earlier than in the Base Case, dropping to about 215 Mt CO₂ in 2030. This is primarily due to the lower data centre electricity demand growth. In 2030, CO₂ emissions in the High Efficiency Case are around 265 Mt CO₂, nearly 20% lower than in the Base Case and roughly 55% of the CO₂ emissions of the Lift-Off Case.

2.6 Data centre interactions with the electricity grid

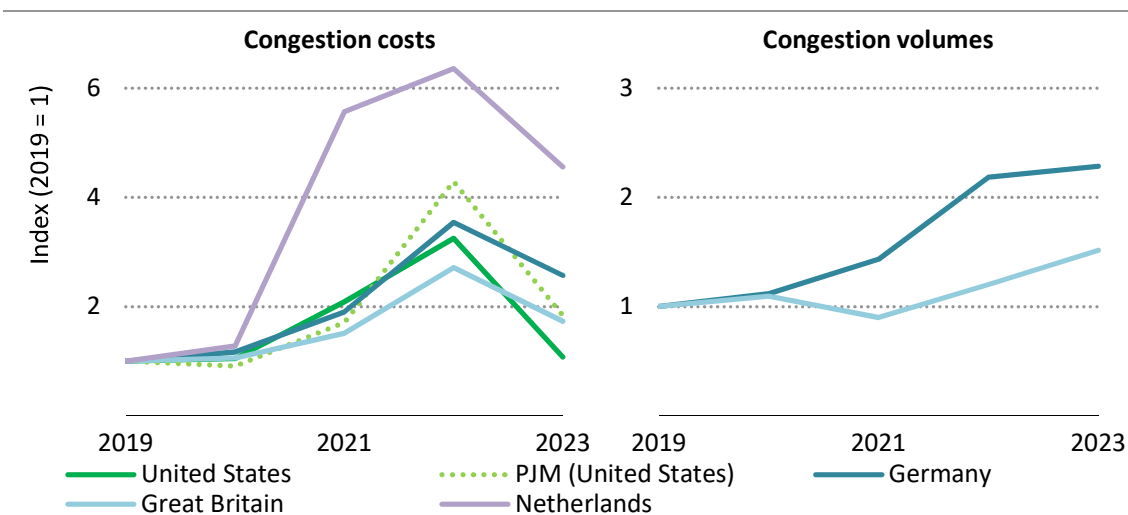
2.6.1 Is there a risk of delays in connecting data centres to the grid?

The global expansion of data centre capacity faces risks from grid connection delays, particularly in regions experiencing high concentrations of demand growth. Connection queues for new data centres can already be long in many key regions (Table 2.4). In recent years, several jurisdictions have placed moratoriums on new data centres while system operators process the backlog of connection requests and assess the capacity of the grid to meet additional connections.

Table 2.4 ▶ Reported connection queues for new data centres in selected jurisdictions

Jurisdiction	Average time in queue
United States	1-3 years
North Virginia (United States)	Up to 7 years
California (United States)	3 years
Germany	Up to 7 years
United Kingdom	5-7 years
Netherlands	Up to 10 years
Kanto (Japan)	More than 5 years
Malaysia	Under 3 years
Queensland (Australia)	More than 2 years
Italy	Under 3 years
Spain	3-5 years
Ireland	In Dublin, paused until 2030

Sources: IEA analysis based on energy.gov (United States), datacenterdynamics.com (Virginia, Netherlands, United Kingdom), electricalreview.co.uk (Germany), businesspost.ie (Ireland) and IEA survey results (Australia, Italy, Japan, Malaysia, Spain).

Figure 2.25 ▶ Transmission grid congestion costs and congestion volumes in selected markets, 2019-2023

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Although congestion costs have come down due to decreasing natural gas prices, congestion volumes have continued to increase

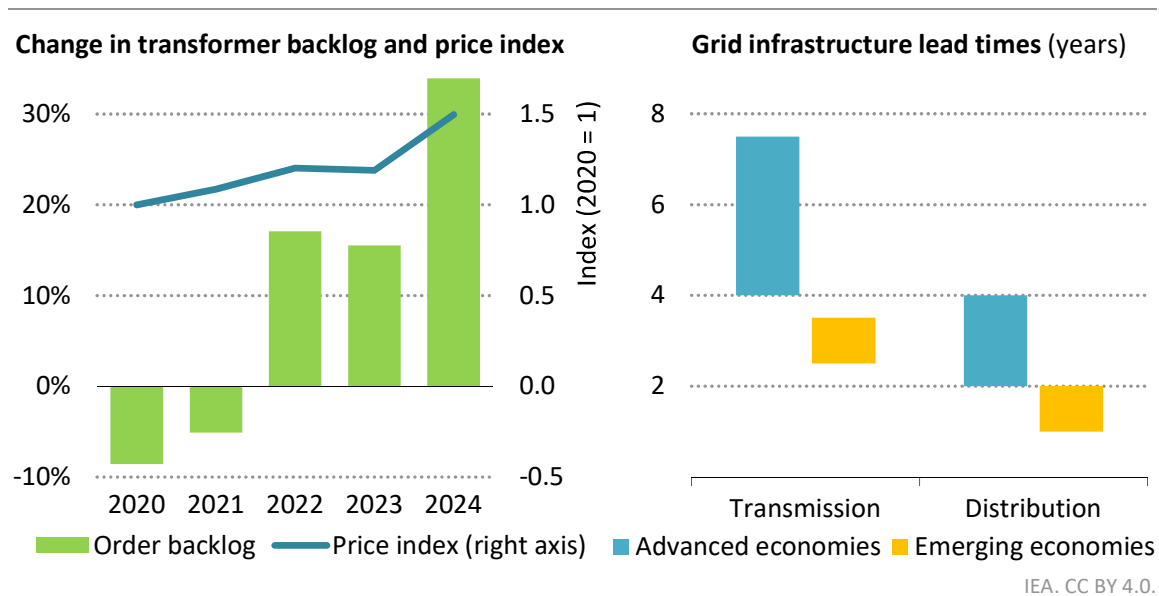
Notes: PJM is a regional transmission organisation on the east coast of the United States where congestion costs have trended higher than the national average in recent years. Congestion volumes for the United States and the Netherlands are not available.

Sources: IEA analysis based on Grid Strategies Transmission Congestion Report (for United States and PJM) Grid Strategies (2024); German Federal Network Agency Monitoring Reports (German) Bundesnetzagentur (2025); National Energy System Operator, Daily Balancing Services Use of System (BSUoS) Cost Data and Constraint breakdown (Great Britain) NESO (n.d.); Tennet Annual Market Update 2023 (Netherlands) Tennet (2024).

Processing grid connection applications more quickly can help reduce waiting times. However, the problem is not solely bureaucratic: when power grids are congested, even priority applications cannot be approved. As seen in Figure 2.25, grid congestion is becoming worse in many countries. In Germany, the United States and Great Britain, the costs of managing congestion tripled between 2019 and 2022. In the Netherlands, the costs increased sixfold during the same period. In 2023, congestion costs went down because natural gas became cheaper. However, data from Germany and Great Britain reveal that physical grid congestion volumes have continued to increase year on year, highlighting the growing pressure on existing infrastructure.

While grid congestion remains a significant challenge, it is not the only bottleneck hampering connection applications. Suboptimal connection and queue management processes contribute substantially to delays. For instance, Great Britain's enormous connection queue contains numerous generation projects that are not progressing, prompting reforms to queue management. Additionally, system operators often lack sufficient resources, and the industry faces a shortage of skilled labour to deliver connections.

Figure 2.26 ▶ Change in transformer backlog, transformer price index and grid infrastructure lead times



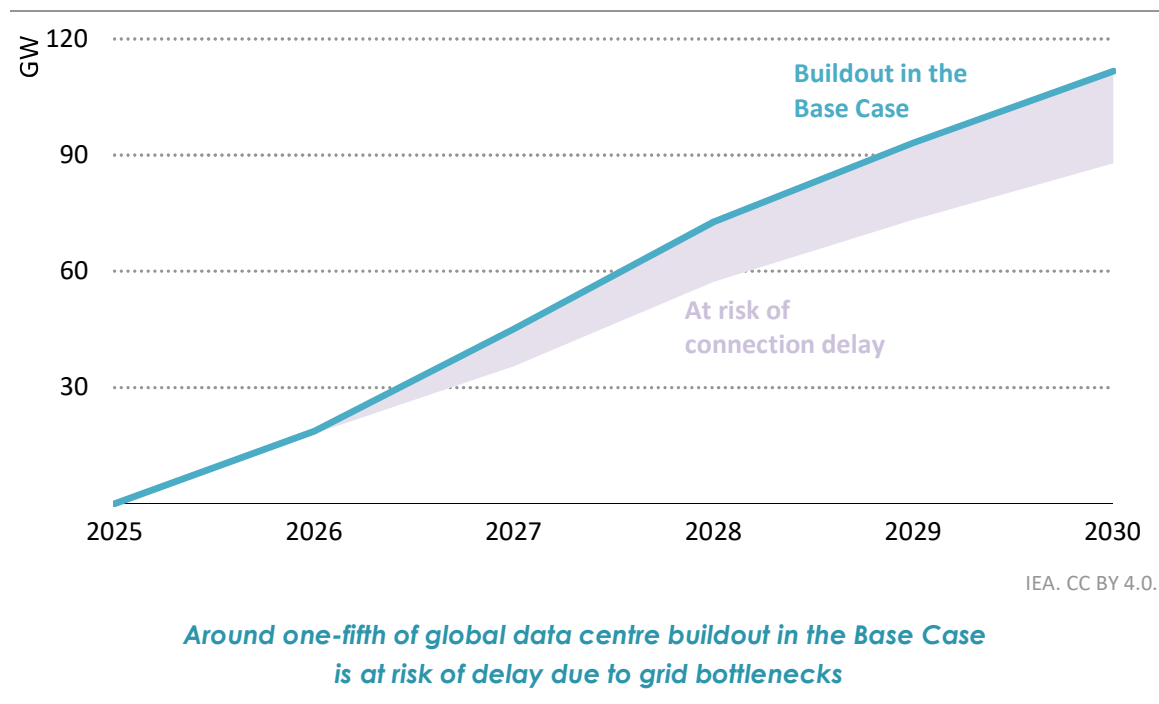
The supply chain for electricity grid equipment is showing signs of strain, while transmission lines can take three to six years, or even longer, to build

Mitigating grid congestion is challenged by the long lead times for new transmission projects. Building new transmission lines can take four to eight years in advanced economies and two to four years in emerging economies. This is not just a problem of permitting and construction; supply chains for grid equipment are also showing strain. Order backlogs for transformers grew by more than 30% in 2024, after two years of growth above 15%. Reflecting this, the price index for power transformers has increased by 1.5 times since 2020

(Figure 2.26). Chapter 5 looks in more detail at the security implications of supply chains for grid infrastructure.

To understand the extent to which data centres might face connection delays, we examined the current congestion levels, grid policies and connection timelines. Based on a location-specific analysis of upcoming data centres, we developed different scenarios for the possible number of data centres that may be delayed in connecting to the grid. Our analysis reveals that grid constraints could delay around 20% of the global data centre capacity planned for construction by 2030. This raises the question of what can be done to ensure that data centres come online in a timely way and that the electricity system does not create a critical bottleneck in this regard.

Figure 2.27 ▶ Global data centre capacity in the Base Case and capacity at risk of connection delay due to grid constraints, 2025-2030



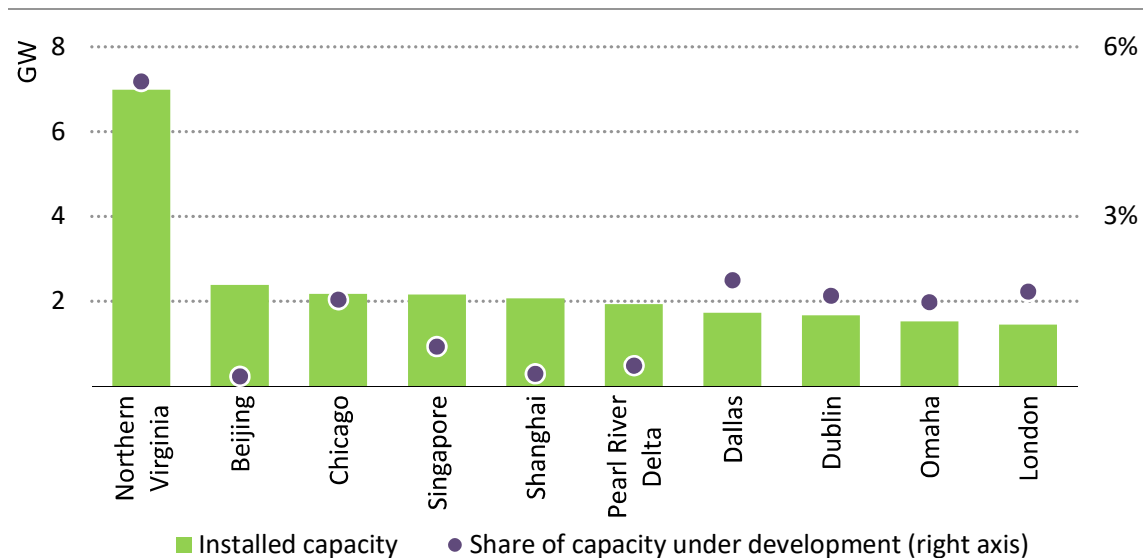
2.6.2 Data centre locational flexibility

One critical option to avoid grid constraints is to locate data centres in places with adequate grid and generation capacity. However, up until now, the dominant trend observed in the siting of data centres has been for them to cluster around markets and within geographies that have the requisite infrastructure, policy frameworks and workforces. As a result, gigawatt-scale clusters have emerged in specific regions in North America, Europe and Asia Pacific, in some cases creating issues for grid congestion. Concerns around power availability and increasing prices have led utilities and policy makers to consider temporary moratoriums on development, with notable examples implemented in cities like Amsterdam, Dublin, Santa Clara in California and Singapore.

While key siting parameters vary depending on the type of data centre, the general criteria are reliable power supplies, competitive electricity prices, sufficient connection capacity and access to land, in addition to access to the core broadband transmission network, skilled construction and operation workforces, as well as favourable policy frameworks. Data sovereignty is also an important consideration. The saturation of established data centre markets is shifting development towards new geographies. Siting considerations also differ between different kinds of data centre workloads. AI training and some kinds of inference are less sensitive to latency than traditional workloads, creating the potential to site data centres in locations with better access to grid and generation capacity but not necessarily near data centre users.

However, the existing infrastructure, policy frameworks and talent pools that enabled the top markets to flourish have created momentum that continues to draw development and justify investment in the expansion of supporting infrastructure. As a result, more than 15% of data centre capacity under development globally falls within the top ten largest data centre markets by installed capacity, indicating the continued attractiveness of these hubs (Figure 2.28). Northern Virginia in particular illustrates how the convergence of these factors can lead to a boom in data centre development (Box 2.8).

Figure 2.28 ▶ Top ten data centre markets by installed capacity versus share of capacity under development, 2024



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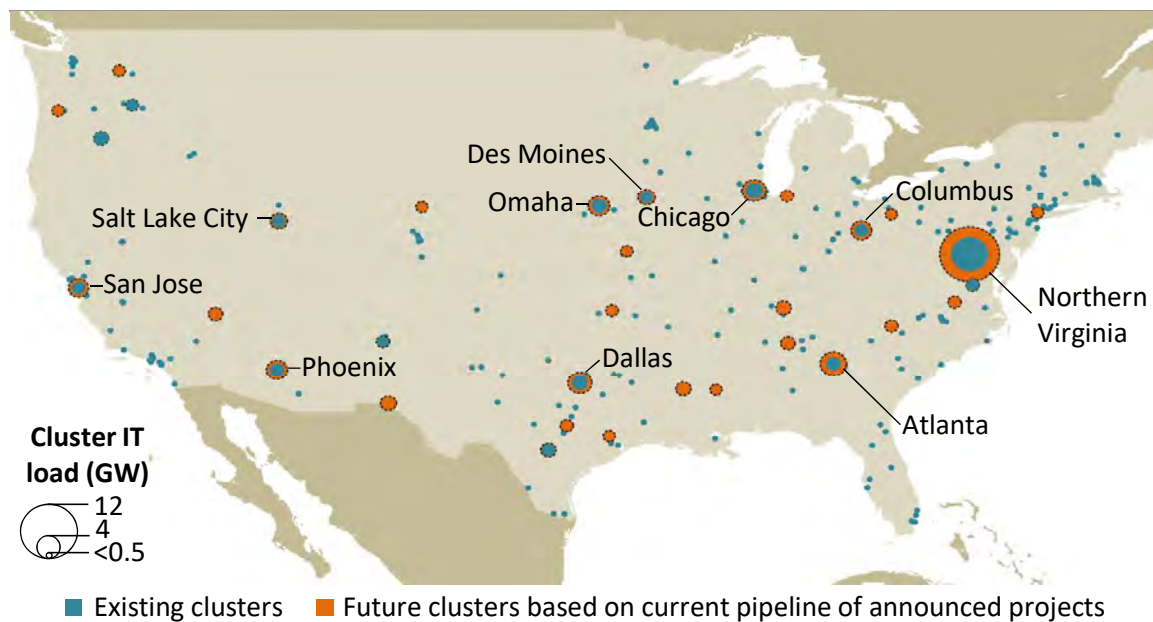
Based on the pipeline of announced projects, 15% of global data centre capacity under development is concentrated in the top 10 largest markets by installed capacity

Notes: The Pearl River Delta encompasses the combined capacity of Guangzhou, Shenzhen and Hong Kong, China. The geographies considered represent the ten largest clusters in the world. Capacity under development is based on announced projects.

Source: IEA analysis based on data from OMDIA (2025).

There is some evidence of a shift in data centre locations in the United States, although established hubs are attracting the majority of the capacity under development (Figure 2.29). Las Vegas in Nevada and El Paso in Texas provide examples of this emerging trend. Together, these locations have less than 500 MW of installed capacity today, but developers have announced large-scale developments in both locations due to their affordable land, cheap renewable power and tax incentives for data centre development. Nevertheless, half of the capacity under development in the United States is being built in markets with over 1 GW of installed capacity.

Figure 2.29 ▶ Data centre hubs by installed capacity and capacity under development in the continental United States, 2024



IEA. CC BY 4.0.

Data centre development is expanding into new locations, but around 50% of the capacity under development in the United States is in markets with over 1 GW of installed capacity

Notes: We define a data centre cluster as a group of data centres located within 100 kilometres of each other. The ten largest clusters have been named. Only future clusters greater than 500 MW are shown.

Source: IEA analysis based on data from OMDIA (2025).

Conversely, demand growth in saturated markets is being cited as justification for investment to expand generation and transmission capacity. Building this capacity quickly enough to meet the rapid growth projections poses a challenge. While electrical utilities have an obligation to meet the demand within their service territories, they are not required to provide service immediately upon request and may delay data centres' grid connections until enough generation and transmission capacity is available.

Box 2.8 ► Why does Northern Virginia dominate the data centre market?

Loudoun and Prince William Counties in Northern Virginia, both within the Washington, DC metropolitan area, are together the world's largest and fastest-growing data centre market by far, with over 5 GW of installed capacity and more than 3 GW under development. Installed capacity in the region – commonly referred to as “Data Centre Alley” – has grown more than 500% over the past ten years (Magnum Economics, 2024).

The region's rise is a recent development that illustrates the fast-moving dynamics of the data centre market. The area only became the top market by installed capacity in 2016, and installed capacity proceeded to grow 20% annually (Magnum Economics, 2024). While the region's central role in the early stages of the Internet's development gave it a head start as a key data centre hub, its growth can largely be attributed to the region's favourable policy environment, affordable power and highly skilled workforce.

Northern Virginia's selection as one of the four original Network Access Points during the commercialisation of the Internet in the 1990s led it to become a major intersection of the fibre optic backbone network. Following the loss of a USD 1 billion data centre project to neighbouring North Carolina in 2009, Virginia significantly expanded its tax exemption for the sale and use of data centre equipment, and the Virginia General Assembly recently extended these incentives to 2035. Streamlining the municipal government's approval process in co-ordination with electric utilities' proactive capacity planning has been instrumental to accommodating the sector's growth (JLARC, 2024).

Data centres' long-term PPAs have supported the buildout of over 6 GW of solar power capacity in the state, and their growing demand has been cited as a key motivation behind the development of the Coastal Virginia Offshore Wind project, the largest offshore wind project in the United States. The high concentration of data centres has also supported the development of a highly skilled workforce with expertise in data centre construction and operation. With over 500 colleges and universities in the Mid-Atlantic region, including many of the world's highest-ranked institutions, local collaborations have emerged between data centre operators and academic institutions to offer scholarships and align academic curricula with the evolving needs of data centre operations.

While the jobs and tax revenue that data centres provide generally result in a positive net impact for local communities, they are large industrial facilities that can significantly affect their surroundings, and there is growing public opposition to further development stemming from concerns about declining property values due to their visual impact as well as the constant noise from cooling units and backup generators.

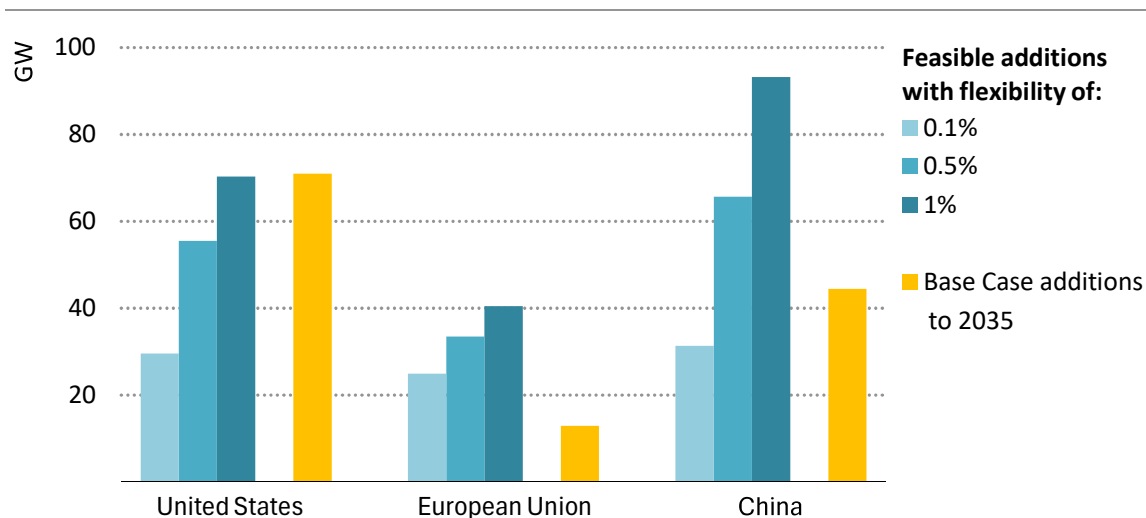
2

2.6.3 Data centre operational flexibility

Data centres are emerging as major players in the energy system. In the United States, the country with the largest buildout of data centres, their share of system-wide peak electricity demand is set to increase from 6% today to 13% by 2030. As data centres take on a larger role in electricity systems, ensuring their smart integration becomes critical, both to enhance grid stability and support their continued deployment.

In capacity-constrained regions, connection queues have led data centre operators to explore flexibility measures to shorten lead times for grid access. Grid congestion or insufficient generating capacity restricts the addition of new loads, but such constraints usually occur during a limited number of hours every year. In this context, electricity system flexibility will be critical to cater for growing demand and integrate increasingly variable sources of supply and demand. This section focuses on possible flexibility contributions from data centres within broader efforts to enhance electricity system flexibility from storage, other kinds of demand response, grids and dispatchable resources.

Figure 2.30 ► Data centre capacity additions to 2035 and feasible integration into the current electricity system under different flexibility cases



IEA. CC BY 4.0.

Current electricity systems can already integrate all data centre additions to 2035 if a mix of backup activation and workload management reduces grid demand 1% of the time

Note: Capacity additions are considered feasible if their operation does not increase system peak demand, measured as the top 100 hours over ten years of weather conditions. Base Case additions include colocation, service provider and hyperscale data centres.

Our analysis finds that if data centres are flexible for 0.1-1% of the time, there is enough room in current electricity systems to integrate all new data centre capacities to 2035 (Figure 2.30). In the United States, up to 70 GW of new data centre capacity could be integrated within the current system if operators reduce grid demand for just 1% of the time – enough to cover all colocation, service provider and hyperscale additions in the Base Case.

In China, data centre additions would need to be flexible for 0.2% of the time to fit within the existing system capacity, the equivalent of 20 hours per year on average.³ Other studies find similar headroom in existing electricity systems, with flexibility rates below 1% (Nicholas Institute for Energy, Environment & Sustainability, 2025).

These episodes of grid stress would be short, lasting between three to five hours on average. They align with existing peak periods, occurring for a few hours in the evening or during the day, usually prompted by regional heat or cold waves. Even during these episodes of stress on the electricity system, the grid can still supply some electricity to the data centre. In 80% of the hours of grid stress, more than half of the usual grid electricity supply to the data centre would still be available. In 50% of these hours, around four-fifths of the grid capacity would be available. In other words, even if the data centre is flexible for 1% of the hours of the year, only 0.3% of its total grid electricity consumption would need to be actively managed.

Although needed for only a limited number of hours each year, providing this degree of flexibility would still require solutions not developed at scale today. These include higher utilisation of onsite generation, the installation of additional batteries and the management of computational workloads.

In this context, there is a growing focus on understanding the potential for data centre flexibility. In 2024, the Electric Power Research Institute launched the DCFlex initiative to develop large-scale flexibility hubs, demonstrating innovative grid integration strategies for data centres. The initiative fosters strategic collaboration between utilities, data centre operators and policy makers. Earlier that year, the US Department of Energy published recommendations on powering data centres, advocating the development of a flexibility taxonomy and framework to explore financial incentives and policy changes that could drive more flexible operations. In the European Union, data centres fall under the scope of the Energy Performance of Buildings Directive, which mandates the installation of building automation and control systems. This requirement aims to enhance grid compatibility, enabling data centres to better respond to external grid signals and support flexibility markets.

Several strategies exist to develop data centre flexibility (Table 2.5). While some of these imply additional investment, recent surveys indicate that most hyperscalers and data centre developers are willing to pay more if they can access grid capacity faster.

Onsite batteries are a relevant flexibility option given the short duration of stress events. Batteries do not need to match the full capacity of the data centre; in most stress hours, more than half of the grid capacity remains available to the facility. The trade-off between battery cost and the facilitated grid connection could be improved if batteries are also operated for arbitrage in electricity markets. However, developers note that revenues from

³ This analysis does not mean that grid reinforcement or new peak capacities are unnecessary to meet medium-term growth but rather shows how flexible loads can tap the existing potential and reduce connection times.

flexibility services remain modest compared to the overall operating costs (though faster grid access can help avoid high opportunity costs).

Table 2.5 ► Options for data centre flexibility

Category	Description	Example
Onsite batteries	Balancing energy supply during peak demand and providing backup power to the data centre. Batteries can also contribute to grid stability.	- Google installed onsite batteries (2.75 MW/5.5 MWh) at its data centre campus in Belgium. - A Microsoft data centre in Dublin employs batteries as part of its uninterruptible power supply system to provide backup power and assist in balancing grid frequency.
Backup generation	Running backup generators during grid stress events to reduce reliance on the grid.	- Enchanted Rock is developing a natural gas plant for a Microsoft data centre in California. - American Electric Power secured an agreement to purchase up to 1 GW of Bloom Energy's solid oxide fuel cells.*
Cooling	Adjusting cooling load temporarily to optimise energy use, including using "cold batteries", such as thermal storage.	- CIV France in Lille utilises a 50 m³ ice storage system, equivalent to a 700 kW chiller, capable of operating for 30 minutes. - The Tidel Park facility in India employs ice-based energy storage to manage its cooling load
Workload temporal management	Shifting computational tasks to times of lower grid demand or higher renewable generation availability.	Google deployed a "carbon-aware" scheduling system to shift workloads to times when renewable energy is abundant.
Workload spatial management	Moving computing tasks between geographically distributed data centres to optimise energy costs, availability and sustainability.	Google is piloting programmes to dynamically shift workloads to locations with cleaner energy sources.

* In this use case, fuel cells are purchased as a power source to run as base load. Other fuel cell configurations could provide flexibility.

Note: GW = gigawatt; kW = kilowatt; MW = megawatt; MWh = megawatt hour; m³ = cubic metre.

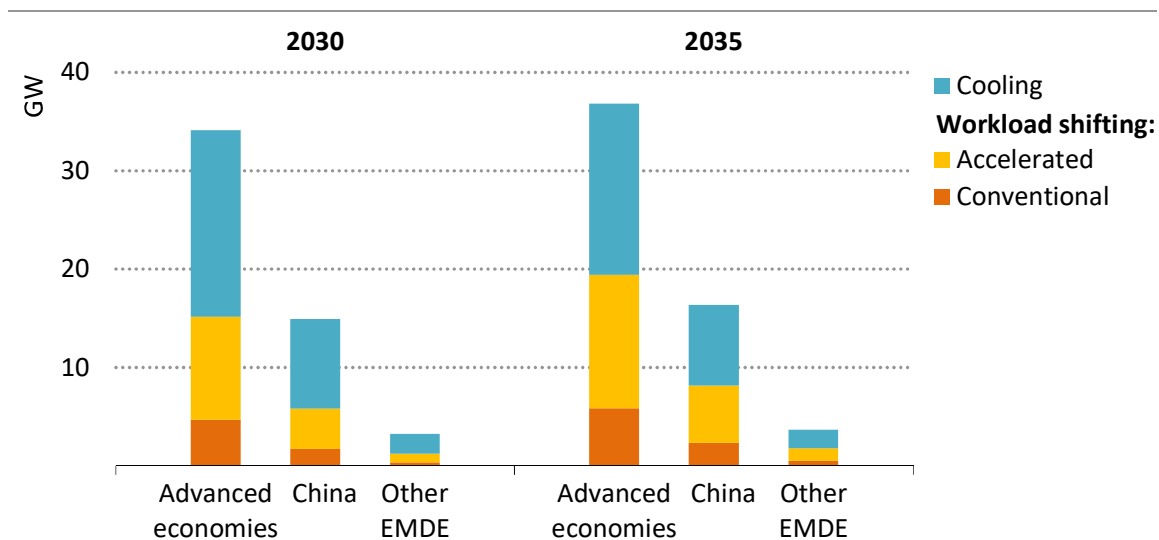
Backup generation is typically already installed to cover grid outages. If utilised for flexibility purposes, runtimes would increase and data centres should prioritise low-emissions fuels, such as biofuels, natural or renewable gas, or low-emissions technologies such as fuel cells. However, this requires addressing complex challenges related to fuel availability and storage. While backup generators could offer a convenient flexibility solution, they are not designed to function as power plants and are usually subject to regulations regarding noise and air pollution. Currently, backup power is likely to provide only limited scope to increase data centre flexibility.

Cooling accounts for between 10% and 30% of a data centre's load. When paired with thermal storage that has a few hours of capacity, the data centre can reduce its real-time consumption for cooling and shift it to off-peak hours.

Additionally, workloads can be shifted over time and across data centres. Virtualisation allows scheduling based on grid conditions, prioritising times or locations with lower congestion. This flexibility is particularly beneficial for AI training and some kinds of AI inference that are not sensitive to latency. However, any such scheduling needs to balance the financial goal of maximising GPU utilisation rates (Box 2.9). This flexibility option does not apply equally across all data centres, with those hosting third-party applications having lower control over their workloads.

Such workload management strategies are still in their infancy, but the industry does have some experience with analogous practices. For example, when they face low utilisation rates, Microsoft, Amazon and Google offer spare capacity at discounts of up to 90%, in exchange for the flexibility of interruptibility without notice. Shifting workloads across European data centres increases video call latency by only 10%, a negligible impact for most applications (Kelly, et al., 2016). Moreover, studies suggest that 30-50% of workloads are delay tolerant, a figure likely to rise with the uptake of AI training and inference (BNEF, 2021).

Figure 2.31 ▶ Technical daily flexibility potential from data centres, 2030 and 2035



IEA. CC BY 4.0.

Data centres could provide up to 50 GW of flexible capacity by 2035 by combining spatial and temporal workload shifting with cooling load management

Note: EMDE = emerging market and developing economies.

In addition to providing peak shaving services, in the future, data centres may be able to provide more frequent flexibility services to support the integration of variable renewables, for example. Our analysis finds that around 50 GW of data centre capacity could have the potential for flexibility by 2035, assuming that 25% of accelerated workloads could be spatially or temporally shifted during daily demand peaks, and 10% of conventional workloads (Figure 2.31). One-third of the flexible capacity would come from the scheduling of workloads on accelerated servers. Cooling contributes to around 25 GW of flexibility, and

its share decreases over time as PUE ratios improve. In advanced economies in 2030, data centre flexibility potential is equivalent to the average charging load from the electric car fleet. Incentivising data centre flexibility can contribute to both system security and renewables integration.

Policy makers need to develop innovative frameworks to incentivise flexibility. While the value of these strategies for data centre developers lies in accessing capacity more quickly, clear rules on engagement are necessary for participation in flexibility programmes. Further developing data centre flexibility requires stronger integration between grid operators and data centres, including early communication on upcoming stress events and proactive workload planning, particularly for tasks like AI training. Developing a playbook to incentivise more flexibility from data centres will require a better understanding of the economic, operational and contractual constraints that data centres face (Box 2.9).

Box 2.9 ► How much does flexibility cost for accelerated servers?

AI workloads may not be as constrained by latency issues as traditional workloads, and some AI workloads can be scheduled in advance (for instance, AI training). However, they run on accelerated servers that are very capital intensive – investment costs can reach USD 30 000/kW, around ten times higher than an aluminium smelter and 50 times higher than an air conditioner. Data centre operators are therefore incentivised to maximise their server utilisation rate and run their servers at near-full capacity whenever possible. In this context, any curtailment of workloads carries an opportunity cost, as it would reduce overall utilisation.

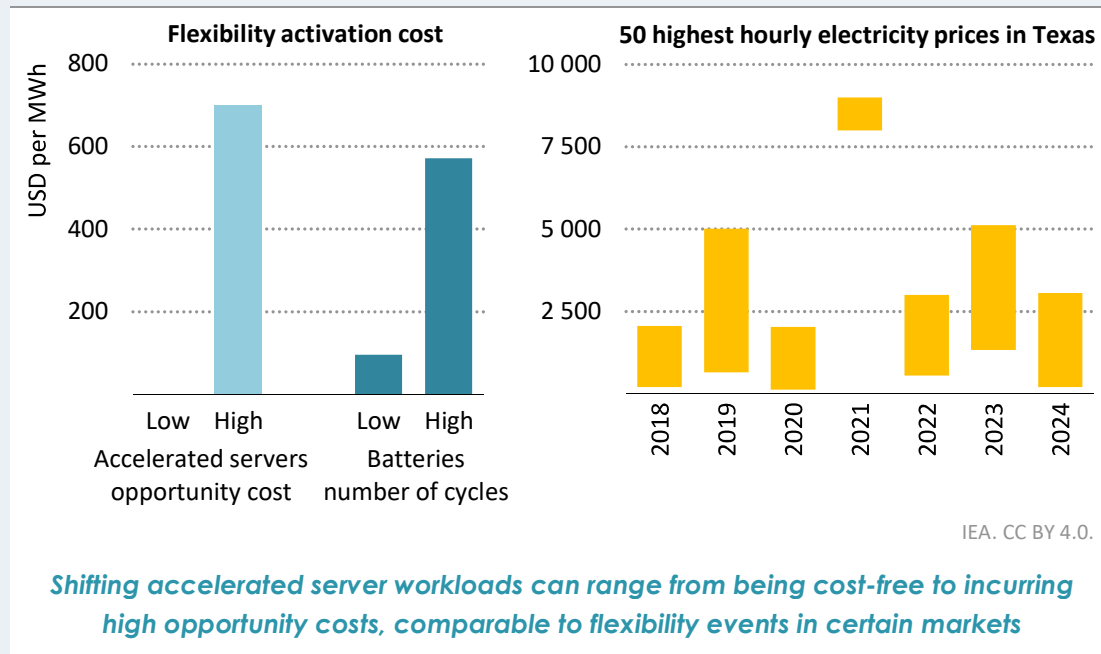
While the utilisation rate of accelerated servers is much higher than conventional servers, reaching around 90%, some capacity remains unused. Where spare capacity already exists, the headroom could present an opportunity to redistribute workloads across time and space at no additional opportunity cost. However, specifically overbuilding the capacity of accelerated servers in order to offer flexibility services would have high additional costs. Given the high cost of accelerated servers, we estimate that overbuilding data centre capacity and rescheduling workloads would entail an additional cost of approximately USD 700/MWh of energy consumption shifted (Figure 2.32).

While this cost is prohibitive for daily electricity market arbitrage, it aligns with the economics of specific flexibility events in certain markets. For example, in Texas, electricity prices have consistently exceeded USD 700/MWh at some point in each of the past seven years, with more than 50 hours higher than this threshold in most years.

A comparable investment in battery storage designed for similar flexibility events – operating for around 50 hours annually – would incur similar capital costs per unit of energy shifted. However, batteries typically cycle more frequently, for instance aligning with solar PV generation patterns. Assuming around 300 cycles per year, the effective cost per MWh falls below USD 100.

From a theoretical economic perspective, the feasibility of data centre operational flexibility depends on the actual opportunity cost of changing the utilisation patterns of extremely capital-intensive equipment. However, there are additional operational and contractual constraints, such as the need to reserve capacity for unpredictable but already contracted workloads.

Figure 2.32 ► Flexibility activation cost of selected technologies and electricity prices in Texas



Notes: The low and high opportunity costs of accelerated servers reflect, respectively, the spare capacity and the need for additional investment to create sufficient headroom. Battery low and high costs are computed, respectively, for 300 and 50 cycles a year. Electricity prices are for the Texas, Houston area.

2.6.4 Optimising interactions with power system operators and planners

Mitigating congestion and the long connection queues in some regions, as discussed previously, requires an understanding of the interactions between data centres and system operators. Data centres engage with system operators and planners throughout deployment and operation, starting with grid connection applications. Key considerations for grid operators include infrastructure upgrade cost recovery and allocation. Once operational, the interactions of data centres with the grid and their potential impacts on its stability become essential (Box 2.10).

Grid connection applications and waiting queues

Several solutions can reduce waiting times in grid connection queues, with clarifying the connection pipeline being a critical approach. Amid uncertainty on connection timelines, some data centres submit duplicate and speculative connection requests, artificially inflating queue lengths. The situation is compounded by the scarcity of grid capacity and lack of clear

connection timelines at a time when an increasing number of connection requests are being made by various other projects, such as renewables and batteries.

In some regions, waiting periods for data centre connection have extended to a decade. While viable projects risk delays as a result, grid operators also risk overbuilding capacity for projects that may never materialise. Implementing stronger verification requirements, milestone-based progression systems and improved application tracking would help operators identify duplications. This approach would provide planners with a more accurate assessment of genuine demand, reducing pressure to build for theoretical peak loads that substantially exceed realistic needs. By requiring more substantive evidence of commitment, operators can establish a more efficient connection pipeline that properly aligns with actual growth patterns. A structured capacity commitment framework can achieve this by requiring long-term contracts between data centre projects and utilities, payments for a minimum percentage of contracted capacity and financial assurances. Contracts can include provisions for phased capacity ramp-ups, cost-recovery mechanisms and penalties for early termination or significant capacity reductions (American Electric Power, 2025).

Transmission system operators can also alleviate the issue of large connection queues due to limited grid capacity by implementing incentive structures that encourage data centres to be built in areas without grid congestion. Transparency between grid operators and prospective customers plays a critical role in grid optimisation, such as providing maps to visualise the hosting capacity of transmission lines for large loads to identify the most favourable connection point. Optimising the location of data centres is described in section 2.6.2.

System planners plan for grid investments according to comprehensive electricity load forecasts. In a situation where various data centre projects in the connection queue do not materialise due to speculative and duplicate applications, the planners may be at risk of overestimating demand and overbuilding capacity, incurring additional costs. The European Union Agency for the Cooperation of Energy Regulators reported in their 2024 Monitoring Report (ACER, 2024), for a general case, that a 10% overestimation of demand leads to a 10% rise in total grid costs. At the same time, such costs could be highly location specific. If the predicted data centre load does not materialise, the costs and risks of these grid investments are often socialised across other ratepayers. The way that these costs are managed can have distributive impacts if costs are recuperated through increased utility bills for all customers in an area, including residents and small businesses, disproportionately affecting low-income households.

Typically, when a transmission system operator connects a data centre to the grid, the data centre pays for the high-voltage line to make the connection. If infrastructure upgrades are needed within the broader grid to manage increased electricity demand, grid operators in Western Europe and the United States usually recover these costs through electricity tariffs applied to all customers (ENTSO-E, 2022; CRS, 2023). However, US regulators are shifting towards data centres bearing more of the upgrade costs directly (Utility Dive, 2024). Once a capacity request is accepted, that capacity is contractually reserved for the customer and

cannot be sold to new customers, even if it is unused (Mytton, et al., 2023). In areas with limited grid capacity, unused reserved power for data centres can restrict availability for other projects, contributing to longer connection waiting times.

Box 2.10 ► Potential technical impacts of data centres on grids during operation

2

There have been reports that data centres may affect power quality on the grid. According to a survey conducted by the Electric Power Research Institute, utilities, primarily in North America, have experienced operational impacts from existing data centres (EPRI, 2024). Among the 23 respondents, the reported issues included thermal violations (22%), voltage violations (17%), harmonic concerns (9%), fault ride-through issues (9%), ramp rate issues (26%) and rapid variations causing forced oscillations (4%). Two utilities reported experiencing harmonic concerns, thermal violations, voltage violations and ramp rate issues, while two others reported both thermal violations and voltage violations. The phenomenon of data centres possibly being associated with harmonic distortion is also mentioned in various other sources (Bloomberg, 2024).

In addition to the above-mentioned impacts, the potential for data centre load loss can be a challenge for power grid operators and planners, especially as data centre power capacities become larger. A power grid disturbance may prompt a data centre to switch to backup power (employing an uninterruptible power supply, for example), which removes a large amount of load from the grid. This may in turn cause changes in the grid voltage or frequency, which may be exacerbated if multiple data centres shift load simultaneously. This essentially initiates a short feedback loop whereby a grid disturbance prompts a reaction from a data centre, which in turn results in another grid disturbance. In an incident review, the North American Electric Reliability Corporation documented the impact of simultaneous data centre load loss following a fault on a transmission line in the Eastern Interconnection (NERC, 2025).

The reconnection of large data centre loads also poses potential risks to system stability if not managed in a controlled manner. Balancing authorities and transmission system operators face significant challenges in maintaining system balance during these reconnections, as ramp rates for load are just as critical as those for generation. Reliability risks associated with the voltage ride-through characteristics of data centre loads are particularly important, though this is not unique to data centres and is also relevant for other large loads.

AI workloads potentially present unique challenges for power grid operators due to their distinct characteristics at different operational stages: training and inference. Training demands high GPU utilisation, leading to sustained high power consumption with periodic surges and dips from data loading, preprocessing and checkpointing. Inference, while generally less power intensive, can cause rapid fluctuations in demand based on user interactions and external events. Installing onsite power-smoothing technologies is a relevant option to cope with these challenges (Li, et al., 2024).

CLIMATE CHANGE AND ENERGY

AI could keep us dependent on natural gas for decades to come

AI data centers are driving a surge in new natural-gas power plants around the country. What does that mean for our clean-energy aspirations?

By David Rotman

May 20, 2025



Ricardo Santos

The thousands of sprawling acres in rural northeast Louisiana had gone unwanted for nearly two decades. Louisiana authorities bought the land in Richland Parish in 2006 to promote economic development in one of the poorest regions in the state. For years, they marketed the former agricultural fields as the Franklin Farm mega site, first to auto manufacturers (no takers) and after that to other industries that might want to occupy more than a thousand acres just off the interstate.

This story is a part of MIT Technology Review's series "[Power Hungry: AI and our energy future](#)," on the energy demands and carbon costs of the artificial-intelligence revolution.

So it's no wonder that state and local politicians were exuberant when Meta showed up. In December, the company [announced](#) plans to build a massive \$10 billion data center for training its artificial-intelligence models at the site, with operations to begin in 2028. "A game changer," [declared Governor Jeff Landry](#), citing 5,000 construction jobs and 500 jobs at the data center that are expected to be created and calling it the largest private capital investment in the state's history. From a rural backwater to the heart of the booming AI revolution!

The AI data center also promises to transform the state's energy future. Stretching in length for more than a mile, it will be Meta's largest in the world, and it will have an enormous appetite for electricity, requiring two gigawatts for computation alone (the electricity for cooling and other building needs will add to that). When it's up and running, it will be the equivalent of suddenly adding a decent-size city to the region's grid—one that never sleeps and needs a steady, uninterrupted flow of electricity.

To power the data center, Entergy aims to spend \$3.2 billion to build three large natural-gas power plants with a total capacity of 2.3 gigawatts and upgrade the grid to accommodate the huge jump in anticipated demand. In its filing to the state's power regulatory agency, Entergy acknowledged that natural-gas plants "emit significant amounts of CO₂" but said the energy source was the only affordable choice given the need to quickly meet the 24-7 electricity demand from the huge data center.

Meta said it will work with Entergy to eventually bring online at least 1.5 gigawatts of new renewables, including solar, but that it had not yet decided which specific projects to fund or when those investments will be made. Meanwhile, the new natural-gas plants, which are scheduled to be up and running starting in 2028 and will have a typical lifetime of around 30 years, will further lock in the state's commitment to the fossil fuel.

The development has sparked interest from the US Congress; last week, Sheldon Whitehouse, the ranking member of the Senate Committee on Environment and Public Works [issued a letter to Meta](#) that called out the company's plan to power its data center with "new and unabated natural gas generation" and said its promises to offset the resulting emissions "by funding carbon capture and a solar project are vague and offer little reassurance."

The choice of natural gas as the go-to solution to meet the growing demand for power from AI is not unique to Louisiana. The fossil fuel is already the country's chief source of electricity generation, and large natural-gas plants are being built around the country to feed electricity to new and planned AI data centers. While some climate advocates have hoped that cleaner renewable power would soon overtake it, the booming power demand from data centers is all but wiping out any prospect that the US will wean itself off natural gas anytime soon.

The reality on the ground is that natural gas is "the default" to meet the exploding power demand from AI data centers, says David Victor, a political scientist at the University of California, San Diego, and co-director of its Deep Decarbonization Project. "The natural-gas plant is the thing that you know how to build, you know what it's going to cost (more or less), and you know how to scale it and get it approved," says Victor. "Even for [AI] companies that want to have low emissions profiles and who are big pushers of low or zero carbon, they won't have a choice but to use gas."

The preference for natural gas is particularly pronounced in the American South, where plans for multiple large gas-fired plants are in the works in states such as Virginia, North Carolina, South Carolina, and Georgia. Utilities in those states alone are planning some 20 gigawatts of new natural-gas power plants over the next 15 years, according to a [recent report](#). And much of the new demand—particularly in Virginia, South Carolina and Georgia—is coming from data centers; in those 3 states data centers account for around 65 to 85% of projected load growth.

"It's a long-term commitment in absolutely the wrong direction," says Greg Buppert, a senior attorney at the Southern Environmental Law Center in Charlottesville, Virginia. If all the proposed gas plants get built in the South over the next 15 years, he says, "we'll just have to accept that we won't meet emissions reduction goals."

But even as it looks more and more likely that natural gas will remain a sizable part of our energy future, questions abound over just what its continued dominance will look like.

For one thing, no one is sure exactly how much electricity AI data centers will need in the future and how large an appetite companies will have for natural gas. Demand for AI could fizzle. Or AI companies could make a concerted effort to shift to renewable energy or nuclear power. Such possibilities mean that the US could be on a path to overbuild natural-gas capacity, which would leave regions saddled with unneeded and polluting fossil-fuel dinosaurs—and residents footing soaring electricity bills to pay off today's investments.

The good news is that such risks could likely be managed over the next few years, if—and it's a big if—AI companies are more transparent about how flexible they can be in their seemingly insatiable energy demands.

The reign of natural gas

Natural gas in the US is cheap and abundant these days. Two decades ago, huge reserves were found in shale deposits [scattered across the country](#). In 2008, as fracking started to make it possible to extract large quantities of the gas from shale, natural gas [was selling for \\$13 per million Btu](#) (a measure of thermal energy); last year, [it averaged just \\$2.21, the lowest annual price \(adjusting for inflation\) ever reported](#), according to the US Energy Information Administration (EIA).

Around 2016, natural gas overtook coal as the main fuel for electricity generation in the US. And today—despite the rapid rise of solar and wind power, and well-deserved enthusiasm for the falling price of such renewables—natural gas is still king, accounting for around [40% of electricity generated in the US](#). In Louisiana, which is also a big producer, that share is some 72%, according [to a recent audit](#).

Natural gas burns much cleaner than coal, producing roughly half as much carbon dioxide. In the early days of the gas revolution, many environmental activists and progressive politicians touted it as a valuable [“bridge” to renewables and other sources of clean energy](#). And by some calculations, natural gas has fulfilled that promise. The power sector has been one of the few success stories in lowering US emissions, thanks to its use of natural gas as a replacement for coal.

But natural gas still produces a lot of carbon dioxide when it is burned in conventionally equipped power plants. And fracking causes local air and water pollution. Perhaps most worrisome, drilling and pipelines are releasing substantial amounts of methane, the main ingredient in natural gas, both accidentally and by intentional venting. Methane is a far more potent greenhouse gas than carbon dioxide, and the emissions are a growing concern to climate scientists, albeit one that's difficult to quantify.

Still, carbon emissions from the power sector will likely continue to drop as coal is further squeezed out and more renewables get built, according to the Rhodium Group, a research consultancy. But Rhodium also projects that if electricity demand from data centers remains high and natural-gas prices low, the fossil fuel will remain the dominant source of power generation at least through 2035 and the transition to cleaner electricity will be much delayed. Rhodium estimates that the continued reign of natural gas will lead to an additional 278 million metric tons of annual US carbon emissions by 2035 (roughly equivalent to the emissions from a large US state such as Florida), relative to a future in which the use of fossil fuel gradually winds down.

Our addiction to natural gas, however, doesn't have to be a total climate disaster, at least over the longer term. Large AI companies could use their vast leverage to insist that utilities install carbon capture and sequestration (CCS) at power plants and use natural gas sourced with limited methane emissions.

Entergy, for one, says its new gas turbines will be able to incorporate CCS through future upgrades. And Meta says it will help to fund the installation of CCS equipment at one of Entergy's existing natural-gas power plants in southern Louisiana to help prove out the technology.

But the transition to clean natural gas is a hope that will take decades to realize. Meanwhile, utilities across the country are facing a more imminent and practical challenge: how to meet the sudden demand for gigawatts more power in the next few years without inadvertently building far too much capacity. For many, adding more natural-gas power plants might seem like the safe bet. But what if the explosion in AI demand doesn't show up?

Times of stress

AI companies tout the need for massive, power-hungry data centers. But estimates for just how much energy it will actually take to train and run AI models vary wildly. And the technology keeps changing, sometimes seemingly overnight. DeepSeek, the new Chinese model that debuted in January, [may or may not signal a future of new energy-efficient AI](#), but it certainly raises the possibility that such advances are possible. Maybe we will find ways to use far more energy-efficient hardware. Or maybe the AI revolution will peter out and many of the massive data centers that companies think they'll need will never get built. There are already signs that [too many have been constructed in China](#) and [clues that it might be beginning to happen in the US](#).

Despite the uncertainty, power providers have the task of drawing up long-term plans for investments to accommodate projected demand. Too little capacity and their customers face blackouts; too much and those customers face outsize electricity bills to fund investments in unneeded power.

There could be a way to lessen the risk of overbuilding natural-gas power, however. Plenty of power is available on average around the country and on most regional grids. Most utilities typically use only about 53% of their available capacity on average during the year, according to a [Duke study](#). The problem is that utilities must be prepared for the few hours when demand spikes—say, because of severe winter weather or a summer heat wave.

The soaring demand from AI data centers is prompting many power providers to plan new capacity to make sure they have plenty of what Tyler Norris, a fellow at Duke's Nicholas School of the Environment, and his colleagues call “headroom,” to meet any spikes in demand. But after analyzing data from power systems across the country, Norris and his coauthors found that if large AI facilities cut back their electricity use during hours of peak demand, many regional power grids could accommodate those AI customers without adding new generation capacity.

Even a moderate level of flexibility would make a huge difference. The Duke researchers estimate that if data centers cut their electricity use by roughly half for just a few hours during the year, it will allow utilities to handle some additional 76 gigawatts of new demand. That means power providers could effectively absorb the 65 or so additional gigawatts that, according to some predictions, data centers will likely need by 2029.

“The prevailing assumption is that data centers are 100% inflexible,” says Norris. That is, that they need to run at full power all the time. But Norris says AI data centers, particularly ones that are training large foundation models (such as Meta’s facility in Richland Parish), can avoid running at full capacity or shift their computation loads to other data centers around the country—or even ramp up their own backup power—during times when a grid is under stress.

The increased flexibility could allow companies to get AI data centers up and running faster, without waiting for new power plants and upgrades to transmission lines—which can take years to get approved and built. It could also, Norris noted in [testimony to the US Congress in early March](#), provide at least a short-term reprieve on the rush to build more natural-gas power, buying time for utilities to develop and plan for cleaner technologies such as advanced nuclear and enhanced geothermal. It could, he testified, prevent “a hasty overbuild of natural-gas infrastructure.”

AI companies have expressed some interest in their ability to shift around demand for power. But there are still plenty of technology questions around how to make it happen. Late last year, EPRI (the Electric Power Research Institute), a nonprofit R&D group, started a [three-year collaboration](#) with power providers, grid operators, and AI companies including Meta and Google, to figure it out. “The potential is very large,” says David Porter, the EPRI vice president who runs the project, but we must show it works “beyond just something on a piece of paper or a computer screen.”

Porter estimates that there are typically 80 to 90 hours a year when a local grid is under stress and it would help for a data center to reduce its energy use. But, he says, AI data centers still need to figure out how to throttle back at those times, and grid operators need to learn how to suddenly subtract and then add back hundreds of megawatts of electricity without disrupting their systems. “There’s still a lot of work to be done so that it’s seamless for the continuous operation of the data centers and seamless for the continuous operation of the grid,” he says.

Footing the bill

Ultimately, getting AI data centers to be more flexible in their power demands will require more than a technological fix. It will require a shift in how AI companies work with utilities and local communities, providing them with more information and insights into actual electricity needs. And it will take aggressive regulators to make sure utilities are rigorously evaluating the power requirements of data centers rather than just reflexively building more natural-gas plants.

“The most important climate policymakers in the country right now are not in Washington. They’re in state capitals, and these are public utility commissioners,” says Costa Samaras, the director of Carnegie Mellon University’s Scott Institute for Energy Innovation.

In Louisiana, those policymakers are the elected officials at the Louisiana Public Service Commission, who are expected to rule later this year on Entergy’s proposed new gas plants and grid upgrades. The LPSC commissioners will decide whether Entergy’s arguments about the huge energy requirements of Meta’s data center and need for full 24/7 power leave no alternative to natural gas.

In the application it filed last fall with LPSC, Entergy said natural-gas power was essential for it to meet demand “throughout the day and night.” Teaming up solar power with battery storage could work “in theory” but would be “prohibitively costly.” Entergy also ruled out nuclear, saying it would take too long and cost too much.

Others are not satisfied with the utility’s judgment. In February, the New Orleans-based Alliance for Affordable Energy and the Union of Concerned Scientists [filed a motion](#) with the Louisiana regulators arguing that Entergy did not do a rigorous market evaluation of its options, as required by the commission’s rules. Part of the problem, the groups said, is that Entergy relied on “unsubstantiated assertions” from Meta on its load needs and timeline.

“Entergy is saying [Meta] needs around-the-clock power,” says Paul Arbaje, an analyst for the climate and energy program at the Union of Concerned Scientists. “But we’re just being asked to take [Entergy’s] word for it. Regulators need to be asking tough questions and not just assume that these data centers need to be operated at essentially full capacity all the time.” And, he suggests, if the utility had “started to poke holes at the assumptions that are sometimes taken as a given,” it “would have found other cleaner options.”

In an email response to *MIT Technology Review*, Entergy said that it has discussed the operational aspects of the facility with Meta, but “as with all customers, Entergy Louisiana will not discuss sensitive matters on behalf of their customers.” In a letter filed with the state’s regulators in early April, Meta said Entergy’s understanding of its energy needs is, in fact, accurate.

The February motion also raised concern over who will end up paying for the new gas plants. Entergy says Meta has signed a 15-year supply contract for the electricity that is meant to help cover the costs of building and running the power plants but didn’t respond to requests by *MIT Technology Review* for further details of the deal, including what happens if Meta wants to terminate the contract early.

Meta referred *MIT Technology Review*'s questions about the contract to Entergy but says its policy is to cover the full cost that utilities incur to serve its data centers, including grid upgrades. It also says it is spending over \$200 million to support the Richland Parish data centers with new infrastructure, including roads and water systems.

Not everyone is convinced. The Alliance for Affordable Energy, which works on behalf of Louisiana residents, says that the large investments in new gas turbines could mean future rate hikes, in a state where residents already have [high electricity bills and suffer from one of country's most unreliable grids](#). Of special concern is what happens after the 15 years.

"Our biggest long-term concern is that in 15 years, residential ratepayers [and] small businesses in Louisiana will be left holding the bag for three large gas generators," says Logan Burke, the alliance's executive director.

Indeed, consumers across the country have good reasons to fear that their electricity bills will go up as utilities look to meet the increased demand from AI data centers by building new generation capacity. In a [paper posted in March](#), researchers at Harvard Law School argued that utilities "are now forcing the public to pay for infrastructure designed to supply a handful of exceedingly wealthy corporations."

The Harvard authors write, "Utilities tell [public utility commissions] what they want to hear: that the deals for Big Tech isolate data center energy costs from other ratepayers' bills and won't increase consumers' power prices." But the complexity of the utilities' payment data and lack of transparency in the accounting, they say, make verifying this claim "all but impossible."

The boom in AI data centers is making Big Tech a player in our energy infrastructure and electricity future in a way unimaginable just a few years ago. At their best, AI companies could greatly facilitate the move to cleaner energy by acting as reliable and well-paying customers that provide funding that utilities can use to invest in a more robust and flexible electricity grid. This change can happen without burdening other electricity customers with additional risks and costs. But it will take AI companies committed to that vision. And it will take state regulators who ask tough questions and don't get carried away by the potential investments being dangled by AI companies.

Huge new AI data centers like the one in Richland Parish could in fact be a huge economic boon by providing new jobs, but residents deserve transparency and input into the negotiations. This is, after all, public infrastructure. Meta may come and go, but Louisiana's residents will have to live with—and possibly pay for—the changes in the decades to come.

Fossil Fuels

Riding the High From Data Centers, the Grid Cannot Kick Its Gas Habit

Big Tech's AI frenzy is pressing up electricity demand around the country. The power grid is stuck in natural gas-fuelled inertia, slow to bring new clean energy projects online and leaving consumers on the hook.

By Deep Vakil
September 14, 2025

Related

Dominion Energy and Big Tech Maneuver Over Pivotal Rate Decision in Virginia



To Handle Data Centers, the Electricity System May Need New Rules. Here Is a Proposal



New Data Center Proposals Would 'Kill' Michigan's Strong New Climate Laws



The construction site of a 65-acre data center on May 13 in Aurora, Colo. The new facility could consume as much electricity as 176,000 homes. Credit: RJ Sangosti/MediaNews Group/The Denver Post via Getty Images

Every three months, Jon Rea gets an up-close look at the possible future of the grid, and lately he's seeing a lot more natural gas.

Rea, a senior associate with the nonprofit RMI, analyzes the latest plans put out by U.S. electricity utilities for meeting projected demand over the coming decades.

His [most recent review](#) of all 128 plans found that utilities were looking to build twice as much natural gas capacity as they had anticipated just 18 months earlier.

The main reason for this shift: Utilities are rushing to accommodate the electricity needs of data centers, and projections of those needs keep rising. It's a troubling trend for anyone concerned about

the costs for ratepayers and the effects on the climate.

“Utilities that have updated their plans since the end of 2023 have added just a small amount of wind and solar capacity, 4 gigawatts, but a lot more gas capacity, 52 gigawatts,” said Rea, whose organization seeks to accelerate the energy transition.

At first glance, utilities’ long-term plans seem to favor renewables overall, projecting wind and solar growth of 258 gigawatts versus natural gas additions of 102 gigawatts through 2035. But a closer look reveals the shift.

Just one year back, these plans showed wind and solar could overtake natural gas as the nation’s biggest source of electricity generation by 2035. At the new rate, gas would keep reigning.

AI Boosts Demand

U.S. tech giants are betting big on an AI future, but the power grid is still a relic of the past.

Data centers—essentially warehouses for computers that form the backbone of the internet—are multiplying as companies add power-hungry servers for artificial intelligence. Some existing sites use as much energy as a [small city](#), and new ones are even bigger.

As a result, data centers, which used less than 2 percent of total U.S. electricity prior to 2018, consumed 4.4 percent in 2023 and are on track to make up anywhere between 6.7 and 12 percent by 2028. That’s according to a congressionally mandated [report](#) by the Lawrence Berkeley National Laboratory last year.

After nearly [two decades of flat demand](#), the power grid—much of it running on equipment that is over half a century old—is scrambling to keep up.

“It was designed to accommodate big central power plants that sent electricity in one direction down the lines to the customers,” said Todd Olinsky-Paul, senior director of the Clean Energy Group’s Resilient Power Project.



Gas turbines are visible at the xAI data center on April 25 in Memphis, Tenn. Credit: Brandon Dill/The Washington Post via Getty Images

It was not built for a system that has much more rooftop solar and home-based batteries, with electricity going to and from the customer.

Energy companies and regulators have been working for years to modernize the grid and move toward cleaner sources of energy. But when faced with a rapid increase in electricity demand, ambitions of just a few years have faded in favor of plans to rely heavily on new natural gas power plants—with everyone bearing the costs, from higher electricity bills to harmful climate impacts.

Resorting to Natural Gas

Experts say that utilities are leaning extensively on gas due in part to the inertia of existing regulatory processes and a tendency of the power sector to hype its demand outlook.

When utilities want to raise rates, they almost always have to make their case in public proceedings before a state commission. In most states, the regulator-approved rate hikes only account for the fixed costs of building new infrastructure, including plants and power lines. The fluctuating cost of the fuel that goes into running those plants is passed through to consumers on a rolling basis year after year.

“Often the fuel price risk is ignored, probably intentionally ignored, by utilities when they speak with their regulators,” said Rob Gramlich, president of Grid Strategies, a D.C.-based consultancy focused on transmission and power markets.



The Guernsey Power Station is a natural gas-fired power plant in Byesville, Ohio. Credit: Jim West/UCG/Universal Images Group via Getty Images

Gramlich, who [testified](#) before a Senate committee in July about rising electric demand, previously worked with a Republican chairman of the federal energy regulator as well as with the country's biggest grid operator, PJM Interconnection.

Among the reasons for utilities to favor gas is the rate-setting process, which makes it more profitable for utilities to opt for power plants in their territory rather than contracting for renewables, Gramlich said.

“Renewables have been a little bit less attractive because often they’re in a neighboring service territory or spread around the region,” he said, and “they’re usually developed and owned by independent power producers.”

Utilities also like to err on the side of caution. To avoid blackouts, they prefer to build more rather than less, which shows up in their off-the-charts projections. Since 2006, their 10-year growth forecasts have overshoot reality by [17 percent](#) on average, according to an RMI analysis.

That saddles customers with the bill for unneeded facilities. And it’s a particular risk in the current fast-changing environment.

Utilities are preparing to meet a [24 percent increase](#) in electricity demand by 2035, according to another RMI analysis.

Jeremy Ortiz, a spokesperson for the Edison Electric Institute, a utility trade group, said in a statement, “Our members are investing more than [\\$1.1 trillion](#) in infrastructure projects nationwide over the next 5 years to help keep costs as low as possible for families and businesses while enabling the innovation America needs to win the AI race.”

Without regulatory changes, the costs will be effectively socialized across the customer base even though much of the growth is coming from one kind of customer—data centers.

“The typical rate-making structures are not set up for this because typically electrical infrastructure—generation, transmission, distribution lines—is paid for by the entire customer base, which is a reasonable assumption when you assume that everything is growing in a similar way,” said Cathy Kunkel, a North America energy consultant with the Institute for Energy Economics and Financial Analysis.

But today’s growth is coming from some of the world’s largest corporations, which are sparing no expense to win the AI arms race.

“Because the data centers are so enormous,” Kunkel said, “it’s a different paradigm.”

While this is playing out around the country, the most acute impacts are regionally concentrated. Northern Virginia is the world’s largest hub of data centers—and the utility that serves them, Dominion Energy, raised its capital expenditure by a fifth to [\\$12 billion](#) last year, the largest jump for any investor-owned electric utility in the nation.

Soaring electricity prices in Virginia, and throughout the wider [Mid-Atlantic region](#), have been attributed in large part to data centers.

As Virginia strains to accommodate that growth, “we’re seeing data center companies right now seek out anywhere that they see perceived headroom or ability to power their load throughout the country,” said Lauren Shwisberg, a principal at RMI’s Carbon-Free Electricity Practice.

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Against this backdrop, many other states are courting data centers and their tax revenue, following in Virginia’s footsteps.

But data centers don’t produce a lot of permanent local jobs, and they “may be effectively crowding out other forms of economic development” by siphoning large portions of the region’s available electricity away from other types of industrial and manufacturing investments, Kunkel noted.

Meanwhile, sparse information disclosed by data-center developers—and the speculative nature of many proposals on the cutting edge of tech—makes it harder to effectively plan the grid of the near future.

“It is worrisome that we’re going to end up overbuilding generation, particularly overbuilding fossil-fuel generation, which no one wants to see,” Kunkel said.

Blow to Clean Energy

Clean energy is literally waiting in line to help the grid out—and waiting, and waiting.

Another [report](#) from Lawrence Berkeley National Laboratory last year found that 95 percent of energy projects queued up at the end of 2023 for permission from grid operators to get connected were either

solar, batteries or wind. The report noted that wait times are rising, from less than two years for projects completed in 2008 to nearly five years for those finished in 2023. Historically, just about one in five projects in the queue get completed.

With all these projects in the pipeline, “we can meet the vast majority of the requirements for many of these data centers with pretty close to exclusively clean energy, if we had both the political apparatus and will to be able to do so,” said Jeremy Fisher, principal advisor on climate and energy with the Sierra Club’s environmental law program, who co-authored a [report](#) last September about leveraging growing electric demand for a cleaner grid.



A view of the Sarpy County Data Center in Omaha, Neb. Credit: Misty Prochaska/The Washington Post via Getty Images

At a federal level, with a president who has made no secret of his disdain for renewables, the will is now entirely absent.

“The cancellation of permits, the difficulty of getting federal permits and the uncertainty and loss of tax credits are all very likely to reduce renewable energy growth in the next few years,” Grid Strategies’ Gramlich said, referring to Trump administration moves to discourage wind and solar. All of that compounds the effects of burgeoning demand, he said, “making clean energy targets more difficult to meet in a number of places.”

Take Virginia’s example. The state passed the Virginia Clean Economy Act in 2020, setting staggered targets, under financial penalty, for investor-owned utilities to keep raising the share of carbon-free electricity in their statewide power sales, topping out at 100 percent in 2045 for Dominion.

But Dominion’s long-term planning indicates that it might [miss those targets](#). In 2023, its modeling showed it might not meet the statutory requirement to retire all carbon-emitting power generation by 2045, citing “an increasing load forecast.” Last year’s plan said it was getting ready to collect fines for some of the years through 2040 when it expects to fall short of the targets. Those fines would pass to customers.

Dominion did not respond to requests for comment.

Even if compliance with the law was possible and compatible with high levels of data center growth, it would require “unprecedented investment in an ‘all-of-the-above’ strategy” on energy. That was the finding of a [study](#) released in December by the state legislature’s Joint Legislative Audit and Review Commission, which also said the state’s current regulatory practices “were not designed to account for this level and continued pace of large load growth from essentially a single customer type.”

In neighboring North Carolina, where data center construction is [exploding](#), the Republican-led state legislature last month [dropped](#) a 2030 deadline for utility Duke Energy to slash its carbon emissions by 70 percent.

Risks to Consumers

Already, utility bills are rising as climate change drives more extreme weather and grid hardening costs. Deepening dependence on gas further piles on risks for ratepayers, and not only because gas worsens climate change.

“When [gas prices] spike, that’s an instant rate increase outside the rate-case process that flows directly to your bill,” said Ted Thomas, founder of consultancy Energize Strategies and former chair of the Arkansas Public Service Commission. “If you’re a regulator, your consumers are twisting in the wind if they’re just sitting there eating those costs on both electricity and natural-gas home heating.”

Then there’s the possibility of the political pendulum swinging back. Make energy investment decisions assuming the current federal policy environment won’t change, and “you’re probably going to get hammered,” Thomas said.

“The people that think the only reason to do renewables is environmental, they get it wrong,” Thomas said. His guidance for utility commissioners: “You’ve got to leave your ideology at home. ... We can’t pretend that natural gas prices don’t spike because if they do, our constituents are going to have to pay for it.”

Some states are taking a hard look at the other major grid issue posed by data centers: Everyone bearing the costs of that development. In July, utility American Electric Power got [buy-in](#) from state regulators in Ohio to make large data centers pay for at least 85 percent of their projected energy use each month, even if they end up needing less. A [report](#) that same month from the Clean Energy States Alliance details other ways that officials are trying to make data centers pick up the tab—and stay the course on the clean-energy transition.

“The momentum was always at the state level,” said Olinsky-Paul, a co-author of that report. “States have a very good, effective ability to institute new policy and regulations and new programs to accelerate the deployment of clean energy resources. They know how to do it. They’ve been doing it for decades.”

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DATA CENTERS, SERVICE

Data centers in Michigan: What you need to know

As data centers proliferate across the Great Lakes, driven by AI's soaring demands, communities face a dual reality: economic growth and environmental challenges.

by **Nina Misuraca Ignaczak** November 10, 2025

Data centers in Michigan are now eligible for tax breaks/ signed by Michigan Governor Gretchen Whitmer. Environmental advocates push for local protections./iStock

Overview:

- The Great Lakes region is witnessing a surge in data center development, driven by the demand for artificial intelligence, but this growth brings environmental challenges. These facilities consume vast amounts of water and energy, raising concerns among residents and policymakers.
- Michigan's recent tax incentives aim to attract data centers, yet experts urge policies that enforce transparency and efficiency.
- Advocates call for regulations ensuring data centers utilize renewable energy, prioritize on-site generation, and finance infrastructure needs to prevent burdening communities.

You've probably heard alarming headlines: "Your AI searches are draining water supplies!" or "Data centers will make your electricity bills skyrocket!" Maybe you've heard the opposite: "Data centers will bring jobs and economic growth to Michigan!"

So what's actually true?

If you're feeling confused, you're not alone. The data center boom is one of the fastest-moving infrastructure stories in the Great Lakes region, and it's happening faster than most people — including many policymakers — realize.

This guide cuts through the noise.

We'll answer the questions people are actually asking, fact-check common claims you've seen on social media, and help you understand both the real risks and the real opportunities that data centers bring to the Great Lakes.

Who this guide is for:

- Michigan residents hearing about data center proposals in their communities
- Anyone trying to understand what data centers mean for our water, energy, and climate
- People who want balanced information, not just hype or panic
- Advocates, policymakers, and journalists looking for accessible explanations

What you'll learn:

- What data centers actually are and why they're booming in the Great Lakes
- The facts about water and energy use
- What's happening in Michigan and across the region right now
- The potential economic benefits and immediate environmental concerns
- What can be done to develop data centers responsibly in the Great Lakes

Let's get started.

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Q: Data centers 101: What exactly is a data center?

A: Think of it as a giant warehouse full of computers running 24/7.

These aren't regular desktop computers. They're powerful servers stacked in rows, processing and storing massive amounts of digital information.

When you:

- Stream Netflix
- Use Google search
- Store photos in the cloud
- Send emails
- Use social media
- Ask ChatGPT a question

... all of that data is processed and stored in data centers somewhere.

Data centers never sleep. They run constantly, generating heat that must be cooled, and they need massive amounts of electricity to operate. In 2023, data centers consumed 4.4% of all electricity generated in the United States, according to the Department of Energy, and that number could triple by 2028.

Q: Why are we suddenly hearing so much about data centers?

A: Two words: Artificial intelligence.

AI requires dramatically more computing power than traditional internet services. A single AI query (like asking ChatGPT to write an email) uses about 10 times the electricity of a regular Google search.

As AI explodes in popularity, with tools like ChatGPT, Claude, Google Gemini, and thousands of business applications that incorporate AI right into the tools you use every day, tech companies are racing to build the computing infrastructure to support it. McKinsey estimates \$6.7 trillion in data center investment is needed worldwide by 2030.

Yet there are doubts about the size of the AI market among individuals, businesses, and the public sector. Experts caution that many planned data centers may never get built.

“An important point to understand is that a lot of this (is) speculative,” Andy Lawrence, executive director of research at Uptime Institute, which inspects and rates data centers, told The Guardian. “Many of the data centers, often announced with a fanfare, either will never be built, or will be built and populated only partially, or gradually, over a decade.”

Q: Why are data centers booming in the Great Lakes?

The Great Lakes hold 20% of the world's surface freshwater. But this abundance is deceptive: between 40%-75% of Great Lakes residents depend on groundwater for drinking water, and groundwater shortages are already occurring in every Great Lakes state.

Michigan's cool climate helps data centers cut cooling costs, and lawmakers recently approved tax breaks to attract them.

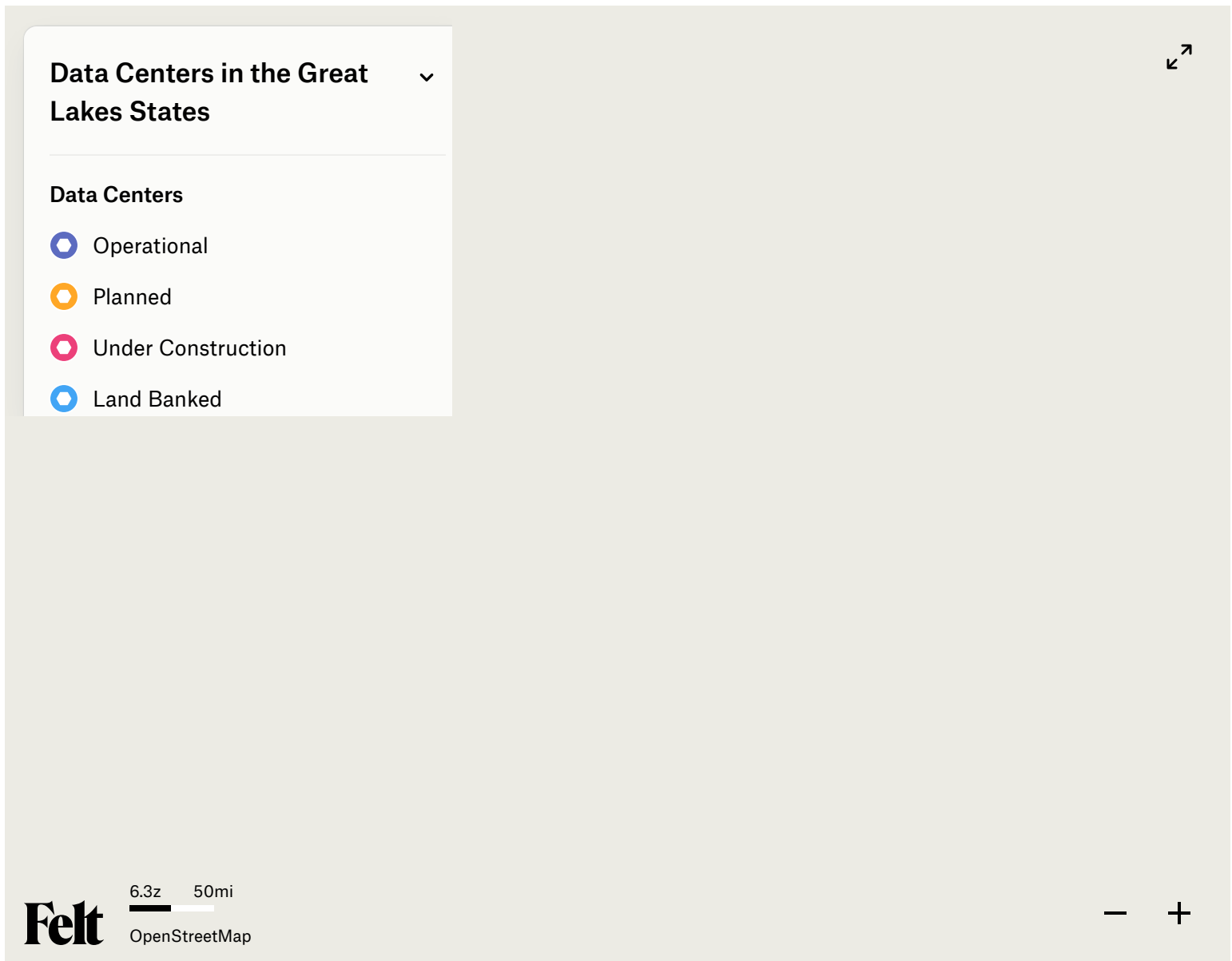
Illinois and Ohio rank fourth and fifth nationally for data center development, while Michigan has over 50 existing facilities.

The stakes are uniquely high for our region:

- **Water:** Some data centers use hundreds of thousands to millions of gallons daily. Water evaporates from those that use thermal cooling and does not return to local watersheds.
- **Energy:** The region's clean energy commitments (Michigan's is 100% by 2040) clash with utilities planning new fossil fuel plants to power data centers. Data centers that use less water-intensive cooling methods must use more energy.
- **Community:** Rural Great Lakes communities may be transformed as potentially hundreds of acres are being turned into industrial data center campuses.

In October 2025 alone, Michigan utilities DTE and Consumers Energy announced deals for 6.4 gigawatts of data center power. DTE signed 1.4 gigawatts and is negotiating another 3 gigawatts, while Consumers Energy is finalizing 2 gigawatts across three facilities.

This is equivalent to adding six or seven major cities to the grid in just two to three years. Ohio has 185 data centers. Illinois has 224. This isn't a future trend: it's reshaping the Great Lakes right now.



The data for this map provided by <https://www.datacentermap.com/>

Q: How big are these facilities?

A: Pretty big. It varies widely, but here are some examples:

Small-to-medium:

- 50,000 – 100,000 square feet
- 5-20 megawatts of power
- Think: small warehouse

Hyperscale (the giants):

- 500,000+ square feet (some over 900 acres for entire campuses)
- 100-1,000 megawatts of power
- Equivalent electricity demand: a mid-sized to large city

To put that in perspective: The average American home uses about 30 kilowatt-hours per day. A single hyperscale data center can use as much power as 80,000 to 800,000 homes.

Q: I saw on social media that “one email uses a bottle of water.” Is that true?

A: It’s complicated. A lot of estimates are floating around, and the truth is likely somewhere in between them.

In 2025, Google disclosed that each query to its Gemini assistant consumes 0.26 ml of water — about five drops. That may sound negligible. But multiply it by billions of queries every day, and the impact becomes staggering. And these figures underestimate the full footprint, since they often exclude:

- Water used indirectly in electricity generation (power plants need water, too)
- Water used in semiconductor manufacturing
- The complete lifecycle of the AI technology, including training.

Estimates of water per email or AI query range wildly, from a few drops to 500 ml (a bottle of water). It depends on how you account for this indirect use, the type of cooling technology used, and the data center’s location.

Author Andy Masley claims that many viral estimates — like “one email equals a bottle of water” — come from misinterpreted lifecycle studies that combine all forms of electricity and chip manufacturing, not the water used by an AI query itself. Masley, a methodologist who reviewed these studies, argues the realistic water use for AI computing nationwide is equivalent to about one golf course per year.

Q: So how much water DO data centers actually use?

A: Data centers use a LOT of water.

A mid-sized data center uses approximately **300,000 gallons per day**, equivalent to about 1,000 homes. A hyperscale data center can use **1-5 million gallons per day** – equivalent to a small city.

An evaporative cooling system uses this water consumptively, meaning it evaporates and doesn't return to local rivers or aquifers. That's very different from a manufacturer that uses water and returns it to the local watershed.

Q: Why do data centers need so much water?

A: In a word, heat. Computers generate tremendous heat when running, and keeping servers at the right temperature is critical.

Servers generate heat and they must be cooled, which is where water often comes in. Evaporative water is lost to the atmosphere instead of being returned to the local watershed.

Not all data centers use water cooling. The most common cooling method is air-based systems, though many of these rely on evaporative cooling — where water evaporates to chill air — which is more energy efficient but water-intensive.

Other **approaches include** dry air cooling (more energy intensive but minimal water use), closed-loop liquid systems (minimal water consumption), or hybrid methods. The choice depends on local climate and resources.

Q: Is this a problem in the Great Lakes? We have abundant water, right?

A: Yes and no. The Great Lakes contain 20% of the world's surface freshwater. But only 1% of Great Lakes water is renewable each year from precipitation and inflow.

Between 40% and 75% of Great Lakes residents **depend on groundwater** (not the lakes directly) for drinking water. Data centers don't just draw from the lakes — they typically connect to municipal water systems that draw from local groundwater aquifers.

Groundwater shortages are already occurring in **parts of every Great Lakes state**, according to The Joyce Foundation. Multiple large data centers in a single area can strain local aquifers. Once groundwater evaporates, it's not returned to that local system. And we don't have good tracking of how much water data centers actually use.

The concern isn't that the Great Lakes will run dry, but that local communities, especially rural ones, could face lower water tables, depleted wells, competition for municipal water supplies, and reduced stream flows that affect ecosystems like wetlands.

Q: How much electricity do data centers use?

A: Data centers are electricity-consuming monsters.

Current U.S. data centers use 4%-5% of total U.S. electricity (2023-2024), and that's projected to reach 12% by 2030. In some regions, data centers are already the fastest-growing electricity demand.

For scale:

- A mid-sized data center: 10-50 megawatts (powers 8,000-40,000 homes)
- A hyperscale facility: 100-1,000 megawatts (powers 80,000-800,000 homes)

DTE Energy's recent data center deal includes 1.4 gigawatts, increasing DTE's total demand by 25%. That's enough to power a large city. In one utility's territory, data centers could add the equivalent of several major cities to the grid in just two to three years. And DTE has another 6-7 gigawatts in its pipeline.

Q: Will data centers make my electricity bill go up?

A: In Michigan, there's some legal protection against that. The devil is in the details.

In April 2025, Michigan passed landmark legislation (Public Acts 181 and 207 of 2024) offering data centers sales and use tax exemptions worth millions. In exchange, the law explicitly prohibits data centers from receiving "a rate that causes residential customers to subsidize infrastructure and costs required to service the facility."

This puts Michigan ahead of most states in protecting ratepayers. But the devil is in the details, and those are being hammered out right now at the Michigan Public Service Commission.

DTE says that data centers create "substantial affordability benefits" and that it won't have to pass on costs to ratepayers.

The utility argues that data centers spread infrastructure costs across more customers, using “excess capacity” efficiently. But ratepayer advocates fear that billions in new infrastructure investments could become stranded assets if data centers don’t materialize or later downsize, leaving regular customers holding the bag.

Current cost allocation methods could also leave other customers paying for a portion of the expensive new generation needed for data centers. Douglas Jester, a consultant with 5 Lakes Energy, **said** a single 1 GW data center could increase residential rates 5%-10% if protections aren’t added.

Two cases now before the MPSC will reveal a lot about how those decisions will be made, and whether costs will be passed on to consumers.

- The MPSC **issued a final order on Nov. 6** in **Case U-21859** determining the rate structure for Consumers Energy data center customers. The order establishes 15-year contracts for large data centers and steep exit fees to protect ratepayers from “stranded assets” if data centers fail to materialize or downsize. This case began as an uncontested one, but intervenors successfully lobbied the MPSC to open it to public comment.
- DTE Energy asked the Commission to approve its electric contracts for a **Saline Township** data center by the end of the year as an **uncontested** case in **Case U-21990**. Michigan Attorney General Dana Nessel **called on** the MPSC to open this case up to intervenors, saying the outcome of the proceeding could impact residents’ utility bills and the state’s renewable and clean energy standards.

Q: Where will all this the electricity come from?

A: This is where the climate question comes in.

Data centers need 24/7 reliable power. **U.S. electricity demand is projected to increase 50% by 2050**, according to a National Electrical Manufacturers Association study, driven largely by data centers. The scale of renewable energy needed to meet this demand while phasing out fossil fuels is unprecedented.

Michigan’s law includes what environmental groups call an **“off-ramp”** that would keep gas or coal plants running if renewable sources cannot handle the load from the grid. Opponents warn the demand surge from data centers will likely trigger that exception.

Both DTE Energy and Consumers Energy have said they could build new natural gas power plants to meet data center demand.

Michigan's 2023 Clean Energy and Jobs Act counts natural gas plants equipped with carbon capture and storage technology as “clean energy” under the 100% clean standard. This means utilities can build new gas plants and still technically comply with Michigan's climate law, as long as those plants have carbon capture technology.

In Virginia, data centers' energy demands have led Dominion Energy to keep coal generation online, and the utility looks to build a new 1 GW gas plant.

While Michigan utilities plan gas plants, the tech giants powering data centers are making unprecedented investments in nuclear energy. In the last 30 years, only three U.S. nuclear reactors have been built. But recently:

- Microsoft signed a deal to reopen Pennsylvania's Three Mile Island nuclear plant specifically to power its data centers, the first time a nuclear plant has been brought back online for this purpose.
- Michigan's Palisades nuclear facility, originally slated for closure, is being restarted to help meet growing electricity demand driven partly by data centers.
- Google Cloud AI partnered with Westinghouse to develop 10 new nuclear reactors called the AP100, with construction beginning in 2030.
- Meta signed a 1.1-gigawatt nuclear energy purchase agreement with Constellation Energy's Clinton Clean Energy Center in Illinois, keeping a reactor that was originally intended to close in 2017 active through 2047.
- Amazon has invested \$500 million in nuclear. The major tech companies — Amazon, Google, Meta, and Nvidia — are calling for a tripling of nuclear energy by 2050.

The industry is also betting on next-generation “shipping container size” Small Modular Reactors (SMRs) that can be factory-built and trucked to sites, with over 25 SMR applications expected to hit federal regulators before 2030.

Q: OK, but aren't data centers supposed to bring jobs and economic growth?

A: Yes, but it's complicated.

Proponents tout data centers as economic engines for post-industrial communities. But Michigan's ambitions face a cautionary tale: Switch Inc.'s pyramid-shaped data center near Grand Rapids. In 2015, the Nevada company pledged 1,000 jobs and \$5 billion in investment. By 2022, it had created just 26 jobs, yet continued to receive \$1 million annually in tax breaks after Michigan loosened its job definitions.

Despite this failure, Michigan passed new incentives in 2024 that could cost the state \$90 million by 2065, requiring only 30 jobs at 150% of local median wage for eligibility. In reality, most data centers employ between 10 and 100 people, with construction offering the bulk of temporary employment. One expert pegs the national average cost per subsidized data center job at \$2 million.

Supporters highlight potential property tax revenue. Loudoun County, Virginia collects over half its property taxes from data centers, and a proposed Michigan project could generate \$21 million annually. Yet many communities find the tradeoffs steep: water use, power strain, and lost opportunity for other industries. Some, like Michigan City, Indiana, have rejected projects altogether for lack of public benefit.

Critics warn that wealthy tech firms hardly need tax breaks, and the real economic return may be minimal. As one analyst noted, filling the grid with data centers could limit future growth elsewhere.

Q: What technology or policies could make a difference?

A: According to experts and policymakers analyzing the data center boom, key interventions could protect communities and resources:

1. Mandate transparency. Currently, 12 states fail to disclose aggregate revenue losses from data center subsidies, and water usage often disappears into "public supply" categories. States could require large data centers to report water and energy consumption.

Examples:

- Connecticut's Senate Bill 1292 would require energy and water efficiency performance standards for AI data centers. The bill directs the state's commissioner of Energy and Environmental Protection to adopt regulations establishing energy and water efficiency standards among other items.

2. Require water and energy efficiency. Technology like Equinix exists to dramatically reduce water consumption, from closed-loop systems to dry cooling that uses air instead of evaporation. States could mandate best available cooling technology, set maximum water use per megawatt, and ban wasteful evaporative cooling in water-scarce areas.

Examples:

- In Texas, advocates are pushing for requirements including rainwater harvesting, water reuse, dry cooling systems, and stricter stormwater controls for data centers in water-stressed regions like Central Texas, where a large AI data center is planned for the Edwards Aquifer region despite ongoing drought conditions.
- Industry experts increasingly recommend co-locating data centers with wastewater treatment plants to utilize treated effluent for cooling systems. Examples include Chicago's Illinois Quantum & Microelectronics Park, which is designed to operate in a closed-loop system using wastewater treatment technologies; and proposals for Queens, New York near the Bowery Bay Wastewater Treatment Plant, which has an output capacity of 150 million gallons per day that could supply data center cooling needs.

3. Require clean energy. Michigan's 100% clean energy mandate by 2040 risks being undermined if utilities build new gas plants for data centers. Policymakers could require data centers to use additional renewable energy — not reallocate existing clean power — and prioritize on-site generation over grid dependency.

Examples:

- Virginia's proposed HB 116/SB 192 would tie sales and use tax exemptions to energy efficiency standards and require data centers to source at least 90% of energy from carbon-free renewable sources by 2027.
- In Lansing, the proposed Deep Green data center would donate waste heat to the municipal heating system, offsetting 25% of downtown heating fuel with a projected power usage effectiveness of 1.03-1.17, dramatically better than the industry average of 1.8.

4. Make data centers pay their way. Michigan regulators are grappling with how to prevent residential customers from subsidizing data center infrastructure, although the state's tax exemption law theoretically prevents it. Solutions can include long-term contracts with guaranteed capacity payments, exit fees if facilities close early, and requirements that data centers

fund their own grid upgrades. Without these protections, homeowners bear the risk while tech giants reap rewards.

Examples:

- Michigan enacted legislation in 2025 prohibiting residential customers from subsidizing data center infrastructure costs and lower energy rates. Data centers must pay for their own grid upgrades.
- In Virginia, legislators have introduced HB 2101/SB 960 directing the State Corporation Commission to investigate whether non-data center customers are subsidizing data center energy costs. Another bill, SB 664, would prohibit costs associated with electrical infrastructure required by data centers from being allocated to all ratepayers.
- Consumers Energy in Michigan has proposed contracts with long-term commitments and exit fees to protect against stranded costs if data centers close early or use less power than expected.

5. Plan regionally, not piecemeal. Individual projects may pass local review, but cumulative impacts across watersheds are rarely assessed. The Great Lakes could work to coordinate planning across state boundaries to set sustainable limits based on actual water availability.

Examples:

- Wisconsin created a regional water use district in the Central Sands in 2021 to manage cumulative impacts across watersheds in response to groundwater depletion, providing a working model for coordinated resource management.
- Under the Great Lakes Compact, which governs Great Lakes water diversions, the Great Lakes Regional Water Use Database tracks water consumption across multiple states, though it cannot isolate data center usage from the “public supply” category.

6. Empower communities. Michigan City, Indiana’s mayor rejected an \$800 million data center for lacking meaningful job commitments and community benefits. Communities who reject data centers may face lawsuits, but can negotiate community benefits in settlement. Binding agreements with local hiring requirements, environmental limits, and real community oversight ensure development serves residents, not just shareholders.

Examples:

- In July 2025, Michigan City, Indiana Mayor Angie Nelson Deutch rejected an \$800 million data center for lacking meaningful job commitments, community benefits, and substantial tax impact. The mayor required binding commitments that would ensure lasting benefits for residents, and when the developer couldn't provide them, she walked away.
- Virginia's proposed SB 1449 would allow localities to require site assessments of impacts on noise and on water sources, agricultural resources, parks, historic sites, and forestland before approving high-energy facilities.
- In Maryland, local concerns about backup generator emissions have led to advocacy for comprehensive monitoring and auditing, though generators are not currently tracked by the state.
- In September, Washtenaw County passed a resolution to help local governments assess data centers' water, energy, noise, and environmental impacts, while urging them to require 100% renewable power.

Q: What can individuals do?

A: You can exercise your right to participate in civic action.

Local data center proposals often move quickly through planning processes. When data center proposals surface, officials need to hear specific questions from constituents.

You can contact your state representatives and local officials, voice your thoughts and ask them questions.

Check your local planning commission agenda. Under Michigan law, you have the right to attend and speak at planning commission meetings. The Michigan Open Meetings Act guarantees public access and participation.

Here's what to ask:

About your electric bill:

- How will this project affect residential electricity rates?
- Will residential customers subsidize infrastructure costs for the data center?

- What protections exist to prevent cost-shifting to households?

About water use:

- What are the projected daily water usage rates?
- Will this draw from municipal water or directly from groundwater?
- How will this affect water rates and availability for residents?

About jobs and benefits:

- What are the binding job commitments, and what are the penalties for not meeting them?
- How many permanent jobs will this create, versus temporary construction jobs?
- What community benefit agreements are being negotiated?

About infrastructure costs:

- Who pays for transmission line upgrades, water main expansions, and road improvements?
- What tax incentives are being offered, and what's the net fiscal impact?

You have legal tools to get information. Use them:

File FOIA requests: Michigan's Freedom of Information Act gives you access to public records. Request:

- Water usage projections from public water utilities
- Environmental impact assessments
- Utility contracts and agreements
- Tax incentive packages
- Correspondence between officials and developers

How to file: Every Michigan municipality has a FOIA coordinator. Visit [Michigan's FOIA guide](#) or your local government website. Sample language: "I request copies of all documents related to [project name], including water usage projections, environmental studies, and economic impact analyses."

Several organizations are actively studying and working on data center issues:

Alliance for the Great Lakes

- **Focus:** Great Lakes water protection and policy advocacy
- **Email:** alliance@greatlakes.org
- **Website:** greatlakes.org
- **Role:** Produced a [comprehensive research report](#) on the environmental impact of data centers in the Great Lakes.

Joyce Foundation

- **Focus:** Great Lakes philanthropy
- **Website:** joycefdn.org
- **Action:** [Research and education](#) on data centers in the Great Lakes states

Brookings Institution

- **Focus:** Public policy think tank
- **Website:** <https://brookings.edu>
- **Action:** Research on [data centers and water use](#).

Michigan Environmental Council

- **Focus:** State environmental policy and advocacy
- **Address:** 602 West Ionia Street, Lansing, MI 48933
- **Website:** environmentalcouncil.org
- **Role:** MEC's chief policy officer has been vocal about ensuring data center development is approached thoughtfully, with environmental safeguards and ratepayer protections.

Michigan Environmental Justice Coalition

- **Focus:** Environmental justice and equity issues
- **Website:** michiganej.org

- **Resources:** [Published research](#) on data center impacts and community tools

Sierra Club Michigan Chapter

- **Focus:** Climate and energy advocacy
- **Website:** sierraclub.org/michigan
- **Action:** Follow their MPSC advocacy work on utility cases

Natural Resources Defense Council (NRDC)

- **Focus:** Midwest regional advocacy on data center policies
- **Website:** nrdc.org
- **Action:** Focus on renewable energy requirements and community equity

Michigan League of Conservation Voters

- **Focus:** Leading nonpartisan political voice for Michigan's land, air, and water
- **Website:** michiganlcv.org
- **Email:** info@michiganlcv.org
- **Action:** Activates voters to elect and hold accountable officials who fight for environmental protection, advocates for Ratepayer Bill of Rights

Vote Solar

- **Focus:** State-level solar policy advocacy and clean energy access
- **Headquarters:** 2443 Fillmore St. #380-1375, San Francisco, CA 94115
- **Website:** votesolar.org
- **Email:** info@votesolar.org
- **Action:** Works in 25 states on regulatory and legislative advocacy for equitable clean energy

Citizens Utility Board of Michigan

- **Focus:** Consumer advocacy for utility ratepayers, fights unfair rate increases
- **Website:** cubofmichigan.org

- **Phone:** 248-385-3167
- **Action:** Provides expert testimony in MPSC cases, publishes annual Utility Performance Report ranking Michigan utilities

Washtenaw County

- **Focus:** Focus on providing planning tools for local units of government
- **Website:** washtenaw.org/4635/Data-Centers
- **Resource:** Preliminary Toolkit on [Municipal Planning for Data Centers in Washtenaw County](#)

Local watershed councils provide expertise on local water issues and often coordinate with regional organizations. Find yours:

Major Michigan Watershed Councils

- [Huron River Watershed Council](#)
- [Clinton River Watershed Council](#)
- [Friends of the Rouge](#)
- [Friends of the Detroit River](#)
- [Tip of the Mitt Watershed Council](#)
- [Grand Traverse Bay Watershed Center](#)
- [River Raisin Watershed Council](#)
- [Kalamazoo River Watershed Council](#)
- And many more covering Michigan's 86 major watersheds

Watershed councils have unique expertise in coordinating across municipal boundaries and building capacity for water protection.

Official public comment periods matter:

Michigan Public Service Commission: When utilities propose tariffs or plans for data centers, submit comments:

- Email: mpscedockets@michigan.gov

- Reference the case number (e.g., Case No. U-21867)
- [Online comment form](#)

Planning commissions: Most allow written comments even if you can't attend in person. Comments become part of the public record.

State agencies: Michigan Department of Environment, Great Lakes, and Energy (EGLE) handles water withdrawal permits and environmental reviews.

Q: Is it too late? Are the decisions already made?

A: No, but the window is closing fast.

The momentum is undeniable. In October, Michigan's two largest utilities, [DTE](#) and [Consumers](#), have around **16 GW-worth of data centers** in their development pipelines that could fundamentally reshape the state's energy landscape:

For perspective, Consumers Energy's entire system peaked at 7.5 gigawatts on its highest demand day in 2022. Data centers alone could nearly match that.

The [tax incentive framework](#) is law. Land purchases are [underway](#).

But while data centers are coming, the *how* is still up for grabs.

It's still unclear how these facilities will operate. Water-efficiency standards, cooling technologies, and environmental performance requirements have not yet been defined. The current tax incentive law only "encourages" sustainable practices without enforcing them, though state regulators and local governments still control permits and compliance.

Who pays for infrastructure is another issue. The debate centers on whether residents will subsidize grid upgrades or if operators will cover the costs. The MPSC [approved proposed long-term contracts with exit fees](#) as part of Consumers Energy's tariff case, while DTE seeks approval for a massive 1.4-gigawatt deal. The MPSC is still reviewing the project for which DTE would supply power, and the Michigan Attorney General is seeking to open the case to allow public and advocacy group input.

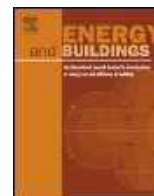
Energy sources also remain in question. Data centers could either accelerate Michigan's clean energy shift or prolong the use of fossil fuels beyond 2040. DTE and Consumers plan to build new natural gas plants, and Consumers' 2026 Integrated Resource Plan will outline its mix of batteries and gas. Environmental groups plan to push for renewable energy requirements in data center contracts.

Location decisions carry significant implications for rural areas, farmland, and local infrastructure. While the tax incentive law sunsets in 2029, communities still control zoning and permitting.

Finally, Michigan must decide how far to go. DTE may add another 3 gigawatts of capacity, and there's no cap on total projects. The 2029 sunset offers a chance to reassess whether data center incentives deliver on promises or need to be scaled back.

What to watch:

- The MPSC is reviewing rate structures in Consumers' [Case U-21859](#) and DTE is seeking approval for its Saline Township data center in [Case U-21990](#).
- Next year brings the [Integrated Resource Plan filings](#) that will chart Michigan's energy future. Consumers and DTE are scheduled to file long-term power plans with the MPSC in 2026.
- Local governments still control permits and zoning despite state tax incentives. Several municipalities are now reviewing data center site plans, water withdrawal requests, and zoning changes for large energy projects. Each decision offers a chance for local input — like Saline Township, which secured [\\$14 million in community investments](#) before approving the Stargate facility.
- The tax incentive law expires at the end of 2029 unless the Legislature votes to extend it. Between now and then, advocates can document the actual track record of Michigan's first wave of data centers: Did they create the promised jobs? Did they raise residential electricity rates? How much water did they consume?



The intersection of energy and justice: Modeling the spatial, racial/ethnic and socioeconomic patterns of urban residential heating consumption and efficiency in Detroit, Michigan



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ABSTRACT

Residential energy conservation and efficiency programs are strategic interventions to reduce consumption and increase affordability. However, the inability to identify and distinguish between high energy consumers and highly energy inefficient households has led to ineffective program targeting. Additionally, little is known about the spatial, racial and socioeconomic patterns of urban residential energy consumption and efficiency. Publicly available data from the U.S. Energy Information Administration and the U.S. Census Bureau are used with bottom-up modeling and small-area estimation techniques to predict mean annual heating consumption and energy use intensity (EUI), an energy efficiency proxy, at the census block group level in Detroit (Wayne County), Michigan. Using geographic information systems, results illustrate spatial disparities in energy consumption and EUI. Bivariate analysis show no statistical relationship between race/ethnicity and energy consumption; however, EUI is correlated with racial/ethnic makeup; percent White (−0.28), African American (0.24) and Hispanic (0.16). Income and housing tenure reveal inverse relationships with consumption and efficiency. Though areas with higher median incomes and homeownership exhibited higher consumption (0.28 and 0.56, respectively), they had lower EUIs (−0.48 and −0.38, respectively). This study provides evidence supporting approaches for conservation and energy efficiency program targeting that recognizes the significance of race, ethnicity, place and class.

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1. Introduction

Residential utility costs place a disproportionate burden on low-income households. Following the Great Recession, nearly 14 million American households had utility bills in arrears and 2.2 million households experienced utility shutoffs [1]. Residential energy burdens, or the percentage of annual income spent on energy costs are a major source of utility hardship. While the average American household spends 7.2% of their annual income on residential energy costs, the average low-income household has an energy burden nearly double, spending 13.8% [2]. Energy burden disparities are often expressed through the concept of fuel poverty, also referred to as energy insecurity [3,4]. Fuel poverty reflects an inability of a household to meet basic energy needs or to adequately heat or cool their home [3]. Fuel poverty results from the interplay between

low household incomes, rising energy costs and energy inefficient homes [3].

Amid solutions to alleviate fuel poverty, energy conservation and efficiency retrofit programs have proven successful [5–8]. However, the inability to identify and distinguish between households with high energy consumption compared to those that are highly energy inefficient has halted interventions from utilizing systematic approaches to appropriately and effectively target energy conservation and efficiency programs.

The need for more effective targeting is supported by previous studies exploring the spatial dynamics of energy consumption that find distinguishable spatial disparities in both consumption and energy use intensity (EUI).¹ For instance, Heiple and Sailor [9] using national data, building energy simulation and geospatial modeling

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¹ According to the U.S. Department of Energy, “Declines in energy intensity are a proxy for efficiency improvements, provided a) energy intensity is represented at an appropriate level of disaggregation to provide meaningful interpretation, and b) other explanatory and behavioral factors are isolated and accounted for” (DOEa) [52].

techniques found variations in peak energy profiles for electricity and natural gas across building types in Houston, Texas. Howard et al. [10] built models from citywide data to estimate building sector EUI finding major differences in the magnitude of consumption and spatial variation across New York City. Santamouris et al. [11] conducted interviews on household and housing unit characteristics finding higher costs per person and unit area for low-income residence in Athens. These studies provide rich information on the relationship between place and energy consumption; however, their focus on both commercial and residential energy consumption makes it difficult to identify residential energy disparities for program targeting. Moreover, few studies investigate correlations between residential energy consumption, efficiency, race/ethnicity and socioeconomic status for a more holistic understanding of urban residential energy dynamics. Reames [12] developed a model estimating urban residential heating EUI and found positive relationships with areas with higher percentages of racial minorities and lower socioeconomics. Albeit some exploration, little remains known about the spatial, racial and socioeconomic differences between residential energy consumption and efficiency.

To this end, this paper develops models for residential heating consumption and efficiency at the census block group level and explores the spatial patterns alongside racial and socioeconomic relationships in Detroit (Wayne County), Michigan. The remainder of this paper is structured as follows. Section 2 presents background information on modeling energy consumption, efficiency and disparities. Section 3 describes the study area, data and methodological framework for first developing two regression models to estimate residential heating energy consumption and heating EUI, then secondly, using small area estimation techniques to predict consumption and EUI in the study area. Section 4 presents results of the regression models, spatial distributions of results mapped using geographic information systems (GIS) and bivariate analysis of the relationship between predicted energy consumption and efficiency with selected racial and socioeconomic block group characteristics. Section 5 discusses key results, policy implications and study limitations. Lastly, concluding remarks and areas of future research are presented in Section 6.

2. Background

To understand the factors that impact energy consumption, scholars apply two general frameworks: the physical-technical-economic model (PTEM) and the lifestyle and social-behavioral tradition (LSB) [13–23]. In 1993, Lutzenhiser proposed the PTEM tradition arguing that the physical characteristics of buildings, investment in technical energy efficiency, energy prices and environmental factors are integral to understanding and managing energy consumption. On the other hand, the LSB tradition contends that these factors alone can only offer minimal explanation of energy consumption in the built environment and draws attention to the importance of human occupants of the building, such as, social (noneconomic), behavioral, cultural and lifestyle factors [13,14,17–20,24,25]. The models developed for this study include variables merging the PTEM and LSB modeling traditions for a more holistic understanding of residential energy consumption and efficiency.

Individual housing unit energy data is often not readily available for exploring residential energy dynamics at various spatial scales. Thus, the absence of detailed information on residential energy use presents an impediment to spatially identifying fuel poor households and developing strategic conservation and efficiency program targeting. As a result, scholars have employed small area estimation statistical techniques to spatially explore residential energy patterns. This approach requires finding the

best predictors to model energy consumption and efficiency, for instance, energy characteristics of housing structure and a selection of householder characteristics; then, connect to matching spatial data (i.e. census data).

A growing body of literature investigating geographical approaches to target fuel poverty in Europe have used this approach [26–29]. Fahmy [26] developed regression models to predict the incidence of fuel poverty in England using sample survey data and applied resultant weights to Census spatial data sets. Similarly, Walker and Day [30] developed a small area fuel poverty risk index using environmental and socioeconomic variables via geographical methods finding significant clusters of high and low-risk areas. “The underlying idea is that there are higher probabilities of fuel poverty in particular areas and/or housing types” [31].

In the U.S., Min et al. [32] applied this approach for spatially modeling national residential energy consumption end uses. Combining regression models based on national data from the U.S. Energy Information Administration’s (EIA) Residential Energy Consumption Survey (RECS) with U.S. Census data, they mapped energy consumption estimates for space heating, cooling, water heating and all other electrical uses at the zip code level. Reames [12] used both the RECS and Census data to explore racial and socioeconomic disparities in the spatial distribution of urban heating EUI. Both studies found that significant predictors of energy consumption and EUI included age of housing unit, type of housing unit, number of rooms, type of heating fuel and household income.

3. Data and methodology

3.1. Description of study area

Detroit (Wayne County) is the largest urban area in the State of Michigan and represents nearly 20% of the state population. According to the 2010 decennial census, the county had a total population of 1,820,584 residents in 821,693 housing units. Michigan homes are typically older than homes in other states. Nearly three-quarters of housing stock in Detroit (Wayne County) was built before 1970. Fig. 1 illustrates the distribution of housing stock age, displaying the median year built for block group housing structures.

Socioeconomic characteristics vary in the study area. Detroit exhibits a high and increasing level of residential segregation by income. The Pew Research on Social and Demographic Trends found that the Detroit metropolitan area’s RISI score increased from 43 in 1980–54 in 2010 [33].² Fig. 2 displays the spatial distribution of block group median household incomes, ranging from \$6833 to \$183,462 per year. Households in the Detroit metropolitan were hit particularly hard during the economic recession and recovery. A survey of Detroit metropolitan area households found that 1 in 2 respondents reported experiencing some type of material hardship [34]. While roughly 14% of high-income households fell behind on utility payments, nearly 40% of low-income households reported being behind and were seven times more likely to have a utility shutoff [34].

Detroit has long been the most segregated metropolitan area in the nation, having a majority African American and Hispanic city population and a majority White suburban population [35]. This segregation is evident in Fig. 3, a dot density map illustrating

² The Pew Research Center developed a single Residential Income Segregation Index (RISI) score for the nation’s top 30 metropolitan areas. The score is calculated by summing the share of lower-income households living in a majority lower-income tract and the share of upper-income households living in a majority upper-income tract. The maximum possible RISI score is 200, indicating that 100% of lower-income and 100% of upper-income households would be situated in a census tract where most households were in their same income bracket.

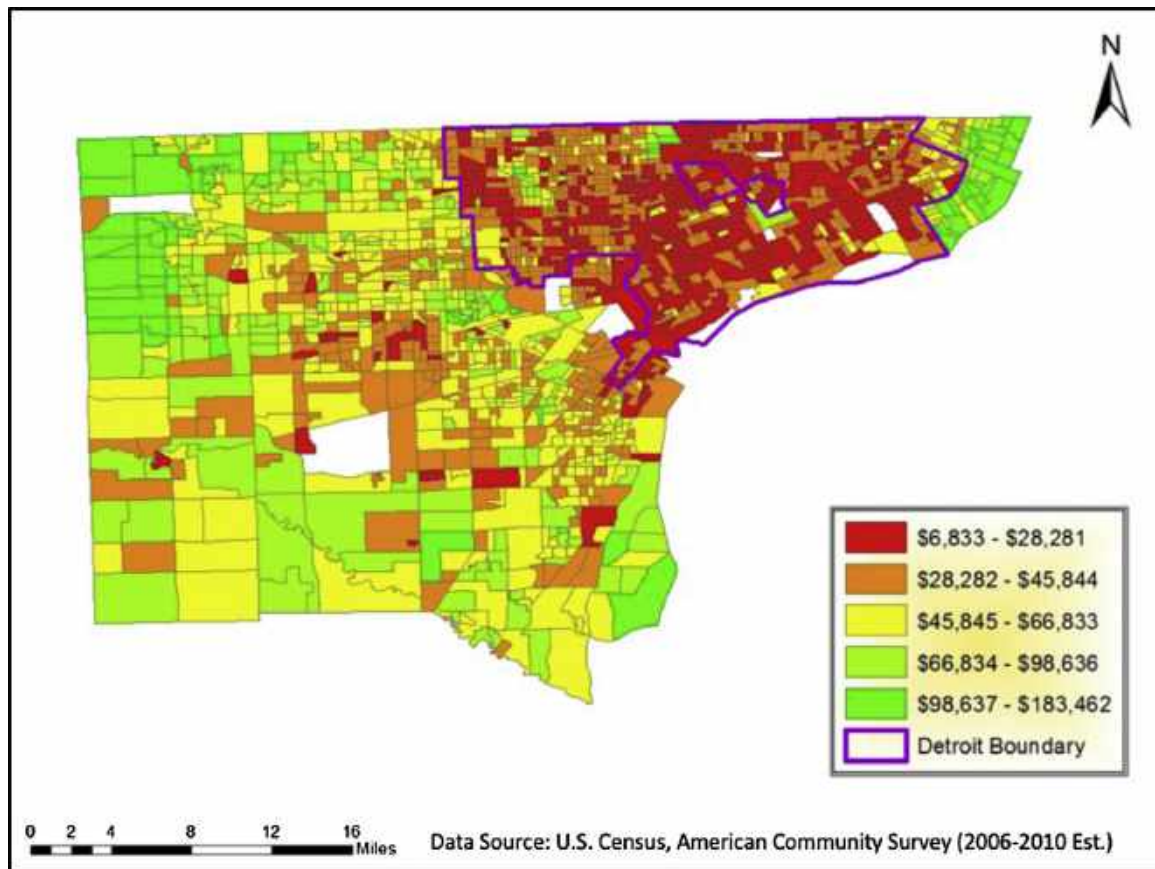


Fig. 1. Block group median structure year built.

the spatial distribution of residents by race/ethnicity. The household racial/ethnic composition included 52.3% White, 40.5% African American and 5.2% Hispanic households. Historically marginalized communities of color in Detroit experience higher rates of arrears and shutoffs. For instance, African Americans were almost twice as likely as non-African Americans to report being behind on utilities payments and more than three times more likely to experience a utility service shutoff than non-blacks [34].

Michigan households experience harsher winters increasing the average household demand for space heating to 55% of total energy consumption compared to 41% nationally [2]. Consequently, Michigan households also consume 38% more energy and spend six percent more than the average U.S. household [2]. Thus, space heating is the ideal energy end use for investigating patterns and disparities in consumption and efficiency.

3.2. Data

In the absence of detailed individual energy data for every household in the study area, the EIA's RECS provides household-level data for a representative sample of occupied, primary residences at the state-level. First conducted in 1978, RECS collected data on energy consumption, annual expenditure, energy-related behavior, household demographics and housing unit characteristics. Using a multi-stage, area probability design, carefully controlled at specific levels of precision, the 2009 RECS microdata set (released in 2013) has a sample size of 12,083 housing units representing the U.S. Census Bureau's statistical estimate of 113.6 million occupied primary residences [36]. The RECS allows for state-level analysis with the collection of representative samples in 12 states, including Michigan. A sample of 274 Michigan

households were surveyed to represent the state's 4.5 million occupied housing units. Since the scope of this study focuses on annual space heating, six of the total 274 observations were removed from the sample because of missing heating data, resulting in 268 total observations for this study.³

Spatial data for modeling and mapping the study area were obtained from U.S. Census Bureau 2006–2010 American Community Survey (ACS) [37,38] 5-year estimates. This survey is issued each year to provide current information about social and economic needs of the community. Households are sampled randomly in each state, including Puerto Rico to provide a representative sample. The census block group was used as the unit of analysis, as the most appropriate spatial resolution for household and housing unit characteristics data [12]. A GIS data layer of Wayne County census block groups was created by clipping the U.S. Census Bureau TIGER/Line Shapefile with demographic and economic data from the 2006–2010 ACS [37,38] 5-year estimates. Block groups were only retained if both population and number of occupied housing units were greater than zero. Subsequently, 1808 of 1822 block groups were included in this analysis.

The RECS microdata set can be used to develop a bottom up statistical model. These models have been used to explore relationships between household energy consumption and various exogenous variables [39,40,32,12,41]. Statistical models also allow for capturing consumption variations due to demographic and

³ For a 95 percent confidence interval, a sample size of 246 RECS observations are needed to prove statistical significance. For geographic domain estimation purposes, base sampling $w(\hat{Y}_{Heat})$ or $(\hat{Y}_{EUI})$ weights were applied to each housing unit. Each sampling weight value was used as a weighting factor in the weighted regression model.

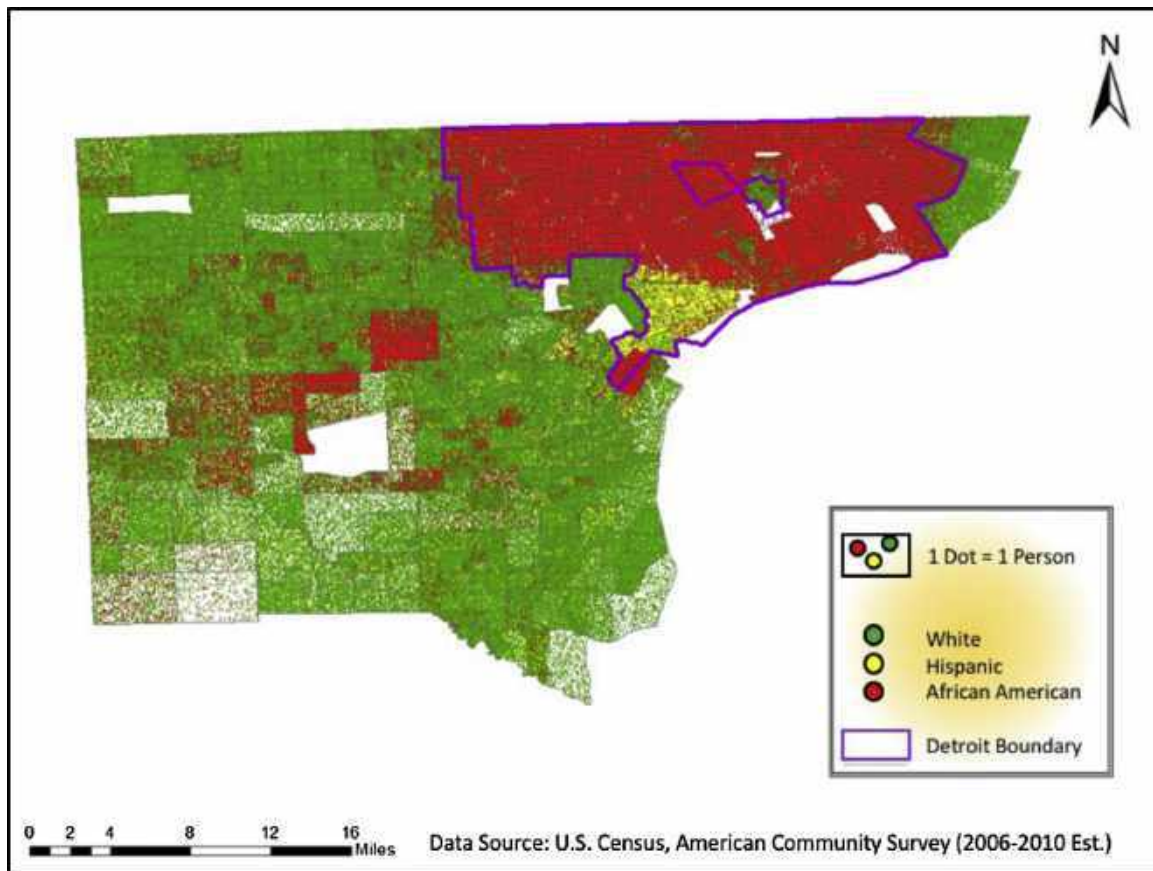


Fig. 2. Block group median household income.

socioeconomic characteristics. Similar variables found in both the RECS and ACS allow relationships derived from statistical models using RECS, known as direct estimates, to be applied to block group level ACS spatial data as indirect estimators for constructing small-area estimates with the assumption that the small area exhibits the same characteristics as the large area [42]. The next section clarifies this methodological framework.

3.3. Methodological framework for estimating block group heating consumption and efficiency

The goal of this study is to explore residential heating consumption and efficiency at a geographic domain smaller than the RECS microdata, which is collected with adequate precision at a state-level scale. Fig. 4 displays a schematic of the methodological framework for estimating heating energy consumption and EUI at the block group level.

The first step uses household and housing unit variables χ_{RECS} , from the RECS microdata set, specifying two robust regression models – one to predict residential heating energy consumption and the other to predict heating EUI (Blue ovals). The second step uses census data for small area estimations at the block group level (purple rectangles). Resultant weights, β_i , derived from the aforementioned robust regression models are multiplied to matching household and housing unit spatial variables (e.g. housing unit type, housing units built in each decade, housing unit heating fuel type, median household income), X_{CENSUS} , from the U.S. Census 2006–2010 ACS 5-year estimates.

The objective of the first step is to develop two robust statistical regression models that explain the relationship between the two response variables, heating energy consumption and EUI, with

the predictor variables, housing unit characteristics (age of home, type of heating fuel, type of home and size of home) and controlling for household characteristics (household ownership, number of household members and household income). Dependent variables were natural log values of per-household final consumption and EUI for heating. The models are formulated as:

$$\ln(Y_{Heat}) = \beta_0 + (\beta_{Housing\ unit} * \chi_{RECS}) + (\beta_{Household} * \chi_{RECS}), \quad (1)$$

$$\ln(Y_{EUI}) = \beta_0 + (\beta_{Housing\ unit} * \chi_{RECS}) + (\beta_{Household} * \chi_{RECS}) \quad (2)$$

where:

Y_{Heat} is energy consumption in MJ,

Y_{EUI} is EUI in MJ/m²,

β_0 is the regression intercept,

$\beta_{HousingUnit}$ is the resultant weight for housing unit characteristics,

$\beta_{Household}$ is the resultant weight for household characteristics,

χ_{RECS} is household and housing unit RECS data.

The RECS notation is used to differentiate for model creation in this step, and estimation in the subsequent step using Census data. Step one uses resultant weights, β_i , from the RECS, 2009 data to model energy consumption and EUI. Using the observed data from the state of Michigan, a statewide ordinary least squares (OLS) regression model is developed for each response variable, measured in mega joules (MJ) and MJ per square meter per annum. The goal of the OLS is to model the relationship between the response and predictor variables; simply, how housing units and household characteristics influence total heating fuel consumption and EUI. Total heating consumption is the total annual heating energy consumed from all fuel types (i.e. natural gas, electric, fuel oil, liquid petroleum gas, and kerosene). The EUI is measured as the ratio of total heating consumption to total square meters of heated space. A

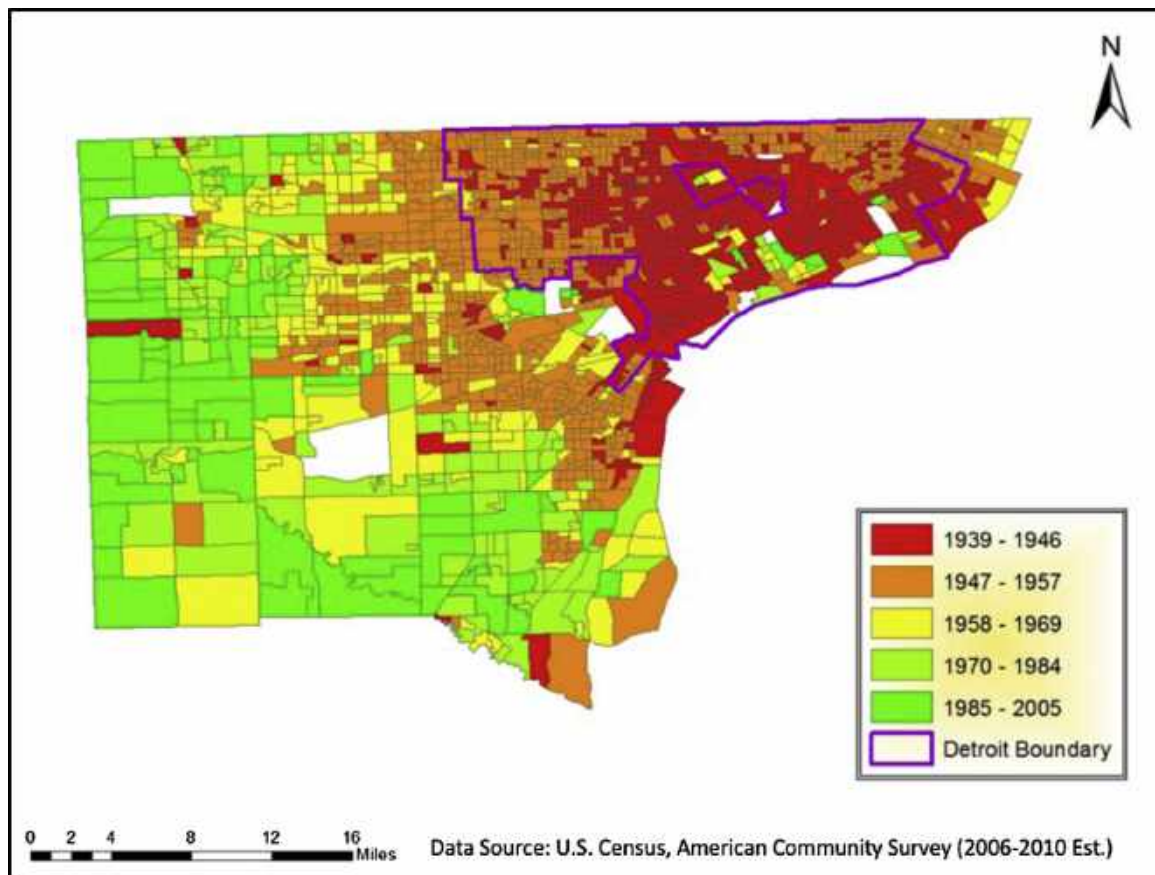


Fig. 3. Block group racial/ethnic segregation dot density map.

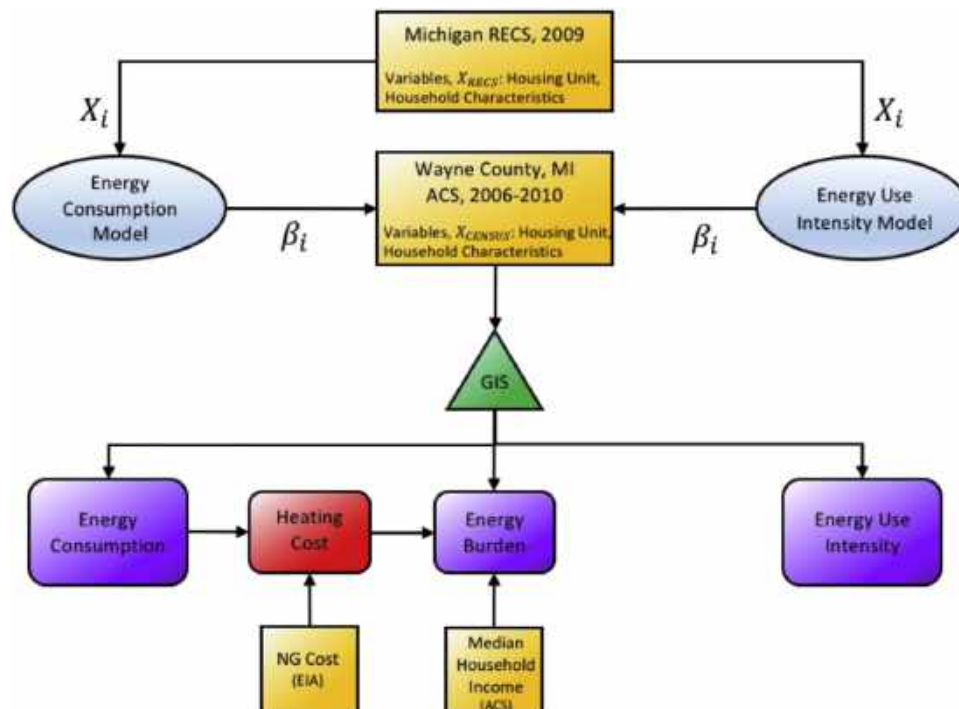


Fig. 4. Methodological framework for modeling and mapping.

larger EUI value indicates relatively less efficiency when compared to another housing unit.

Step two applies resultant weights from the regression models, β_i as weighting factors to corresponding variables in the ACS to estimate, then map the median annual heating energy consumption and EUI at the block group level in Wayne County. The corresponding variables are standardized as the ratio of the number of housing units in a block group with a certain characteristic to the total number of housing units in the block group.⁴ This is done for each corresponding variable (age of home, type of heating fuel, type of home, size of home, household ownership, number of household members and household income). These values then become comparable with binary variables in the RECS data set. Values are then mapped via GIS to estimate⁵ heating consumption and EUI:

$$\ln(\hat{Y}_{Heat}) = \hat{\beta}_0 + \left(\hat{\beta}_{Housing\ unit} * \chi_{Census} \right) + \left(\hat{\beta}_{Household} * \chi_{Census} \right), \quad (3)$$

$$\ln(\hat{Y}_{EUI}) = \hat{\beta}_0 + \left(\hat{\beta}_{Housing\ unit} * \chi_{Census} \right) + \left(\hat{\beta}_{Household} * \chi_{Census} \right) \quad (4)$$

where:

$\hat{Y}_{Heat}$ is estimated energy consumption, in MJ

$\hat{Y}_{EUI}$ is estimated EUI, in MJ/m²,

$\hat{\beta}_0$ is the estimated regression intercept,

$\hat{\beta}_{Housing\ Unit}$ is the estimated sampling weight for housing unit characteristics,

$\hat{\beta}_{Household}$ is the estimated sampling weight for household characteristics,

χ_{Census} is household and housing unit Census data.

4. Results

The final regression models for estimating annual heating consumption and EUI are summarized in Table 1, expressed as natural logs. Model 1, heating consumption, consists of five statistically significant variables representing housing unit type, primary heating fuel and number of household members. Model 2, heating EUI, consists of six statistically significant variables representing housing unit type, primary heating fuel, number of household members and housing unit size. Both models explained a considerable proportion of the variability in heating consumption and EUI ($R^2 = 0.52$, $F(18,249) = 15.18$, $p < 0.001$ and $R^2 = 0.52$, $F(18,249) = 11.09$, $p < 0.001$, respectively). Based on the F-values, the final models' sample sizes are large enough to make them significant.

Figs. 5 and 6 display the spatial distribution in quintiles of the estimated mean annual block group heating energy consumption and heating EUI, respectively. Red shading represents higher estimates, while green shading represents lower estimates. The 14 uninhabited block groups were left uncolored. It is important to note that estimates represent the block group mean rather than any specific house [32,43].

Among the 1808 block groups, there was a significant range in estimated heating consumption (Fig. 5) values, from a minimum

18,658 MJ to a maximum 123,120 MJ. The study area mean heating consumption, 85,107 MJ ($SD = 16,342$ MJ), was lower than the state mean heating consumption, 131,883 MJ. The 104,451 MJ variation in heating consumption estimates demonstrates that within the study area some homes consume a disproportionate amount of energy when compared to others. Block groups exhibiting the highest quintiles of heating consumption primarily surround Detroit on the east, north and west sides of city.

Estimated heating EUI (Fig. 6) values ranged from a minimum 285 MJ/m² to a maximum 1108 MJ/m². The study area mean heating EUI, 613 MJ/m² ($SD = 9.8$), was lower than the state mean heating EUI, 727 MJ/m². The 818 MJ/m² variation in heating EUI estimates demonstrates that within the study area some homes are far less energy efficient than others. Block groups exhibiting the lowest quintile EUI (shown in green) are located along the west, southwest and east sides of the county, representing homes with higher levels of energy efficiency. Moderate estimated EUIs, (shown in yellow) are located in the north central portion of the county, while a majority of the higher EUIs, (shown in red) are located in the central region of Detroit, indicating lower levels of energy efficiency. This matches areas where houses are older (Fig. 3) and may suggest that older homes are less energy efficient than newer homes a few miles outward.

To understand the relationship between heating consumption and EUI with measures of race/ethnicity and socioeconomic status, bivariate analysis using pairwise correlation was conducted. Pearson correlations, shown in Table 2, reveal statistically significant relationships between socioeconomics, education, and housing tenure with estimated heating consumption ($p < 0.001$). Heating consumption is positively correlated with block groups with median household income (0.28) and percent of homeowners (0.56). Furthermore, heating consumption is negatively correlated with number of households in poverty (−0.25) and the percentage of adults without a diploma (−0.07). There are no significant correlations between heating consumption or EUI with householders above the age of 65. Table 2 also shows statistically significant relationships between socioeconomics, education, race/ethnicity, housing tenure and estimated heating consumption and EUI ($p < 0.001$). Contrary to heating consumption, heating EUI is positively correlated with block groups with a higher number of adults without a high school diploma (0.32), higher number of households in poverty (0.32), percentage of African American (0.24) and Hispanic householders (0.16). Heating EUI is negatively correlated with median household income (−0.28), percentage of White householders (−0.28) and percent of homeowners (−0.38). Thus, census block groups with lower socioeconomics, lower median household incomes, and higher percentages of African American or Hispanic households are more likely to have higher heating EUIs. Simply put, low-income, African American and Hispanic households reside in housing areas where homes consume more and are less energy efficient.

5. Discussion

Results mapped using GIS illustrate inverse spatial disparities in heating consumption and EUI, with higher estimated consumption in block groups surrounding the central city, while block groups with higher estimated EUIs are concentrated within the city of Detroit. The findings also demonstrated that inverse relationships exist between the racial and socioeconomic correlations with block group predicted consumption and EUI. While areas with greater percentages of minority households and lower socioeconomic statuses exhibited lower predicted heating consumption, those same areas exhibited higher EUI, signaling that although low-income,

⁴ If block group A has 100 homes, and 50 are single family attached, then the corresponding variable for single family attached is $50/100 = 0.5$ which would be multiplied by 0.015 (from Table 1).

⁵ From the estimated log values $\ln(\hat{Y}_{Heat})$ and $\ln(\hat{Y}_{EUI})$ that we obtain from the regression models, actual estimated energy can be obtained by this equation: $(\hat{Y}_{Heat}) = \exp(RMSE^2/2) \cdot \ln(\hat{Y}_{Heat})$; $(\hat{Y}_{EUI}) = \exp(RMSE^2/2) \cdot \ln(\hat{Y}_{EUI})$. The scaling value $\exp(RMSE^2/2)$ is needed when using a log-linear model because without it we systematically underestimate the expected value of $(\hat{Y}_{Heat})$ or $(\hat{Y}_{EUI})$. (Wooldridge 2006: 219). RMSE means root mean square error of each model.

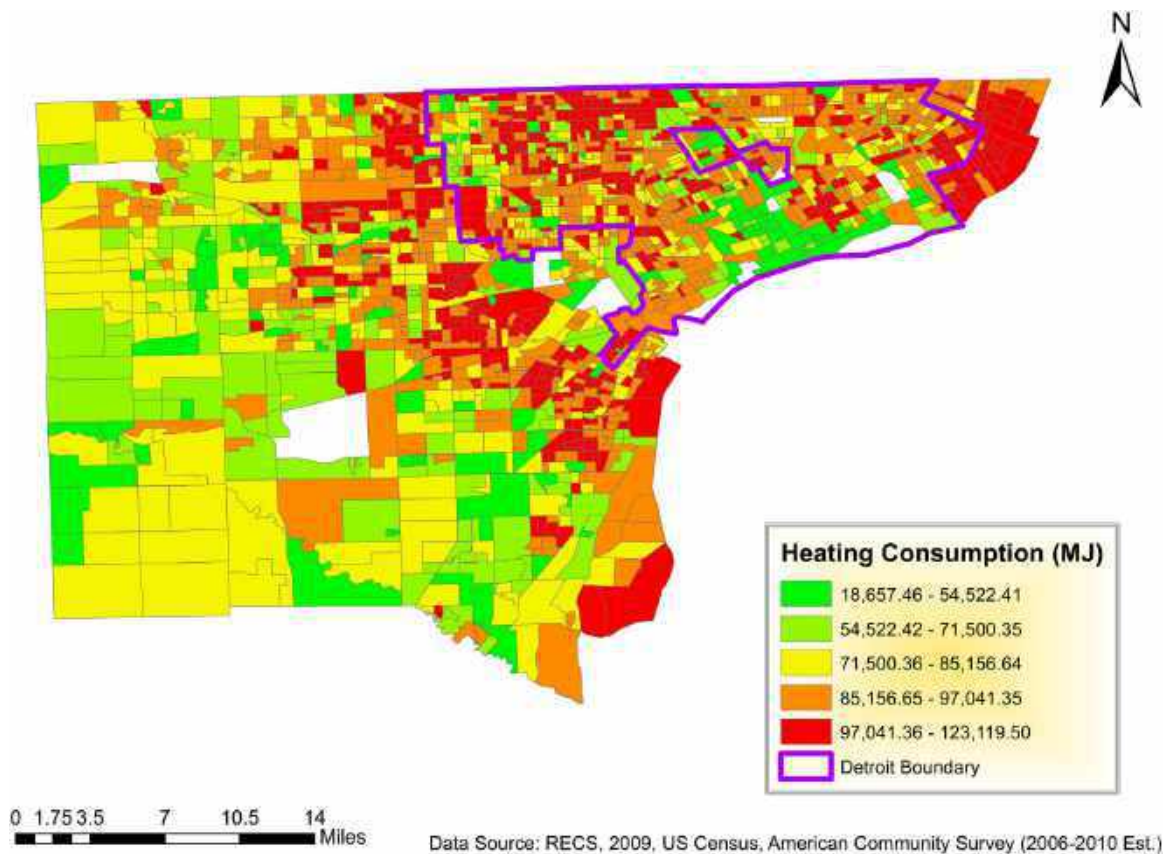


Fig. 5. Estimated residential heating consumption in MJ.

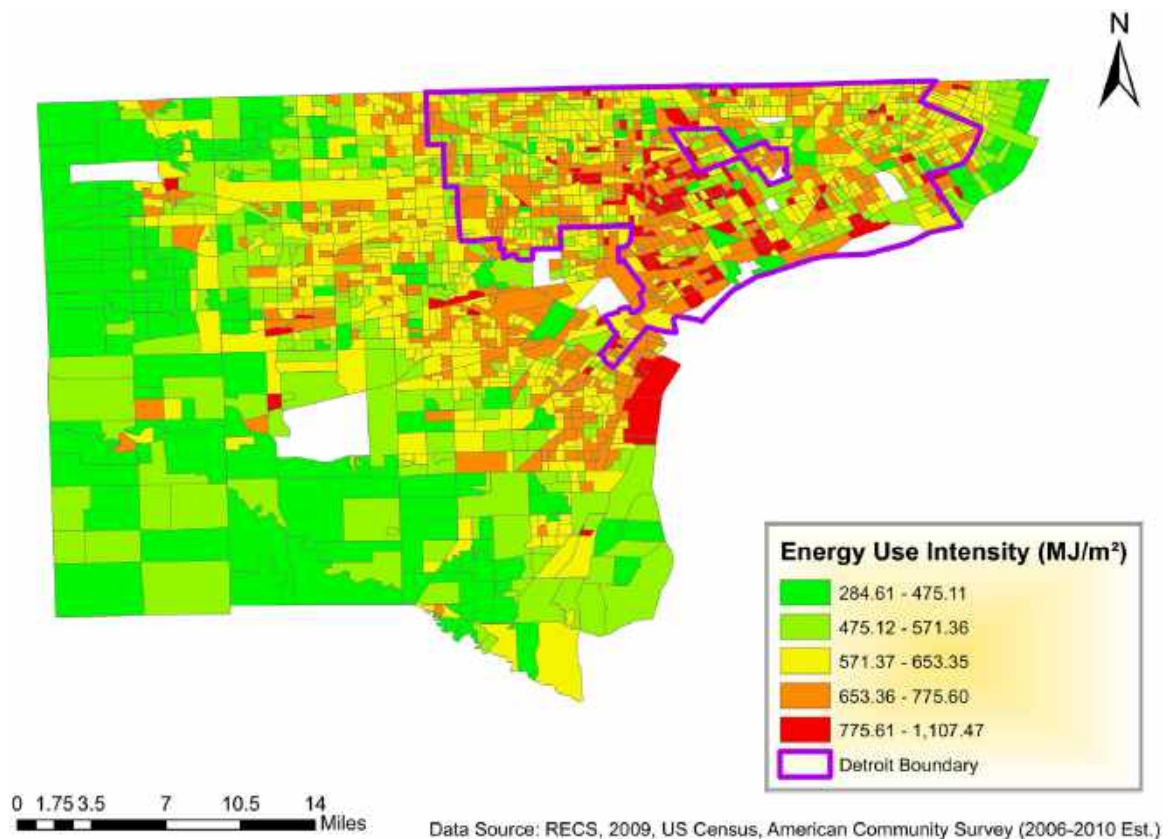


Fig. 6. Estimated residential energy use intensity (Efficiency) in MJ/m²

Table 1
OLS regression models for small-scale heating consumption and EUI estimation.

Categories	Model 1: Heating Consumption (MJ)		Model 2: Energy Use Intensity (MJ/m ²)	
	β	Robust S.E.	β	Robust S.E.
Type of Housing				
Apt 2–4	0.1431	0.1317	0.6728***	0.1864
Apt 5+	−0.2989*	0.1401	0.2987*	0.1511
Mobile Home	0.5173*	0.2361	0.1090	0.2271
Single Family Detached	Reference		Reference	
Single Family Attached	0.01531	0.1402	0.0948	0.1809
Decade Constructed				
Before 1950s	0.3317	0.1739	0.328	0.17
1950s	0.3223	0.1802	0.3521	0.1786
1960s	0.0681	0.1769	0.1126	0.1848
1970s	−0.0026	0.1832	−0.0159	0.188
1980s	0.0383	0.1693	0.0843	0.1808
1990s	−0.0124	0.216	−0.1232	0.2125
2000s	Reference		Reference	
Primary Heat (MJ)				
Natural Gas	Reference		Reference	
Propane	0.0138	0.0855	−0.098	0.1055
Electricity	−1.627***	0.1404	−1.381***	0.1677
Wood	−1.170	0.6978	−1.198	0.6732
Fuel Oil Heat	−0.6926*	0.270	−0.6823**	0.2061
Control Variables				
Household Income (\$)	0.0228	0.026	−0.0012	0.0259
No. Household Members	−0.0506*	0.0256	−0.0619*	0.0266
Home Ownership (own = 1)	0.0806	0.0853	−0.01029	0.0874
Total No. of rooms	0.0203	0.0279	−0.1048***	0.0254
Model Statistics				
Intercept, β_0	10.87375	0.2568	4.269	0.248
N	268	–	268	–
F (18,249)	–	15.18	–	11.09
Adjusted R ²	0.5242	–	0.5183	–
RMSE	–	0.514	–	0.574

* Significance $p < 0.05$.

** Significance $p < 0.01$.

*** Significance $p < 0.001$.

Table 2
Pairwise Correlation of Estimated Heating Energy Consumption and Energy Use Intensity.

Category	Description	Pearson's Correlation	
		Heating Consumption	Heating Intensity
Socioeconomic Status	Median Household income	0.28***	−0.48***
	Percent households below poverty level	−0.25***	0.32***
Education	Percent Population with Less Than High School Diploma	−0.07**	0.31***
Age	Percent Households with Householder aged 65+	0.01	0.02
Race/Ethnicity	Percent White Householders	0.23	−0.28***
	Percent African American Householders	−0.01	0.24***
	Percent Hispanic Householders	0.02	0.16***
Housing Tenure	Percent Owners	0.56***	−0.38***

** Significance $p < 0.01$.

*** Significance $p < 0.001$.

minority households on average consume less energy, they are more likely to live in less efficient housing.

Studying cities like Detroit is important because they often have older housing stock central to the city with much newer, suburban developments outside the city. As shown, householders occupying much older housing stock are at a greater risk for increased demand and a greater need for energy assistance programs. Although this study is focused in the south-east region of Michigan within the United States, this study could be replicated in other urban areas, as well as other countries using a similar household energy consumption survey (i.e. Zheng [44]; ODYSSEE MURE Project) and that country's census data. The significance of the results presented call for an integrated approach that tackles fuel poverty from both a physical and policy standpoint – evaluating building energy efficiency and energy assistance programs.

5.1. Policy implications

Energy assistance programs provide eligible householders with monetary or housing unit efficiency upgrade support. The federally funded Low Income Heating Energy Affordability Program (LIHEAP) provides energy assistance to residents whom are unable to afford their high utility bills. Identifying concentrated areas of high EUI and energy burden is still a concern given the aforementioned support from government. LIHEAP eligibility primarily depends on income; however, many qualified householders do not receive energy assistance. While attenuating exorbitant utility bills provides temporary relief for some householders, it perpetuates fuel poverty by not combatting a root cause, energy inefficiency.

The U.S. Department of Energy Weatherization Assistance Program's (WAP) purpose, as established by law, “provides low-to no-cost energy efficiency improvements of dwellings owned or

occupied by low-income persons, reduces their total residential expenditures, and improves their health and safety, especially low-income persons who are particularly vulnerable such as the elderly, person with disabilities, families with children, high residential energy users, and households with high energy burden” [45]. WAP is monitored by the Department of Energy’s Oak Ridge National Laboratory (ORNL). ORNL provides technical support to the program and conducts the evaluations. Led by ORNL, the Department of Energy sponsored two major national evaluations: The Retrospective Evaluation (covering Program Year 2008, which is reflective of a typical year in WAP operations) and the Recovery Act Evaluation (covering Program Year 2010, providing insight to the national effort of job creation and economic recovery as a part of the American Recovery and Reinvestment Act of 2009 [Recovery Act]) were multiyear, peer-reviewed and statistically robust efforts. The former was performed to provide a cost-benefit analysis of WAP services for varying housing unit types and locations across the country. Additionally, to assess program administration and to provide a comprehensive overview of the program, including information on its clients, housing stock and service providers ORNL, 2014. Effective and optimal funding of the system is verified through “whole-house” weatherization approaches via energy audits and the three-pronged WAP funding allocation formula: percent of low-income population, climatic conditions and approximate residential energy burden. Challenges of WAP presented revolve around maintaining and improving work quality, handling health and safety issues discovered in homes and meeting a growing demand for program services. Further, the Recovery Act did not address renewable energy measures average costs per home.

Though LIHEAP and WAP help mitigate energy burdens, these programs do not permit the use of sustainable energy, such as renewable energy for heating and cooling. Renewable energy systems have proven beneficial for energy generation with respect to retrofits [46–48]. There is an opportunity for growth that introduces renewables as a conduit for greater efficiency; however, a community based approach would be more fruitful for effective targeting.

Community-based energy programs have shown success for overcoming various barriers and increasing participation in the adoption of energy technologies [43]. A community-based approach to energy efficiency that targets low-income and minority communities recognizes the unique characteristics and needs of the community and can better foster equity and justice over typical self-referral, broad-based program development and implementation which relies on a homogeneous view of energy users [49,43,30].

5.2. Limitations

As with all research, this study is limited in its scope to fully understand individual households in fuel poverty. Information obtained from this data is often not precise enough to identify individual households; rather, only census block groups at risk of suffering from fuel poverty. Although, some homes that are not considered fuel poor may become integrated spatially with surrounding ones that are, this study provides a model of mean block group estimates to inform policy and program targeting while exploring relationships with race/ethnicity and class. Specific information about individual household utility bills is not accessible. Further, the influence of behavior on disparities in energy consumption or efficiency are not observed in these models.

6. Conclusion

This study used publically available data from the U.S. Energy Information Administration’s Residential Energy Consumption Sur-

vey (RECS) and the U.S. Census Bureau’s American Community Survey (ACS), bottom-up modeling, and small-area estimation techniques to predict mean annual heating consumption and energy use intensity (EUI), an energy efficiency proxy, for census block groups in Detroit (Wayne County), Michigan. This study’s relevance provides a best estimate of areas where householders may experience the greatest threat of fuel poverty. The key findings of the study illustrate inverse spatial disparities in heating consumption and EUI throughout Detroit (Wayne County), Michigan. Inverse relationships were also found between the racial and socioeconomic correlations with block group predicted consumption and EUI.

Modeling both heating consumption and efficiency provides a useful tool that may assist policymakers, energy conservation and efficiency program administrators and retrofit installers develop more effective targeting strategies. Combining consumption and efficiency information with an understanding of the racial and socioeconomic context of neighborhoods may also improve program implementation effectiveness.

Using spatial proximity as a guide to identifying fuel poor householders eliminates onerous applications to determine eligibility and provides a quicker and more robust response to householders in need. Furthermore, there is a need to understand the cultural/racial differences within identified neighborhoods. Simply creating energy assistance programs without effective marketing, maintains the energy divide, leaving many in fuel poverty. To overcome cultural and social barriers, community-based approaches would enable more access to help that is readily available. Future research should pursue a more granular level of understanding, such as, incorporating individual parcel data. Additionally, spatially modelling of energy burdens would provide a more holistic view of residential energy assistance demands. With this information in hand, program administrators could target local churches, community centers and neighborhood groups to more effectively and efficiently assist those with the greatest need.

Addressing fuel poverty and energy consumption more broadly, requires an integrated approach to identify the specific energy needs of communities. The modeling framework presented in this study is one approach to understand those needs both visually and statistically. Moreover, this research unpacks disparities in consumption and efficiency concluding that one-size-fits-all approaches to conservation and efficiency are not appropriate for all energy users in an urban area.

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A Decent Home: The Status of Home Repair in Detroit

October 2020

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INTRODUCTION

“Home repairs not only help that family; it helps the whole block. If people see work happening, it may encourage additional investment into your property. It’s an easy way to stabilize the community.”

- Construction manager, community-based organization

In 1945, President Truman told Congress, “A decent standard of housing for all is one of the irreducible obligations of modern civilization.”¹ Seventy years later, this ideal of a decent home for every American has still not been achieved, with nearly 6 million homes in the U.S. deemed inadequate.² Though Truman’s words were lofty, federal policies at the time only sought to extend this “irreducible obligation” to white Americans, and racial disparities in housing quality today are large and persistent.³

Home repair programs can serve as a critical tool to support housing stability and promote racial equity, particularly in Rust Belt cities with an aging housing stock and large populations of Black residents who have consistently faced structural racism in the U.S. housing system.⁴ In Detroit, a mostly Black city, old housing stock coupled with high poverty rates and an aging population intensifies demand for home repair and home accessibility modifications. As we explore in this report, however, current home repair efforts cannot meet this demand. Fixing this gap has taken on new urgency as the COVID-19 pandemic has underscored the importance of housing stability and the connection between housing and health outcomes.

This report examines the current state of the home repair ecosystem in Detroit, identifies potential gaps in the system, and provides a scan of promising practices in cities across the Midwest. A central finding of our analysis, however, is that reforms to existing programs will not be enough to meet the needs of Detroit residents. To truly meet the needs of a city faced with old homes and low incomes, more resources are needed.

METHODS

In summer 2019, Poverty Solutions at the University of Michigan interviewed 22 individuals from community-based organizations who administer or interact with the home repair programs in Detroit to better understand the city's home repair ecosystem. Sixteen of these organizations also responded to a survey assessing satisfaction with existing home repair programs.

Seven of the organizations interviewed help administer the largest loan-based home repair program in Detroit, the City of Detroit's 0% Interest Home Repair Loan Program, an effort by the city and local banks to extend credit to low-income Detroit households. Organizations that administer the 0% Interest Home Repair Loan Program are known as "Intake Centers" throughout the city and include:

- U-SNAP-BAC
- Bridging Communities
- SER Metro Detroit
- Jefferson East Inc.
- Central Detroit Christian
- Wayne Metro Community Action
- Cody Rogue Community Action Alliance

Poverty Solutions also used information from online searches, word of mouth, and snowball sampling methods — where research participants recruit other participants — to identify additional organizations involved in the home repair ecosystem. These organizations — in addition to the seven intake centers listed above — include Detroit Future City, Detroit Action Commonwealth, CLEARCorps, LISC, United Community Housing Coalition, Grandmont Rosedale Development Corporation, Brick + Beam, Rippling Hope, Rebuilding Together Southeast Michigan, Ehm Senior Solutions, Detroit Disability Power, Detroit Block Works, Habitat for Humanity, the Detroit Land Bank Authority, and Metro In-Home Solutions. As a result of this data gathering effort, Poverty Solutions developed a home repair ecosystem map, including the total funds expended and households reached in 2018. Additional organizations identified, but not interviewed, are included in the ecosystem map (Appendix 2).

In addition to the interviews, Poverty Solutions conducted two supplemental forms of analysis. First, we analyzed data on housing quality in the Detroit metropolitan statistical area from the American Housing Survey (AHS), which is sponsored by the Department of Housing and Urban Development (HUD) and conducted by the U.S. Census Bureau in select metropolitan areas every two years. The survey is the most comprehensive national housing survey in the United States and offers estimates of housing conditions throughout the country.

Finally, we conducted a scan of home repair programs in peer cities in the Midwest to gain a better understanding of the types of innovative programs and financial products that are extending capital to low-income households and to see what lessons can be learned from these programs.

FINDINGS

Housing quality and economic mobility

The cost of inaction on housing quality

Healthy and safe homes promote healthy and safe families and communities. As such, the work of home repair and remediation ensures families can thrive. Removing lead paint allows children to live in a healthy environment. Accessibility modifications can help seniors age in place with dignity and autonomy. The inverse is also true. Numerous studies have found that poor dwelling spaces can severely impact health in ways that diminish quality of life, increase the risk of diseases, and promote distress.⁵ For example, research has shown:

- **Housing and physical health are strongly correlated.** The cumulative health effects of substandard housing quality can lead to lifelong declines in health. Studies find dwelling spaces that are damp, cold, and toxic (i.e. lead and mold exposure) increase the risk of tuberculosis, recurrent headaches, sore throat, cardiovascular and respiratory disease, and lung cancer.⁶
- **Housing conditions also affect mental health.** Poor housing quality such as leaky roofs, broken windows, and pest infestation is a stronger predictor of emotional and behavioral problems in low-income children than residential instability (defined as moving often), high housing costs, home ownership, and receipt of a housing subsidy.⁷ For adults, poor housing conditions may be associated with anxiety, depression, and social isolation.⁸
- **Inadequate housing exacerbates chronic disease, particularly among children.** Home environmental factors such as water leaks, poor ventilation, and pest infestation are also associated with poor health outcomes including asthma, the most common chronic disease among children. Children with asthma are more likely to miss school than their peers, missing 2.48 more school days each year.⁹
- **Seniors living in houses with inadequate heat are vulnerable.** Seniors living in cold environments face increased respiratory problems, which have been associated with increased mortality.¹⁰

Taken together, there is strong evidence that substandard housing leads to adverse effects on multiple dimensions of physical and mental health and well-being. In the United States, 1.2 million children have lead poisoning, asthma is linked to 10% of all emergency room visits, and 3,645 people died in house fires in 2017.¹¹ These effects also spill over in ways that produce tremendous costs on society.

In turn, the public expense of dealing with inadequate housing is substantial. Faced with blighted and inadequate housing, governments:

- must enforce penalties against homeowners who maintain inadequate dwelling conditions;
- use tax dollars to tear down dilapidated homes;
- provide public benefits to address the negative health outcomes that result from housing insecurity;
- lose tax revenue due to declining property values;
- lose future earnings from individuals injured or sick due to home condition;
- and pay long-term medical costs associated with disease.¹²

The significant public cost of inadequate housing underscores the idea that home repair is not solely an issue for homeowners, but an issue that commands public action.

Housing quality and racial disparities in the United States

While progress has been made to secure safe and healthy homes in the U.S., significant challenges remain. As shown in Figure 1, the share of renter units facing moderate or severe physical issues declined from 9.9% to 7.5% from 2011 to 2017.¹³ Meanwhile, the share of owner-occupied units facing physical issues has remained flat at roughly 3.5% over that time period. Despite these improvements, as of 2017, nearly 6 million homes in the U.S. were deemed inadequate by the AHS, meaning the home faced physical problems related to maintenance, electrical wiring, heating, or plumbing.

Although not captured by the AHS, according to a report by the Center for American Progress, 24 million housing units in the U.S. face lead-based paint hazards, 17 million homes face heightened exposure to indoor allergens, and 6.8 million homes have elevated levels of radon, a radioactive gas that is the second leading cause of lung cancer in the U.S.¹⁴ Low-income renters, and particularly low-income renters living in central cities, are far more likely than others to live in poor dwelling conditions.¹⁵

The rate at which Americans occupy inadequate households also varies by race. In 2017, Black households occupied inadequate housing units at a rate of 7%, compared to a rate of 4% for white households. In Metro Detroit, 11% of Black households live in inadequate housing, compared to just 3% of white households.¹⁶

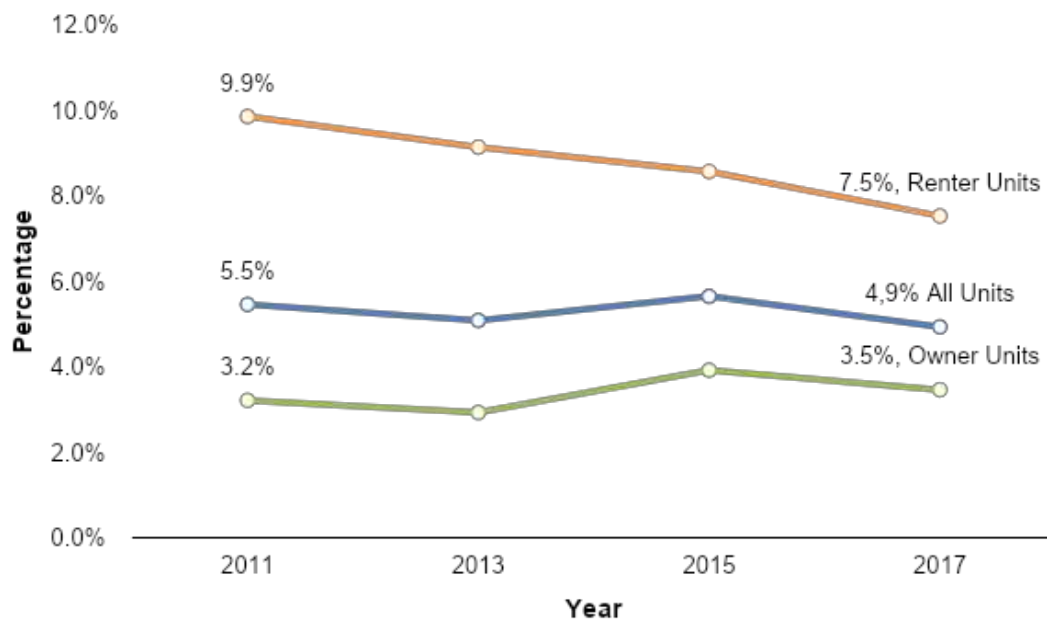
Racial disparities in housing have persisted for decades, the result of government policies, programs, and inaction that have prevented many Black Americans from securing safe, stable, and affordable housing, and building wealth.¹⁷ In *The Color of Law*, Richard Rothstein outlines the chain of events that has led to the racial disparities in housing we see today.¹⁸ From the 1930s through the 1960s, the Federal Housing Administration (FHA) sparked a homeownership boom in the United States by insuring and issuing mortgages at favorable terms to white working-class families, enabling them to purchase a home for the first time.¹⁹ Through means both implicit and explicit, the FHA denied Black Americans this same treatment. Of the \$120 billion in new housing construction loans underwritten by the FHA between 1934 and 1962, only 2% went to non-white families.²⁰ Lacking access to these low-risk mortgages, Black families were left to purchase homes using predatory land contracts, which carried with them high interest rates, a high risk of eviction, and no legal protections, often resulting in a loss of household wealth.²¹ Through the mid-20th century, discrimination in labor markets and unions reduced earnings for Black Americans.²² At the same time, home values rose substantially, making homeownership – particularly in the suburbs – unattainable for many working class Black families by the time the Fair Housing Act passed in the late 1960s.²³

From the passage of the Fair Housing Act through 2000, we see some signs of improved housing stability for Black households, such as a six percentage point increase in rates of Black homeownership.²⁴ However, these gains were soon lost, due to the disproportionate harm Black homeowners suffered from the subprime mortgage crisis in the late 2000s, which erased those gains in homeownership, and decimated the wealth of Black households.²⁵ Detroit's property tax foreclosure crisis in the years immediately following the mortgage foreclosure crisis magnified those losses.²⁶

In sum, Black Americans have not had the same opportunities to secure housing, have had to pay more for housing, have had fewer choices for housing, and – due to discrimination in both housing and employment – have had less income with which to procure housing and make repairs. We pay particularly close attention to gaps in housing adequacy by race in this report because the initial and substantial support government offered to white Americans in their pursuit of safe and stable housing, but denied Black Americans, has never been redressed. And though home repair programs are an inadequate tool to rectify the harms done, it is one area in which we can act quickly to support homeownership and housing stability for low- and moderate-income Black households.

Figure 1 - National Housing Quality, 2011-2017

The fraction of homes deemed moderate and severely inadequate



(Source: American Housing Survey)

Defining inadequate housing

The American Housing Survey (AHS) is sponsored by the Department of Housing and Urban Development (HUD) and conducted by the U.S. Census Bureau in select metropolitan areas every two years.

HUD developed the AHS in 1973 to assess the quality of housing stock and its characteristics in response to Title V of the 1970 Housing Act.²⁷ In addition to providing detailed information about the quality of housing units in select metropolitan areas, the AHS also categorizes housing units as severely inadequate, moderately inadequate or adequate. Though the AHS provides one measure of housing inadequacy, it fails to capture many housing issues that are important for policymakers to consider, such as home accessibility.

There are two methods for defining a unit as severely inadequate or moderately inadequate.

Severely Inadequate Method 1: The unit meets one of the following four conditions: (1) no electricity used, (2) exposed wiring without working electrical plugs in every room and the fuses were blown more than twice in the last three months, (3) unit was cold for 24 hours or more and the heating equipment broke down more than twice, lasting longer than six hours, or (4) unit has one of the following bathroom problems: no hot and cold running water, no full bathroom, shared plumbing facilities with occupants of another housing unit.

Severely Inadequate Method 2: The unit meets five of the following six conditions: (1) outside water leaks in the last 12 months, (2) inside water leaks in the last 12 months, (3) holes in the floor, (4) open cracks wider than a dime, (5) area of peeling paint larger than 8x11, or (6) rats seen in the unit in the last 12 months.

Moderately Inadequate Method 1: The unit has three or four of the conditions listed in “Severely Inadequate Method 2” but has not been designated as Severely Inadequate using Method 1.

Moderately Inadequate Method 2: The unit meets one of the following three conditions: (1) more than two toilet breakdowns in the last three months lasting longer than six hours; (2) the main heating equipment is unvented room heaters burning kerosene, gas, or oil; or (3) unit meets one of the four kitchen conditions: no kitchen sink, no working refrigerator, no working cooking equipment, or unit does not have exclusive use of kitchen.

For the purposes of this report, a unit is referred to as inadequate if it is categorized as severely inadequate or moderately inadequate.²⁸

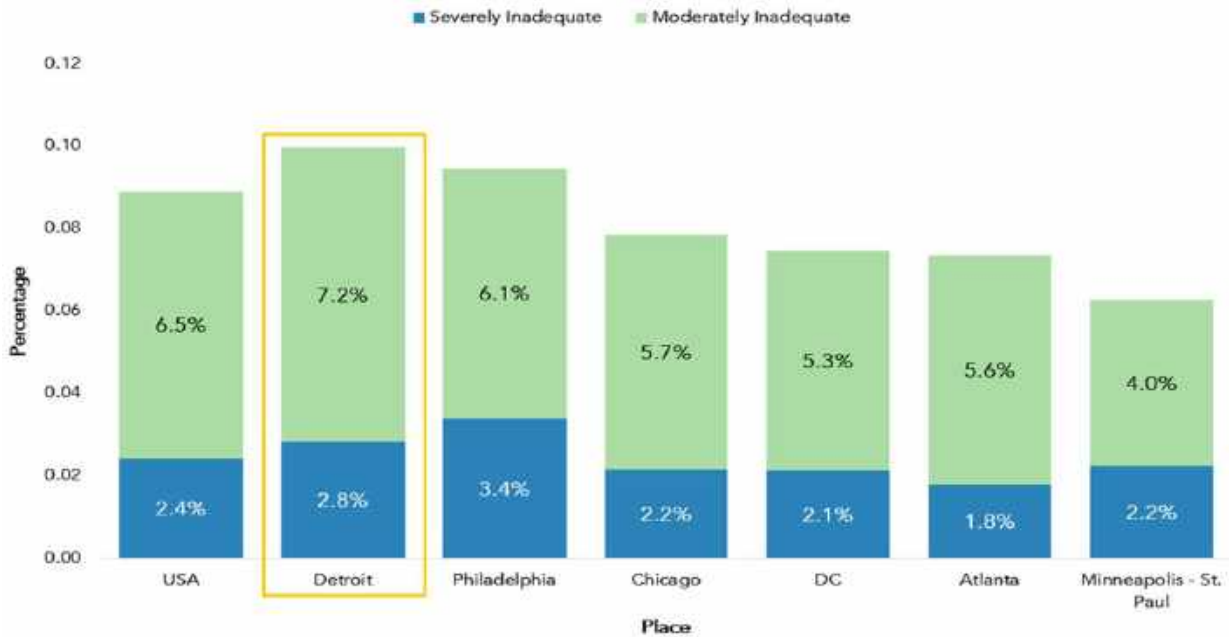
Measuring Inadequate Housing in Detroit MSA

Although the focus of this report is the city of Detroit, the AHS only provides data at the metro-level for select cities. The trends in housing quality in Detroit’s six-county Metropolitan Statistical Area (MSA) mirror what is occurring nationally: marked improvements alongside persistent disparities. From 2015 to 2017, the share of severely and moderately inadequate homes in the Detroit MSA fell from 101,200 units to 84,600 units. In total, around 5% of occupied housing units in the Detroit metro area are considered inadequate, which mirrors the national rate.

However, housing inadequacy is more widespread among very low-income metro Detroit residents (annual household income less than \$20,000) than in peer cities, with 10% of very low-income households – roughly 32,000 households – living in inadequate housing (Figure 2).

When compared to other metro areas surveyed in the AHS, Detroit stands out for facing higher rates of moderate and severely inadequate housing for very low-income households. In Washington, D.C., Atlanta, Minneapolis-St. Paul, and Chicago, inadequate housing affects fewer than 8% of low-income households. The highest rates of inadequate housing are in Philadelphia (9.5%) and Detroit (10%).

Figure 2 – Inadequate Housing for Very Low-Income Households Varies by Metro, 2017
The fraction of homes deemed moderate and severely inadequate by metro area for households with less than \$20,000 annual household income
(Source: American Housing Survey)



What is the Detroit Metropolitan Statistical (Detroit MSA) area?



The Detroit-Warren-Dearborn Metropolitan Statistical Area

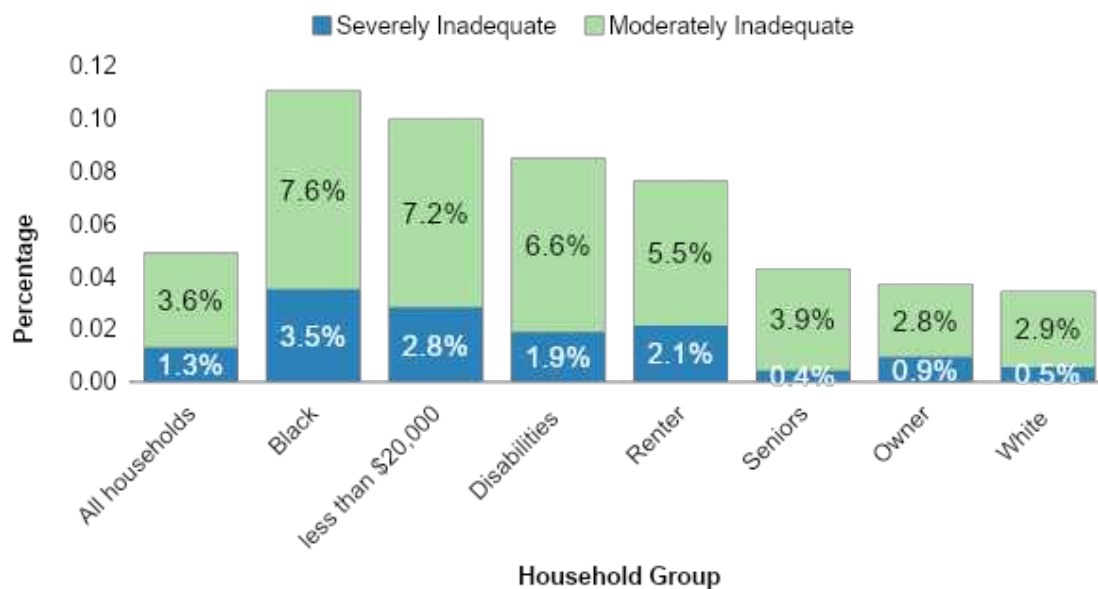
A Metropolitan Statistical Area (MSA) is a geographic boundary delineated by the federal government for the purposes of publishing statistical data. MSAs represent a “core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration within that core.”²⁹ The data presented in this report from the American Housing Survey represents the Detroit-Dearborn-Warren MSA. Estimates for the Detroit MSA likely differ from housing conditions in Detroit. For example, Detroit has a lower median income, a higher percentage of households living in poverty, and an older housing stock than the wider Detroit MSA (Appendix Table 1). Despite these differences, understanding inadequate housing at the MSA level provides useful information on the scale of housing inadequacy in the region, quantifies the most common types of housing issues, and provides insight into housing quality disparities by race and income.

Racial disparities in housing quality persist in Metro Detroit

Among all households in the Detroit metro area, Black households face the highest rates of inadequate housing. In Metro Detroit, 10.9% of Black households live in inadequate housing compared to less than 2.8% of white households (Figure 3). If we look only at very low-income households (defined as households earning less than \$30,000 annually), the share of Black households living in inadequate housing increases to 14.8%, while the share of white households increases to 5.4%, still roughly half the rate for all Black households regardless of income. Again, this is a reflection of the extent to which Black households have, for decades, experienced racial discrimination in housing and employment markets that have pushed them into older housing stock, hampered wealth creation, and reduced incomes.³⁰

In addition, renters are approximately twice as likely to live in inadequate housing as owners, regardless of race. This is important for Detroit, as the city has shifted from a majority-owner city to a majority-renter city over the past 15 years, owing in large part to the city’s twin foreclosure crises.³¹

Figure 3 – Detroit Metro Housing Quality, Select Population Groups, 2017
The fraction of homes deemed moderate and severely inadequate for occupied units
 (Source: American Housing Survey)



The most common housing quality issues facing Metro Detroit residents include inadequate heating, exterior water leaks, signs of mice or rats, and weak foundations (Table 1).

- **Heating issues:** Nearly 15% of all occupied units, or 253,400 units, reported being uncomfortably cold for 24 hours or more. Some of the reasons why occupied units reported cold temperatures included utility interruptions, equipment breakdowns, and inadequate insulation.
- **Water leakage issues:** Twelve percent of all occupied units or 206,600 units reported a water leakage from the outside, with slightly more basement leaks than roof leaks.

Table 1 – Selected Types of Housing Quality Issues in the Detroit Metro, 2017

Estimates are in thousands of housing units (*Source: American Housing Survey*)

Characteristics	N	%
Total Occupied Housing Units	1,723	100%
Severely Inadequate	22.4	1.3%
Moderately Inadequate	62.2	3.6%
Severely and Moderately Inadequate	84.6	4.9%
Selected Deficiencies		
Uncomfortably cold for 24 hours or more	253.4	14.7%
Water leakage from outside structure	206.6	12.0%
Water leakage from inside structure	154.5	9.0%
Electrical fuses or circuit breakers blown in last 3 months	154.3	9.0%
Signs of mice or rats inside the home in the last 12 months	153.8	8.9%
Foundation crumbling	105	6.1%
Open cracks or holes (interior)	96.1	5.6%
Missing roofing material	74.4	4.3%
Broken windows	67	3.9%
Missing bricks, siding, or other outside wall material	55.9	3.2%
Broken plaster or peeling paint (interior)	52.5	3.0%
Sewage disposal breakdown(s) in last 3 months	42.2	3.0%
Water stoppage in last 3 months	42.3	2.5%
Exposed wiring	34.4	2.0%
Signs of cockroaches in last 12 months	30.4	1.8%
No toilet working sometime in the last 3 months	25.6	1.5%
Rooms without electric outlets	19.6	1.1%

Estimating Housing Inadequacy and Repair Needs in Detroit

Understanding the magnitude and distribution of home repair needs in Detroit is important to developing appropriate policy solutions. Yet, the primary source of information on housing adequacy in the U.S., the American Housing Survey, only provides statistics at the national level and for select metropolitan areas. This means statistics on housing quality for cities, like Detroit, need to be collected locally or otherwise estimated.

Here, we briefly review what we know about housing quality in Detroit and then use estimates on the incidence of housing inadequacy in the Detroit metropolitan area to derive an estimate of inadequate units in Detroit under two scenarios. First, we assume Detroit faces the same housing inadequacy rate as the Detroit metro area to produce a conservative lower-bound for the number of inadequate homes. Then, because we see such stark disparities in housing inadequacy by race, and acknowledging our country's long history of racial discrimination in housing, we apply the inadequacy rates at the metro level by race to Detroit's racial composition to generate an alternative estimate.

Over the past decade, several ambitious efforts to collect local data have shed light on property conditions in the city. For example, in 2009 the Detroit Data Collaborative, a joint effort of the Detroit Office of Foreclosure Prevention and Response (FPR), Community Legal Resources (CLR) (now Michigan Community Resources), and Data Driven Detroit (D3), surveyed the exterior of every residential property in Detroit. The collaborative found 92% of Detroit's occupied housing structures were in good condition, meaning the building needed no more than two minor repairs.³² Another 7% were in fair condition meaning the buildings were structurally sound, but with some damage that could be rehabilitated. Only 1% were in poor condition, defined as not structurally sound with major repairs needed. According to the collaborative, these results pointed to the strength of many Detroit neighborhoods, despite accelerating vacancy and widespread housing distress. However, this effort only surveyed structures' exterior conditions, and therefore would not reveal repair needs inside the home, which make up the bulk of housing quality issues.

In 2013, another parcel survey effort called Motor City Mapping collected data on property conditions that informed the blight removal policy recommendations of the Detroit Blight Removal Task Force.³³ Results from Motor City Mapping found that 30% of all residential structures in the city demonstrated some form of blight, but the effort told us very little about repair needs in occupied structures.³⁴

While other efforts to understand the status of Detroit's homes have occurred since Motor City Mapping, in our search of data sources, we did not find estimates of housing adequacy for every occupied residential property in the city. In addition, while previous efforts assessed the conditions of Detroit housing structures based on exterior appearance, many of the major home repairs residents face (e.g. furnace problems, leaking roofs, poor insulation, interior lead paint, plumbing disrepair, electrical needs), cannot be assessed through a "windshield survey," but would require either a home assessment or resident interviews.

Lacking those sources, we apply inadequacy estimates for metro Detroit to the city of Detroit in two ways in order to generate city-level estimates. As shown in Table 2, there are 264,360 occupied housing units in Detroit.³⁵ A majority, or 140,264, of those units are renter-occupied units and the remainder are owner-occupied units.

To generate our first estimate of inadequate units, we apply the rate of inadequate housing for Detroit metro to the city of Detroit. This estimate can be thought of as a conservative lower-bound of how many Detroit homes might be inadequate, as the socioeconomic characteristics and housing stock of Detroit differ greatly from that of the metro region. Under this conservative method, we estimate there are 15,252 occupied housing units that are moderately or severely inadequate in Detroit, with rental units making up 10,660 of the total.

As noted, however, the city of Detroit is dissimilar from the Metropolitan Statistical Area (MSA) on important dimensions. Detroit's housing stock is older and median household incomes are lower, suggesting that Detroit homes might need more and costlier repairs and residents have lower incomes to address them (Appendix Table 1). In addition, data from the American Housing Survey make clear that Black households (both homeowner and renter) are far more likely than white households to live in inadequate housing, likely a result of decades of discrimination in housing and employment markets that have pushed Black households into substandard housing and left Black households with fewer resources.³⁶ As the share of Black households in Detroit is far greater than the share of Black households throughout the MSA (Detroit is 79% Black while the MSA is 22% Black), we would expect this to be reflected in the share of inadequate homes in Detroit.

Therefore, in Table 3, we attempt to account for differences between Detroit and the Detroit metro area by looking at inadequacy by race.³⁷ We find that once accounting for race, the estimated number of inadequate and severely inadequate homes jumps up to 24,119 with a majority of those homes being renter occupied (15,682). Taking into account the margin of error on the estimate, the total number of severe and moderately inadequate units ranges from 14,825 to 33,413.^a

There is reason to believe that this may also be an underestimate of the overall home repair need in Detroit. From 2005 to 2015, Detroit experienced twin foreclosure crises, during which 120,000 properties in the city went through either mortgage or tax foreclosure.³⁸ These foreclosed homes were largely purchased by investors, many of whom failed to invest in their properties while charging high rents, seeking to "milk" the property for profit, quickly evicting tenants for nonpayment, and often letting the property fall back into tax foreclosure.³⁹ This mass transfer of properties to speculative ownership has likely contributed to further disrepair in the city's housing stock. Indeed, investigative reports have identified a pattern of eviction and disrepair in Detroit's rental housing stock, prompting the City of Detroit to broaden its enforcement of the city's rental ordinance.⁴⁰ In other words, while we would expect the city's housing repair needs to be far greater than the metro area overall due to the age of the housing stock and low average incomes, the fallout from the city's twin foreclosure crises likely exacerbated these needs to a great degree.

Table 2 –Estimating home adequacy and repair needs in Detroit, 2017

	Total	Owner	Renter
Housing Stock			
Number of occupied housing units in Detroit *	264,360	124,096	140,264
Housing Inadequacy			
Share of occupied housing units that are severely & moderately inadequate in the Detroit Metro**	4.90%	3.70%	7.60%

^a Confidence level of 95%

Percent severely inadequate occupied housing units alone	1.30%	0.90%	2.10%
Percent moderately inadequate occupied housing units alone	3.60%	2.80%	5.50%
Number of severely and moderately inadequate housing units in Detroit assuming Detroit Metro rate	15,252	4,592	10,660
Number of severely inadequate occupied housing units in Detroit assuming Detroit Metro rate	4,062	1,117	2,946
Number of moderately inadequate occupied housing units in Detroit assuming Detroit Metro rate	11,189	3,475	7,715

Table 3: Estimating home adequacy and repair needs in Detroit by Race, 2017

	Owner	Renter	Total Occupied Units
Housing Stock			
Black occupied	95,976	114,599	210,575
White occupied	21,764	18,470	40,234
Other race occupied	6,356	7,195	13,551
Total Occupied Units in Detroit city	124,096	140,264	264,360
Housing Inadequacy Rates			
Black occupied Adequate	91.84%	86.28%	
<i>Range based on margin of error</i>	<i>(88.01%-95.66%)</i>	<i>(82.46%-91.19%)</i>	
Black occupied Inadequate	8.16%	13.18%	
<i>Range based on margin of error</i>	<i>(4.34%-11.99%)</i>	<i>(8.81%-17.54%)</i>	
White occupied Adequate	97.24%	96.85%	
<i>Range based on margin of error</i>	<i>(96.19%-98.28%)</i>	<i>(94.71%-99.00%)</i>	
White occupied Inadequate	2.76%	3.15%	
<i>Range based on margin of error</i>	<i>(1.72%-3.81%)</i>	<i>(1.00%-5.29%)</i>	
Number of adequate and inadequate (severely & moderately inadequate) housing units			
Black occupied Inadequate	7,836	15,101	22,997
<i>Range based on margin of error</i>	<i>(4,168-11,504)</i>	<i>(10,099-20,103)</i>	<i>(14,267-31,607)</i>
White occupied Inadequate	601	581	1,182
<i>Range based on margin of error</i>	<i>(374-829)</i>	<i>(185-977)</i>	<i>(559-1,806)</i>
Estimated Total Black & White Occupied Inadequate Households	8,437	15,682	24,119
<i>Range based on margin of error</i>	<i>(4,542-12,333)</i>	<i>(10,284-21,080)</i>	<i>(14,825-33,413)</i>

(Source:*=American Community Survey, **=American Housing Survey, Note: Margins of errors in parenthesis).

The State of Detroit's Home Repair Market

Homeownership has the potential to be a viable pathway to stable, affordable housing for low-income households, particularly in a city like Detroit with plentiful inexpensive housing stock. However, many low-income families struggle with the cost of owning and maintaining a home. One study found 1 in 4 low-income homeowners were at risk of losing their home due to being late on debt repayment after just two years.⁴¹ The study also found the cost of home repair was the greatest challenge faced by low-income families after purchasing the home, with nearly 1 in 6 confronting a repair they could not afford.⁴² These challenges are more pronounced for Black and Hispanic homebuyers, who are more likely to buy homes considered moderately or severely inadequate by the AHS.⁴³

Although national homeownership rates for Black and Hispanic Americans have increased over the past several decades, they still lag behind homeownership rates of white Americans. In 1940, the homeownership rate of Black Americans was approximately 23%, compared to 46% for white households.⁴⁴ Nearly 80 years later, in 2017, Black Americans owned their homes at a rate of 46%, the same homeownership rate as white households in 1940, while the white homeownership rate had risen to 72%.⁴⁵ Studies show that even after controlling for demographic characteristics such as education, income, and marital status, white Americans continue to have higher homeownership rates than Black Americans.⁴⁶

If we hope to realize the potential benefits of homeownership for low-income households, and low-income Black households in particular, access to home repair resources is a critical part of the equation.

To place home repair in a local context and to understand the resources available to low-income families, we first established a list of home repair programs available to Detroit residents and then conducted extensive research on these programs and how they function. This included web searches, interviews with home repair administrators, and conversations with government officials, nonprofits, and Detroit residents. We contacted over 60 organizations to determine if they administered a home repair program, and published information found from 25 home repair programs in our [2019 Detroit Home Repair Resource Guide](#). To calculate the total home repair funding issued to Detroit residents and the number of households reached in 2018, we requested data from all identified organizations offering home repair programs including city, state, and federal agencies. We also included weatherization and energy program funding, which can improve household heating conditions and reduce utility costs. Please see our Home Repair Ecosystem Map (Appendix 2), which provides funding streams and breakdowns of estimated households reached and dollars spent by each program in 2018.

What home repair programs are available to Detroit residents?

We find Detroit city residents received an estimated **\$15,842,205** in funding in 2018 for residential home repair, reaching an estimated **2,943** housing units.⁴⁷ All estimates listed in this section are for the city of Detroit, unless otherwise noted, and all programs except one are available exclusively to owners who occupy their residence, leaving renters with few to no options for accessing funds for home repairs.^a

^a To our knowledge, the only home repair program available to renters is the City of Detroit's Lead Abatement program.

We separated the funding into four categories:⁴⁸ (1) loans, (2) grants (3) weatherization/energy, and (4) volunteer community-based organizations.

The totals shown in Table 3 represent our best estimate of the home repair funding issued to Detroit residents and households reached in 2018.

- **Loans:** Three programs provided an estimated \$2,760,770 in the form of home repair loans, reaching 175 households.^a
- **Grants:** Nine programs provided an estimated \$6,649,221 in grant funding, reaching 771 households.
- **Weatherization & Energy:** Four programs provided an additional \$6,432,214 specifically for weatherization and energy projects that mainly included furnace replacement or repair, reaching an estimated 1,623 households.⁴⁹
 - Three of the four weatherization and energy programs are provided as grants to households, and one provides inspections and equipment. These programs are restricted to weatherization and energy improvements and do not fund other critical repairs such as roof repair.
- **Volunteer community-based organizations:** A confirmed 10 community-based organizations utilized volunteers and donations to reach approximately 374 households, mostly focusing on minor home repairs such as painting, yard work, and beautification. The estimated donations received for these programs was not reported.

Table 4 – Home repair funding by category for 2018

Funding Type	Dollars Spent	% of Total Dollars	Units Reached	% of Total Units
Loan	\$2,760,770	17%	175	6%
Grant	\$6,649,221	42%	771	26%
Weatherization	\$6,432,214	41%	1,623	55%
Community-based organizations	Not reported	-	374	13%
2018 Totals	\$15,842,205	100%	2,943	100%

Note: The MI Saves Home Energy Loan Program is included in the “Loan” funding type, even though the funding is primarily for energy related improvements, because it is administered as a loan.

Understanding loan programs

Poverty Solutions confirmed a total of three loan programs provided 175 home repair loans to Detroit residents in 2018, totaling \$2,760,771.⁵⁰

- Michigan State Housing Development Authority’s (MSHDA) Property Improvement Program (PIP) issued two loans totaling \$18,329.

^a Note that this analysis is only taking into account home repair loans designed to serve low- and middle-income homeowners who may struggle to access other forms of capital due to high debt-to-income ratios or sub-prime credit scores. It therefore does not include traditional home repair loans or home equity lines of credit offered by commercial banks.

- Michigan Saves' Home Energy Loan Program issued 78 loans totaling \$679,531.
- The City of Detroit's 0% Interest Home Repair Loan Program issued 95 loans totaling \$2,062,911. More information regarding the distribution of loans by household income is provided in a subsequent section.

Credit scores and loan programs

Loan programs offered by MSHDA, Michigan Saves, and Liberty Bank — which advertises a home repair loan on its website but would not confirm lending data in 2018 — all require credit scores in the 600s, with interest rates starting at 4%, which are potentially limiting factors for low-income families. In addition, these programs are restricted to certain geographies and eligible repairs, and, in the case of MSHDA's PIP program, extremely limited in scope. The PIP program, which issues home repair loans of up to \$25,000 with interest rates of 4%-8% depending on income, issued only two loans in Detroit in 2018, totaling \$18,329. Better utilization of this program, which has a loan repayment period of 20 years and is available to households with annual incomes up to \$105,700, could provide needed home repair funds to higher-income households in Detroit who may lack access to other home repair capital.

The City of Detroit's 0% Interest Home Repair Loan program seeks to correct for the deficiencies of these other programs. The program is available to those with a credit score above 560, more than 120 points below "prime" — a critical factor in a city where the median credit score is 552⁵¹ — and can be used on a range of potential repairs.

However, while the program aims to target a credit-constrained population, the average credit score of approved applicants is 727, suggesting that other program requirements are preventing those with lower credit scores from accessing the program.⁵² Still, the 0% Interest Home Repair Loan approved \$2,062,911 in loans in 2018, representing an estimated 75% of the total home repair loans in Detroit analyzed in this paper.

Understanding grant programs

A confirmed total of nine grant programs provided an estimated \$6,649,221 in funding to 771 homes for home repair and accessibility projects in Detroit in 2018. A description of the largest home repair grant programs available to Detroit residents who meet eligibility requirements is below.

- The City of Detroit's Lead Hazard Control Program is by far the largest home repair grant program in Detroit, expending \$3,327,691 in funds in 2018 and accounting for half of all home repair grant dollars that year. The program reached 76 homes, for an average expenditure of \$43,785 per home.
 - o The program is only available to income-eligible households with children under 6 and pregnant women.
 - o Two of the 76 homes receiving services were through ChildHelp, which assists rental units with lead abatement repairs.
 - o Although the program's focus is on lead abatement, the program provided additional health and safety repairs including roof repairs, window replacement, and porch repair.
 - o The majority of the Lead Hazard Control Program funding (74%) comes from Community Development Block Grant Dollars (CDBG) from the U.S. Department of Housing and Urban Development (HUD), and the remainder comes from the state of Michigan.

- The Federal Home Loan Bank of Indianapolis's (FHLBI) Neighborhood Improvement Program (NIP) provided a total of \$530,560 in grants to 76 homes in 2018 for home repairs up to \$7,500 related to repair or replacement of windows, siding, roof, exterior doors, and water heaters.
- MSHDA's State Emergency Relief (SER) program provided \$70,307 in non-energy grants for hot water heater replacement, and roof, door, and window repairs to 67 homes throughout Wayne County in 2018. This program has a lifetime maximum grant amount of \$1,500 per household. This program was unable to provide Detroit city estimates.

Grants for improving home accessibility

In addition to the programs above, four grant programs focused specifically on home accessibility. These programs expended \$2,654,919 in 2018, representing approximately 40% of all grant dollars, although a portion of the Accessibility Modification Program from the Federal Home Loan Bank of Indianapolis (FHLBI) and the City of Detroit's Senior Emergency Program can also be used for approved non-accessibility repairs, including roof repair.

- Detroit Area on Aging's MI Choice Waiver program, a Medicaid program for MI Choice Waiver enrollees in Detroit, Highland Park, Hamtramck, Harper Woods, and the five Grosse Pointes, reached an estimated 468 households expending \$1,492,608, the most funding one program spent on home accessibility modifications.
- The city's Senior Emergency Program provided \$545,182 in repairs to 22 homes and is available for seniors and people living with a disability over age 55.
- FHLBI's Accessibility Modification Program (AMP) funded \$447,129 in repairs to 31 homes.
- The Veteran Affairs Specially Adapted Housing Grant funded two homes with \$170,000.

Understanding weatherization and energy programs

A confirmed total of four weatherization and energy programs provided an estimated total of \$6,432,213 in grant funding for energy or weatherization repairs or equipment to an estimated total of 1,623 homes in 2018.

The largest weatherization and energy programs available to Detroit residents are listed below:

- DTE Energy provided \$4,184,715 in grants and equipment, representing 61% of all private funding in the home repair ecosystem;
- Wayne Metro Community Action's Weatherization Assistance Program (WAP), provided \$1,487,392 from the Department of Energy and Low Income Home Energy Assistance Program (LIHEAP) funds to 168 homes for weatherization repairs such as wall installation and furnace replacement.
- MSHDA's State Emergency Relief (SER) program provided \$460,107 in energy grants reaching 155 households in Wayne County.

Understanding volunteer programs

A confirmed total of 10 nonprofit organizations performed minor home repair work on an estimated 374 homes in 2018 through the use of volunteers and donations. Most of these organizations cannot perform more technical repairs like roof repairs or major accessibility modifications due to a lack of program funds or lack of technically skilled volunteers. Funding for these programs varies year to year, is not guaranteed, and almost every program only operates in specific geographic areas in the city.

- Life Remodeled was the only confirmed community-based organization with a volunteer home repair program performing roof repairs in 2018, through the use of licensed contractors who donate time and materials.
- Brick+Beam does not provide home repair funds to residents, but they do provide workshops for building rehabbers and offer resources online aimed at teaching homeowners skills to repair their homes themselves. We did not include the number of households they reached with workshops in our estimates.

How are home repair programs being used?

To understand how existing home repair programs' resources are being used, we further defined and categorized programs by the type of repairs funded by each program in 2018. Table 5 denotes how funding was utilized by four program types: critical home repairs, energy and weatherization, accessibility, and volunteer programs. Some programs allow funds to be used for more than one type of repair (e.g., accessibility and critical home repair), but categorization was conducted based on the main type of repair funded by the program.

Critical home repairs are defined as home repairs that improve the condition of a property such as roof repairs, lead abatement, electrical work, etc. Although Life Remodeled is a volunteer-based program, we included it in this category because the program repairs roofs, which are critical repairs. In 2018, 38% of home repair resources went to critical home repairs, yet these types of repairs represent only 13% of total participants served (Table 5).

Energy and weatherization programs typically provide low-income households with funds to perform home modifications to reduce energy costs and protect against the elements. Funds typically cannot be used for critical home repairs and are primarily used for furnace replacement. MI Saves Home Energy Loan is the only exception, allowing households to use the funds for non-energy related improvements if the improvement is necessary to complete an energy project. In 2018, 45% of home repair resources went to energy/weatherization projects reaching 1,701 units — the largest share of total households reached (Table 5).

Accessibility programs provide home modifications that improve the ability of individuals living with disabilities and seniors to live in their homes. Although Ehm Senior Solutions and Bridging Communities have volunteer-based home repair programs, we included them in this category because their programs are targeted to seniors. In 2018, 17% of home repair resources went to accessibility programs reaching 556 units (Table 5).

Volunteer home repairs are defined as repairs performed by volunteer-based programs that typically provide minor improvements to homes, such as gutter cleaning, fence repair, or painting. Donations collected were not reported by volunteer programs. In 2018, nearly 300 homes received volunteer home repair assistance.

Table 5 – Home repair spending by type for 2018

Program Type	Dollars Spent	% of Total	Units Reached	% of Total
Critical Home Repairs	\$6,075,541	38%	387	13%
Energy/Weatherization	\$7,111,745	45%	1,701	58%
Accessibility	\$2,654,919	17%	556	19%
Volunteer Home Repairs	Not reported	-	299	10%
2018 Totals	\$15,842,205	100%	2,943	100%

Note: Critical Home Repair Programs include MSHDA's Property Improvement Program, City of Detroit's 0% Interest Home Repair Program, MSHDA's State Emergency Relief Non-Energy Program, City of Detroit's Lead Hazard Control Program, FHLBI's Neighborhood Improvement Program, MSHDA's Neighborhood Enhancement Program, UCHC's Make It Home Program, Cody Rouge's Porch Repair Program and Life Remodeled's Home Repair Program.

Energy/Weatherization Programs include Michigan Saves Loan Program, Wayne Metro's Weatherization Assistance Program, Wayne Metros' Water Residential Assistance Program, DTE's Energy Efficiency Assistance Program and MSHDA's State Emergency Relief Energy Program.

Accessibility Programs include FHLBI's Accessibility Modification Program, MI Choice Waiver program, the VA's Specially Adapted Housing Grant, the City of Detroit's Senior Emergency Program, Bridging Communities and Ehm Senior Solutions.

Volunteer Home Repair Programs include the following organizations: Rebuilding Together Southeast Michigan, Rippling Hope, and Central Detroit Christian. Units reached were not confirmed for Joy Southfield Development Corporation and Hope Community Church. Units reached by Brick + Beam were not included because they do not provide funding or equipment to households.

How do other cities prioritize home repair?

To better inform the Detroit home repair ecosystem, we conducted a scan of city-administered home repair programs in peer cities to evaluate program requirements and design compared to the city of Detroit (Table 6). We focused on peer cities in the industrial Midwest and also examined cities with numerous home repair programs, such as Minneapolis. While this list is not exhaustive, it provides insight into existing efforts to address home repair needs.

In total, all of the cities offered some form of home repair program, with Minneapolis and Cleveland providing the greatest number of home repair program offerings. Collectively, these cities offer a number of promising practices from which Detroit may be able to learn.

Table 6 – Home Repair Programs in Select Peer Cities, 2019

City	Number of programs	Deferred loan for health/safety repairs	Interest rate varies by income	Loan Term	Program available to all low-income residents without credit score	Lead grant included in loan program	Renter/landlord program
Cleveland, OH	5	Yes	Yes	Up to 30 years	Yes	No	Lead only
Madison, WI	3	Yes	Yes	Up to 20 years	Yes	No	Code violations
Milwaukee, WI	4	Yes	Yes	15 years	Yes	No	Code violations
Pittsburgh, PA	3	No	No	20 years	No	Yes	Accessibility
Minneapolis, MN	5	Yes	Yes	30 years	Yes	Yes	None
Louisville, KY	4	Yes	No	5-year forgivable	Yes	Yes	Code violations
Detroit, MI	3	No	No	10 years	No	No	Lead only

Deferred loans: Nearly all cities assessed provide deferred loans available to residents for code violations or health and safety home repairs with different income thresholds, ranging from 30%-80% of a city's area median income (AMI).⁵³ Deferred loan programs often will delay repayment on a loan until the eventual sale of a home (and even then may only require a partial payment) or forgive the loan if the home's value declines.⁵⁴ Thus, deferred loans add no immediate financial burden to households. No credit score requirement exists in any of the deferred loan programs we reviewed. Because of the high risk of loss on the part of the lender, deferred loan programs are often run by government entities or mission-driven organizations. No deferred loan program currently exists in Detroit.

Madison's deferred loan program requires a one-time income review at five years and if the borrower's income exceeds program limits, the loan is converted into a low-interest, fixed-rate installment loan.⁵⁵ Pittsburgh does not have a deferred loan option, but their 0% interest home repair loan term is 20 years, resulting in lower monthly payments, and is integrated with other grant programs.⁵⁶

Varying interest rates and income eligibility caps on city-run low-interest loan programs: Most cities we studied also have low-interest home repair loan programs, which have an income cap and varying interest rates by income. Varying interest rates (i.e., charging those with higher incomes a slightly higher interest rate) is a notable feature of low-interest loan programs, as higher rates for those

who can afford it could help build a healthier, more sustainable revolving loan fund. In addition, imposing an income cap can ensure higher-income households, who would more likely qualify for financing on the private market, are not crowding out low- and middle-income households from limited low-interest loan funding. Four cities we studied offer varying interest rates (ranging from 0-6.75%) depending on household income, and all cities have income limits on their programs, though in some cities, like Milwaukee, Minneapolis, and Madison, these limits are quite high. Conversely, Detroit's 0% Interest Home Loan Program charges a 0% interest rate at all income levels, and in certain neighborhoods, there is no income eligibility cap.

Fusing grant programs with loan programs: In our interviews, we found a primary barrier to accessing Detroit's 0% Interest Home Loan Program was that households were required to remediate lead in their home in order to qualify for loans of over \$10,000. Other cities have faced this issue as well, and, to remedy the problem, have combined a lead remediation grant program with their home loan program. Pittsburgh and Minneapolis have both implemented this model.

Offering landlords a flexible lending program: Several of the cities we studied have loan programs that enable landlords to address a host of code violations, tied to affordable rent provisions. Detroit also has a loan program targeted to landlords, but funds from the program can only be used for lead remediation. While lead remediation is a major concern in rental properties, landlords often need to address a range of repairs to bring their properties up to code.⁵⁷

Practitioner perspectives: Home Repair in Detroit

"The whole system is one big gap."

- Executive director, community-based organization

Most organizations interviewed for this project completed a short questionnaire to capture practitioner perspectives on the state of the home repair market in Detroit. Table 7 summarizes their responses to the survey questions. Overwhelmingly, interviewees commented that the existing home repair programs, funding, and resources offered throughout Detroit by government, private funders, and volunteers are not coming close to meeting the needs of residents. Demand far exceeds supply at the price lower income residents can pay.

Table 7– Satisfaction with home repair resources

n=16¹ unless otherwise noted

<i>The existing home repair programs in Detroit meet the home repair needs of Detroiters</i>	75% Disagree or Strongly Disagree
<i>Detroiters would benefit from additional home repair programs being offered</i>	94% Agree or Strongly Agree
<i>Detroiters who have home repair needs face challenges in meeting eligibility requirements for loan-based home repair programs</i>	88% Agree or Strongly Agree

<i>The existing home repair programs in Detroit meet the home accessibility needs of Detroiters</i>	88% Disagree or Strongly Disagree
<i>Detroiters would benefit from more home repair programs focusing on home accessibility being offered</i>	88% Agree or Strongly Agree
<i>There is sufficient affordable accessible (ramp, railings, grab bars) housing in Detroit</i>	81% Disagree or Strongly Disagree
<i>I am confident I can refer those in need to home repair services that can meet their needs</i>	81% Disagree or Strongly Disagree
<i>There is coordination between the available homeownership resources/programs in the city</i>	83% Disagree or Strongly Disagree (n=12)

'Survey Responses: Detroit Future City, Detroit Action Commonwealth, ClearCorps, Wayne Metropolitan, UCHC, Grandmont Rosedale, Brick+Beam, Rippling Hope, U-SNAP-BAC, Bridging Communities, SER Metro Detroit, Jefferson East Inc., Central Detroit Christian, Cody Rouge Community Alliance, Rebuilding Together Southeast Michigan, EHM Senior Solutions.

A large majority of organizations commented that there's not enough funding or programs to meet the current need in Detroit (75%), that they don't know where to refer people to for services (81%), and waitlists are long. Moreover, many organizations discussed their hesitation to advertise programs because the available funding can help only a limited number of people. Although the City of Detroit contributed more than one-third of all funding in the 2018 home repair ecosystem, city government faces similar constraints as other organizations, with limited funding, resources, and capacity.

Gaps in the Home Repair Ecosystem

Poverty Solutions also conducted open-ended interviews with providers to understand how home repair programs operate in Detroit and to identify gaps in existing programming. The following list represents the main gaps identified during the interviews:

- Low-income Detroiters struggle to access loan programs
- There are not enough grant dollars to address immediate health and safety repair needs
- Seniors and persons living with disabilities struggle to access resources
- There is a lack of coordination between programs
- Low-income homeowners need help navigating applications, bids, and inspections
- Nearly all home repair loans and grants require ownership and occupancy
- There is a shortage of licensed general contractors, and the cost of repairs is high

Low-income Detroiters struggle to access loan programs

The most common remark we heard from community-based organizations is that low-income residents struggle to access loan programs. The 0% Interest Home Repair Loan is the largest home repair program available to low-income residents for health and safety repairs in Detroit.

What is the 0% Interest Home Repair Loan Program?

The loan provides 10-year no-interest loans up to \$25,000 for qualified homeowners, with funding from private banks and the U.S. Department of Housing and Urban Development (HUD). Qualified homeowners across the city cannot make more than 80% Area Median Income (\$42,750 for a 1-person household in 2019), but there is no income limit inside targeted areas. The minimum credit score is 560 and the debt-to-income ratio cannot exceed 45%, among other requirements such as homeowner's insurance and being current on property taxes (including payment plans).

With no interest and a subprime credit threshold, the 0% Interest Home Repair Loan Program is clearly designed to offer loans to low-income and credit-constrained households. However, due to exceptionally low credit scores amongst Detroit residents and other requirements around debt-to-income ratio, homeowner's insurance, and property tax delinquency, families with very low incomes struggle to access the program. Several community-based organizations remarked that the program was largely inaccessible to the residents they serve.

Barriers to accessing the 0% Interest Home Loan Program for low-income households

Unaffordability: In a city where half of all households have incomes less than \$31,283, adding an additional monthly bill of \$150-\$200 for 10 years, even without interest, is unaffordable.⁵⁸ In addition, a loan of any kind is often a challenge for seniors on fixed-income. For low-income populations, expanding grant programs or deferring loan payments until the point of sale — with loans potentially forgiven if the sale price does not cover loan payments — may be the only solutions to ensure access to home repair resources.

“Most of these folks are already living on the edge, so the thought of taking on another expense in their life is not something they’re overjoyed about.”

- Executive director, community-based organization

High Debt-to-Income Ratios and Low Credit Scores: To meet the program's required debt-to-income threshold of 45%, a homeowner making \$24,050 a year would have to owe less than \$900/month in debt payments, which includes property taxes (including payment plans), mortgage payments, homeowner's insurance, past-due debt, credit card payments, plus the additional cost of the 0% interest loan. This presents a challenge in a city like Detroit, where 66% of residents have debt in collections, credit card usage ratios are high compared with the rest of the country, and roughly 60,000 households in 2018 were delinquent on their property taxes.⁵⁹ Other cities have instituted deferred loan programs for low-income residents, which do not increase debt or financial burden.

In addition, while the credit score threshold for the 0% Interest Home Repair Loan program is far below traditional underwriting requirements, it still falls above the median credit score in Detroit of 552,⁶⁰ making it inaccessible to many Detroit residents.^a As we referenced above, several cities have dropped credit score requirements from certain loan programs to better ensure broad access to capital.

^a The median credit score figure comes from a 2016 study from the Urban Institute and includes both owners and renters. To the extent that homeowners have better credit than renters, the median credit score for the population that might be applying for the 0% Interest Home Repair Loan program may be higher than the median credit score for all Detroit residents.

“I think the 0% loan program is fantastic, but the issue is that it skips over or avoids the target clients, those most in need of services.”

- Program manager, community-based organization

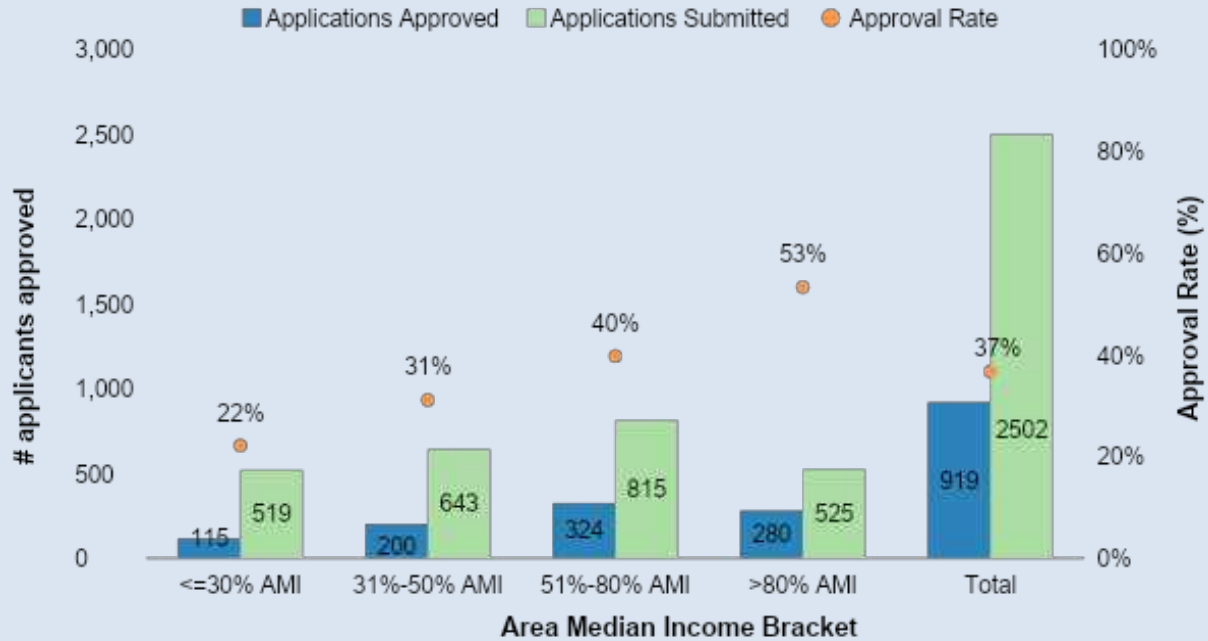
Homeowner’s Insurance and Property Tax Payment Plans: Unaffordable or inaccessible homeowner’s insurance can also serve as a barrier to applicants. The program permits applicants whose insurance was canceled due to a needed repair, but it does not specifically address applicants who cannot get approval for homeowner’s insurance due to low property values. More research is needed on the obstacles Detroit households face in obtaining homeowner’s insurance.

In addition, as noted above, tens of thousands of Detroit homeowners are not current on their property taxes, due to a combination of low incomes, artificially high property assessments, and historically low participation in the City’s property tax exemption program for low-income homeowners.⁶¹ Efforts to keep households current on property taxes can also help reduce barriers to accessing home repair funds, and the City of Detroit and Wayne County have made significant progress in helping tax delinquent households avoid foreclosure and manage property tax debt.⁶²

Reviewing 0% Interest Home Repair Loan Approval Data

As of June 2019, a total of 919 applicants had been approved for the 0% Interest Home Repair Loan Program over its four year history, with an approval rate of 37% (Figure 4). As one might expect, as household income increases, the approval rate also increases. Just 22% of extremely low-income borrowers, below 30% AMI, have been approved for the program, compared to 53% of borrowers above 80% AMI.

While approval rates are skewed toward households with incomes above 80% AMI, the program is serving a need for this population, as little to no mortgage market exists in roughly half the city.⁶³ In these parts of the city, even well-qualified borrowers are likely unable to secure a loan for home repairs, and the 0% Interest Home Repair Loan program fills this gap. However, it is vital that policymakers consider who is unable to access this program and how home repair needs of low-income Detroiters can be better met.

Figure 4 – 0% Interest Home Repair Loan Approval Rates by Area Median Income of Household

(Note: Approval data from program start date in 2015 - June 2019 provided by LISC)

Among all approved borrowers:

- 35% have extremely or very low incomes, below 50% AMI,
- 35% have low-to-moderate incomes, between 51% and 80% AMI, and
- 30% have incomes above 80% AMI.

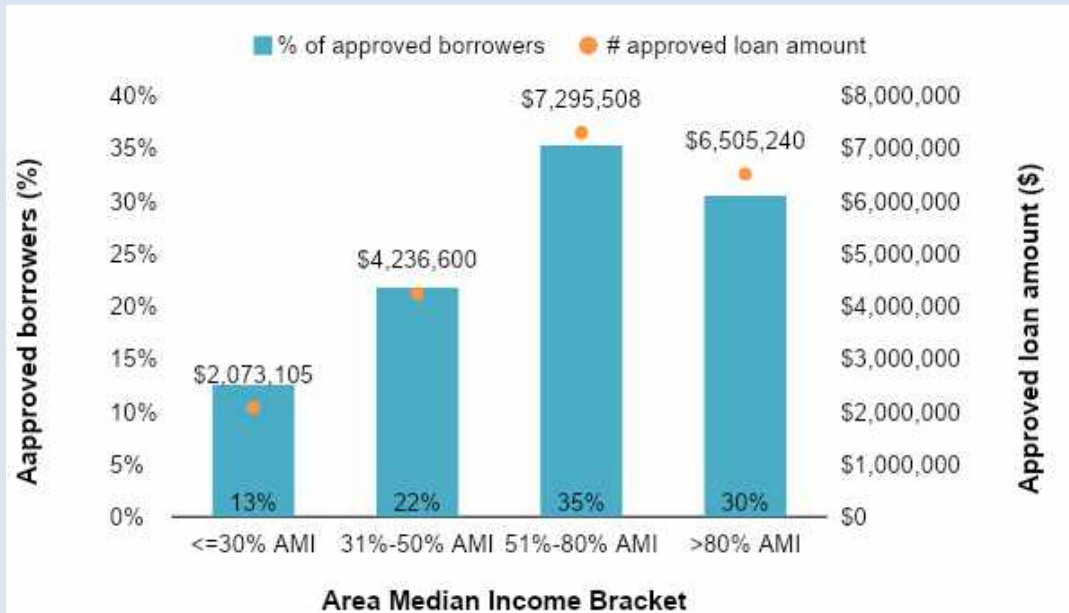
Table 8 - 2017 Adjusted Household Income Limits for Households Living in the Detroit Metro Area

AMI Limit	1 person	2 person	3 person	4 person
Extremely Low-Income 30% AMI	\$14,450	\$16,500	\$18,550	\$20,600
Very Low-Income 50% AMI	\$24,050	\$27,450	\$30,900	\$34,300
Low-Income 60% AMI	\$28,860	\$32,940	\$37,080	\$41,160
Moderate-Income 80% AMI	\$38,450	\$43,950	\$49,450	\$54,900

*Note: Household size determines AMI. Average household size of a borrower in 0% Interest Home Repair Loan program is two.

Perhaps reflecting approval rates, 31% of the total approved loan funding was allocated to low-income households below 50% AMI and 69% was allocated to households above 50% AMI, representing an estimated \$6,309,705 and \$13,800,748, respectively (Figure 5).⁶⁴

Figure 5 – 0% Home loan Approved Borrowers and Loan Amounts by AMI



Barriers to accessing grant programs for low-income households

Although there are a few grant programs available to residents for home repairs, they are too limited in scope and scale to meet the varied and substantial needs of low-income Detroit homeowners.

Limited funds for emergency repairs: The only grant program that provides immediate, emergency assistance for health and safety home repairs is MSHDA's State Emergency Relief (SER) program, which provided a total of just \$70,307 for non-energy related home repairs in 67 Wayne County homes in 2018. Several organizations interviewed commented that they regularly get calls for emergency home repair needs such as hazardous roof leaks or broken exterior steps, but they have nowhere to send residents. Volunteer-based home repair programs offered by community organizations are typically small in scale and do not focus on large-ticket items such as roof repair. The city of Detroit does not have a grant program focused on home health and safety repairs other than lead remediation, unless the resident is a senior or is over 55 with a disability.

"I had someone come in and her credit was bad and she's on disability with 3-4 kids and her basement is flooded, has mold, and the roof is leaking. She can't get approved for the [0% Interest Home Repair Loan] program - I have no idea where to send her."

Executive director, community-based organization

The SER program is capped at a one-time grant of \$1,500.^a However, this grant amount is likely too small to address most home repair needs. Estimates indicate the average repair cost for an occupied unit in the Detroit MSA is \$3,228, and national estimates for the average repair cost for moderately and severely inadequate units are \$4,361 and \$6,487, respectively, both eclipsing the maximum grant from the SER program.⁶⁵ It is also worth noting that the cost of repairs in the city of Detroit are likely higher than national or metro-level estimates due to the age of the housing stock and deferred maintenance due to low incomes, low property values, and constrained credit.

Funds are expended quickly: The only other grant option in Detroit for general home repairs is the Federal Home Loan Bank of Indianapolis' (FHLBI) Neighborhood Impact Program (NIP), which provides grants of up to \$7,500 for qualifying home repairs in households below 80% AMI. Emerging evidence suggests a \$7,500 grant, while perhaps not addressing all home repair needs in severely inadequate homes, is enough to address emergency repairs and improves a homeowner's perception of housing stability.⁶⁶ However, the NIP program is dramatically oversubscribed and available funds are expended quickly. Applications for the NIP program are typically released in April, with funds allocated by September, and applicants who do not submit a completed application correctly within a few weeks are unlikely to receive funds. U-SNAP-BAC, who helps administer NIP on behalf of local banks, commented that people were lined up at 1 a.m. the night before applications were released. Over 300 people applied at U-SNAP-BAC, but only 76 applicants in Detroit received funds in 2018.

City of Detroit's non-senior grants focus on lead remediation: The city's largest grant program is the City of Detroit's Lead Hazard Control Program, a necessary program in a city in which, in 2016, nearly 9% of children under 6 screened for lead poisoning exhibited elevated blood lead levels.⁶⁷ Because of the focus on lead remediation, however, these grant funds are not available for general repairs and are not available to all low-income Detroit residents. The program is only available for pregnant mothers and households with children under the age of 6.

Seniors and people living with disabilities struggle to access resources

Nearly every organization interviewed expressed concern over the lack of streamlined resources available to assist the immediate repair needs of seniors, who may be aging in place in old housing stock, struggle to maintain their homes, and need accessibility modifications.

"Detroit has a rapidly aging population and you have people who have maintained their homes for a long time, they don't want to go anywhere else. Their decline in health is also a decline in maintenance. People don't know where to go and don't know what to do."

- Construction manager of senior repair services

Seniors who do not qualify for or who cannot afford a 0% Interest Home Repair Loan cannot immediately access grant funds for deferred maintenance items or accessibility needs. Three grant programs are available to seniors or people living with a disability, but they have waitlists or funds are expended quickly: the City of Detroit's Senior Emergency Program, the Detroit Area on Aging's MI Choice Waiver Program, and FHLBI's Accessibility Modification Program (AMP). Disabled Veterans

^a The program also offers one-time energy repairs up to \$4,000 that can only be used for furnace repair or replacement.

have access to grants from the U.S. Department of Veterans Affairs for accessibility modifications, but the VA disbursed only two grants in Detroit last year. While nonprofits are trying to fill in this gap with donations and volunteers, most are unable to address critical, technical repairs, such as roof replacement or ramp installation.

Long waitlists: Most organizations interviewed did not identify the City of Detroit’s Senior Emergency Program — which served 22 households in 2018 and currently has a waitlist — as a viable option. The MI Choice Waiver Program, which currently has a waitlist, can provide accessibility repairs to Medicaid-eligible adults who have been denied other funding sources.

Funds are expended quickly: The only other grant program available to seniors or people living with a disability is FHLBI’s Accessibility Modifications Program. However, similar to NIP, the program is oversubscribed and spots fill quickly.

There is a lack of coordination between programs

While some organizations partner to leverage funds and expertise, most of the funding in the home repair space is uncoordinated and restricted. In contrast, flexible and coordinated funding from multiple public and private partners can allow dollars to be combined to meet the most urgent needs and remove barriers to accessing certain programs. Several organizations noted that one potential area for reform may be removing requirements around lead remediation when there are no children in the home, which can limit access to and funding for other repairs. Rather, programs for seniors could first ensure that the home is secure (e.g., steps, porch, roof) and that seniors can get in and out of the home before addressing lead. Moreover, most seniors in Detroit do not have children living in the home, with 53.1% of Detroiters ages 65 and older living alone.⁶⁸

“The health hazards come out of your money. We had an older client who needed a furnace, she was approved for the full amount, but they found lead and it would cost \$30,000 to remove the lead. Where’s the consideration if there’s no children in the home?”

- Housing counselor, community-based organization

Another area for coordination could be in the administration of DTE’s Energy Efficiency Program, which provides furnace repairs and replacement to qualified homes. The program requires homes have major repairs (e.g., structural damage to porches and roofs) completed before they can receive a new furnace. By partnering with existing or new home repair programs, DTE could better ensure Detroit households don’t lose access to their critical services.

Homeowners need help navigating applications, bids, and inspections

Low-income residents require assistance not just in applying for home repair programs, but throughout the process of completing home repairs. More technical assistance is needed to help residents fill out applications correctly, gather necessary documents and construction bids, and find licensed contractors. For example, FHLBI’s two grant programs — NIP and AMP — require residents to obtain two bids from certified general contractors. And while organizations like U-SNAP-BAC do their best to help residents complete applications, they do not have the capacity to help residents get two comparable, itemized estimates from certified contractors. Other programs like the city’s 0% Interest Home Repair Loan Program and the Senior Emergency Repair Program provide their own contractors,

but program guidelines dictate that homeowners are required to inspect and approve the work themselves. Although the city does have its own inspectors to assist homeowners throughout this process, it is unclear how it is implemented.

Nearly all home repair loans and grants require ownership and occupancy

Programs ranging from the 0% Interest Home Repair Loan to FHLBI's NIP and AMP programs all require residents to own and occupy their home for a minimum of six months before they can apply for home repair funds. This means owners of uninhabitable homes cannot receive funding unless they currently occupy the home, which particularly impacts Detroiters who hope to become homeowners by buying property from the land bank with plans to rehab the home.

The only option for renters, who live in inadequate housing at higher rates than homeowners, is to apply to the city's Lead Hazard Control Program. However, as the name suggests, the focus of the program is on lead abatement, not deferred maintenance or major home repairs, and the program is unavailable to renters without children. Renters who have other housing problems such as a leaky roof or pest infestation, are unable to access funds, and are instead wholly dependent on their landlords to make the repairs, which they often fail to do.⁶⁹ The best solution for renters is to ensure adequate enforcement of the city's rental ordinance, which is designed to compel landlords to make needed health and safety repairs.⁷⁰

Shortage of licensed general contractors and high cost of repairs

According to interviewees, licensed contractors willing to provide bids or perform residential home repair work are hard to find. This is a huge challenge in accessing programs like FHLBI's NIP and AMP grant programs, which require residents to obtain bids from two licensed contractors.

Organizations also cited high construction costs (including licenses, insurance fees, and supply costs) for driving up the price of the work and for deterring unlicensed contractors from obtaining a license. Small business contractors and skilled tradesmen also require start-up working capital to participate in grant programs because payment comes after the work is completed. Challenges in accessing capital, especially for small, minority-owned businesses, can make it difficult to conduct home repairs on a large scale where licenses, fees, and materials are required upfront.

Recent reports in Detroit have noted the shortage of licensed skilled trades workers in the area.⁷¹ Organizations interviewed for this report echoed this sentiment and continually noted that efforts were needed to address liquidity constraints facing homeowners, while also bolstering the supply of licensed contractors to conduct home repair work.

Moving Forward: Policy Options

The following recommendations are informed by community organizations, discussions with subject matter experts in healthy housing and accessibility, and reviewing leading practices in other cities. These are meant as options for what stakeholders could do to address existing needs, not necessarily recommendations for what should occur.

Enhancing Existing Programs

Provide a toolkit of home repair services to organizations and residents

Many organizations interviewed remarked they did not know of any home repair programs other than the 0% Interest Home Repair Loan program offered by the City of Detroit. For community-based organizations that interface with residents on a regular basis, it is essential that they have easy access to resources available to assist residents with home repair needs. Creating a continually updated home repair resource guide online to better inform organizations of the resources available, including funds, trainings, and services, can help connect residents to the assistance they need. The city of Milwaukee has a housing resource guide for both homeowners and homebuyers.⁷² A new Detroit Home Repair Resource Guide published by Poverty Solutions aims to address this need by providing information on existing programs serving Detroit residents.⁷³ And the City of Detroit is working to create housing resource centers, located in neighborhoods throughout the city, which can serve as a one-stop shop for home repair resources.

Offer multiple funding options for different income groups

Providing different funding options such as grants, 0% interest deferred loans, and low-interest installment loans to homeowners of various income levels could stretch dollars and offer low-income Detroiters greater opportunity to access home repair funds. The 0% Interest Home Repair Loan Program could be restructured to provide various funding options and interest rates including 0% interest deferred loans to low-income households and various low-interest installment loans to middle-income households. The city of Milwaukee uses city funds for its citywide Compliance Loan Program specifically to address health and safety code violations.⁷⁴ The program is available only to households with incomes less than 60% AMI, does not have debt-to-income or credit score requirements, and is a 0% deferred loan, resulting in no monthly payments to the borrower. While this program targets low-income residents with health and safety home hazards, the city also has three other programs: STRONG Homes has a 0-3% interest rate for households with up to 120% AMI; Home Rehab has a partial, forgivable, no-interest deferred loan for low-income seniors or people with a disability; and the Rental Rehab Program is for renters.

Integrate lead abatement grants into health and safety repairs

Half of the grant funding spent in 2018 in Detroit came from the City of Detroit's Lead Hazard Control Program, which is specifically for households with children under 6 years old and pregnant women. A more integrated program that advertises home health and safety repairs including roof and window repair, is available to low-income residents, and allows homeowners to tap into grant funding for lead abatement could help households address lead in the home as well as other needed health and safety repairs. Pittsburgh's Home Rehabilitation Program (PHRP) provides up to \$10,000 in lead hazard reduction work for 0% interest loan participants.⁷⁵ The city of Minneapolis also incorporates lead hazard grants into their Home Improvement Program (HIP).⁷⁶

Universal healthy home assessments for all programs and shared database

Every home repair project should start with a complete home health assessment to better prioritize health and safety issues, regardless of the focus of the home repair program. Organizations such as

Rebuilding Together Southeast Michigan and Wayne Metro Community Action discussed the importance of implementing a healthy home assessment to determine the home repair needs and prioritize health and safety issues. The Green and Healthy Homes Initiative, a leader in promoting healthy homes, utilizes its own comprehensive assessment process to review home health and energy use.⁷⁷ Instituting a universal healthy home assessment that is implemented by the city and partner organizations, as well as creating a shared database including properties that have received a healthy home assessment, can promote efficiency and coordination of services.

Address home health & accessibility goals to assist aging-in-place residents

For seniors and people living with disabilities who may have both home accessibility and home health and safety needs, it is important to assess the home and consider the goals of the individual. Housing Upgrades to Benefit Seniors (HUBS) in Baltimore provides individual and holistic home assessments for both home safety and security concerns, such as roof leaks and accessibility modifications, all through a single intake system that starts with an online pre-application. Home inspectors working with seniors could partner with occupational therapists or receive training to become Certified Aging-in-Place Specialists (CAPS) to better address both accessibility needs and health and safety needs of seniors' homes.

Provide technical assistance for home repair projects

Low-income homeowners, especially seniors, require technical assistance to complete applications, conduct home inspections, and obtain bids. Organizations are too understaffed and under-resourced to assist homeowners throughout every phase of the home repair process. Investing in human capital to provide technical assistance could ensure homeowners enter fair contracts, obtain accurate and competitive bids, and receive requested repairs.

Funding for small landlords to improve rental housing conditions

Programs could also be expanded to provide funding to small, undercapitalized landlords to make needed health and safety repairs. Many cities, including Madison, Milwaukee, Louisville, and Greensboro, offer home repair funds for landlords. The city of Madison offers low-interest loans for non-owner-occupied units, with a requirement stipulating that rents after the first year of rehabilitation remain below a certain threshold.⁷⁸ By including an affordable rent provision in the contract, small landlords can access low-interest loans to correct code violations and make accessibility repairs, while maintaining affordable rental housing.

Learning from Peer Practices

Align resources and promote cross-sector collaboration

The home repair problem in Detroit cannot be solved by the city government alone or by organizations working in silos. While additional home repair funds are needed, organizations should leverage resources and existing expertise. More strategic collaboration is needed among community-based organizations, hospitals, the City of Detroit, and private organizations including banks and real estate firms to tackle inadequate housing. Using funds in flexible, innovative ways could reach more residents and expand the capacity of partnerships with community organizations already doing home repair

work in Detroit neighborhoods. For example, the Green and Healthy Homes Initiative, a national nonprofit, successfully brought together community stakeholders to assess how dollars could better align for maximum impact and how healthcare savings could be realized through home repair.

Use real estate transfer taxes to fund state housing trust fund

Most states, including Michigan, have established housing trust funds to support affordable housing initiatives, including the provision of funds for home repair. In 2008, the state of Michigan established the Housing and Community Development Fund administered by MSHDA, but funding has not been allocated to the fund since 2013.⁷⁹ States — including Washington, D.C., Illinois, Iowa, Maine, Nevada, New Jersey, Pennsylvania, South Carolina, Vermont and West Virginia — commonly use the real estate transfer tax as revenue for their housing trust funds.⁸⁰ Michigan could consider joining these states in using the real estate transfer tax to support its housing trust fund and use more of those resources for home repair initiatives.

Establish a housing resource center to leverage city funds

After years of providing Community Development Block Grants (CDBG) for home repairs, the city of Syracuse, New York, established a nonprofit, Home Headquarters, Inc., described as a one-stop-shop for all homeownership needs. The organization provides affordable home services including home repair funds, education, and counseling to promote affordable homeownership. Home Headquarters has won multiple awards and attracted additional funding, leveraging over \$83 million in home repair financing through several low-interest loan programs.⁸¹ A home repair program that was once entirely city-funded has attracted \$4 for every \$1 invested, according to city estimates.

We must acknowledge, however, there is an opportunity cost to using CDGB or housing trust fund dollars to fund home repair programs, as these dollars would otherwise go to other important priorities.

Prioritize low-income, longtime Detroiters in the redevelopment of homes

Louisville, Kentucky, identified the potential displacement of longtime residents as a concern in areas where the city is investing funds, such as the city's Russell neighborhood, home to the Beecher Terrace public housing development. In 2016, the local housing authority received a \$29.5 million implementation grant through HUD's Choice Neighborhoods Initiative to rebuild Beecher Terrace and the surrounding neighborhood.⁸² The city focused on preventing the displacement of longtime residents in the neighborhood by investing in targeted home repair programs through five-year forgivable, deferred loans and rebuilding affordable low-income housing units. The two-year planning process for the grant application included a committee of Russell residents, city officials, and local leaders. A similar initiative in Detroit prioritizing residents who have lived in the city for at least 15 years, for example, could reduce unintended displacement associated with neighborhood investments.

Linking healthy housing initiatives and workforce development

The large need for home repair offers a workforce development opportunity in the skilled trades and healthy home assessments. The newly developed Healthy Home Evaluator (HHE) certification offers an opportunity for unemployed workers to receive training and payment to expedite healthy home assessments in Detroit.⁸³ The National Center for Healthy Housing provided mini-grants in 2018 for its Healthy Homes Workforce Development competition, funding organizations like Green | Space in

Tennessee that will use funds to provide healthy homes workforce training.⁸⁴ Medicaid reimbursement funds can also be leveraged to fund Community Health Workers to provide healthy home assessments.⁸⁵

Investing in opportunities for youth to be successful in the construction field and capitalizing on the existing contracting talent of unlicensed builders in Detroit can increase competition and lower construction costs. Philadelphia recently launched a pilot program to connect recent trade school graduates with local contractors to increase employment opportunities for young people.⁸⁶ Small-scale contractors without access to capital often cannot afford the added cost of insurance, licensing, and other expenses. Providing funds to Detroit-based, minority contractors to offset the expense of becoming a certified contractor, as well as providing project and business management support, could help build the pipeline of qualified contractors while reducing racial employment disparities in the metro Detroit region.

Many organizations in Detroit have been working for years to increase the number of licensed contractors and skilled tradespeople in the city. The Southwest Detroit Business Association and Michigan Hispanic Contractors Association are working to increase the number of Hispanic businesses in the construction industry; the Detroit Training Centers offers a range of potential licenses and certifications; and the City of Detroit, area community colleges, and Detroit Public Schools Community District fund and operate a number of programs designed to boost the number of Detroiters trained in construction and skilled trades. These are just a few of the many examples of organizations working to meet a critical gap in the home repair ecosystem, while also seeking to provide Detroiters with good jobs.

Encourage savings and financial literacy to improve credit scores

Linking savings programs directly to home repair needs can encourage homeowners to save for critical home repairs. Financial literacy programs focused on tools and techniques to improve credit scores can help homeowners access loans for home repair and other capital needs. Working in Neighborhoods Cincinnati, a Cincinnati-based nonprofit, integrates financial literacy training into its community-centered approach to revitalizing neighborhoods.⁸⁷ The organization focuses on establishing savings goals with homeowners to save for home repairs, using a 2:1 matching savings incentive approach. Here in Detroit, the city recently launched the Financial Empowerment Center (FEC), which offers a range of financial counseling services around budgeting, debt reduction, and credit improvement, and integrates those services with other social services, such as foreclosure prevention.⁸⁸

As far as we know, all of the promising practices listed above have not been evaluated, so we don't know for sure the extent to which these programs improve the condition of low-income housing in the cities in which they are based. Rather, these programs are offered solely as alternative approaches that respond to certain gaps identified within Detroit's home repair ecosystem. More evaluation is needed of existing and new home repair programs.

CONCLUSION

Addressing the home repair needs of both homeowners and renters in Detroit requires a coordinated, cross-sector, collaborative effort that maximizes the impact of current programs. But it also requires

resources. Aging housing stock and low incomes are two risk factors that increase the likelihood and severity of repair needs.⁸⁹ In Detroit, nearly 80% of the occupied residential structures were built prior to 1960, and roughly one-third of residents live under the poverty line.⁹⁰ Families living in inadequate housing who are unable to afford repairs may eventually have no choice but to abandon their homes to escape housing problems such as leaky roofs, rodent infestation, inadequate heating, or mold. High rates of inadequacy in rental housing magnifies the need to invest in home repair for low-income homeowners as a way to maintain adequate, affordable housing units and build wealth.

The repair needs in Detroit are significant, and our analysis of data from the American Housing Survey and Detroit's home repair ecosystem suggests current resources devoted to home repair don't come close to meeting the need. The City of Detroit and a network of community partners can surely make necessary reforms to help stretch the impact of available dollars and provide a more seamless experience for those with home repair needs. But in order to make a real and lasting impact on the quality of Detroit homes, more philanthropic and federal resources are required.

Indeed, a compelling case can be made for federal action. In the 1940s, '50s, and '60s, the federal government subsidized the development of suburban homes across the country, solely for white people.⁹¹ At the same time, Black Americans had to fend for themselves in cities like Detroit, often purchasing homes through predatory land contracts which robbed them of the wealth-building possibilities of homeownership.⁹² Robust federal support for home repair in aging industrial cities like Detroit could give thousands of Black households the opportunity to secure safe and affordable housing, and perhaps even set the stage for the wealth creation. Such a measure would be far from sufficient to rectify the damage done by our history of racially discriminatory housing policies, but it would be a step in the right direction.

A decent home for all was our obligation in 1945, and it remains our obligation today. With innovative new programs, cross-sector collaboration, and an influx of resources dedicated to home repair, we can make great progress towards fulfilling this obligation.

LIMITATIONS

While we made great efforts to be as comprehensive as possible in this report, the study is subject to certain limitations. First, although we attempted to interview all 11 0% Interest Home Repair Loan intake centers, some centers did not respond to requests for interviews. We also made an effort to engage in discussions with all organizations active in the home repair ecosystem, but we were unable to conduct interviews with every organization affiliated with home repair in Detroit.

Second, the universe of occupied housing units in the American Housing Survey Detroit MSA includes single-family homes, apartments, groups of rooms, and single occupied rooms, but it does not include institutional group quarters, nursing homes, or college dormitories. Although analyzing AHS data gives researchers an estimate of the level of home repair need in the Detroit area, it does not provide precise numbers.

Third, our staff contacted over 60 organizations to confirm they administered a home repair program, but given the number of community-based organizations in Detroit, it is possible that we missed a home repair program. Additionally, a few community-driven home repair programs did not want to be

included in our home repair resource guide and did not want to provide information about households reached. The funding spent on home repair in 2018 and households reached is intended to estimate the annual home repair funding. Funding is not constant year-to-year, but focusing on 2018 gives stakeholders an estimate for how much funding presently exists.

We did not include funding provided for training, even though training people how to maintain their home is important, because these programs do not directly provide funding or equipment to correct a repair problem. Likewise, the attached ecosystem map represents our best attempt to map out the funding streams within the 2018 ecosystem based on information received from program representatives and information online.

Finally, while this report offers a number of promising practices found in other cities, we do not have good evaluations of these programs. Therefore, we cannot say for certain whether the innovative programs we point to are truly effective in reducing the problem of inadequate housing in good repair.

Appendix Table 1: Population and Economic Characteristics of the Nation, Detroit, and the Detroit Metropolitan Statistical Area

Characteristic	USA	Detroit-Warren-Dearborn MSA	Detroit City
Median household income	\$60,336	\$58,411	\$30,344
Federal poverty rate	13.4%	14.6%	34.5%
Units built before 1950	17.6%	23.1%	57%
Median value of owner-occupied housing unit	\$217,600	\$171,600	\$50,200
Number of occupied housing units	120,062,818	1,723,000	264,360
Owner-occupied units	64%	69%	47%
Population by race			
<i>Black</i>	12.7%	22%	79%
<i>White</i>	72.3%	66%	14.5%
<i>Two or more</i>	3.3%	2%	1.7%
Bachelor's degree or higher	32%	31.1%	14.6%

(Source: American Community Survey, 1-year Estimates)

Detroit Home Repair Ecosystem 2018

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³⁷ Note: Estimates of inadequate housing for all other races are unavailable. Estimating the share of Black and white occupied households in Detroit accounts for 95% of all occupied households. These estimates therefore do not include the share of inadequate households for 5% (13,551) of all occupied households. The number of inadequate units was calculated by subtracting the number of adequate units from the total number of units in each race/housing tenure category. The share of adequate and inadequate units was calculated by dividing the number of adequate or inadequate units by the total number of occupied units by race/housing tenure. We then apply these same percentages at the Detroit MSA to the number of occupied units in Detroit city by race and housing tenure, using American Community Survey 2017 1-year estimates. Margin of error on the proportions is calculated for the 95% confidence interval.

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³⁹ Ibid

⁴⁰ Christine MacDonald, "Persistent evictions threaten Detroit neighborhoods," *Detroit News*, October 5, 2017.

Available from: <https://www.detroitnews.com/story/news/special-reports/2017/10/05/detroit-evictions-threaten-neighborhoods-rentals/106315064/>

⁴¹ Shannon Van Zandt and William M. Rohe, "The sustainability of low-income homeownership: the incidence of unexpected costs and needed repairs among low-income home buyers." *Housing Policy Debate* 21, no. 2 (2011):

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⁴⁴Wilhelmina A. Leigh and Danielle Huff, "African Americans and Homeownership: Separate and Unequal, 1940 to 2006," *Joint Center for Political and Economic Studies* no. 1 (November 2007). Available from: https://northstarnews.com/userimages/references/African%20Americans%20and%20Home%20Ownership.Brief_Joint%20Center%20for%20Political%20Studies.pdf

⁴⁵Ibid

⁴⁶Ibid

⁴⁷All home repair totals were confirmed by organization representatives. Some of the totals reported may reflect 2018 Fiscal Year totals, while others may reflect 2018 calendar year totals. Additionally, MSHDA's State Emergency Relief totals are for Wayne County and Detroit Area on Aging's totals include Detroit, Highland Park Hamtramck, Harper Woods and Five Grosse Pointes.

⁴⁸Within these categories, organizations are either restricted or allowed flexibility for how funds can be used in ways that many not be clearly communicated publicly. For example, the Michigan Saves Home Energy Loan is specifically for home energy improvements, but funds can be used for non-energy related improvements when necessary to complete an energy project. Additionally, for the purpose of categorizing program funds, weatherization/energy programs, although a separate category, are primarily administered as grants or as services/equipment provided to homeowners, and typically do not support critical home repairs.

⁴⁹Please refer to our home repair ecosystem graphic for more information.

⁵⁰Several attempts were made to contact Liberty Bank to confirm the number of loans provided for its Home Restoration and Acquisition Loan Program, but they did not respond as of the date of this report was published.

⁵¹Diana Elliott, Caroline Ratcliffe, and Emma Kalish, "The Financial Health of Detroit Residents," *The Urban Institute* (October 2016). Available from: https://www.urban.org/sites/default/files/publication/84361/2000940-the-financial-health-of-detroit-residents_2.pdf

⁵²Christine Ferretti, "Detroit home repair loan program tops expectations, but only a third of applicants accepted," *The Detroit News*, February 4, 2019. Available from: <https://www.detroitnews.com/story/news/local/detroit-city/2019/02/04/detroit-home-repair-loan-program-tops-expectations/2530602002/>

⁵³Area Median Income (AMI) is defined as the midpoint of a region's income distribution - half of households in a region earn more than the median and half earn less. AMI for each region is updated annually by HUD, and HUD programs often require that funding is allocated to households 80% AMI or less. However, it is important to note that many regions have higher median incomes than average incomes in the central city. Therefore, cities seeking to target lower-income households with certain policies may focus on households less than 60% or even 30% AMI. In the cities we studied, the income eligibility thresholds for deferred programs were:

- Cleveland up to 30% AMI,
- Milwaukee up to 60% AMI,
- Minneapolis up to 80% AMI,
- Louisville up to 80% AMI (in historically disadvantaged areas),
- And Madison up to 80% AMI.

⁵⁴For an example of a deferred loan program, see the Genesee County Community Development Program: https://www.gc4me.com/departments/planning_commission/community_development/home_improvement_program.php

⁵⁵"Home Rehabilitation Loans," City of Madison. Available from:

<https://www.cityofmadison.com/dpced/economicdevelopment/home-rehabilitation-loans/314/>

⁵⁶"Home Improvement Loans," The Urban Redevelopment Authority of Pittsburgh." Available from:

<https://www.ura.org/pages/home-improvement-loans>

⁵⁷Forthcoming Poverty Solutions analysis.

⁵⁸American Community Survey (ACS) 2018.

⁵⁹Elliott, "The Financial Health of Detroit Residents"; "The Quicken Loans Community Fund's 'Neighbor to Neighbor' Initiative Prevents Record 4,316 Detroit Families from Entering Property Tax Foreclosure in 2018," Quicken Loans, May 2, 2019. Available from: <https://www.quickenloans.com/press-room/2019/05/02/quicken-loans-community-fund-study-shows-2018-property-tax-foreclosures-in-detroit-hit-lowest-level-in-over-a-decade-company-commits-to-continuing-citywide-effort-to-help-homeowners/>

⁶⁰ Elliott, "The Financial Health of Detroit Residents"

⁶¹Bernadette Atuahene and Timothy R. Hodge, "Stategraft," *Southern California Law Review* 91, no. 2 (January 2018):263–302. Available from: <https://southerncalifornialawreview.com/2018/01/02/stategraft-article-by-bernadette-atuahene-timothy-r-hodge/>; Alexa Eisenberg, Roshanak Mehdipanah, Ted Phillips, and Michele Oberholtzer, "Preventing Owner-Occupied Property Tax Foreclosures in Detroit: Improving Access to the Poverty Tax Exemption." *Poverty Solutions at the University of Michigan* (December 2018). Available from: <https://poverty.umich.edu/files/2018/12/PovertySolutions-PovertyTaxExemption-PolicyBrief-r2.pdf>

⁶² Christine MacDonald, "Detroiters start to see tax bills slashed under new program," *Detroit News*, April 30, 2020. Available from: <https://www.detroitnews.com/story/news/local/detroit-city/2020/04/30/detroiters-start-see-tax-bills-slashed-under-new-program/3048888001/>

⁶³ John Gallagher, "Few black people get home mortgages in Detroit, data show," *Detroit Free Press*, March 22, 2019. Available from: <https://www.freep.com/story/money/business/john-gallagher/2019/03/21/black-mortgages-detroit-real-estate-michigan/3165381002/>

⁶⁴ Local Initiatives Support Corporation (LISC) data from program start date in 2015 – June 2019

⁶⁵ Eliza Wallace, Eileen Divringi, Keith Wardrip, and Elizabeth Nash, "Technical Appendix: A Repair Cost-Based Index of Housing Quality," *Federal Reserve Bank of Philadelphia*. Available from: <https://www.philadelphiafed.org/-/media/community-development/publications/special-reports/home-repair-costs-technical-appendix.pdf>

⁶⁶ Forthcoming Poverty Solutions report

⁶⁷ Joshua Akers, Alexa Eisenberg, and Eric Seymour, "Toxic structures: Speculation and lead exposure in Detroit's single-family rental market," *Poverty Solutions at the University of Michigan* (2020)

⁶⁸ American Community Survey (ACS), 2018

⁶⁹ Christine MacDonald, "Detroit push fails to boost rental inspections." *The Detroit News*, January 14, 2019. Available from: <https://www.detroitnews.com/story/news/local/detroit-city/2019/01/14/detroit-push-rental-inspections-fails-increase-compliance/2473755002/>

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⁷¹ JC Reindle, "High demand for new construction trades workers in Detroit," *Detroit Free Press*, November 13, 2018. Available from: <https://www.freep.com/story/money/2018/11/13/construction-trades-workers-detroit/1986685002/>

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DTMB Michigan Center for Data and Analytics

Prices in the Detroit Metro Area Rose 3.5 Percent Over the Year

October 07, 2024

Between August 2023 and August 2024, the price index for all items in the Detroit metropolitan statistical area (MSA) rose by 3.5 percent. This was 1.0 percentage points above the price increase seen nationally over the same period. Despite modest price increases, this was the smallest over-the-year percent change for August in both the Detroit MSA and the U.S. since August 2020, with changes of 1.8 percent and 1.3 percent, respectively.

Over the year, several key inflation metrics showed higher than average price changes in the Detroit MSA compared to the nation. Since August 2023, education and communication costs in the Detroit MSA were 2.0 percentage points above tuition costs nationwide (+1.0 percent). Additionally, the local housing index in the Detroit metro area rose by a staggering 6.2 percent over the year, compared to a 4.4 percent increase nationally. However, in the past year, U.S. prices in two inflation categories, food and beverages (+2.0 percent) and recreation (+1.6 percent), outpaced local prices, which saw increases of 0.6 percent and 0.7 percent, respectively.

Although prices across all major inflation metrics increased over the year, major key items within larger consumer expenditure groups have declined since August 2023. Over the last 12 months, prices for used cars and trucks in the Detroit MSA fell by 9.4 percent, while gasoline dropped 6.1 percent. Similarly, national prices saw a decline in used cars and trucks by 10.4 percent and gasoline by 10.3 percent during the same period.

Author:

Reima Nasser

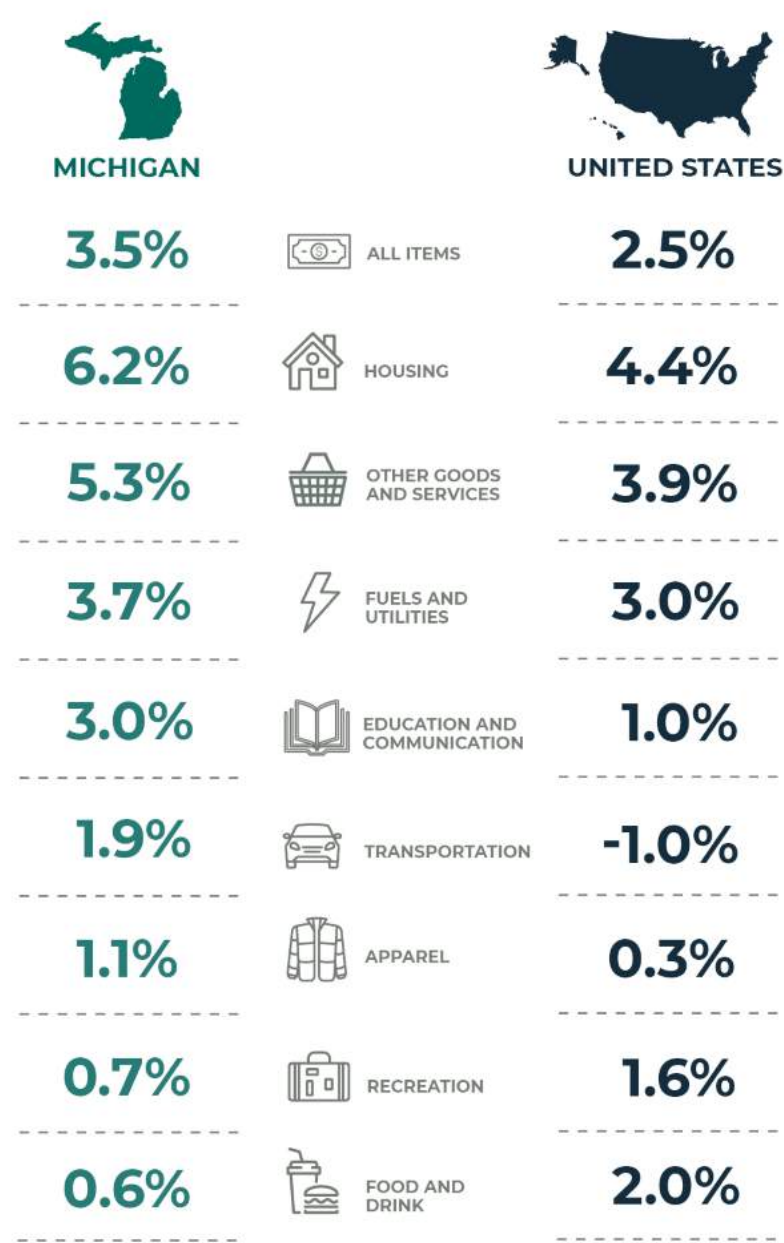
Economic Analyst

Hailey Barrus

Communications Specialist

Six key inflation metrics in Michigan recorded price changes above the national average.

12-Month Percent Change, Consumer Price Index, August 2023–2024



Source: Consumer Price Index, U.S. Bureau of Labor Statistics

[View/Download Data Table](#)

For more information on the August 2024 Detroit-Warren-Dearborn area Consumer Price Index, view the [BLS release](#).

Inflation

Related News

Inflation in the Detroit Metro Area Up 1.7 Percent in 2025

Annual average prices in the Detroit area rose 1.7 percent, below the U.S. increase of 2.6 percent.

Prices in the Detroit Metro Area Increase by 0.7 Percent Over the Year

Inflation in the Detroit region was also lower than the U.S. inflation rate of 2.9 percent since August 2024.

Inflation in the Detroit Metro Area Rises 1.3 Percent Since June 2024

Prices in the Detroit area rose 1.3 percent from last year, but the 12-month average shrunk for the third consecutive time in June. This was still 1.4 percentage points below the national price increase recorded during the same period.

Prices in the Detroit Metro Area Advance by 1.4 Percent Over the Year

Inflation in Detroit rose by 1.4 percent over the year, 0.9 percentage points below the national increase. Several inflation items saw price declines since April 2024.

Inflation in the Detroit Metro Area Increases 3.3 Percent Since February 2024

Prices have continued to rise in Detroit, with inflation increasing 3.3 percent since February 2024. A similar trend was seen nationally, with prices rising by 2.8 percent over the same period.

Prices in Detroit Increase by 3.0 Percent in 2024

In 2024, annual average prices rose by 3.0 percent in the Detroit metro area. Average inflation has slowed since 2022.

Inflation in Detroit Metro Area Rises 3.3 Percent Since October 2023

Over the 12 months ending in October 2024, prices for the Detroit metropolitan statistical area (MSA) increased by 3.3 percent. This was 0.7 percentage points greater than the national price increase during the same period.

Inflation in the Detroit Metro Area Rose 3.4 Percent Since June 2023

Price inflation in Detroit has moderated somewhat in the first half of 2024, showing only a 3.4 percent increase over the past six months. This is the smallest six-month price increase since the first half of 2021 (+3.1 percent).

Inflation in the Detroit Metro Area Advances 2.8 Percent Since February 2023, but is Down from Previous Years

Detroit's over-the-year price increase of 2.8 percent was also lower than the U.S. inflation rate of 3.2 percent since February 2023.



Prices in the Detroit Metro Area Rose 3.5 Percent Over the Year

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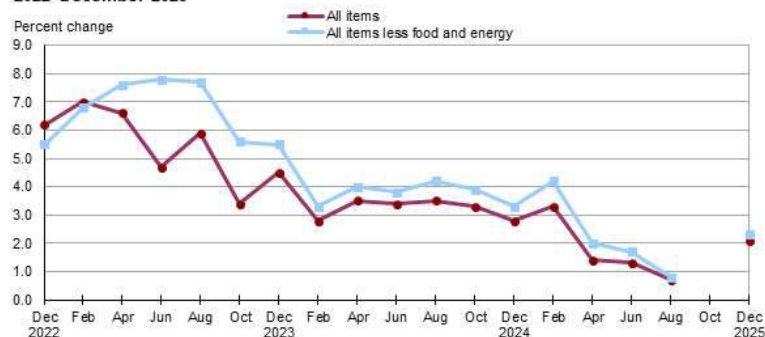
Consumer Price Index, Detroit-Warren-Dearborn area – December 2025

Area prices were up 2.1 percent over the year in December

The Consumer Price Index for All Urban Consumers (CPI-U) for Detroit-Warren-Dearborn increased 2.1 percent for the 12 months ending in December, the U.S. Bureau of Labor Statistics (BLS) reported today. Assistant Commissioner for Regional Operations Michael Hirniak noted that the index for all items less food and energy rose 2.3 percent over the year, and food prices advanced 2.1 percent. Energy prices declined 0.5 percent.

BLS did not collect survey data for October 2025 due to a lapse in appropriations. BLS is unable to retroactively collect these data. For a few indexes, BLS uses nonsurvey data sources instead of survey data to make the index calculations. BLS was able to retroactively acquire most of the nonsurvey data for October. Accordingly, all analysis in this release is over the year and not seasonally adjusted.

Chart 1. Over-the-year percent change in CPI-U, Detroit-Warren-Dearborn, MI, December 2022–December 2025



Note: The October 2025 data values are not available due to the 2025 lapse in appropriations.
Source: U.S. Bureau of Labor Statistics.

[View Chart Data](#)

Food

Food prices advanced 2.1 percent over the year. Prices for food at home (grocery store purchases) advanced 2.4 percent. Grocery food categories increasing over the year included meats, poultry, fish, and eggs (+7.6 percent) and other food at home (+3.4 percent). The index for dairy and related products was down 8.0 percent over the year. Prices for food away from home (restaurant, vending, and cafeteria purchases) were up 1.4 percent over the year.

Energy

The energy index declined 0.5 percent from December 2024 to December 2025. Over the year, the gasoline index declined 5.4 percent.

All items less food and energy

The index for all items less food and energy advanced 2.3 percent over the year. Components contributing to the increase included owners’ equivalent rent of residences (+1.7 percent), lodging away from home, and other goods and services (+5.7 percent).

Federal Government Shutdown

BLS did not collect survey data for October 2025 due to a lapse in appropriations. BLS was unable to retroactively collect these data. For a few indexes, BLS uses nonsurvey data sources instead of survey data to make the index calculations. BLS was able to retroactively acquire most of the nonsurvey data for October. CPI data collection resumed on November 14, 2025.

Additional information about the [impact of the shutdown on CPI data](#) is available online.

Changes to health insurance index

With the release of November 2025 data on December 18, 2025, the Bureau of Labor Statistics (BLS) removed long-term care (LTC) insurance from the health insurance index. There have been changes in the market for LTC insurance that now make it out of scope and ineligible for pricing in the CPI market basket.

The Detroit-Warren-Dearborn Consumer Price Index for February 2026 is scheduled to be released on Wednesday, March 11, 2026, at 8:30 a.m. (ET).

Technical Note

The [Consumer Price Index](#) (CPI) is a measure of the average change in prices over time in a fixed market basket of goods and services. The Consumer Price Index for Detroit is published bi-monthly. The set of components and sub-aggregates published for regional and metropolitan indexes is more limited than at the U.S. city average level; these indexes are byproducts of the national CPI program. Each local index has a much smaller sample size than the national or regional indexes and is, therefore, subject to substantially more sampling and other measurement error. As a result, local-area indexes are more volatile than the national or regional indexes. In addition, local indexes are not adjusted for seasonal influences. **NOTE: Area indexes do not measure differences in the level of prices between cities; they only measure the average change in prices for each area since the base period.**

The **Detroit-Warren-Dearborn, MI, Core Based Statistical Area** includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties in Michigan.

Refer to the national [CPI news release technical note](#) or the [Handbook of Methods](#) for more information.

Information in this release will be made available to individuals with sensory impairments upon request. Voice phone: (202) 691-5200; Telecommunications Relay Service: 7-1-1.

Table 1. Detroit-Warren-Dearborn, MI, CPI-U by expenditure category for December 2025, not seasonally adjusted (1982-84=100 unless otherwise noted)

Expenditure category	Indexes				Percent change from:		
	Historical data	Oct. 2025	Nov. 2025	Dec. 2025	Dec. 2024	Oct. 2025	Nov. 2025
All items		-	-	297.783	2.1	-	-
All items (1967=100)		-	-	885.134	-	-	-
Food and beverages		-	-	295.721	1.9	-	-
Food		-	-	297.130	2.1	-	-
Food at home		-	280.638	279.492	2.4	-	-0.4
Cereals and bakery products		-	362.297	358.410	-2.4	-	-1.1
Meats, poultry, fish, and eggs		-	308.173	306.578	7.6	-	-0.5
Dairy and related products		-	193.795	184.258	-8.0	-	-4.9
Fruits and vegetables		-	283.637	287.050	4.8	-	1.2
Nonalcoholic beverages and beverage materials(1)		-	265.557	266.326	3.1	-	0.3
Other food at home		-	263.809	264.326	3.4	-	0.2
Food away from home		-	-	327.008	1.4	-	-
Alcoholic beverages		-	-	273.438	0.6	-	-
Housing		-	-	297.777	3.1	-	-
Footnotes							
(1) Index is on a December 1977=100 base.							
(2) Index is on a December 1982=100 base.							
(3) Indexes on a December 1997=100 base.							
(4) Special index based on a substantially smaller sample.							
(5) Indexes on a December 1993=100 base.							
- Data not available.							
NOTE: Index applies to a month as a whole, not to any specific date.							
NOTE: The October 2025 data values are not available due to the 2025 lapse in appropriations.							

Expenditure category	Indexes				Percent change from:		
	Historical data	Oct. 2025	Nov. 2025	Dec. 2025	Dec. 2024	Oct. 2025	Nov. 2025
Shelter		-	345.836	345.310	2.8	-	-0.2
Rent of primary residence		-	360.494	355.916	0.8	-	-1.3
Owners' equiv. rent of residences(2)		-	341.601	340.033	1.7	-	-0.5
Owners' equiv. rent of primary residence(2)		-	341.601	340.033	1.7	-	-0.5
Household furnishings and operations		-	-	149.007	4.3	-	-
Apparel		-	-	105.057	1.9	-	-
Transportation		-	-	319.222	0.1	-	-
Private transportation		-	-	329.109	0.5	-	-
New and used motor vehicles(3)		-	-	146.331	1.6	-	-
New vehicles(1)		261.425	-	261.414	1.1	0.0	-
Used cars and trucks(1)		394.561	-	387.186	2.0	-1.9	-
Motor fuel		-	272.987	256.010	-5.3	-	-6.2
Gasoline (all types)		265.126	271.872	254.905	-5.4	-3.9	-6.2
Unleaded regular(4)		263.806	270.830	253.198	-5.6	-4.0	-6.5
Unleaded midgrade(4)(5)		338.775	344.479	328.815	-3.8	-2.9	-4.5
Unleaded premium(4)		306.499	311.263	299.083	-3.1	-2.4	-3.9
Medical care		-	-	514.007	1.8	-	-
Recreation(3)		-	-	129.425	1.6	-	-
Education and communication(3)		-	-	158.752	-	-	-
Tuition, other school fees, and childcare(1)		-	-	-	-	-	-
Other goods and services		-	-	569.279	5.7	-	-
Footnotes							
(1) Index is on a December 1977=100 base.							
(2) Index is on a December 1982=100 base.							
(3) Indexes on a December 1997=100 base.							
(4) Special index based on a substantially smaller sample.							
(5) Indexes on a December 1993=100 base.							
- Data not available.							
NOTE: Index applies to a month as a whole, not to any specific date.							
NOTE: The October 2025 data values are not available due to the 2025 lapse in appropriations.							

Table 2. Detroit-Warren-Dearborn, MI, CPI-U by special aggregate index for December 2025, not seasonally adjusted (1982-84=100 unless otherwise noted)

Special aggregate index	Indexes				Percent change from:		
	Historical data	Oct. 2025	Nov. 2025	Dec. 2025	Dec. 2024	Oct. 2025	Nov. 2025
All items		-	-	297.783	2.1	-	-
Food		-	-	297.130	2.1	-	-
Energy		-	271.368	264.320	-0.5	-	-2.6
All items less food and energy		-	-	307.063	2.3	-	-
All items less energy		-	-	304.682	2.3	-	-
All items less medical care		-	-	289.261	2.1	-	-
All items less shelter		-	-	282.624	1.6	-	-
Commodities		-	-	212.347	1.0	-	-
Commodities less food		-	-	174.623	0.3	-	-
Commodities less food & beverages		-	-	170.945	0.3	-	-
Durables		-	-	136.831	1.1	-	-
Nondurables		-	-	244.649	1.0	-	-
Nondurables less food		-	-	199.950	-0.4	-	-
Nondurables less food & beverages		-	-	194.942	-0.5	-	-
Services		-	-	384.262	2.6	-	-
Services less rent of shelter(1)		-	-	442.443	2.4	-	-
Services less medical care services		-	-	375.753	2.6	-	-
Footnotes							
(1) Indexes on a December 1982=100 base.							
- Data not available.							
NOTE: Index applies to a month as a whole, not to any specific date.							
NOTE: The October 2025 data values are not available due to the 2025 lapse in appropriations.							

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Governor Whitmer

Gov. Whitmer Highlights Impact of Federal Tariffs on Michigan Employers and Consumers, Causing Price Hikes and Layoffs Across Affected Industries

July 15, 2025

Author:

Executive Office of the Governor

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FOR IMMEDIATE RELEASE

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Gov. Whitmer Highlights Impact of Federal Tariffs on Michigan Employers and Consumers, Causing Price Hikes and Layoffs Across Affected Industries

LANSING, Mich. – Today, Governor Gretchen Whitmer highlighted new [data](#) released by the Yale Budget Lab showing that the U.S. effective tariff rate is at its highest point in 115 years, reaching 20.6%. This historic rate will put a strain on Michigan businesses as they work against supply chain shortages and rising costs. Given that tariff policies are actively shifting, the current effective rate is [seven times](#) more than last year's rate and could increase on August 1 if more tariffs are enacted as planned. The rising rate has continued to cause massive uncertainty for businesses, as they near the end of their pre-tariff inventories, foreshadowing higher costs for

consumers. Certain American employers could face a direct cost of **\$82.3 billion** as a result of the tariffs, hurting sales and payroll.

"I'm not against tariffs outright, but they are a blunt tool that must be used strategically and with a clear end goal," said **Governor Whitmer**. "The new federal tariffs have already spiked the effective tariff rate to the highest it has been since 1910. This historic increase will put pressure on consumers and small businesses, spark uncertainty, and take thousands of dollars out of our pockets every single year. Michiganders can't afford to bear the burden of these chaotic policies. I'll continue to fight for smart fiscal management and common-sense trade policies that supports our businesses, grows our economy, and lowers costs for Michiganders."

"The volatility we've seen in this year's Retail Index scores is a clear indicator of the uncertainty business owners are facing with tariffs and the threat of tariffs," said **William J. Hallan, President & Chief Executive Officer of Michigan Retailers Association**. "According to a member survey conducted in May 2025, 69% of Michigan retailers surveyed feel that tariffs and the threat of tariffs will negatively impact their business in the next 6-12 months. The long-term effects of tariffs remain a threat to the retail industry, with more than 75% of retailers stating that tariffs are impacting in their ability to plan for the next 3-5 years."

Rising Tariff Rates Impact on U.S. Businesses

The current effective rate of 20.6% is the highest it has been since the 1910 and could increase as the administration considers changes to their policies. The rising rate will be disastrous for businesses across the country and especially in Michigan. Largely, companies have not yet had to react to tariffs as they have been working through inventory purchased before tariffs were enacted. However, as tariff rates continue to rise and stockrooms empty, companies will be forced to increase prices and review payrolls.

Specifically, certain U.S. employers could face a direct cost of \$82.3 billion because of the federal tariff plans. While some businesses may bear the burden of tariffs in an effort to keep prices low for as long as possible, rising costs will likely force them to manage through price hikes, layoffs, hiring freezes, or lower profit margins. As a result, thousands of good-paying, local jobs could be laid off in the coming years, hurting Michiganders and our economy.

Rising Tariff Rates Impact on Consumers

While businesses will take a large hit as a result of the Trump administration's tariff policy, consumers will largely bear the burden. In fact, companies are expected to pass **60%** of their tariff costs onto consumers, meaning American consumers could lose

out on anywhere between \$2,100 and \$4,900 each year. Major companies like Target, Walmart, and Costco have said in recent weeks that they will raise some prices because of tariff pressures. As a result, American consumers will see fewer dollars in their wallets as they head to the store to grab groceries or begin back-to-school shopping.

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Gov. Whitmer Highlights Impact of Federal Tariffs on Michigan Employers and Consumers, Causing Price Hikes and Layoffs Across Affected Industries

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ISSUE BRIEFS / JUNE 23, 2025

How Medicaid and SNAP Cutbacks in the “One Big Beautiful Bill” Would Trigger Big and Bigger Job Losses Across States



▲ A job-seeker holds paperwork given out at the Global Assistance booth at the Mega JobNewsUSA South Florida Job Fair at the Amerant Bank Arena on April 30, 2025, in Sunrise, Fla. In 2029, cuts to Medicaid and SNAP would result in the loss of 1.2 million jobs nationwide, equivalent to a 0.8-percentage-point increase in the unemployment rate. Photo: Joe Raedle/Getty Images

TOPLINES

Proposed Medicaid and SNAP cuts in the budget bill moving through Congress could cost states far more than the federal government would save

Projected losses in 2029 include 1.2 million jobs and \$154 billion in state GDPs; state and local tax revenues could plummet \$12.2 billion

AUTHORS

Leighton Ku, Kristine Namhee Kwon, Maddie Krips, Taylor Gorak, Joseph J. CordesRELATED CONTENT

How Potential Federal Cuts to Medicaid and SNAP Could Trigger the Loss of a Million-Plus Jobs, Reduced Economic Activity, and Less State Revenue

Abstract

- **Issue:** The budget reconciliation bill recently passed by the House of Representatives (the One Big Beautiful Bill) reduces federal funding for Medicaid by \$863 billion and for the Supplemental Nutrition Assistance Program (SNAP) by \$295 billion over 10 years.
- **Goal:** To estimate the impact of the bill on the economies, employment, and state and local tax revenues for every state and the District of Columbia in 2029, when the policies are fully implemented.
- **Methods:** We compute federal funding reductions for Medicaid and SNAP programs in each state using Congressional Budget Office estimates, along with recent Medicaid and SNAP data. We then use the IMPLAN modeling program to estimate economic effects.
- **Key Findings and Conclusions:** In 2029, cuts to Medicaid and SNAP would cause state gross domestic products to fall by \$154 billion, 18 percent more than the \$131 billion they would save the federal government. The cuts would result in the loss of 1.22 million jobs nationwide, equivalent to a 0.8-percentage-point increase in the unemployment rate. States with higher rates of poverty would likely be harmed more. State and local tax revenues would fall by \$12 billion. Additional fallout from budget cuts to the health insurance marketplaces and the sequestration of Medicare funding will further harm the economy and employment.

Introduction

On May 22, 2025, the U.S. House of Representatives passed the “One Big Beautiful Bill Act,” its budget reconciliation bill. The Senate has begun to propose potential changes, but it is too early to know what the Senate will end up doing.¹ Narrowly passed in the House on a party-line basis, the legislation includes an estimated \$863 billion in budget cuts for Medicaid and \$295 billion in cuts for the Supplemental Nutrition Assistance Program (SNAP) for fiscal years 2025 to 2034.² The combined cuts exceed \$1 trillion. Although

President Trump has said he “loves and cherishes” Medicaid and Medicare,³ he strongly supports the bill.⁴

The Congressional Budget Office (CBO) projects that, if enacted, the bill will cause 10.9 million Americans to become uninsured, either from the loss of Medicaid or from coverage losses in the Affordable Care Act (ACA) marketplace. An additional 5.1 million people will lose coverage when the enhanced marketplace premium tax credits expire at the end of 2025, among other reasons.⁵ Together, the number of uninsured Americans could be 16 million higher in 2034 than it would be without these changes. The CBO further projects that the bill will lower SNAP enrollment by an average of 4.7 million, and that Americans remaining in SNAP will see their nutrition allotments reduced.⁶

Cuts to the ACA insurance marketplace will also lower federal funding for health care and increase the number of uninsured people. The end of the enhanced premium tax credits will compound these effects.⁷ Finally, the CBO noted that increases in the federal budget deficit caused by the bill could trigger “sequestration,” which could require a \$500 billion cut in Medicare funding.⁸

By cutting safety-net programs, the House budget bill reduces resources for low-income households (the lowest 10% of earners) by an average of \$1,600. At the same time, the bill’s tax cuts increase resources for high-income households (the highest 10% of earners) by \$12,000. Despite the spending cuts, the bill would increase the federal deficit by \$3 trillion, including about \$500 billion in higher interest costs.⁹

This brief analyzes the economic, employment, and tax consequences of the One Big Beautiful Bill Act for each state and the District of Columbia, as passed by the House. An earlier brief, written before the House bill was developed, examined the effects of hypothetical changes to Medicaid and SNAP policies, assuming that the changes were broad-based and spready evenly over the 2025–34 period and proportionately across states.¹⁰ This updated brief examines the effects of the specific policies that were approved by the House. The box below summarizes the bill’s key Medicaid- and SNAP-related policies.

Key Medicaid and SNAP Provisions in the House Budget Reconciliation Bill

Medicaid¹¹

- Mandates work reporting requirements for adults ages 19 to 64 covered through the Medicaid expansion by end of December 2026.
- Requires cost sharing for Medicaid expansion adults with incomes above 100 percent of the federal poverty level.
- Requires shorter certification periods for Medicaid expansion adults.
- Prohibits implementation of regulations related to eligibility and enrollment in Medicaid, CHIP, and Medicare Savings Programs and related to staffing standards for nursing homes until 2035.
- Cancels future American Rescue Plan Act incentive payments for states that newly expand Medicaid eligibility.
- Cuts the matching rate for expansion populations in states that use their own funds to serve undocumented or nonqualified immigrants.
- Prohibits gender-affirming care.
- Prohibits payments to certain family planning providers.
- Freezes state Medicaid provider taxes at current levels and limits use of state-directed payments.
- Delays disproportionate share hospital (DSH) payment reductions.

Supplemental Nutrition Assistance Program¹²

- Expands work reporting requirements for adults from an upper limit of age 54 to age 64 and lowers the age limit for dependent children from 18 to 7.
- Requires a state match for SNAP benefits of between 5 percent and 25 percent, based on each state's payment error rate, beginning in 2028.
- Halves federal funding for administrative payments from 50 percent to 25 percent.
- Lowers the tolerance limit for payment errors from \$57 to \$0.
- Limits increases in SNAP benefits based on the Thrifty Food Plan to the Consumer Price Index.

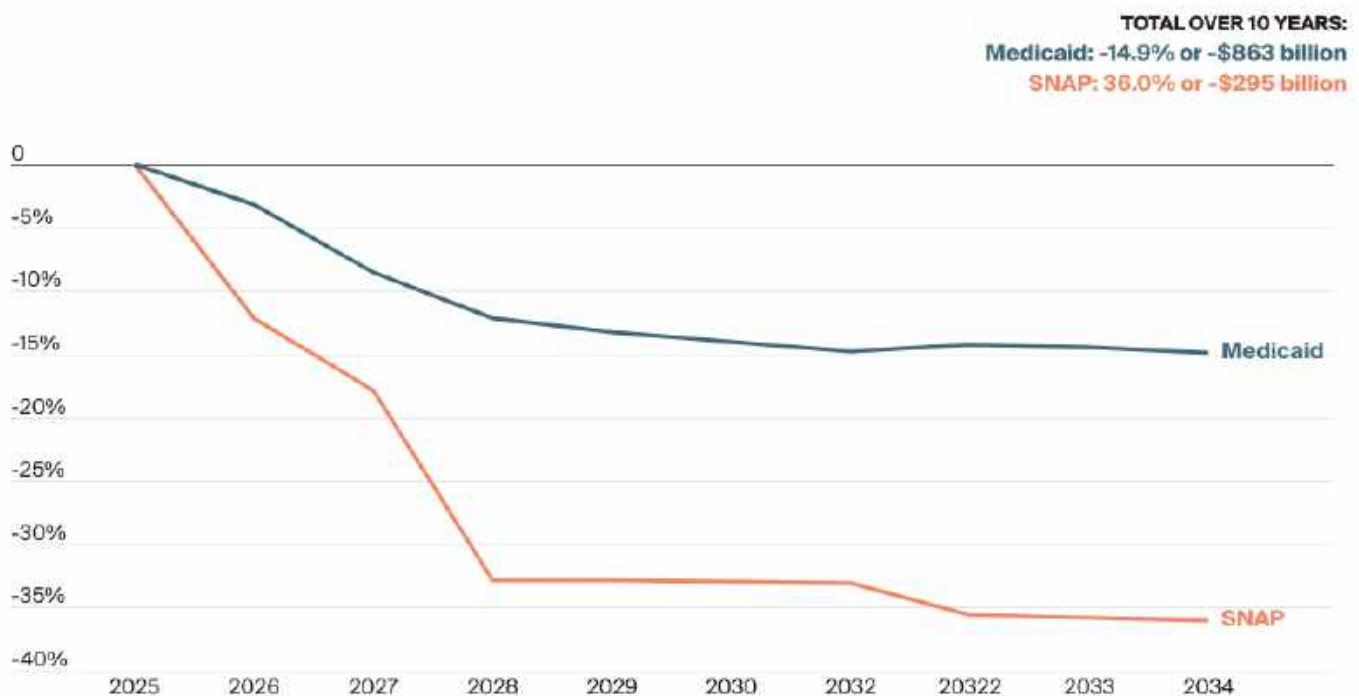
- Prohibits participation by persons who are not citizens or lawful permanent residents.

Timing and Depth of State Medicaid and SNAP Cutbacks

Although the budget reconciliation bill is often described in terms of the federal savings it will produce, the cost of the cuts outlined above will be borne by states, their businesses, and their residents. Since the legislation is phased, the impact of these bills deepens over time, as illustrated in Exhibit 1.

EXHIBIT 1

Federal Medicaid and SNAP Budget Reductions as Percentage of Each Program's Baseline, FY 2025–34



Data: Based on Congressional Budget Office (CBO) estimates of the House bill and CBO's baseline for Medicaid and the Supplemental Nutrition Assistance Program (SNAP).

Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-ht51>

Last-minute changes in the House bill hastened the Medicaid cuts, particularly by advancing the date for work requirements from January 2029 to December 31, 2026. The reductions deepen substantially from 2026 to 2028 before easing in subsequent years. While the funding reductions are larger for Medicaid than for SNAP (\$863 billion vs. \$295 billion, respectively), the relative size of the cuts are deeper for SNAP, which will see a 36 percent cut by 2034, compared to 15 percent for Medicaid.

The House-passed bill was also designed to cut funding disproportionately in certain states — harming businesses and residents unevenly across the nation. Exhibit 2 displays the 10 states with the deepest reductions in federal funding for Medicaid and SNAP in 2029, compared to estimates of baseline spending for program benefits. (The [appendix tables](#) at the end of this brief contain detailed results for Medicaid, SNAP, and the combination of Medicaid and SNAP.) We acknowledge there is some uncertainty about projections of funding several years from now; our estimates are based on the most recent data available. To learn how we calculated them, see “[How We Conducted This Study](#).”

EXHIBIT 2

States with Deepest Estimated Relative Reductions in Federal Medicaid and SNAP Funding, 2029

Medicaid			SNAP		
	Funding loss (\$ millions)	Relative reduction		Funding loss (\$ millions)	Relative reduction
U.S. total	-\$95,669	-13.3%	U.S. total	-\$35,409	-35.6%
Arizona	-\$3,931	-21.1%	New Mexico	-\$479	-43.9%
Washington	-\$2,675	-17.4%	West Virginia	-\$262	-43.6%
Montana	-\$367	-17.3%	Georgia	-\$1,492	-43.0%
New York	-\$11,333	-17.1%	Delaware	-\$112	-41.6%
North Carolina	-\$3,807	-16.1%	New Jersey	-\$846	-41.4%
Illinois	-\$3,648	-16.1%	Mississippi	-\$367	-41.1%
Connecticut	-\$1,170	-15.7%	Indiana	-\$603	-39.6%
California	-\$16,615	-15.3%	Michigan	-\$1,288	-39.6%
New Mexico	-\$1,419	-15.2%	Oklahoma	-\$628	-39.3%
Hawaii	-\$360	-14.8%	Missouri	-\$630	-39.3%

Data: George Washington University analysis. The relative reduction is the estimated cut in federal funding for a state as a percentage of the estimated state baseline benefit funding.

Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-ht51>

Overall, 13.3 percent of federal Medicaid funding (\$95.7 billion) would be lost nationwide in 2029. Some states would have deeper losses than others. For example, Arizona would lose 21.1 percent of its federal funding, while Wyoming would lose 5.5 percent — still a substantial cut.

A key factor in the severity of a state's Medicaid cut is whether it is one of the 40 states that expanded Medicaid eligibility for adults under the ACA: several elements of the bill, the new work requirements in particular, target funding for expansion enrollees. The 10 states that did not expand eligibility tend to have lower reductions, a 7.9 percent loss, on average, from the baseline versus a 14.5 percent loss for expansion states. But nonexpansion states will become ineligible for incentive payments authorized under the American Rescue Plan Act that temporarily help them lower costs if they choose to expand Medicaid in future

years (North Carolina, Missouri, South Dakota, and Oklahoma have received these payments).

The cuts to SNAP are deeper in relative terms, with federal benefit funding decreasing 36 percent by 2029.¹³ New Mexico is projected to experience the deepest relative cut (43.9%), while South Dakota, with the smallest relative cut, has a 19.9 percent loss.

The largest factor affecting the relative level of SNAP cuts in the bill is the state match requirement, which shifts \$128 billion in federal costs to the states. The match rate would range from a minimum of 5 percent to a maximum of 25 percent for states with the highest SNAP payment error rates.¹⁴ Many of the states with the deepest losses are in the South and Midwest. How states will find the state dollars for the required matches, which could reach hundreds of millions of dollars, is unclear. If certain states cannot afford the funds, they may be forced to opt out of SNAP for all their residents.

Federal Medicaid funding cuts will have both direct and indirect effects on the number of Americans receiving Medicaid or SNAP benefits. For example, imposing work requirements for Medicaid and SNAP enrollees, or prohibiting implementation of Biden-era eligibility and enrollment regulations for Medicaid, will directly reduce participation in these programs, as the CBO and others have projected. The minority staff for the House–Senate Joint Economic Committee provided preliminary state-by-state estimates of people losing health insurance because of the bill, ranging from 15,500 in Wyoming and 51,000 in Maine to 212,000 in Missouri and nearly 2 million in California.¹⁵

Other policies, such as the SNAP state match, limits on Medicaid health care provider taxes, and state-directed payments, do not directly affect eligibility or benefits but are likely to lead states to limit eligibility and benefits. Since these provisions lower federal funding that states draw on to support program services, states will be forced to compensate for the losses in some fashion.

Because of balanced-budget requirements, nearly all states will need to consider whether to raise taxes, find other revenue, cut optional Medicaid program eligibility or services (SNAP has relatively few state options), reduce provider reimbursement rates, or drop out of SNAP altogether. Some states might discontinue the ACA Medicaid expansion for adults; in fact, nine states have “trigger laws” to terminate the eligibility expansions if the 90 percent federal matching rate is reduced (Arizona, Arkansas, Illinois, Indiana, Montana, New Hampshire, North Carolina, Utah, and Virginia), while three other states are required to mitigate the loss of expansion funding (Idaho, Iowa, and New Mexico).¹⁶ States also could cut optional Medicaid services, such as home- and community-based care for elderly and disabled beneficiaries or dental care for adults, or optional eligibility for children.¹⁷

Economic, Employment, and Tax Consequences

Our analyses of the economic, employment, and tax effects of the Medicaid and SNAP cutbacks are based on the estimated federal funding reductions for each state in 2029. We analyzed these data using the IMPLAN economic modeling system to estimate the impacts on state economies, jobs, and state and local tax revenues.¹⁸ The IMPLAN system estimates the “multiplier effect” of the federal funding losses as they ripple across the states, first lowering revenue for health care providers (or food-related businesses) and then affecting other businesses in their supply chains and the employment and incomes of people they employ. All projections are compared to an estimated baseline of economic conditions in 2029 to provide estimates in the absence of legislative changes. Following are key findings at the national level.

State gross domestic products (GDPs) will fall by \$154.3 billion, 18 percent more than the federal savings (\$131.1 billion) gained from the funding cuts. The cuts in Medicaid and SNAP would lead to massive reductions in revenue for health care providers and food-related businesses (grocery stores, food producers, and farms), the effects of which would then ripple across other state economic sectors. The severe economic losses sustained by states, including their businesses and residents, would outweigh the federal savings.

Nationwide, 1.22 million jobs could be lost in 2029 due to Medicaid and SNAP cuts. The economic setbacks will, in turn, reduce the number of jobs in each state and increase unemployment rates. Nearly 500,000 jobs would be lost in health care (for example, hospitals, physician and clinic offices, pharmacies, and long-term care providers), while the rest would be spread across other sectors of the economy, especially food-related sectors.¹⁹

The loss of 1.22 million jobs lost is roughly equivalent to a 0.8-percentage-point increase in the U.S. unemployment rate. About 7.2 million people were unemployed in May 2025 (4.2%). The impact of the Medicaid and SNAP cutbacks is comparable to increasing the national unemployment rate by one-sixth.

The total impact of the program cutbacks related to the House budget reconciliation bill would be even larger. In a previous brief, we noted that the expiration of the ACA's enhanced premium tax credits in 2026 would lead to the loss of some 300,000 jobs.²⁰ Other changes to the ACA marketplace would lead to further job losses too. In addition, the increase in the federal budget deficit due to the legislation could trigger “sequestration” that could require another \$500 billion reduction in Medicare funding.²¹ These will cause additional job losses, particularly in health care.

The income lost by businesses and individuals would lead to \$12.2 billion in reduced state and local tax revenues in 2029. These revenue losses would make it harder for state and local governments to balance their budgets, jeopardizing funding for education, infrastructure, and other state and local public services. The House budget reconciliation bill places additional fiscal burdens on states with such policies as the required state match for SNAP funding and limitations on health care provider taxes, which would put further fiscal pressure on state and local governments.

All States Will Lose, Some More Than Others

Since the Republican budget reconciliation bill is designed to target some states more than others, the economic consequences differ from state to state. Exhibit 3 shows the total jobs lost resulting from the combined Medicaid and SNAP cuts. Although the overall job loss (1.22 million) is equivalent to a 0.8-percentage-point increase in the national unemployment rate, losses are much higher in many states. (Exhibit 3 shows the decrease in the percentage of state employment in each state. More detailed data are shown in [Appendix Table 3.](#))

All states will lose jobs. New Mexico is projected to have the largest percentage-point increase in unemployment, 1.7, while Wyoming will have the smallest, 0.2. The impact of the bill will vary ninefold across the states.

specific provisions of the legislation, such as Medicaid work requirements or SNAP state match policies.

States with the highest relative job losses include: New Mexico (–1.7% of state employment), Arizona (–1.4%), Kentucky (–1.4%), and Louisiana (–1.3%). States with the most job losses include: California (–181,000), New York (–114,200), Texas (–62,200), and Pennsylvania (–50,900).

The budget reconciliation bill will also have differential effects on state GDPs, as well as on state and local tax revenues ([Appendix Table 3](#)). More difficult to assess is the extent to which the House bill will change Medicaid or SNAP participation levels in each state. The Urban Institute has estimated the participation effects of Medicaid and SNAP work requirements.²²

Discussion

The congressional architects of the budget reconciliation bill believe they are eliminating fraud and waste while protecting the vulnerable. Rep. Brett Guthrie (R–Ky.), chair of the House Committee on Energy and Commerce, said the bill “preserves and strengthens Medicaid for children, mothers, people with disabilities and the elderly — for whom the program was designed.”²³ Rep. Glenn Thompson (R–Pa.), chair of the House Committee on Agriculture, stated there would be “absolutely no reductions in nutritional benefits.”²⁴ However, CBO estimates of 10.9 million individuals losing insurance coverage (including 1.3 million people dually eligible for Medicaid and Medicare who would lose Medicaid coverage of Medicare costs) and 5 million losing SNAP show that there is substantial harm to vulnerable beneficiaries, including children, people with disabilities, and elderly adults. Millions more could be harmed by the changes states will ultimately have to make to compensate for the loss of federal funding.

Our study reveals another, less discussed consequence of the budget cutbacks: the damage to state economies and loss of hundreds of billions of dollars, amounts that greatly exceed any federal savings. More than a million people will lose their jobs, particularly in the health care sector. Hospitals, clinics, and nursing homes will close, many of them in rural and low-income communities.²⁵ The need to compensate for the loss of billions of dollars in federal funding will mean that state and local governments will have to consider cuts in other public services, such as education or infrastructure, just as they lose billions of dollars in state and local tax revenue because of the economic dislocation these policies cause.

Some of the most controversial elements of the legislation are the harsh work requirements mandated in Medicaid and toughened for SNAP. These would lead to 5 million to 6 million

people losing Medicaid²⁶ and 3 million losing SNAP benefits.²⁷ A large body of research and ample experience has shown that these policies do not significantly improve employment outcomes; rather, their primary impact is to greatly reduce the number of people helped by the programs.²⁸ Moreover, the budget cuts will actually cause more than a million people to lose employment.

Finally, economic disparities between states — regardless of whether they're red or blue — will also deepen. Because states with a greater number of poor families rely more on Medicaid and SNAP, these states will suffer the most severe economic losses.

How We Conducted This Study

Estimating State-Level Federal Funding Changes

An important element of this analysis is estimating changes in federal funding for each state in 2029, based on the many sections of the bill. We began by estimating state “baseline” benefit federal funding levels for each state, using state estimates of Medicaid expenditures for fiscal year 2025 and actual Supplemental Nutrition Assistance Program (SNAP) expenditures for fiscal year 2024. These were then inflated to 2029 levels, based on the Congressional Budget Office’s baselines, using data and methods we described previously.²⁹

To estimate the state-level funding effects, we relied on the CBO’s estimates of the national impact of the One Big Beautiful Bill Act that was passed by the U.S. House of Representatives.³⁰

We then allocated state-level estimates of the bill’s provisions, based on CBO scoring of outlays for the different sections of the bill and recent data indicating the relative impact of the varying sections of the bill. The allocation of Medicaid provisions was based on key aspects of the bill:

- Work requirements and related provisions like cost sharing that affect states serving expansion populations, based largely on Urban Institute data.³¹
- Prohibition on bonus funding for states that have not expanded Medicaid eligibility, allocated proportionately across these 10 states.

- Reductions of federal expansion funding for states that serve undocumented immigrants.³²
- The cap on Medicaid provider taxes, based on the Hilltop Institute's estimates of the value of existing provider taxes.³³
- Limitations on Medicaid state-directed payments, based on analyses of public information documents shared by Manatt Health.³⁴
- All other provisions that were assumed to affect all states proportionate to the level of their Medicaid expenditures (this includes prohibitions of regulations related to eligibility and enrollment and on nursing home staffing). This allocation also accounts for budgetary “interaction effects” of the provisions.

Some provisions of the bill are related to future policy decisions that could be made by states in the absence of the bill, such as how much states might increase provider taxes, which states might drop or add state-funded coverage of undocumented immigrants, or which states might drop or add expansions of Medicaid eligibility for low-income adults. Based on the most recent information available to us, we allocated the funding impact of these policies proportionately across the applicable states in a way that approximates a “current services” baseline assessment. We acknowledge, however, that this introduces uncertainty in our estimates, since states may alter their policy choices and modify the impact before 2029.

The allocation of state-level SNAP funding effects was conducted in a similar fashion. At the national level, we aligned with the CBO's May 20 estimates of the impact of SNAP-related provisions of the bill. We allocated state-level changes based on three key aspects of the bill: 1) state match requirements based on the most recent payment error rates, reported for fiscal year 2023;³⁵ 2) expansion of SNAP work requirements;³⁶ and 3) all other provisions, which we allocated proportionate to state SNAP benefit expenditures; this also includes adjustments for budgetary interaction effects.

Future SNAP payment error rates may differ from the FY 2023 levels. The rates can change each year,³⁷ but we deemed allocating the effects based on the most recent data to be the most reasonable approach. Analysis of the CBO estimates for this policy indicate CBO also expects high payment error rates to persist, leading to high average state match requirements.³⁸

Estimating Economic, Employment, and Tax Impacts

Our estimates of the economic, employment, and tax effects of reduced federal funding are produced using IMPLAN, a widely used input–output economic impact software system.³⁹ The underlying logic is that funding cutbacks have “multiplier effects” that are felt initially in the health care sector and food sectors but soon spread to other economic and employment sectors as well.

IMPLAN enables us to estimate three key impacts for states, their businesses and residents: 1) changes in state gross domestic products (GDPs) caused by the reduction in federal funding; 2) changes in the number of jobs in the state, which are categorized as direct (health or food), indirect (other sectors), and total employment; and 3) changes in state and local tax revenues caused by the changes in household and business incomes. The definitions of these metrics were described previously.⁴⁰

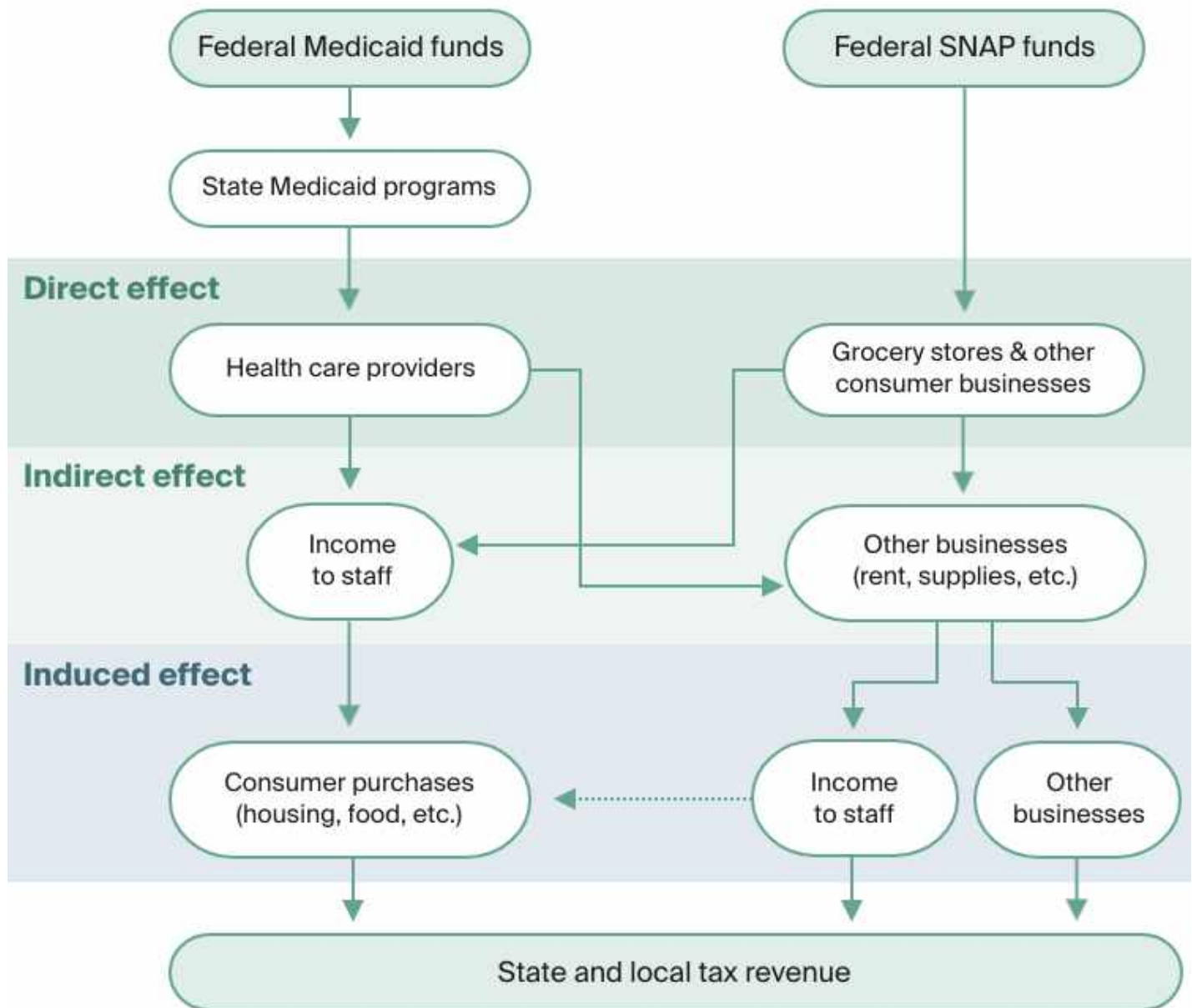
For Medicaid, we partitioned each state’s Medicaid loss in four health care sectors: hospital, ambulatory care, pharmaceuticals, and long-term care, based on estimated Medicaid spending in these sectors.⁴¹ Our IMPLAN-based analysis of the cuts in SNAP funding was similar but focused on changes in food-related expenditures. As described in an earlier brief, since SNAP relies on the fact that households must blend SNAP benefits and their own income to purchase enough food, research shows that SNAP induces a marginal propensity to purchase more food. Thus, we allocated each state’s share of SNAP reductions in two parts: a 30 percent reduction in food purchases and a 70 percent reduction in other consumer goods purchased by low-income households.⁴²

Both the Medicaid and SNAP analyses use IMPLAN’s Multi-Regional Input-Output (MRIO) methodology to account for cross-state effects of the policies (sometimes called “leakages”).⁴³ For example, some of the food purchased in Georgia may have been grown in Kansas or processed in Tennessee, so lower grocery purchases in one state may cause losses in other states. A nurse who loses her job in a Louisiana clinic might reside in Texas; thus, a job lost in one state could create economic losses in another.

How the Multiplier Effect Works

The figure below illustrates how the multiplier effect works for Medicaid and SNAP. For Medicaid, the reduction in federal Medicaid funds lead to reductions in state Medicaid programs’ budgets. In turn, the loss of insurance coverage lowers revenue to health care providers, like hospitals, clinics, pharmacies and nursing homes. These are the *direct* effects.

How Reductions in Medicaid or SNAP Affect State Economies



Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-ht51>

In turn, health care providers must compensate for revenue losses by reducing how much they spend on staff and on goods and services from vendors (such as medical supplies, equipment, rent, and IT services). These businesses must also reduce spending on labor, goods, and services; the reductions in labor expenses means health providers and other

businesses must lay off staff and reduce compensation. These are the *indirect* impacts of the policy change.

Finally, as employees lose income, they purchase fewer consumer goods and services (e.g., retail goods, transportation, groceries, rent). These are known as *induced* losses. Falling personal and business income also lowers state and local revenue from income, sales, and other taxes, such as real estate taxes.

These principles also apply to the loss of federal SNAP funding. Although SNAP is administered by state agencies and benefits are distributed to recipients, the SNAP funds actually flow directly to grocery stores for food purchases, although as described above, economists recognize that consumers redeploy their available household income to purchase other goods and services. Parallel to the Medicaid example, these effects can be viewed as direct, indirect, and induced effects.

Why Our Estimates Are Conservative

As discussed in earlier briefs, we focus on the effects of changes in federal funding because they are exogenous changes (“shocks”) in the resources available to each state and its residents, caused solely by the federal policy changes. States, businesses, or individuals may compensate for the reduction in federal funding by shifting resources away from other uses (e.g., raising taxes, cutting other services, or consumption), which have similar economic repercussions. Focusing on the federal budgetary changes makes our estimates more conservative. Also, some economic multiplier studies report the effects on “economic activity” (which may double-count losses in production, wholesale, and retail sectors), but we present estimates of changes in state GDPs, based on the value added (or lost) within a state, which are much more conservative and consistent with standard approaches for measuring state economies.

Medicaid and SNAP cutbacks could have other harmful effects on health, nutrition, and well-being. A large body of research has demonstrated how the expansion of Medicaid coverage under the ACA led to improved health access, better health, and greater financial and mental well-being.⁴⁴ SNAP has also been associated with better health and lower financial strain.⁴⁵ The loss of health and nutrition benefits could impair health or mental well-being, leading to additional losses in productivity or higher health care costs. Our analyses do not account for these other health and social costs; they are based entirely on the economic repercussions of federal funding reductions on state economies and employment.

APPENDIX TABLE 1

Estimates of 2029 Medicaid Losses in Federal Funding and Effects on State Economies, Employment, and Tax Revenues Under the House Budget Reconciliation Bill

	Federal funding losses		State GDP losses	Job losses (1,000s)			State/local tax revenue losses
	(\$ mil)	Relative reduction		Direct health	Other jobs	Total jobs	
U.S. (total)	-\$95,669	-13.3%	-\$124,764	-496.9	-499.3	-996.1	-\$9,166
Alabama	-\$524	-7.3%	-\$609	-3.6	-3.0	-6.5	-\$44
Alaska	-\$231	-9.1%	-\$242	-1.1	-0.8	-1.9	-\$10
Arizona	-\$3,931	-21.1%	-\$4,932	-20.2	-21.3	-41.5	-\$302
Arkansas	-\$975	-12.9%	-\$1,020	-5.4	-4.7	-10.1	-\$65
California	-\$16,615	-15.3%	-\$22,290	-77.2	-76.2	-153.4	-\$1,729
Colorado	-\$1,356	-13.9%	-\$1,775	-6.8	-7.4	-14.2	-\$109
Connecticut	-\$1,170	-15.7%	-\$1,701	-5.4	-6.5	-11.9	-\$161
Delaware	-\$345	-14.0%	-\$454	-1.7	-1.7	-3.4	-\$27
Dist. Columbia	-\$444	-13.2%	-\$584	-1.9	-1.5	-3.4	-\$27
Florida	-\$1,884	-7.9%	-\$2,889	-12.9	-15.7	-28.6	-\$166
Georgia	-\$857	-7.0%	-\$1,349	-5.8	-7.1	-12.9	-\$89
Hawaii	-\$360	-14.8%	-\$431	-1.7	-1.6	-3.4	-\$40
Idaho	-\$310	-8.7%	-\$366	-1.7	-1.7	-3.5	-\$24
Illinois	-\$3,648	-16.1%	-\$5,235	-18.6	-21.0	-39.6	-\$470
Indiana	-\$2,094	-12.5%	-\$2,759	-10.9	-11.2	-22.1	-\$174
Iowa	-\$918	-13.1%	-\$995	-5.4	-4.1	-9.5	-\$62
Kansas	-\$314	-8.2%	-\$465	-2.1	-2.3	-4.4	-\$34
Kentucky	-\$2,620	-14.2%	-\$2,750	-14.4	-11.7	-26.1	-\$211
Louisiana	-\$2,113	-14.4%	-\$2,189	-11.9	-9.9	-21.8	-\$141
Maine	-\$282	-8.3%	-\$363	-1.5	-1.6	-3.1	-\$31
Maryland	-\$1,713	-14.4%	-\$2,123	-8.7	-8.7	-17.4	-\$174
Massachusetts	-\$1,976	-13.0%	-\$2,896	-9.3	-10.1	-19.4	-\$184
Michigan	-\$2,955	-13.6%	-\$3,566	-17.3	-16.1	-33.4	-\$224
Minnesota	-\$1,743	-13.1%	-\$2,260	-8.7	-9.2	-17.9	-\$189
Mississippi	-\$640	-9.1%	-\$651	-4.6	-3.3	-7.8	-\$47
Missouri	-\$1,708	-10.3%	-\$2,054	-9.4	-9.0	-18.4	-\$134
Montana	-\$367	-17.3%	-\$375	-1.8	-1.7	-3.5	-\$27
Nebraska	-\$349	-8.8%	-\$477	-1.9	-2.0	-3.8	-\$28
Nevada	-\$1,017	-13.6%	-\$1,261	-5.5	-5.6	-11.0	-\$74
New Hampshire	-\$244	-14.0%	-\$357	-1.2	-1.5	-2.7	-\$22
New Jersey	-\$2,289	-13.5%	-\$4,112	-11.1	-17.8	-28.9	-\$370
New Mexico	-\$1,419	-15.2%	-\$1,334	-7.5	-5.1	-12.6	-\$98
New York	-\$11,333	-17.1%	-\$14,966	-51.1	-47.0	-98.2	-\$1,367
North Carolina	-\$3,807	-16.1%	-\$4,638	-20.7	-20.1	-40.8	-\$296
North Dakota	-\$140	-13.6%	-\$149	-0.7	-0.6	-1.3	-\$5
Ohio	-\$3,447	-12.1%	-\$4,325	-18.5	-19.4	-37.9	-\$283
Oklahoma	-\$1,163	-12.6%	-\$1,252	-6.7	-5.8	-12.5	-\$75
Oregon	-\$1,986	-14.4%	-\$2,327	-10.1	-9.3	-19.4	-\$193
Pennsylvania	-\$3,626	-11.0%	-\$4,955	-18.8	-21.2	-40.0	-\$337
Rhode Island	-\$425	-14.6%	-\$514	-2.2	-2.1	-4.3	-\$46
South Carolina	-\$830	-10.1%	-\$1,022	-5.4	-5.0	-10.5	-\$87
South Dakota	-\$177	-13.5%	-\$207	-0.9	-0.9	-1.8	-\$8
Tennessee	-\$1,132	-9.0%	-\$1,657	-6.9	-7.7	-14.7	-\$114
Texas	-\$3,084	-7.7%	-\$4,766	-20.8	-23.4	-44.1	-\$251
Utah	-\$638	-12.8%	-\$847	-3.9	-4.0	-7.9	-\$56
Vermont	-\$162	-11.1%	-\$185	-0.9	-0.8	-1.6	-\$16

Virginia	-\$2,475	-13.8%	-\$3,116	-13.2	-12.9	-26.1	-\$222
Washington	-\$2,675	-17.4%	-\$3,513	-12.1	-11.3	-23.4	-\$216
West Virginia	-\$625	-13.6%	-\$640	-3.3	-2.6	-5.9	-\$44
Wisconsin	-\$501	-5.9%	-\$779	-3.3	-3.9	-7.2	-\$55
Wyoming	-\$29	-5.5%	-\$44	-0.2	-0.2	-0.4	-\$3

Data: George Washington University analyses using IMPLAN, 2025.

Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-h151>

APPENDIX TABLE 2

Estimates of 2029 SNAP Losses in Federal Funding and Effects on State Economies, Employment, and Tax Revenues Under House Budget Reconciliation Bill

	Federal funding losses		State GDP losses	Job losses (1,000s)			State/local tax revenue losses
	(\$ mil)	Relative reduction		Direct food	Other jobs	Total jobs	
U.S. (total)	-\$35,409	-35.6%	-\$29,518	-29.1	-193.3	-222.4	-\$3,022
Alabama	-\$541	-29.4%	-\$353	-0.4	-2.8	-3.2	-\$36
Alaska	-\$95	-35.6%	-\$61	-0.1	-0.4	-0.4	-\$5
Arizona	-\$806	-37.7%	-\$677	-0.6	-4.6	-5.2	-\$60
Arkansas	-\$202	-34.7%	-\$151	-0.1	-1.2	-1.3	-\$16
California	-\$4,639	-35.3%	-\$4,271	-3.9	-23.7	-27.6	-\$481
Colorado	-\$519	-37.6%	-\$441	-0.4	-2.9	-3.3	-\$41
Connecticut	-\$346	-36.5%	-\$312	-0.3	-1.8	-2.1	-\$37
Delaware	-\$112	-41.6%	-\$96	-0.1	-0.6	-0.7	-\$8
Dist. Columbia	-\$122	-35.9%	-\$96	-0.1	-0.4	-0.5	-\$8
Florida	-\$2,546	-36.3%	-\$2,129	-2.4	-15.5	-17.9	-\$199
Georgia	-\$1,492	-43.0%	-\$1,261	-1.3	-8.9	-10.2	-\$114
Hawaii	-\$255	-32.8%	-\$181	-0.2	-1.1	-1.4	-\$24
Idaho	-\$60	-20.1%	-\$56	under 500	-0.4	-0.5	-\$5
Illinois	-\$1,677	-35.4%	-\$1,448	-1.3	-9.0	-10.3	-\$170
Indiana	-\$603	-39.6%	-\$452	-0.4	-3.3	-3.7	-\$44
Iowa	-\$126	-22.5%	-\$131	-0.1	-0.9	-1.0	-\$12
Kansas	-\$168	-38.8%	-\$147	-0.1	-1.1	-1.2	-\$15
Kentucky	-\$393	-32.1%	-\$283	-0.3	-2.2	-2.5	-\$29
Louisiana	-\$633	-31.3%	-\$437	-0.5	-3.4	-3.9	-\$48
Maine	-\$148	-38.4%	-\$112	-0.1	-0.8	-0.9	-\$14
Maryland	-\$596	-37.5%	-\$443	-0.5	-2.9	-3.4	-\$52
Massachusetts	-\$916	-33.0%	-\$770	-0.9	-4.3	-5.2	-\$67
Michigan	-\$1,288	-39.6%	-\$0,961	-1.0	-7.1	-8.1	-\$94
Minnesota	-\$292	-32.1%	-\$285	-0.3	-1.9	-2.2	-\$30
Mississippi	-\$367	-41.1%	-\$218	-0.3	-1.9	-2.1	-\$25
Missouri	-\$630	-39.3%	-\$473	-0.4	-3.6	-4.0	-\$41
Montana	-\$62	-34.4%	-\$48	-0.1	-0.4	-0.4	-\$4
Nebraska	-\$102	-29.1%	-\$109	-0.1	-0.7	-0.8	-\$9
Nevada	-\$336	-31.5%	-\$250	-0.2	-1.8	-2.0	-\$24
New Hampshire	-\$63	-38.2%	-\$58	-0.1	-0.4	-0.4	-\$5
New Jersey	-\$846	-41.4%	-\$791	-0.7	-4.9	-5.6	-\$93
New Mexico	-\$479	-43.9%	-\$280	-0.3	-2.1	-2.5	-\$31
New York	-\$2,926	-37.5%	-\$2,619	-2.5	-13.6	-16.0	-\$330
North Carolina	-\$1,166	-37.4%	-\$908	-1.0	-6.3	-7.3	-\$78
North Dakota	-\$42	-35.1%	-\$40	under 500	-0.3	-0.3	-\$2
Ohio	-\$1,002	-29.7%	-\$846	-0.8	-5.9	-6.7	-\$82
Oklahoma	-\$628	-39.3%	-\$428	-0.4	-3.4	-3.8	-\$37
Oregon	-\$649	-38.3%	-\$489	-0.6	-3.4	-4.0	-\$46
Pennsylvania	-\$1,720	-38.0%	-\$1,391	-1.5	-9.4	-11.0	-\$140
Rhode Island	-\$129	-35.4%	-\$97	-0.1	-0.6	-0.7	-\$11
South Carolina	-\$532	-38.7%	-\$369	-0.5	-2.8	-3.3	-\$40
South Dakota	-\$38	-19.9%	-\$40	under 500	-0.3	-0.3	-\$2
Tennessee	-\$573	-39.1%	-\$569	-0.6	-4.0	-4.5	-\$53
Texas	-\$2,451	-32.0%	-\$2,285	-2.2	-15.9	-18.0	-\$193
Utah	-\$89	-21.9%	-\$92	-0.1	-0.6	-0.7	-\$8
Vermont	-\$37	-24.0%	-\$28	under 500	-0.2	-0.2	-\$4

Virginia	-\$700	-37.3%	-\$561	-0.6	-3.7	-4.3	-\$60
Washington	-\$577	-28.3%	-\$535	-0.4	-2.8	-3.1	-\$53
West Virginia	-\$262	-43.6%	-\$152	-0.2	-1.1	-1.3	-\$17
Wisconsin	-\$312	-21.6%	-\$273	-0.3	-2.0	-2.2	-\$27
Wyoming	-\$17	-27.8%	-\$16	under 500	-0.1	-0.1	-\$2

Data: George Washington University analyses using IMPLAN, 2025.

Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-h151>

APPENDIX TABLE 3

Estimates of Combined 2029 Medicaid and SNAP Losses in Federal Funding and Effects on State Economies, Employment, and Tax Revenues Under House Budget Reconciliation Bill

	Federal funding losses	State GDP losses	Total state job losses		State/local tax revenue losses
	(\$ mil)	(\$ mil)	(1,000s)	% of state employment	(\$ mil)
U.S. (total)	-\$131,078	-\$154,282	-1,218.5	-0.8%	-\$12,188
Alabama	-\$1,065	-\$962	-9.7	-0.4%	-\$79
Alaska	-\$326	-\$302	-2.4	-0.7%	-\$15
Arizona	-\$4,737	-\$5,610	-46.8	-1.4%	-\$363
Arkansas	-\$1,178	-\$1,171	-11.4	-0.8%	-\$81
California	-\$21,253	-\$26,560	-181.0	-1.0%	-\$2,209
Colorado	-\$1,875	-\$2,216	-17.5	-0.6%	-\$150
Connecticut	-\$1,516	-\$2,013	-14.0	-0.8%	-\$198
Delaware	-\$458	-\$550	-4.0	-0.8%	-\$35
Dist. Columbia	-\$566	-\$680	-3.8	-0.5%	-\$34
Florida	-\$4,430	-\$5,018	-46.5	-0.5%	-\$366
Georgia	-\$2,349	-\$2,610	-23.1	-0.5%	-\$203
Hawaii	-\$615	-\$612	-4.7	-0.7%	-\$64
Idaho	-\$370	-\$423	-3.9	-0.4%	-\$29
Illinois	-\$5,325	-\$6,682	-49.9	-0.8%	-\$640
Indiana	-\$2,697	-\$3,211	-25.8	-0.8%	-\$218
Iowa	-\$1,044	-\$1,126	-10.5	-0.7%	-\$74
Kansas	-\$483	-\$0,612	-5.6	-0.4%	-\$49
Kentucky	-\$3,014	-\$3,033	-28.6	-1.4%	-\$240
Louisiana	-\$2,746	-\$2,626	-25.7	-1.3%	-\$189
Maine	-\$430	-\$475	-4.0	-0.6%	-\$45
Maryland	-\$2,309	-\$2,566	-20.8	-0.7%	-\$226
Massachusetts	-\$2,892	-\$3,666	-24.6	-0.7%	-\$252
Michigan	-\$4,242	-\$4,527	-41.5	-0.9%	-\$319
Minnesota	-\$2,035	-\$2,545	-20.1	-0.7%	-\$219
Mississippi	-\$1,008	-\$869	-10.0	-0.8%	-\$73
Missouri	-\$2,338	-\$2,527	-22.4	-0.7%	-\$175
Montana	-\$429	-\$423	-3.9	-0.7%	-\$31
Nebraska	-\$451	-\$586	-4.6	-0.4%	-\$37
Nevada	-\$1,353	-\$1,511	-13.0	-0.8%	-\$98
New Hampshire	-\$0,307	-\$0,415	-3.2	-0.4%	-\$27
New Jersey	-\$3,135	-\$4,903	-34.4	-0.8%	-\$464
New Mexico	-\$1,898	-\$1,614	-15.1	-1.7%	-\$129
New York	-\$14,259	-\$17,585	-114.2	-1.1%	-\$1,697
North Carolina	-\$4,974	-\$5,546	-48.1	-0.9%	-\$373
North Dakota	-\$182	-\$189	-1.6	-0.4%	-\$7
Ohio	-\$4,449	-\$5,171	-44.7	-0.8%	-\$366
Oklahoma	-\$1,791	-\$1,680	-16.3	-0.9%	-\$112
Oregon	-\$2,635	-\$2,816	-23.3	-1.2%	-\$239
Pennsylvania	-\$5,346	-\$6,346	-50.9	-0.8%	-\$477
Rhode Island	-\$554	-\$612	-5.0	-1.0%	-\$57
South Carolina	-\$1,362	-\$1,391	-13.7	-0.6%	-\$126
South Dakota	-\$215	-\$247	-2.1	-0.4%	-\$10
Tennessee	-\$1,805	-\$2,226	-19.2	-0.6%	-\$167
Texas	-\$5,535	-\$7,051	-62.2	-0.4%	-\$444
Utah	-\$727	-\$939	-8.5	-0.5%	-\$63

Vermont	-\$199	-\$213	-1.9	-0.6%	-\$20
Virginia	-\$3,175	-\$3,677	-30.4	-0.7%	-\$283
Washington	-\$3,252	-\$4,049	-26.5	-0.7%	-\$269
West Virginia	-\$886	-\$792	-7.2	-1.0%	-\$61
Wisconsin	-\$813	-\$1,051	-9.4	-0.3%	-\$81
Wyoming	-\$46	-\$60	-0.5	-0.2%	-\$5

Data: George Washington University analyses using IMPLAN, 2025.

Source: Leighton Ku et al., *How Medicaid and SNAP Cutbacks in the "One Big Beautiful Bill" Would Trigger Big and Bigger Job Losses Across States* (Commonwealth Fund, June 2025). <https://doi.org/10.26099/tryd-ht51>

NOTES

1. The chairs of the Senate Agriculture and Finance committees have issued their proposals for changes in SNAP, Medicaid, and the Affordable Care Act marketplaces, but neither final disposition of a Senate version nor related budget estimates are known as of this writing. ↩
2. Congressional Budget Office, "[Estimated Budgetary Effects of H.R. 1, the One Big Beautiful Bill Act](#)," June 4, 2025. ↩
3. Ben Leonard, "[Trump Vows to 'Love and Cherish' Medicaid — While Republicans Plot Cuts for Savings](#)," *Politico*, Jan. 31, 2025. ↩
4. Jason Bogage et al., "[House Approves Trump's Massive Tax and Immigration Package](#)," *Washington Post*, updated May 22, 2023. ↩
5. Philip Swagel, Congressional Budget Office, "[Estimated Effects on the Number of Uninsured People in 2034 Resulting from Policies Incorporated Within CBO's Baseline Projections and H.R. 1, the One Big Beautiful Bill Act](#)," letter to Sen. Wyden and Reps. Pallone and Neal, June 4, 2025. ↩
6. Philip Swagel, Congressional Budget Office, "[Potential Effects on the Supplemental Nutrition Assistance Program of Reconciliation Recommendations Pursuant to H. Con. Res. 14, as Ordered Reported by the House Committee on Agriculture on May 12, 2025](#)," letter to Sen. Klobuchar and Rep. Craig, May 22, 2025. ↩
7. Drew Altman, "[The Spotlight Is on Medicaid Cuts, But the ACA Marketplaces Could See a One-Third Cut in Enrollment](#)," KFF, May 20, 2025. ↩
8. Philip Swagel, Congressional Budget Office, "[Potential Statutory Pay-As-You-Go Effects of a Bill to Provide Reconciliation Pursuant to H. Con. Res. 14, the One Big Beautiful Bill Act](#)," letter to Rep. Boyle, May 20, 2025. ↩
9. Philip Swagel, Congressional Budget Office, "[Preliminary Analysis of the Distributional Effects of the One Big Beautiful Bill Act](#)," letter to Reps. Boyle and Jeffries, May 20, 2025; and Philip Swagel, Congressional Budget Office, "[Debt-Service Effects Derived From H.R. 1, the One Big Beautiful Bill Act](#)," letter to Sen. Merkley, June 5, 2025. ↩
10. Leighton Ku et al., *How Potential Federal Cuts to Medicaid and SNAP Could Trigger the Loss of a Million-Plus Jobs, Reduced Economic Activity, and Less State Revenue* (Commonwealth Fund, Mar. 2025); and [Data Tables](#) (Commonwealth Fund, Mar. 2025). ↩
11. KFF, "[Health Provisions in the 2025 Federal Budget Reconciliation Bill](#)," updated May 22, 2025; and Edwin Park, *Medicaid and CHIP Cuts in the House-Passed Reconciliation Bill Explained* (Georgetown Center on Children and Families, May 27, 2025; updated June 4, 2025). ↩
12. U.S. House of Representatives, Committee on Agriculture, "[Section-by-Section of House Agriculture Committee Budget Reconciliation Bill](#)," May 12, 2025. ↩
13. There is a small discrepancy in estimates of SNAP cuts as a percentage of the baseline. At the national level, we use CBO's [national baseline from January 2025](#), which includes both benefit and administrative costs. For state estimates, we used actual state benefit

expenditures from 2024 and inflated them to 2029 levels, using CBO's baseline, but state-level administrative cost data were not available, so they are not included. ↩

14. States with higher payment error rates lose more federal funding, although payment error rates can change from year to year. In 2023, the most recent data available, 26 states had error rates that would trigger a 25 percent match, and only seven would qualify for the lowest 5 percent rate. Some believe that the policy could lead to reductions in error rates, although the federal government already assesses financial penalties against states with high error rates and recoups overpayments from participants. The House bill will actually make it harder to improve error rates, as it lowers the error "tolerance level" to zero and cuts federal funding for administrative costs from 50 percent to 25 percent. A June 12 draft of the Senate Agriculture Committee's version of the SNAP changes the state match provision to not apply to states with error rates below 6 percent and to set the maximum match rate to 15 percent of SNAP benefits for states with error rates above 10 percent. See Senate Agriculture, Nutrition, and Forestry Committee, "Section-by-Section," June 12, 2025. ↩
15. Joint Economic Committee Minority, "State-by-State Data — 13.7 Million People Would Lose Health Insurance from Medicaid, ACA Cuts," May 2025. ↩
16. Elizabeth Williams et al., *Eliminating the Medicaid Expansion Federal Match Rate: State-by-State Estimates* (KFF, Feb. 2025). ↩
17. Alison Barkoff and Leighton Ku, "House SNAP Cuts Would Further Endanger Medicaid for Disabled People, Older Adults," *Health Affairs Forefront* (blog), June 3, 2025; Jessica Schubel et al., "History Repeats? Faced with Medicaid Cuts, States Reduced Support for Older Adults and Disabled People," *Health Affairs Forefront* (blog), Apr. 16, 2025; Sara Rosenbaum et al., "Deep Medicaid Spending Cuts Put Health Care Coverage at Risk for One of Five Enrolled Children," *To the Point* (blog), Commonwealth Fund, May 5, 2025; and Akeiisa Coleman and Avni Gupta, "How State Budget Shortfalls Could Put Medicaid Dental Coverage at Risk" (explainer), Commonwealth Fund, June 12, 2025. ↩
18. See <https://implan.com/> for more about the IMPLAN system. ↩
19. Kyle Ross and Kennedy Andara, "SNAP Cuts Are Likely to Harm More Than 27,000 Retailers Nationwide," Center for American Progress, May 8, 2025. ↩
20. Leighton Ku et al., *The Cost of Eliminating the Enhanced Premium Tax Credits: Economic, Employment, and Tax Consequences* (Commonwealth Fund, Mar. 2025). ↩
21. Philip Swagel, Congressional Budget Office, "Potential Statutory Pay-As-You-Go Effects of a Bill to Provide Reconciliation Pursuant to H. Con. Res. 14, the One Big Beautiful Bill Act," letter to Rep. Boyle, May 20, 2025. ↩
22. Michael Karpman, Jennifer M. Haley, and Genevieve Kenney, *Expanding Federal Work Requirements for Medicaid Expansion Coverage to Age 64 Would Increase Coverage Losses* (Urban Institute, Apr. 2025); and Laura Wheaton and Linda Giannarelli, *Expanded SNAP Work Requirements Would Reduce Benefits for Millions of Families* (Urban Institute, May 2025). ↩
23. Brett Guthrie, "A Common Sense Budget Reconciliation Bill," *Wall Street Journal*, May 11, 2025. ↩
24. John Cole, "Q&A: Congressman Glenn Thompson Talks Tariffs, SNAP, and Immigration's Impact on Agriculture," *Pennsylvania Capital-Star*, Mar. 13, 2025. ↩
25. Mitchell H. Katz, "Effect of Medicaid Cuts on the Medical Care Ecosystem," *JAMA*, published online May 28, 2025. ↩
26. Michael Karpman, Jennifer M. Haley, and Genevieve Kenney, *Expanding Federal Work Requirements for Medicaid Expansion Coverage to Age 64 Would Increase Coverage Losses* (Urban Institute, Apr. 2025). ↩
27. Philip Swagel, Congressional Budget Office, "Potential Effects on the Supplemental Nutrition Assistance Program of Reconciliation Recommendations Pursuant to H. Con. Res. 14, as Ordered Reported by the House Committee on Agriculture on May 12, 2025," letter to Sen. Klobuchar and Rep. Craig, May 22, 2025. ↩
28. Congressional Budget Office, *Work Requirements and Work Supports for Recipients of Means-Tested Benefits* (CBO, June 2022); and Leighton Ku et al., *How National Medicaid Work Requirements Would Lead to Large-Scale Job Losses, Harm State Economies, and Strain Budgets* (Commonwealth Fund, May 2025). ↩

29. Leighton Ku et al., *How Potential Federal Cuts to Medicaid and SNAP Could Trigger the Loss of a Million-Plus Jobs, Reduced Economic Activity, and Less State Revenue* (Commonwealth Fund. Mar. 2025). State Medicaid expenditures for FY 2025 were based on state estimates in CMS-37 reports, while state SNAP expenditures are based on USDA reports for FY 2024. These were inflated to FY 2029 levels, assuming growth rates projected by the CBO. ↩
30. Congressional Budget Office, “Estimated Budgetary Effects of H.R. 1, the One Big Beautiful Bill Act,” June 4. 2025. ↩
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AREA OF FOCUS

Achieving Universal Coverage

TOPICS

**Medicaid,
Medicaid Expansion,
Medicaid Work Requirements,
State Health Policy and Medicaid,
Child Health Development,
Social Needs,
Coverage and Access**

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November 20, 2025

DTE Foundation Commits \$300,000 to Address Rising Food Insecurity Across Michigan

Support aims to meet the growing demand for meals amid persistent economic challenges

DETROIT, Nov. 20, 2025 – The DTE Foundation announced today a \$300,000 commitment to support food programs across Michigan, responding to both the recent disruption in Supplemental Nutrition Assistance Program (SNAP) benefits and a continued surge in food insecurity statewide.

The funding will be distributed among key partners serving communities throughout DTE's service territory, including Food Bank of Eastern Michigan, Food Gatherers, Forgotten Harvest, Gleaners Community Food Bank, United Way and Feeding America West Michigan. These organizations will use the support to provide nutritious meals and expand distribution efforts for families facing hunger.

"Families across Michigan continue to face real challenges putting food on the table," said Rodney Cole, president, DTE Foundation. "We're proud to stand alongside our partners to make sure nutritious meals reach those who need them most. This is about caring for our neighbors and strengthening the communities where we live and serve."

Michigan food banks report that demand for assistance remains significantly higher than pre-pandemic levels. This donation will help stock pantry shelves, deliver food to seniors and individuals with disabilities, and provide essential nutrition for children and families.

"Our fondest memories, strongest traditions and most heartfelt celebrations often have one thing in common: the meals we share with one another. When we come together to solve hunger, the investments we make in our neighbors lift up the whole community, not just the people we're helping," said Gerry Brisson, president and CEO, Gleaners. "We're grateful for partners like the DTE Energy Foundation, whose support will feed families today and tomorrow, creating lasting impact for our communities."

“Although the shutdown has ended, the impact is still being felt by households across our community,” said Dr. Darienne Hudson, President and CEO, United Way for Southeastern Michigan. “With the support of amazing partners like the DTE Foundation, United Way’s Every Family Fed Fund will help ensure those who have been harmed by the disruption in critical nutrition programs like SNAP, which serves one in four Michigan children, can continue to put food on the table. We are grateful for all our donors and community partners like DTE who have answered the call and amplified their giving in this time of incredible need.”

This investment amplifies the DTE Foundation’s reach across Michigan, ensuring families in every corner of the state – from the Upper Peninsula to Southeast Michigan and beyond – have access to nutritious food. Year-to-date in 2025, the DTE Foundation has committed \$1,062,000 to 39 organizations fighting food insecurity, demonstrating its unwavering dedication to building a healthier, more resilient Michigan for all.

To learn more about several of the organizations helping to address food insecurity across Michigan, visit Food Bank of Eastern Michigan: [Food Bank of Eastern Michigan](#) Food Gatherers: [Food Gatherers](#) Forgotten Harvest: [Forgotten Harvest](#) Gleaners Community Food Bank: [Gleaners Community Food Bank](#) United Way of Southeastern Michigan: [United Way for Southeastern Michigan](#) Feeding America West Michigan: [Feeding America West Michigan](#)

For more information about the DTE Foundation’s commitment to community, visit www.dtefoundation.com

About the DTE Energy Foundation

The DTE Energy Foundation (Foundation) is the philanthropic arm of DTE Energy (DTE) with a strong legacy of community support and involvement. In 2024, the Foundation provided \$14.5 million in grant support to 375 nonprofit organizations in communities where the company has a business presence, with a focus on driving positive, meaningful change in priority giving areas: arts and culture, community transformation, economic progress, education and employment, environment and human needs. As one of Michigan’s leading corporate citizens, DTE aspires to be the best in the world and the best for the world. Visit DTEFoundation.com to learn more.

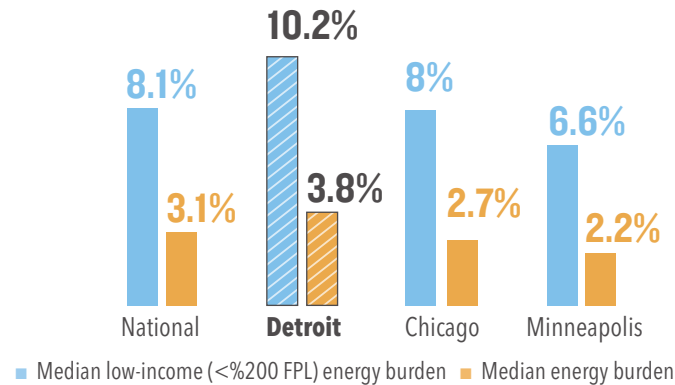
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ENERGY BURDENS IN DETROIT

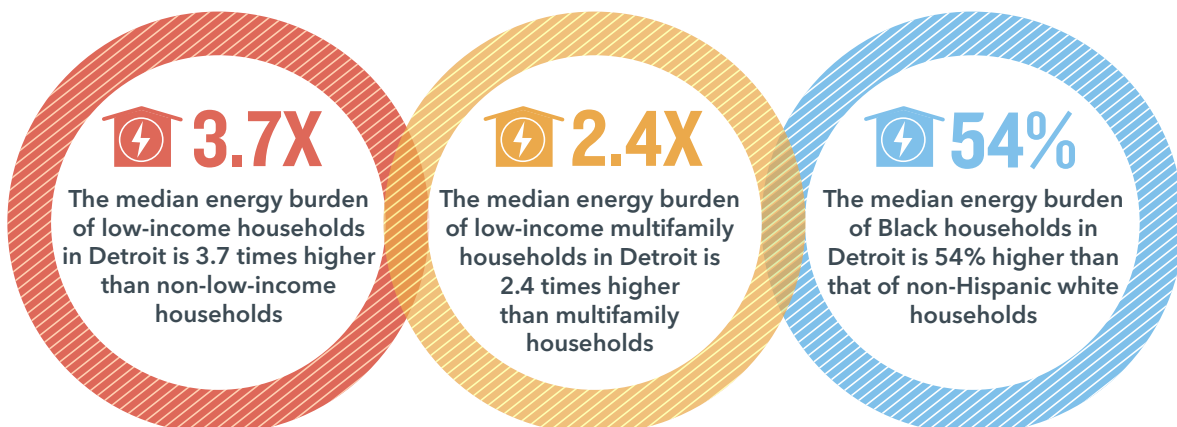
A household's energy burden is the percentage of income spent on home energy bills. A high energy burden is considered to be above 6% and a severe energy burden above 10%. ACEEE finds that certain groups have disproportionately higher energy burdens than the median household, such as Black, Hispanic, Native American, older adults (65+), renters, and low-income multifamily building residents. The graph below provides a comparison of Detroit's median energy burden and median low-income energy burden compared to other select metropolitan areas in the region and nationally.



See ACEEE's 2020 report, *How High Are America's Residential Energy Burdens*, for a breakdown of median energy burdens for other groups nationally, regionally, and in 25 select metro areas: www.aceee.org/energy-burden.

ENERGY BURDENS IN DETROIT

- **Median energy burden is 3.8%**, and the **median low-income energy burden is 10.2%** in the Detroit metropolitan area.
- **A quarter of low-income households** have an energy burden above 19% in the Detroit metropolitan area, which is five times higher than the median energy burden.
- **30% of Detroit households** (518,698) have a high energy burden (above 6%).
- **16% of Detroit households** (269,687) have a severe energy burden (above 10%).
- **43% of Black households** (183,997) and **38% of Hispanic households** (20,976) in the Detroit metropolitan area experience a high energy burden (above 6%).
- Based on the groups in the study, **low-income** (10.2%), **low-income multifamily households** (6.0%), and **Black households** (5.3 %) experienced the highest median energy burdens in Detroit.



LOCALLY LED STRATEGIES TO ADDRESS HIGH ENERGY BURDENS

Low-income weatherization and energy efficiency retrofits offer a long-term solution to addressing high household energy burdens. Key strategies for addressing energy insecurity include design energy efficiency and weatherization programs to meet the needs of highly burdened communities, increase overall funding, and improve program design to maximize benefits for low-income communities.

■ **Set energy burden goals and track progress**

Local and state policymakers and utilities can set energy affordability and energy burden goals as a first step to addressing energy insecurity in their communities. For example, the City of Saint Paul's Climate Action and Resilience Plan set a goal to reduce energy burden within 10 years, so that no household spends more than 4% on its income energy bills. The city has identified a series of initiatives to alleviate the energy burden among residential households to achieve this goal, such as establishing an energy burden working group to conduct outreach, developing policy options to incentivize low-income solar development, and offering higher renewable production incentives to low-income households. The city can continue to create strategies to achieve this goal and concrete steps to track progress toward this goal.

■ **Increase funding for low-income weatherization**

Local governments can devote funds to support weatherization and energy efficiency retrofit programs funded through the local utility or federal programs, partner with local implementers on a low-income energy efficiency program, or fund and run their own innovative pilot or energy efficiency program. For example, the City of Philadelphia partners on multiple pilot programs to reduce high energy burdens. Along with the local energy utilities and other private and public-sector partners, the Philadelphia Energy Authority launched a multifamily pilot program in 2017 and plans to launch another pilot that will leverage funding to deliver energy savings and health and safety benefits in 2021. Philadelphia, as well as other cities, can continue to dedicate additional funding to support local weatherization efforts.

■ **Improve program design, delivery, and evaluation through best practices and community-driven planning**

Program designers and implementers can conduct collaborative and effective community engagement to create programs that fit the needs of the community rather than fitting the community into an already designed program. They can also incorporate best practices on program design, delivery, and evaluation, such as leveraging diverse funding sources, prioritizing deep saving measures, including quality control, and supporting local workforce development. Program implementers can also learn from and emulate successful peer program models to maximize benefits in low-income communities.

■ **Integrate energy, health, and housing funding and resources**

High energy burdens, inadequate housing, and poor health are inextricably linked. Partnerships, the pooling of resources, and establishing referral networks across sectors can stretch program budgets and make programs more accessible and streamlined for residents. For example, the City of Fort Collins administers a Healthy Homes Program to reduce exposure to in-home pollutants that are likely to trigger respiratory ailments by recommending low-cost or free solutions. Home assessments document concerns related to energy, moisture, air sealing, combustion safety, and ventilation, among other hazards, and will refer residents to relevant resources/programs.

See the full 2020 report for additional energy burden data and policy recommendations: www.aceee.org/energy-burden.

For additional questions on energy burden data and/or policy solutions at the national, state, or local level, please contact Ariel Dreihobl at adrehobl@aceee.org.

Data Update: City Energy Burdens

SEPTEMBER 2024

Energy Equity for Homeowners

In cities across the country, many low-income families and other disinvested communities struggle with high energy burdens, including many homeowners. In this data update, we find that 25% of all low-income households in the United States have an energy burden above 15.2%. In many cases, low-income homeowners in particular experience very high energy burdens, with 25% of low-income homeowners having energy burdens over 17.2% and half having burdens over 9.4%.

Owner-occupied housing (especially in single-family homes and buildings with four units or fewer) makes up a significant portion of housing in cities. To reach their goals for climate action and energy affordability, local governments need to equitably include the owner-occupied sector as they tackle residential efficiency. ACEEE launched the [Energy Equity for Homeowners Initiative](#) in 2022 to help cities reach these goals.

ACEEE publishes data on energy burdens¹ (the percentage of household income spent on energy bills) to help governments, advocates, and other entities understand the scale of energy insecurity and inequity and prioritize energy investment (Drehobl, Ross, and Ayala 2020).² Households with high energy burdens are more likely to experience poor health and poverty (Lima, Ferreira, and Leal 2022; Hernández and Laird 2021; Partnership for the Public Good and PUSH Green 2022; Bohr and McCreery 2020; Goodson Bell et al. 2023; National Energy Assistance Directors' Association 2018).

We are presenting a limited data update to our [2020 energy burdens report](#) (which included energy burdens from 2017) to share more recent data on energy burdens faced by demographic groups across the country in the 25 cities included in the American Housing Survey (AHS).³ These data are especially important as many governments are actively working to equitably accelerate a clean energy transition that includes both the rental and owner-occupied residential sectors.

We highlight the energy burdens of metropolitan areas for a selection of highly impacted groups below.⁴ Consistent with previous research, energy burdens are higher for low-income communities and many communities of color than for all households overall, often due to inefficient housing.

¹ Energy burden is a term used to describe the percentage of annual household income that goes toward household energy costs. Households that exceed 6% or 10% of their income on energy costs are typically considered highly or severely energy burdened, respectively (APPRISE 2005).

² ACEEE's [energy burden page](#) provides more information on previous energy burden research.

³ Energy burdens were calculated using data from the Census Bureau's American Housing Survey (AHS), published in odd years. AHS includes a selection of metropolitan areas (based on the Census Bureau's designated [metropolitan statistical areas](#)), some of which are included in each edition of the survey and some of which are included in alternating editions. For a more detailed discussion of ACEEE's methodology for calculating energy burdens, see Drehobl, Ross, and Ayala 2020.

⁴ This data update includes a selection of highly impacted groups including low-income households, Black households, and Hispanic households. These groups were selected based on the previous publication and sample size in the AHS. However, other groups also face disproportionately high energy burdens, including Native American households, people with disabilities, and older adults. Additionally, energy burden is just one indicator of energy insecurity, and a low average burden does not indicate an absence of energy insecurity or broader systemic discrimination.

In this data update, we find that many households continue to pay excessive amounts of their incomes on energy bills, continuing a trend noted in earlier research and highlighting the importance of policy action. Key insights include:

- Low-income households in the United States spent a median of 8.3% of their annual income on energy bills (exceeding the threshold of 6% that traditionally indicates a high energy burden), while households overall spent a median of 2.9%.
- In many cities, 25% or more of households experience burdens above 6%.
- A quarter of low-income households have an energy burden above 15.2%, significantly above the traditional threshold of 10% to indicate severe burdens.
- A quarter of all households in the United States have an energy burden above 5.7%.
- Consistent with previous research, low-income residents, renters, Black households, and Hispanic households tend to experience higher median energy burdens than the median for all households in an area.
- Many of the most burdened low-income residents in cities own their homes and require support to affordably meet their energy needs.⁵ For example, of the low-income households included in the AHS survey, roughly half own their own homes. Low-income homeowners have higher energy burdens on average than low-income renters in many cities, and they require attention in city energy efficiency efforts in addition to renters.⁶

While this data update does not include a regional analysis, burdens were often particularly high for low-income households in cities in the Northeast and Mid-Atlantic, like Boston, Baltimore, New York, and Washington, DC, indicating a particular need for action in those locations.

DISCUSSION

Low-income households face high energy burdens across the country, with upper quartile burdens reaching over 15% in many cities (figure 1).

⁵ Renters also face extreme challenges with energy burdens and face additional barriers to accessing energy investment. ACEEE's [Energy Equity for Renters initiative](#) provides resources to equitably deploy energy efficiency to this burdened group. These findings emphasize the importance of including low-income homeowners in local energy efficiency efforts, in addition to the important focus on renters.

⁶ The data used for this resource include owners and renters living in all building sizes. However, most owners, 97% nationally, live in small buildings (four units or fewer). Therefore, efforts to lower energy burdens for homeowners should prioritize small buildings.

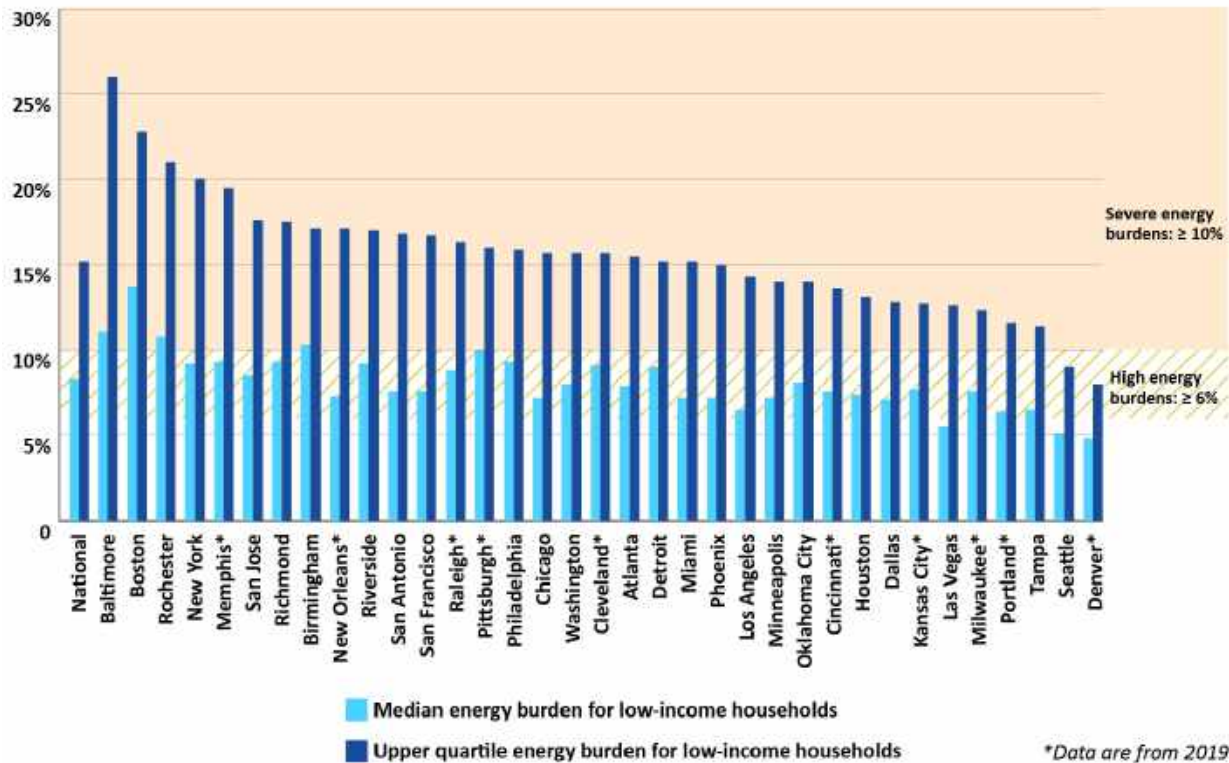


Figure 1. Upper quartile and median energy burden rate by city. A quarter of low-income households have an energy burden higher than the upper quartile threshold, while half experience energy burdens above the median. Energy burdens above 6% are traditionally considered high, while burdens above 10% are considered severe. *Data are from 2019.

Table 1 presents the upper quartile energy burden rates for each group, indicating that 25% of households in the group experience a burden higher than the rate listed in the table.

Table 1. Upper quartile energy burdens in metro areas a selection of highly impacted groups¹. 25% of households in a group experience an energy burden above this number. Orange cells indicate high energy burdens, over 6%, while red cells indicate severe energy burdens, over 10%.

Metro Area	All households			Low-income households			Black households			Hispanic households		
	All	Owner	Renter	All	Owner	Renter	All	Owner	Rental	All	Owner	Renter
National	5.7%	5.4%	6.3%	15.2%	17.2%	13.2%	7.2%	6.7%	7.8%	6.2%	5.8%	6.8%
Atlanta	5.4%	5.1%	6.2%	15.5%	20.6%	11.0%	6.2%	6.2%	6.7%	6.5%	6.2%	7.4%
Baltimore	5.4%	4.9%	7.2%	26.0%	48.0%	17.7%	8.6%	7.6%	10.5%	7.2%	5.9%	8.0%
Birmingham	7.5%	7.0%	9.7%	17.1%	16.8%	17.1%	10.3%	9.6%	11.0%	7.6%	7.0%	9.5%
Boston	6.1%	6.0%	6.7%	22.8%	37.2%	19.4%	8.5%	6.6%	10.5%	7.4%	5.3%	8.1%
Chicago	4.1%	4.0%	4.7%	15.7%	14.9%	18.6%	9.1%	10.2%	6.9%	4.8%	3.8%	6.2%
Dallas	4.5%	4.3%	4.8%	12.8%	17.1%	10.0%	5.1%	5.3%	5.0%	5.2%	5.6%	5.0%
Detroit	6.0%	5.4%	8.3%	15.2%	14.1%	16.4%	8.8%	7.6%	9.7%	6.0%	5.4%	6.9%
Houston	5.3%	4.9%	5.9%	13.1%	18.3%	10.4%	6.3%	5.5%	7.2%	6.2%	6.3%	6.0%

Metro Area	All households			Low-income households			Black households			Hispanic households		
	All	Owner	Renter	All	Owner	Renter	All	Owner	Rental	All	Owner	Renter
Las Vegas	4.1%	3.9%	4.3%	12.6%	13.0%	12.4%	4.8%	4.3%	6.4%	4.2%	4.0%	4.3%
Los Angeles	4.1%	3.8%	4.4%	14.3%	17.3%	13.0%	5.7%	3.5%	6.0%	4.7%	4.4%	5.0%
Miami	5.0%	5.0%	5.4%	15.2%	16.6%	13.2%	4.9%	4.4%	6.0%	5.8%	5.5%	5.8%
Minneapolis	3.7%	3.5%	4.9%	14.0%	15.9%	12.2%	4.4%	2.7%	6.0%	4.6%	3.3%	9.0%
New York	5.4%	5.6%	5.1%	20.0%	25.1%	16.0%	5.1%	6.3%	4.9%	5.6%	4.5%	7.7%
Oklahoma City	5.7%	4.7%	7.2%	14.0%	14.6%	13.5%	6.9%	5.8%	9.1%	6.2%	5.7%	7.0%
Philadelphia	5.4%	5.1%	6.2%	15.9%	19.7%	15.4%	7.4%	6.0%	8.0%	6.6%	6.8%	6.6%
Phoenix	4.4%	4.3%	4.5%	15.0%	20.0%	10.0%	4.3%	3.8%	4.4%	5.6%	5.6%	5.4%
Richmond	5.1%	4.7%	6.6%	17.5%	17.5%	16.8%	6.9%	5.8%	7.8%	6.4%	7.2%	6.0%
Riverside	6.2%	5.8%	7.3%	17.0%	20.0%	15.4%	6.9%	4.2%	10.1%	6.2%	6.1%	6.8%
Rochester	7.3%	6.9%	8.4%	21.0%	23.3%	17.6%	10.4%	6.4%	14.8%	8.5%	9.9%	8.0%
San Antonio	5.4%	5.1%	6.5%	16.8%	17.3%	15.0%	5.6%	5.1%	7.0%	6.1%	5.5%	7.0%
San Francisco	3.1%	3.0%	3.2%	16.7%	20.0%	14.6%	5.9%	3.8%	7.2%	3.2%	3.7%	3.0%
San Jose	2.7%	2.7%	2.8%	17.6%	31.3%	14.0%	3.4%	3.7%	3.4%	3.9%	4.4%	3.7%
Seattle	2.4%	2.5%	2.2%	9.0%	10.2%	8.0%	3.4%	3.0%	3.4%	2.8%	3.0%	2.8%
Tampa	4.7%	4.6%	4.8%	11.4%	13.3%	8.7%	5.9%	7.7%	4.9%	5.6%	5.4%	5.8%
Washington	3.7%	3.6%	3.8%	15.7%	23.3%	11.4%	4.4%	4.4%	4.4%	4.3%	4.2%	4.6%
Cincinnati*	4.4%	4.3%	4.8%	13.6%	14.8%	10.9%	5.0%	4.3%	6.5%	6.5%	4.9%	6.5%
Cleveland*	6.3%	5.5%	8.3%	15.7%	15.7%	15.5%	8.8%	8.4%	9.1%	9.5%	4.9%	15.5%
Denver*	2.6%	2.6%	2.9%	8.0%	10.0%	6.7%	3.8%	3.9%	3.4%	3.2%	2.8%	3.3%
Kansas City*	4.9%	4.2%	6.6%	12.7%	13.6%	12.0%	6.3%	4.8%	8.6%	5.5%	4.0%	5.8%
Memphis*	7.3%	6.1%	8.3%	19.5%	27.8%	15.4%	8.6%	8.4%	9.0%	7.9%	4.4%	9.0%
Milwaukee*	5.1%	4.5%	6.3%	12.3%	16.0%	10.9%	7.5%	6.3%	8.0%	6.0%	5.7%	6.2%
New Orleans*	5.3%	5.1%	5.7%	17.1%	27.6%	10.9%	7.0%	7.2%	6.9%	5.4%	4.9%	6.5%
Pittsburgh*	5.8%	5.3%	8.4%	16.0%	15.5%	18.4%	7.6%	6.5%	12.6%	4.3%	3.5%	12.0%
Portland*	3.5%	3.4%	3.8%	11.6%	15.0%	8.2%	4.9%	4.5%	5.1%	4.5%	4.5%	4.8%
Raleigh*	4.9%	4.8%	5.3%	16.3%	19.2%	14.3%	6.9%	7.3%	6.2%	5.3%	5.5%	5.3%

Two example cities demonstrate the severity of energy burdens faced by too many households. For example, in Richmond, low-income households have a median annual income of \$20,000 and median annual utility bills of \$1,800. A household with a median income and utility cost would pay 9% of their income on energy bills. For a low-income Richmond household earning an income in the 25th percentile (\$11,700) and having energy bills in the 75th percentile (\$2,640), the energy burden skyrockets to 22.6%.

Boston provides another example, with a quarter of low-income homeowners in Boston having an energy burden over 37% of their annual income.⁷

CALL TO ACTION

The scale of energy insecurity across the country necessitates major action. Governments and utilities have a role to play in reducing these burdens and ensuring that all households can meet their energy needs and access the benefits of energy efficiency and weatherization. Doing so successfully requires prioritizing the most burdened households for energy investment and eliminating barriers that many disinvested households face to accessing energy programs. Appendix A lists resources on strategies to lower the energy burdens of low-income households and advance energy equity. Appendix B provides median energy burden data for a selection of highly impacted groups, providing additional information to help steer cities' efforts.

⁷ As the AHS includes a limited number of metropolitan statistical areas (MSAs), other jurisdictions can explore tools like the Department of Energy's [Low-Income Energy Affordability Data](#) (LEAD) tool and the White House Council on Environmental Quality's [Climate and Economic Justice Screening Tool](#) (CEJST) to better understand burdens faced by their specific community.

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APPENDIX A: RESOURCES TO REDUCE ENERGY BURDENS

The following ACEEE resources provide actionable guidance on the ways to meet the energy needs of low-income households and advance energy equity:

- [Adapting Energy Efficiency Programs to Reach Underserved Residents](#)
- [Strengthening Equity in Energy Efficiency Programs: Case Studies of Two Utilities](#)
- [Toward Affordable Energy Access: Approaches to Reducing Energy Unaffordability, Arrearages, and Shutoffs](#)
- [Equity and Electrification-Driven Rate Policy Options](#)
- [Energy Equity for Homeowners: Policy and Program Guide for Local Governments](#)
- [Toward More Equitable Energy Efficiency Programs for Underserved Households](#)
- [Advancing Equity through Energy Efficiency Resource Standards](#)
- [Leading with Equity: Recommendations for State Decision Makers, Utilities, and Regulators to Advance Energy Equity](#)
- [Meeting the Challenge: A Review of Energy Efficiency Program Offerings for Low-Income Households](#)
- [Energy Equity for Renters Toolkit](#)
- [Fostering Equity Through Community-Led Clean Energy Strategies](#)
- [A New Lease on Energy: Guidance for Improving Rental Housing Efficiency at the Local Level](#)

APPENDIX B: MEDIAN ENERGY BURDEN RATES

Median energy burdens in metro areas a selection of highly impacted groups.⁸ 50% of households in a group experience an energy burden above this number. Orange cells indicate high energy burdens, over 6%, while red cells indicate severe energy burdens, over 10%.

Metro area	All households			Low-income households			Black households			Hispanic households		
	All	Owners	Renters	All	Owners	Renters	All	Owners	Renters	All	Owners	Renters
National	2.9%	2.8%	3.1%	8.3%	9.4%	7.0%	3.5%	3.4%	3.6%	3.1%	2.9%	3.3%
Atlanta	2.9%	2.9%	1.7%	7.9%	10.3%	7.1%	3.2%	3.3%	3.2%	3.8%	3.0%	4.2%
Baltimore	2.8%	2.7%	3.1%	11.1%	14.6%	10.1%	3.7%	3.5%	3.8%	3.0%	2.6%	3.4%
Birmingham	3.8%	3.6%	4.4%	10.3%	11.0%	9.5%	5.1%	5.2%	4.9%	4.9%	5.1%	4.8%
Boston	3.2%	3.1%	3.2%	13.7%	16.8%	11.7%	3.9%	3.5%	4.1%	4.0%	3.1%	4.2%
Chicago	2.2%	2.2%	2.3%	7.2%	7.6%	5.7%	3.2%	3.6%	2.6%	2.5%	2.4%	2.5%
Dallas	2.5%	2.4%	2.6%	7.1%	8.8%	5.7%	3.0%	2.5%	3.2%	3.0%	3.2%	2.6%
Detroit	3.2%	3.0%	3.7%	9.0%	8.9%	9.0%	4.0%	4.0%	4.5%	2.8%	2.8%	3.2%
Houston	2.9%	2.6%	3.3%	7.4%	9.1%	6.2%	3.3%	2.9%	3.5%	3.5%	3.5%	3.5%
Las Vegas	2.2%	2.1%	2.4%	5.5%	6.0%	5.0%	2.5%	2.1%	2.6%	2.6%	2.4%	2.6%
Los Angeles	2.0%	1.9%	2.1%	6.5%	8.8%	5.9%	2.4%	2.5%	2.3%	2.4%	2.4%	2.4%
Miami	2.4%	2.4%	2.4%	7.2%	8.4%	5.8%	2.6%	2.5%	2.9%	2.6%	2.6%	2.5%
Minneapolis	2.2%	2.1%	2.7%	7.2%	8.3%	5.6%	2.6%	1.8%	3.4%	2.4%	2.0%	3.5%
New York	2.7%	2.9%	2.4%	9.2%	12.2%	6.8%	2.8%	3.1%	2.3%	2.8%	2.6%	3.3%
Oklahoma City	3.0%	2.7%	4.0%	8.1%	8.4%	7.4%	4.3%	3.6%	4.6%	3.4%	3.1%	4.0%
Philadelphia	2.7%	2.6%	3.0%	9.3%	10.5%	7.8%	3.6%	3.4%	3.7%	4.1%	4.5%	3.2%
Phoenix	2.3%	2.3%	2.3%	7.2%	8.3%	5.6%	2.1%	2.4%	1.8%	2.9%	2.9%	2.9%
Richmond	2.8%	2.7%	3.2%	9.3%	10.9%	7.8%	3.5%	3.4%	3.6%	3.2%	3.6%	3.0%
Riverside	3.1%	3.0%	3.4%	9.2%	9.8%	8.3%	3.0%	2.8%	3.8%	3.1%	3.1%	3.3%

⁸ Data in this table come from the 2021 AHS, with the exception of cities marked with *, for which data are available only from 2019.

Metro area	All households			Low-income households			Black households			Hispanic households		
	All	Owners	Renters	All	Owners	Renters	All	Owners	Renters	All	Owners	Renters
Rochester	4.0%	3.8%	4.6%	10.8%	12.5%	8.9%	4.8%	4.0%	5.8%	5.0%	4.2%	5.2%
San Antonio	2.8%	2.7%	3.1%	7.6%	8.2%	7.0%	2.7%	2.5%	3.6%	3.2%	3.0%	3.6%
San Francisco	1.5%	1.5%	1.5%	7.6%	8.8%	6.0%	2.5%	2.3%	2.8%	1.7%	1.9%	1.6%
San Jose	1.3%	1.3%	1.4%	8.5%	13.5%	6.5%	2.3%	2.4%	2.2%	2.1%	2.2%	2.1%
Seattle	1.2%	1.3%	1.2%	5.1%	6.4%	4.2%	1.7%	1.4%	1.9%	1.4%	1.4%	1.3%
Tampa	2.5%	2.5%	2.4%	6.5%	8.0%	5.3%	2.9%	3.4%	2.6%	3.1%	3.2%	3.0%
Washington	2.1%	2.1%	1.9%	8.0%	11.5%	6.7%	2.5%	2.7%	2.4%	2.5%	2.5%	2.2%
Cincinnati*	2.7%	2.6%	3.0%	7.6%	8.6%	7.2%	3.1%	2.9%	3.6%	3.2%	2.5%	3.6%
Cleveland*	3.1%	2.8%	3.9%	9.1%	9.1%	9.1%	4.3%	4.6%	3.9%	4.8%	3.5%	7.2%
Denver*	1.7%	1.6%	1.7%	4.8%	6.0%	4.0%	2.1%	1.9%	2.1%	2.0%	1.8%	2.1%
Kansas City*	2.8%	2.6%	3.5%	7.7%	8.3%	7.2%	4.0%	3.2%	5.2%	3.4%	3.2%	3.5%
Memphis*	3.8%	3.3%	4.8%	9.3%	12.0%	8.0%	4.9%	4.3%	5.1%	4.1%	2.4%	4.8%
Milwaukee*	3.0%	2.7%	3.5%	7.6%	9.0%	6.6%	4.0%	3.6%	4.2%	3.6%	3.7%	3.4%
New Orleans*	2.8%	2.7%	3.1%	7.3%	9.4%	5.7%	3.4%	3.1%	3.6%	3.0%	3.1%	3.0%
Pittsburgh*	3.4%	3.2%	4.4%	10.0%	10.1%	8.7%	4.4%	3.7%	5.1%	2.0%	1.9%	2.0%
Portland*	2.1%	2.1%	2.1%	6.4%	8.6%	4.8%	2.4%	2.7%	2.3%	2.7%	2.5%	2.8%
Raleigh*	2.9%	2.8%	3.0%	8.8%	10.8%	7.1%	3.7%	4.1%	3.4%	3.7%	3.7%	3.7%

THE STATE OF ALICE IN »

MICHIGAN



**2025 Update on
Financial Hardship**



INTRODUCING ALICE®



ALICE Households

In 2023, based on the Federal Poverty Level (FPL), 14% of Michigan households were defined as being in poverty. Yet this measure failed to account for an additional 27% of the state's households – nearly twice as many – that were also experiencing financial hardship. These households are **ALICE: Asset Limited, Income Constrained, Employed** – earning above the FPL, but not enough to afford basic expenses in the county where they live.

Between ALICE households and households living in poverty, **an estimated 41% of households in Michigan were below the ALICE Threshold in 2023**. This rate placed [Michigan 29th](#) among all states and the District of Columbia (with 1st representing the lowest rate of hardship). Households below the Threshold are forced to make impossible choices – like deciding whether to pay for utilities or a car repair, whether to buy food or fill a prescription.

Households below the ALICE Threshold are in every state and county across the U.S. and represent all demographic groups. Workers below the ALICE Threshold often perform the jobs that keep our economy functioning smoothly – they are child care providers, food service workers, cashiers, personal care aides, delivery drivers, and more. Their stories capture the systemic and structural barriers to financial stability, and the struggles and resilience of families experiencing financial hardship.

ALICE Measures

The ALICE measures were developed by [United For ALICE](#) to answer the pressing need for a more accurate picture of financial hardship. The FPL is an outdated instrument that does not consider the wide variation in cost of living by location (except for a slightly higher state-level FPL for Alaska and Hawai'i). As a result, official measures based on the FPL sharply underestimate the true extent of financial hardship in the U.S. And because the FPL is the basis for defining eligibility for many types of public assistance, ALICE households often do not qualify.

Two pillars of the ALICE measures are household costs and income. The [ALICE Household Survival Budget](#) calculates the cost of household basics for each county in Michigan, relying on a wide range of publicly available sources, outlined on page 5. Change over time in the cost of these household basics is tracked in the [ALICE Essentials Index](#).

Household costs are compared to income to determine if households are **below the ALICE Threshold**. For household income, ALICE measures rely on the U.S. Census Bureau's [American Community Survey](#) (ACS) – both household tabulated data and individual data from the [Public Use Microdata Sample](#) (PUMS) records. To provide additional details on household assets, this Report also includes analysis of the [Federal Reserve Board's Survey of Household Economics and Decisionmaking](#) (SHED) (2023).

The data included in this Report spans 2010 to 2023 (latest available). This data does not reflect policy or funding changes that have occurred since, yet it provides an important baseline and context to inform current conversations and decision making.

United For ALICE

Launched in 2009 with a study of financial hardship in one New Jersey county, the nonpartisan [United For ALICE movement](#) has grown to include 35 states and the District of Columbia. With a commitment to [racial and economic justice](#), United For ALICE partners use the ALICE data to give voice to the challenges ALICE households face. Together, they inspire action, strategies, and policies to ensure that all households have enough income for necessities and can save for the future.

In Michigan, this research is brought to you by the [Michigan Association of United Ways](#) and is also sponsored by the Consumers Energy Foundation. Learn more about how the ALICE data is being used to inform strategies and solutions across our partner states in the [ALICE in Action](#) Database.



KEY FINDINGS

Financial hardship: In 2023, of Michigan's 4.1 million households, 14% (555,965) were below the Federal Poverty Level (FPL), and another 27% (1,117,590) were ALICE – households with income above the FPL, but not enough to afford the ALICE Household Survival Budget for their household composition and location. **Combining these two groups, 41% (1,673,555) of households in Michigan were below the ALICE Threshold** (Figure 1).

The cost of basics: In Michigan in 2023, the ALICE Household Survival Budget was \$28,740 for a single adult and \$74,556 for a family of four with two adults, an infant, and a preschooler – much higher than the FPL (\$14,580 for an individual and \$30,000 for a family of four). Basic costs varied substantially [by county](#).

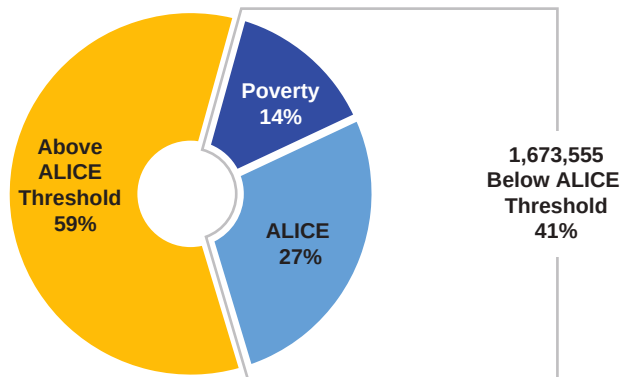
ALICE demographics: There were households below the ALICE Threshold across all demographic groups in Michigan. However, due to [systemic racism](#), [ageism](#), [gender discrimination](#), and [geographic barriers](#) that limit many families' access to resources and opportunities for financial stability, certain groups were more likely to experience hardship. These groups included Black households (62% below the Threshold), households headed by someone of Two or More Races (45%), and Hispanic households (45%); households headed by people under age 25 (65%) or age 65 and older (51%); and single-parent households (75% single-female-headed, 52% single-male-headed).

ALICE in the labor force: Of the 20 most common occupations in Michigan in 2023, 14 paid less than \$20 per hour. And of all workers in the top 20 occupations, 30% lived in households below the ALICE Threshold, with rates as high as 52% for both cashiers and orderlies/psychiatric aides.

Trends in Michigan: Between 2010 and 2023, the total number of households in Michigan increased by 7%, the number of households in poverty decreased by 3%, and the number of ALICE households increased by 18%. Behind these overall trends, there were important changes in the numbers of families with children and 65+ households. In addition, housing affordability continued to be a challenge, and basic costs continued to outpace wages in low-wage jobs.

Stable households, stronger communities: If all households in Michigan had enough income to meet their basic needs, not only would households' hardship be eased, but there would be a positive economic impact on the wider community through increased consumer spending and contributions to the tax base.

Figure 1. Forty-One Percent of Michigan Households Faced Financial Instability in 2023



Sources: ALICE Threshold, 2010–2023; U.S. Census Bureau, American Community Survey, 2023

KEY TERMS

- **ALICE:** Asset Limited, Income Constrained, Employed – households with income above the Federal Poverty Level (FPL) but less than the basic cost of living in their county
- **ALICE Household Survival Budget:** Reflects the minimum costs of household necessities (housing, child care, food, transportation, health care, and technology) plus taxes, adjusted for all U.S. counties and various household compositions
- **ALICE Threshold:** Derived from the Household Survival Budget, the minimum average income that a household needs to afford basic costs, calculated for all U.S. counties
- **Below ALICE Threshold:** Includes households in poverty and ALICE households combined

Data Notes: The income data used in this Report rely on ACS estimates. The ACS is based on a representative sample of housing units and people; therefore, these estimates have a [degree of uncertainty](#). Some data points are geographic averages, others are one- or five-year averages depending on population size (these are reported in the [Data Sheet](#)). Percentages are rounded to whole numbers, sometimes resulting in percentages totaling 99% or 101%. ALICE analysis includes households regardless of work status, as employment is fluid and most households have members who are working, have worked, are out on disability, or are looking for work. ALICE analysis includes families and roommates but does not include people who are unhoused or living in group quarters (such as college residence halls, skilled nursing facilities, and military barracks).

BASIC COSTS: THE ALICE HOUSEHOLD SURVIVAL BUDGET

To capture the reality of household costs across Michigan, **the ALICE Household Survival Budget is calculated for all counties and various household compositions.** This budget reflects the minimum cost to live and work in today's economy. (See the Budget Overview on page 5 and use the [ALICE Budget and Income Status Tool](#) for custom budgets by household composition and location.)

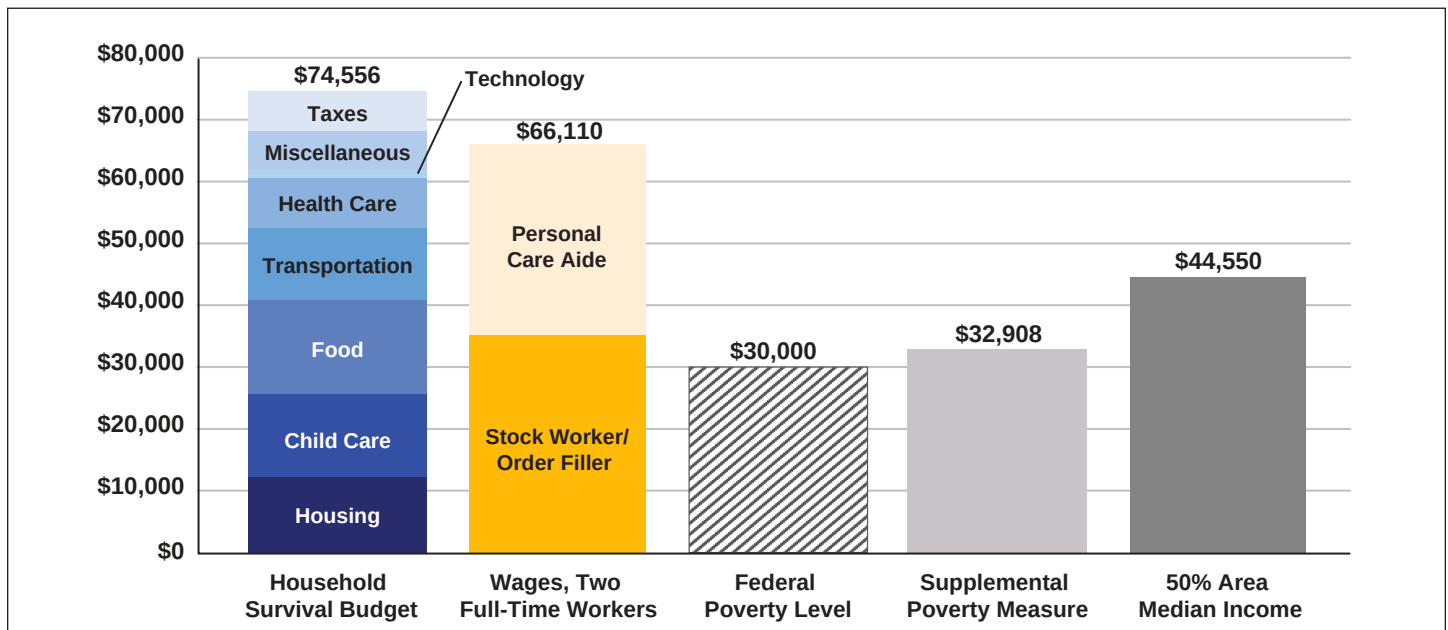
Figure 2 illustrates the mismatch between costs, wages, and official measures of financial hardship. It includes ALICE Household Survival Budget costs for a Michigan family with two adults, an infant, and a preschooler (totaling \$74,556 annually) and the combined full-time wages of two common Michigan occupations – a personal care aide and a stock worker/order filler (totaling \$66,110 annually). Figure 2 also compares costs and income to three governmental measures of financial hardship:

- **The Federal Poverty Level** (FPL): The FPL relies on an [outdated methodology](#) for household costs; it does not account for cost-of-living differences across the continental

U.S., or within states; and it is adjusted by the Consumer Price Index, which underestimates inflation in essential costs (as demonstrated by the [ALICE Essentials Index](#)). In 2023, the [FPL](#) was \$14,580 for a single adult and \$30,000 for a family of four.

- **The Supplemental Poverty Measure** (SPM): First published by the U.S. Census Bureau in 2011, the SPM is based on the costs of food, clothing, shelter, and utilities. In 2023, the SPM threshold for a renter household with two adults and two children in Michigan was \$32,908.
- **Area Median Income** (AMI): The AMI is the midpoint of income distribution within a geographic area (half of households earn more, half earn less). Percentages of AMI are used for federal housing assistance; very low-income households earn less than 50% of AMI, the typical threshold for Section 8 eligibility. AMI is based on income, not costs, so it does not capture whether households can afford basic expenses. In Michigan in 2023, for a four-person household, 50% of AMI was \$44,550 – more than the FPL and the SPM, but still well below the Household Survival Budget.

Figure 2. Basic Costs Exceeded Wages of Common Jobs and Official Measures of Hardship
Annual Budget, Wages, and Official Measures of Financial Hardship, Family of Four, Michigan, 2023



Note: [Personal care aides](#) monitor the condition of people with disabilities or chronic illnesses and help them with daily living activities. [Stock workers/order fillers](#) receive, store, and issue merchandise, materials, equipment, and other items from stockrooms, warehouses, or storage yards, and may operate power equipment to fill orders.

Sources: ALICE Household Survival Budget, 2023; Bureau of Labor Statistics–Occupational Employment Statistics, 2023; U.S. Census Bureau, Supplemental Poverty Measure, 2023; U.S. Department of Housing and Urban Development, [Area Median Income](#) (State Income Limits), 2023

ALICE Household Survival Budget, Michigan		State Average Costs, 2023		
	Budget Item Description and Sources (See Methodology for more details)	Single Adult, Age 18–64	Single Adult, Age 65+	2 Adults, 1 Infant, 1 Preschooler
Housing	110% of Fair Market Rent (FMR) for an efficiency, one-bedroom, or two-bedroom apartment (based on family size), including utilities, adjusted in metro areas using Small Area FMR Source: U.S. Department of Housing and Urban Development (HUD) Update: As of 2023, based on HUD's new FMR policy , housing costs are calculated using 110% of FMR to more accurately reflect the rental market. Small Area FMR is used in metro areas, where rents are higher than 110% of FMR. In prior years, costs used standard FMR and were adjusted in metro areas using ACS housing costs. To avoid reporting artificial rent decreases, 2022 rents are used if higher than 2023 rents.	\$733	\$733	\$1,026
Child Care	Cost for registered Family Child Care Homes for infants (0–2 years), preschool-age children (3–4 years), and school-age children (5–12 years) Source: Michigan Department of Education, Office of Great Start	\$0	\$0	\$1,110
Food	USDA Thrifty Food Plan by age, with county variation from Feeding America Sources: Feeding America; U.S. Department of Agriculture (USDA)	\$470	\$433	\$1,277
Transportation	Operating costs for a car (average daily miles by age, cost per mile, license, fees, and insurance), or public transportation where viable Sources: AAA, Federal Highway Administration, National Association of Insurance Commissioners (NAIC) (car); Consumer Expenditure Survey (CEX) (public transportation) Update: The source for insurance premiums changed from the Zebra to NAIC in 2023; rates are similar and updated more frequently. Note: Based on the sources above, in 2023 transportation costs were lower than in the 2022 budget, largely due to a decrease in both gas prices and average miles traveled.	\$416	\$352	\$964
Health Care	Health insurance premiums based on employer-sponsored plans plus out-of-pocket costs for households with \$40,000–\$69,999 annual income by age, weighted with the poor-health multiplier. For the ALICE 65+ Survival Budget, cost of Medicare Parts A and B, out-of-pocket costs, plus average out-of-pocket spending for the top five chronic diseases as reported by CMS. Sources: Centers for Medicare & Medicaid Services (CMS); CEX (health); Medical Expenditure Panel Survey (MEPS)	\$180	\$528	\$670
Technology	Basic broadband internet at home and a smartphone plan with unlimited data for each adult in a household Sources: Consumer Reports; USTelecom	\$86	\$86	\$116
Miscellaneous	Cost overruns estimated at 10% of the budget, excluding taxes, to cover one-time unanticipated costs within the other categories	\$189	\$213	\$516
Taxes	Federal payroll taxes (Social Security and Medicare) and federal, state, and local income taxes owed on household income to cover the Survival Budget, as well as the federal Child Tax Credit and the Child and Dependent Care Tax Credit Sources: Internal Revenue Service; Tax Foundation; calculated for United For ALICE by the Federal Reserve Bank of Atlanta (FRBA) Note: 2022 tax data was revised by FRBA for this update.	\$321	\$384	\$534
Monthly Total		\$2,395	\$2,729	\$6,213
Annual Total		\$28,740	\$32,748	\$74,556
Hourly Full-Time Earnings Needed to Support the Household Survival Budget*		\$14.37	\$16.37	\$37.28

*Represents the earnings needed at 40 hours/week, 50 weeks/year to support the annual total, including taxes.

FINANCIAL HARDSHIP BY DEMOGRAPHIC GROUP

There are households below the ALICE Threshold across Michigan, and they reflect a wide range of demographics and household types (Figure 3). However, some groups had a higher rate of financial hardship in 2023, a result of factors including [systemic racism](#), [ageism](#), [gender discrimination](#), and [geographic barriers](#) that limit many families' access to resources and opportunities for financial stability:



- Age:** In 2023, the youngest and oldest households had the highest rates of financial hardship: 65% of households headed by someone under age 25 and 51% of households headed by someone age 65 and over lived below the ALICE Threshold in Michigan. By comparison, rates were lower for those in their prime working years, with 35% of households headed by people age 25–44 and those age 45–64 living below the Threshold.
- Race/ethnicity:** Rates of financial hardship differed substantially by race/ethnicity in Michigan. In 2023, the largest number of households below the ALICE Threshold were White (1,166,323), making up 38% of all White households. Black households were the next largest group below the Threshold (326,085), yet they made up 62% of all Black households. Other, smaller groups also had high rates of hardship: 56% of Native Hawaiian/Pacific Islander households, 51% of American Indian/Alaska Native households, and 45% of both Hispanic households and households headed by someone of Two or More Races were below the Threshold. Asian households had the lowest rate of hardship at 27%.
- Household type:** In 2023, 39% of single or cohabiting households without children headed by someone under age 65 – the most common household type – were below the ALICE Threshold in Michigan. Among families with children, 33% were below the Threshold. And longstanding disparities in financial hardship by household type remained: 75% of single-female-headed families and 52% of single-male-headed families were below the Threshold, compared to 15% of married-parent families.
- Location:** In 2023, by county, the percentage of households below the Threshold was highest in Clare County (56%) and lowest in Clinton County (26%). Hardship varied even within counties: For example, in Wayne County, the percentage of households below the Threshold ranged from 78% in ZIP code 48238 (Detroit) to 13% in ZIP code 48168 (Northville).

INTERACTIVE ALICE DATA

ALICE data is available online by [race/ethnicity](#), [age of householder](#), [household type](#), [county](#), [county subdivision](#), [census designated place](#), [ZIP code](#), and [legislative district](#). See all available geographies and more on the [ALICE Mapping Tool](#).

Figure 3. Financial Hardship Varied Substantially by Demographic Group

Key Demographic Groups, Michigan, 2023

	Total	Below ALICE Threshold	Poverty ALICE Above ALICE Threshold		
ALL HOUSEHOLDS	4,076,984	1,673,555	14%	27%	59%
AGE					
Under 25 Years	165,166	107,414	35%	30%	35%
25 to 44 Years	1,241,872	440,785	14%	22%	65%
45 to 64 Years	1,455,403	505,378	12%	22%	65%
65 Years and Over	1,214,543	619,978	12%	39%	49%
RACE/ETHNICITY					
American Indian/ Alaska Native	16,532	8,393	12%	38%	49%
Asian	111,977	30,425	8%	20%	73%
Black	528,789	326,085	20%	42%	38%
Hispanic	166,497	74,545	9%	35%	55%
Native Hawaiian/ Pacific Islander	742	418	23%	34%	44%
Two or More Races	184,887	83,577	11%	34%	55%
White	3,097,091	1,166,323	8%	30%	62%
HOUSEHOLD TYPE					
Married With Children	650,080	99,351	6%	9%	85%
Single-Female-Headed With Children	233,929	175,300	41%	33%	25%
Single-Male-Headed With Children	90,918	47,646	21%	31%	48%
Single or Cohabiting, Under 65, no Children	1,887,514	731,280	14%	25%	61%
RURAL/URBAN					
Rural	713,134	299,715	14%	28%	58%
Urban	3,363,850	1,373,840	14%	27%	59%

Note: The groups shown in this figure are based on head of household and overlap across categories. Within the race/ethnicity category, all racial categories except Two or More Races are for one race alone. Race and ethnicity are overlapping categories; in this Report, the American Indian/Alaska Native, Asian, Black, Native Hawaiian (includes other Pacific Islanders), and Two or More Races groups may include Hispanic households. The White group includes only White, non-Hispanic households. The Hispanic group may include households of any race. Because household poverty data is not available for the American Community Survey's race/ethnicity categories, annual income below \$15,000 is used as a proxy. Counties are defined as rural or urban based on the USDA's designation of metropolitan or non-metropolitan at the census tract level. Counties with 50% or more of the population in metropolitan tracts are designated as urban; those with 50% or more of the population in non-metropolitan tracts are designated as rural.

Sources: ALICE Threshold, 2023; U.S. Census Bureau, American Community Survey, 2023

ALICE IN THE LABOR FORCE

Workers below the ALICE Threshold increasingly bear the brunt of economic change and uncertainty as the workforce shifts to incorporate new [technology and automation](#) and as employers increase [reliance on non-standard work arrangements](#) – like [hourly paid work](#), [part-time employment](#), and [gig work](#). These [arrangements](#) make it easier to [reduce work hours or cut employment](#) altogether when the economy ebbs (which happened to a large degree during the COVID-19 pandemic) and expand them when demand increases (which happens seasonally for a range of industries such as hospitality, recreation, and retail sales).

In 2023, of the 20 most common occupations in Michigan as reported by the Bureau of Labor Statistics (BLS), 14 still paid less than \$20 per hour. And of the workers in these 20 occupations, 30% were living in households below the ALICE Threshold. Occupations with the largest share of workers in households below the Threshold included cashiers (52%), orderlies and psychiatric aides (52%), personal care aides (47%), cooks (46%), and waiters/waitresses (41%) (Figure 4).

Figure 4. A Large Share of Workers in the 20 Most Common Occupations Were Below the ALICE Threshold

Labor Characteristics, Most Common Occupations, Michigan, 2023

Most Common Occupations	Total Employment (BLS)	Percent of Workers Below ALICE Threshold (ACS PUMS)	Median Hourly Wage (BLS)
Retail Salespersons	117,360	26%	\$15.14
Fast Food and Counter Workers	116,770	32%	\$13.78
Delivery Drivers/Sales Workers	103,290	27%	\$20.32
Registered Nurses	102,240	9%	\$39.28
Cashiers	92,000	52%	\$15.47
General and Operations Managers	88,500	8%	\$46.70
Office Clerks	87,020	26%	\$19.74
Stock Workers and Order Fillers	86,660	37%	\$16.95
Personal Care Aides	83,450	47%	\$14.84
Janitors and Building Cleaners	81,750	39%	\$16.64
Customer Service Representatives	80,040	31%	\$18.81
Laborers and Material Movers	69,070	35%	\$18.13
Waiters and Waitresses	67,010	41%	\$17.02
Cooks	61,760	46%	\$15.39
Elementary and Middle School Teachers	52,650	13%	\$31.66
Teaching Assistants	52,550	31%	\$16.58
Other Healthcare Support Workers	51,570	34%	\$18.29
Sales Representatives, Wholesale and Manufacturing	50,720	12%	\$45.66
Software Developers	44,140	4%	\$49.92
Orderlies and Psychiatric Aides	40,840	52%	\$18.95

Note: BLS = Bureau of Labor Statistics; ACS PUMS = American Community Survey Public Use Microdata Sample. This figure includes all workers with income from these occupations (full-time, part-time, and freelance). [ALICE Threshold status](#) is determined by comparing workers' total household income to the ALICE Household Survival Budget for their household composition and location.

Sources: ALICE Threshold, 2023; Bureau of Labor Statistics–Occupational Employment Statistics, 2023; U.S. Census Bureau, American Community Survey, PUMS, 2023

The Labor Landscape

Full- and part-time work: Though the majority of adults in Michigan were working in 2023 and most households had at least one worker, only 20% of the population age 16 and over had the security of a full-time job with a salary. Of those in the labor force (blue bars in Figure 5), more than two-thirds (67%) were paid hourly and/or worked part time. Workers who are paid by the hour are more likely to have fluctuations in income due to [schedule changes and variable hours](#), and they are [less likely to receive benefits](#), such as health insurance, paid time off, family leave, or retirement plans.

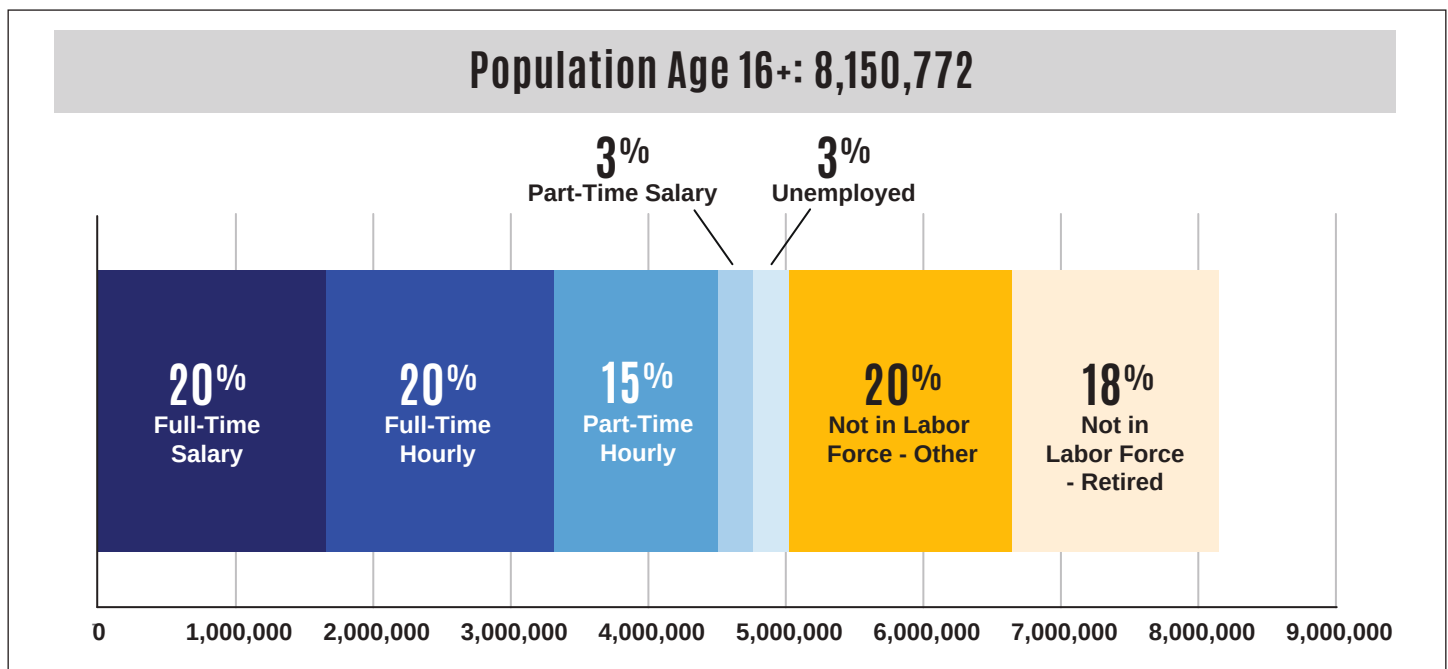
Unemployment: In 2023, 3% of Michiganders age 16 and over were unemployed – not currently working but looking for work in the prior four weeks (light blue bar in Figure 5).

The unemployment rate for workers below the ALICE Threshold in different parts of the state is often notably higher than the official rate. To see more data on workers below the ALICE Threshold in your community, visit UnitedForALICE.org/ALICE-EVD.

Out of the labor force: Another 38% of Michiganders age 16 and over were out of the labor force in 2023 (gold bars in Figure 5), including those who were retired (18%) and those who were out of the labor force for other reasons, such as disability, health issues, caregiving responsibilities, or student status (20%).

For more data on the labor landscape and occupations in your state, visit UnitedForALICE.org/Labor-Force/Michigan.

Figure 5. Less Than One-Fourth of People Worked Salaried, Full-Time Jobs
Labor Status, Population Age 16+, Michigan, 2023



Note: Data for full- and part-time jobs is only available at the national level; these national rates (approximately 50% of full-time workers and 82% of part-time workers paid hourly) have been applied to the total state workforce to calculate the breakdown shown in this figure. Full-time represents a minimum of 35 hours per week at one or more jobs for 48 weeks per year.

Sources: Federal Reserve Bank of St. Louis, 2023; U.S. Census Bureau, American Community Survey, 2023

SPOTLIGHT ON SAVINGS AND ASSETS

When households are not earning enough to cover basic costs, their ability to save for emergencies, retirement, or other future needs is greatly hindered. According to the [Federal Reserve Board's Survey of Household Economics and Decisionmaking](#) (SHED), in 2023, respondents below the ALICE Threshold in the [East North Central Census Division](#) (which includes Michigan) were far less likely than those above the Threshold to have savings that could cover three months of expenses in the event of an emergency (31% vs. 69%), or to have retirement assets (39% vs. 88%). Additionally, non-retirees below the Threshold were less likely to say that their retirement savings plan was on track (11%, vs. 36% above the Threshold).

TRENDS IN MICHIGAN

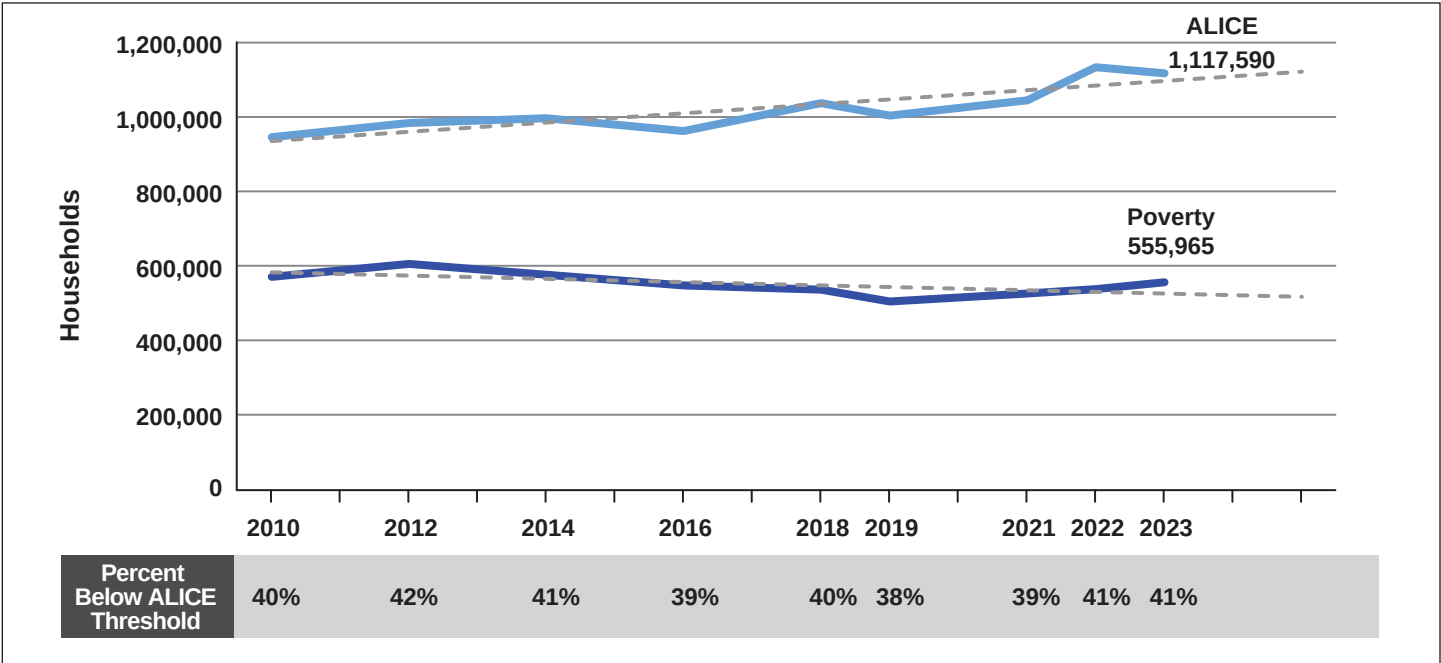
Over the last decade, the number of ALICE households in Michigan has been trending upward as wages have failed to keep up with the cost of household basics. When prices increase faster than wages, purchasing power decreases. This is especially challenging for ALICE households that are already struggling to make ends meet.

Between 2010 and 2023, the total number of households in Michigan increased by 7%, the number of households

in poverty decreased by 3%, and the number of ALICE households increased by 18%.

In the most recent years, the overall percentage of households below the ALICE Threshold in Michigan increased from 39% in 2021 to 41% in 2022, where it remained in 2023. It will be important to track these trends in coming years to see if they continue or shift direction (Figure 6).

Figure 6. ALICE Households Grew, While Households in Poverty Remained Largely Flat
Number of Households by Income, Michigan, 2010-2023



Note: The gray dashed trend lines in this figure highlight the general direction of the point-in-time data for the years shown. These lines indicate whether the numbers of ALICE and poverty-level households have been generally increasing, decreasing, or remaining flat. The ALICE trend line is statistically significant at $p < 0.003$; however, the Poverty trend line is not statistically significant.

Sources: ALICE Threshold, 2010-2023; U.S. Census Bureau, American Community Survey, 2010-2023

Families with children: The total number of Michigan households with children under age 18 declined 11% from 2010 to 2023. The trajectory for households below the ALICE Threshold differed across family types: The number of married-parent and single-female-parent households decreased (down 18% and 17%, respectively), while there was an increase in the number of single-male-headed parent households living below the Threshold (up 5%).

Older Americans: With the [aging of the Baby Boomer generation](#), households headed by people age 65 and over were the fastest-growing age group in Michigan (up 39% between 2010 and 2023). They were also the age group with the most substantial increase in the number of households below the ALICE Threshold (reaching 51% of all 65+ households in 2023).

Wages: Across the country, [wages increased from 2018 to 2023](#), growing fastest in 2022. In 2023, wage growth slowed yet remained above pre-pandemic levels. While wage increases help households cover costs, they have generally not been enough to make up for years of falling behind. For example, in 2010, [retail sales workers](#) – selling goods ranging from clothes to appliances to cars – earned a median wage of \$10.07 per

hour (\$20,940 annually for full-time work) in Michigan. This worker's household fell \$8,400 short of the annual Household Survival Budget for a family with one adult and one school-age child (\$29,340). By 2023, the median wage for this occupation increased by 50%, to \$15.14 per hour (\$31,490 annually, full-time). Yet the annual Household Survival Budget for one adult and one school-age child also grew (to \$41,448), leaving these essential workers \$9,958 short of covering basic costs – even further behind than they were in 2010.

Housing: [Housing costs continued to challenge](#) households below the ALICE Threshold. In 2023, 27% of all renter households below the Threshold in Michigan paid 30% to 49% of their income on housing. An additional 42% paid half of their income or more. **Combined, 69% of all renter households below the Threshold in Michigan were rent burdened** (paying 30% or more of their income on rent and utilities), the same rate as in 2021. For homeowners below the Threshold, 50% were housing burdened (paying 30% or more of their income on homeowner costs, including mortgage payments, utilities, and homeowner's insurance), on par with 2021 (49%).



» HEAR ALICE VOICES

ALICE is speaking. Are we listening? Visit ALICEvoices.org to hear firsthand insights from ALICE workers and families – or tell your own story.

STABLE HOUSEHOLDS, STRONGER COMMUNITIES

Households below the ALICE Threshold play a vital role in their communities – as neighbors, family members, and civic participants. They also contribute to their local economies – as workers, consumers, and taxpayers. Yet these households, nearly 1.7 million in Michigan, did not earn enough to cover basic costs in 2023.

This is not a new problem. The share of households below the ALICE Threshold in Michigan has varied only slightly for more than a decade, persisting through shifting economic conditions and the COVID-19 pandemic, and across political administrations.

This is not a small problem. In Michigan, 41% of all households were below the ALICE Threshold in 2023. These households face [day-to-day challenges](#) of trying to make ends meet, while also being more vulnerable to the impacts of crises, both widespread (i.e., natural disasters, public health emergencies) and personal (from unexpected car repairs to major health issues). And while isolated interventions can help ameliorate some of these challenges, the core issue remains: There is a wide gap between households' income and what they need to make ends meet.

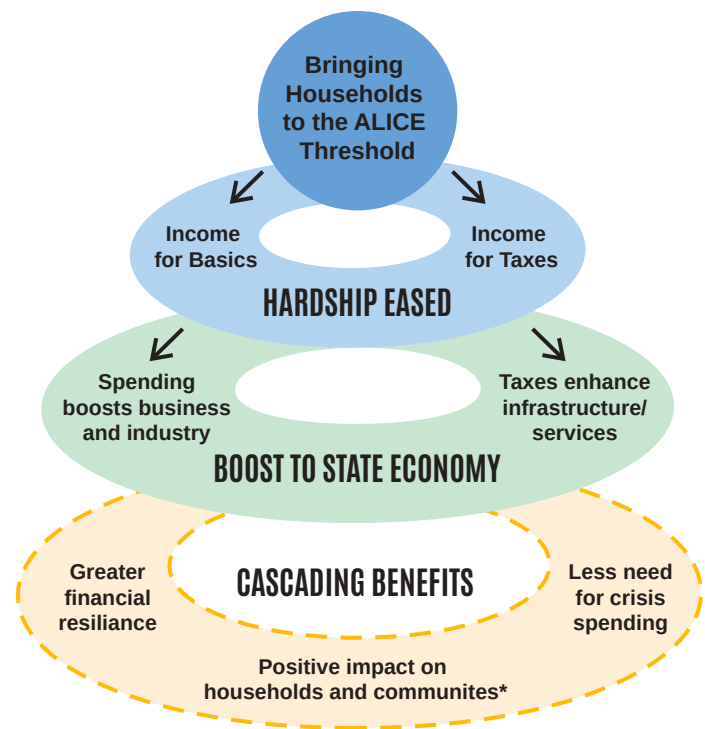
But what if all households in Michigan had enough income to cover their basic needs? Bringing all households to the ALICE Threshold would require a coordinated effort and investment from multiple sectors, including government, nonprofit, business, and philanthropy. This would change the trajectory for Michigan households that are struggling financially – and it would also benefit the state economy.

This matters for all of us. Households below the ALICE Threshold are more likely to [spend than to save](#) additional income, so this income would largely go back into the economy as households spend to cover costs and pay additional taxes.

Increased spending in the local economy has a [multiplier effect](#). Mark Zandi, Chief Economist at [Moody's Analytics](#), [estimates economic multipliers](#) for additional household income spending on food (1.57), utilities (1.27), and other necessities (1.42). For instance, every dollar [spent on food](#) spurs an additional 57 cents in business growth in the retail, agriculture, trucking, and rail freight industries.

There are also economic multipliers for the additional income taxes that households below the ALICE Threshold would pay.

Zandi estimates economic multipliers for tax revenue spent on aid to state and local governments (1.27) and transportation infrastructure (1.23), meaning that every dollar households below the Threshold pay in additional taxes would fuel even more in state and local investments.



* See Figure 7 for additional details/sources related to the benefits of meeting basic needs.

Beyond these economic contributions, there are cascading benefits of meeting basic needs in Michigan (Figure 7). If all households are on a more solid financial footing, communities can look beyond crisis spending and poverty alleviation toward broader community well-being. For example, funding that went toward emergency housing or food assistance could be redirected to create more affordable housing and locally grown food systems for the long term. Funding could also be used to enhance opportunities for civic engagement, arts, and recreation. Together, these investments can improve physical and mental health and overall quality of life – not just for ALICE families, but for entire communities and the state as a whole.

Figure 7. Cascading Benefits of Meeting Basic Needs

If households have sufficient income for...	Benefits for ALICE Households	Benefits for the Wider Community
 Safe, Affordable Housing	Improved <u>physical</u> and <u>mental health</u> through <u>safer environments</u> and <u>reduced stress</u> ; improved <u>educational performance and outcomes</u> for children; <u>greater stability</u> for household members; a means to <u>build wealth and racial equity</u> for homeowners	<u>Expanded and updated housing stock</u> , <u>reduced systemic housing inequities</u> ; <u>lower health care costs</u> ; <u>reduced homelessness</u> ; increased <u>opportunities for jobs and more money spent</u> in local communities
 Quality Child Care and Education	<u>Increased labor force participation</u> , <u>lifetime earnings and retirement security for women</u> ; <u>health benefits for children</u> , <u>school readiness</u> , <u>improved educational attainment and graduation rates</u> ; improved performance in <u>higher education</u> ; <u>higher lifetime earnings</u>	<u>Reduced racial/ethnic inequalities in learning and development</u> ; <u>positive health, education, and economic outcomes for children and families</u> ; <u>stronger community economies</u> ; <u>more homebuyers and higher property values</u> through availability of quality child care
 Adequate Food	Decreased food insecurity; <u>improved health</u> (especially for <u>children</u> and <u>adults age 65 and over</u>); <u>decreased likelihood of developmental delays</u> and <u>behavioral problems</u> in school	<u>Lower health care costs</u> ; improved <u>school</u> and <u>workplace</u> productivity; less spending on emergency <u>food services</u> ; greater equity by <u>gender, race/ethnicity</u> and <u>immigration status</u>
 Reliable Transportation	Decreased <u>transportation insecurity</u> ; <u>improved access to work/job opportunities</u> , <u>school and child care</u> , <u>health care</u> and social services, <u>food/retail markets</u> , and <u>support systems</u> (friends, family, faith communities)	<u>Improved air quality and reduced gasoline consumption/carbon emissions</u> ; increased economic opportunity through <u>returns on investment</u> ; a <u>more diverse labor market</u> ; <u>decreased income disparities</u> ; <u>more integrated neighborhoods</u>
 Quality Health Care	Better mental and physical health (including <u>increased life expectancy</u>); improved access to <u>preventive care</u> ; fewer missed days of <u>work</u> and <u>school</u> ; <u>decreased need for emergency services</u> ; <u>lower share of income spent on health</u>	<u>Decreased health care spending</u> and strain on emergency services; <u>reduced racial/ethnic disparities in insurance coverage and access to care</u> ; fewer communicable diseases; improved <u>workplace productivity</u> ; <u>decreased wealth-health gap</u> ; <u>better outcomes during health crises</u>
 Reliable Technology	Improved access to <u>job opportunities</u> ; expanded access to <u>health information and telemedicine services</u> ; increased <u>job and academic performance</u>	Closing the “ <u>digital divide</u> ” in access to technology by income; increased <u>economic development</u> ; increased <u>connectivity and social inclusion</u> that helps reduce social, economic, and political disparities
 Savings	Ability to <u>withstand emergencies</u> without impacting long-term financial stability; greater <u>asset accumulation over time</u> (e.g., <u>interest on savings</u> ; <u>ability to invest</u> in education, property, or finance a secure retirement)	<u>Less spending on public services</u> to cover basic needs like health care, food, and housing — especially for <u>unexpected or emergency expenses</u>

We All Have a Role to Play

Our vision is a country where ALICE families not only have sufficient income to afford the basics but can also save and invest in their future. This is a vision not only for ALICE, but for the nation as a whole. The information presented in this Report can help stakeholders prioritize economic prosperity for all. We all have a role to play:

Community members:

- Raise awareness of ALICE through ALICE [news](#) and [videos](#) or [share your experiences](#)
- [Connect with your local United Way](#) for advocacy, support, and volunteer opportunities
- Advocate for the continuation of current government datasets (e.g., American Community Survey, Fair Market Rents). Consistent data over time is crucial for informed decision-making, effective policy implementation, and accountability.

Policymakers and nonprofits:

- Explore ALICE by district using the [Legislative District Tool](#)
- [Map ALICE by location](#) to pinpoint need and identify gaps in community resources
- Use interactive tools from the Federal Reserve Bank of Atlanta (which use ALICE budgets), including the [Policy Rules Database](#) and the [Career Ladder Identifier and Financial Forecaster](#)
- See examples of [policies, practices, and programs](#) United For ALICE partners have implemented using ALICE data

Employers:

- [Implement strategies](#) that support the well-being and retention of ALICE workers while also boosting engagement, productivity, and the bottom line
- Advocate for community resources that support your employees – from affordable housing to quality child care



ALICE ONLINE

Visit UnitedForALICE.org to explore interactive data and resources. Click the icons below to get started.

 National Overview National data and state comparison	 ALICE Demographics State, county, and regional demographic data	 ALICE Household Budgets State, county, and regional budgets
 Mapping Tool NEW Explore data for all available geographies (state, county, municipality, ZIP code)	 Income Status Tool NEW Input income, household type, and location to see household ALICE status	 County Reports All available county data in a shareable format
 Legislative District Tool See data by state upper and lower chambers and congressional district	 Economic Viability Dashboard Key data on work, housing, and community resources	 ALICE Essentials Index Data on change over time in the cost of household basics
 Data Sheet State ALICE data over time and by location	 Wage Tool Identify counties where select hourly wages can support basic costs	 ALICE in Focus A closer look at hardship for children, people with disabilities, and veterans
 Methodology Sources and calculations used in the ALICE research	 Research Advisory Committees Learn about the members and roles of these critical groups	 National ALICE Team Meet members of the United For ALICE staff
 ALICE Voices NEW Hear directly from ALICE or share your own ALICE story	 ALICE in Action NEW Programs, practices, and policy changes implemented by the ALICE network	 ALICE Videos Videos that highlight ALICE stories, research, and partner impact

ABOUT UNITED FOR ALICE AND OUR PARTNERS

The State of ALICE in Michigan: 2025 Update on Financial Hardship is brought to you by the [Michigan Association of United Ways](#) in partnership with [United For ALICE](#), a driver of innovative research and action to promote financial stability for **ALICE**® (**A**sset **L**imited, **I**ncome **C**onstrained, **E**mployed) households. With a commitment to [racial and economic justice](#), United For ALICE and United Ways across Michigan share this work with foundations, government, corporations, and other nonprofits to inform policy and promote positive change for ALICE households.

The grassroots ALICE movement, developed by United Way of Northern New Jersey, has spread to 35 states and the District of Columbia. Learn more about the ALICE movement [here](#).

To create the ALICE Reports, our [team of researchers](#) works with [Research Advisory Committees](#) composed of experts from our partner states. This work is guided by our rigorous [methodology](#), which is updated biennially with experts from across our Research Advisory Committees.

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United For ALICE partners with the [Michigan Association of United Ways](#) to bring this research to the state, and this work is sponsored by Consumers Energy Foundation.



To learn more about how you can get involved in advocating and creating change for ALICE in Michigan, contact: **Bobby Dorigo Jones**, Michigan Association of United Ways, at bobby.dorigojones@uwmich.org.

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NEWS </story-type/news>

Nearly half of Detroit seniors spend at least 30% of their income on housing costs – even as real estate values fall

January 22, 2026



For Detroit homeowners over 65 who overwhelmingly live on fixed incomes <<https://www.congress.gov/crs-product/r47341>>, unexpected costs – increases in grocery prices, rising health care premiums or an emergency repair – heighten their risk of financial instability and can even lead to them falling into poverty.

I am a policy researcher at Poverty Solutions at the University of Michigan <<https://poverty.umich.edu/>>. Our initiative uses action-based research <<https://www.sciencedirect.com/topics/social-sciences/action-research>>, an approach that seeks to understand real-world problems and inform policy changes that could make life work better for people with low incomes. The center recently examined data from the 2023 American Community Survey to explore how low-income seniors in Detroit are affected by declining housing values and high housing costs compared to seniors across Michigan.

Federal, state and local programs to help seniors with these costs are already strained

<<https://www.jchs.harvard.edu/blog/us-unprepared-provide-housing-and-care-millions-older-adults>>. As the population of older adults in metro Detroit continues to grow <<https://www.axios.com/local/detroit/2024/07/16/metro-detroits-retirement-age-population-is-surging>>, demand for support services, such as caregiving and healthy meal programs <[https://sph.umich.edu/news/2021posts/improving-health-of-older-adults-in-detroit.html#:~:text=older%20adults%20are%20more%20likely,pl](https://sph.umich.edu/news/2021posts/improving-health-of-older-adults-in-detroit.html#:~:text=older%20adults%20are%20more%20likely,placed%20at%20even%20greater%20risk.>)>, will likely increase.

Housing cost burdens are more acute for Detroit seniors

The poverty rate of senior-headed households in Detroit is nearly twice as high as the rate statewide.



Amanda Nothhaft

Detroit seniors, both owners and renters, are more likely to be housing cost-burdened than Michigan seniors overall, with 45% paying more than 30% of their income on housing costs compared to 31% of seniors statewide. This is partially driven by lower median incomes in the city compared to the state.

Even when we focus on the seniors who would be considered the most financially stable, those who own their homes free and clear, the proportion burdened by housing costs is twice as high as the state: 32% versus 16%.

Detroit seniors pay more for property taxes and utilities

Lower incomes aren't the only thing driving the higher housing cost burden. Detroit seniors pay more for all homeownership costs, including utilities – not only as a proportion of home values and income, but also in terms of real costs.

Detroiters face higher rates for auto insurance, and they pay more for utilities, compared to others in the state, adding to a situation where many residents, especially seniors on fixed incomes, struggle to make ends meet.

While the cost of living in urban areas is often higher compared to suburban and rural places, my analysis found that comparative costs for insurance, water, electricity and gas are lower in cities such as Milwaukee and Pittsburgh, which points to systemic issues that might be unique to Detroit.

Insurance and property taxes are also higher for seniors in Detroit compared to seniors across the state, especially relative to median home values. Detroit seniors pay the same or slightly more for these essentials despite living in homes that are worth less, based on the analysis.

The median house value for senior property owners in Detroit is \$65,000, compared to \$170,000 for seniors in Michigan.

High property taxes and insurance rates drive costs

Detroit lost over half a million residents between 1980 <<https://www.socialexplorer.com/reports/socialexplorer/en/report/07298510-d6ad-11f0-8b35-539b225bd183>> and 2020, causing an oversupply of single-family housing stock <<https://theconversation.com/knocking-down-abandoned-buildings-has-a-lot-of-benefits-for-detroit-but-its-costly-248994>> and a steady drop in home prices.

As residents left and businesses followed, the property tax base eroded. To generate the same revenue as cities with a richer tax base, Detroit levies property taxes at relatively high rates <<https://csrcmich.org/detroits-population-decline-should-prompt-property-tax-reforms>>. Detroiters face a property tax rate close to 3%, significantly higher than the national average of 1.38% <<https://csrcmich.org/detroits-high-property-tax-burden-stands-as-an-obstacle-to-economic-growth>>.

The housing market in Detroit has seen such large declines in property values that a disconnect has emerged. The replacement cost of a home, which is the actual expense required to reconstruct the dwelling, is often substantially higher than its current market value <<https://outliermedia.org/detroit-home-insurance-rates-expensive-premiums/>>. This makes the cost of homeowner's insurance disproportionately expensive relative to the market value of a home in Detroit.

A property's condition and the condition of neighboring properties also raises the cost of homeowner's insurance because insurance premiums are primarily influenced by the risk associated with insuring a property. Poor property and neighborhood conditions limit the availability of homeowner's insurance, driving those who want homeowner's insurance to purchase costly policies from insurers of last resort <https://www.npr.org/2025/01/18/nx-s1-5261542/as-insurance-companies-leave-high-risk-areas-many-turn-to-last-resort-insurance>, or companies that provide coverage to people who cannot obtain it through other means due to high insurance risks.

The high cost drives many Detroit residents to forgo homeowner's insurance. According to my analysis, almost 35% of Detroit seniors do not insure their homes, putting their main financial asset at risk.

Big utility bills

Utility bills in Detroit are higher compared to those statewide for two reasons: higher use and higher rates. The housing stock in Detroit is significantly older, with 88% of Detroit seniors living in houses built before 1960, compared to 34% of seniors in the rest of the state. These older homes use more energy because they often lack modern insulation and have single-paned windows, outdated appliances, older plumbing fixtures <https://poverty.umich.edu/faculty-project/understanding-how-poverty-affects-water-affordability-in-detroit/> and poor seals around windows and doors.

Detroiters and others in Michigan served by DTE Energy, a utility provider, pay gas and electricity rates that are higher than others in the state <https://outliermedia.org/detroits-heavy-burden-high-electric-rates-tens-of-thousands-of-shut-offs-and-a-looming-price-hike/>. Detroiters also pay more for utilities due to a 5% "utility users tax" added to their gas and electricity bills. This surcharge isn't new. It stems from legislation originally passed in the 1970s, and the funds collected flow to the Public Lighting Authority, which is responsible for improving and maintaining street lights in the city, and to the Detroit Police Department.

In the wake of Detroit's bankruptcy filing in 2013, the Detroit Water and Sewerage Department carried out widespread shut-offs <https://theconversation.com/after-a-pandemic-pause-detroit-restarts-water-shut-offs-part-of-a-nationwide-trend-as-costs-rise-212597>. From 2014 to 2020, the shut-offs affected as many as 141,000 Detroit residents, mostly those with low incomes. The crisis garnered national and international attention.

The initial crisis has passed, yet the cost of water continues to increase across the entire state <https://graham.umich.edu/project/mi-statewide-water-affordability-assessment>, with those in the metro Detroit area served by the Great Lakes Water Authority seeing substantially higher rate increases <https://www.bridgedetroit.com/glua-customers-challenge-5-9-water-rate-hike-why-now/> than the state overall to cover deferred maintenance and infrastructure costs.

Costs are compounded by social isolation

Costs stemming from isolation and disability exacerbate the financial strain Detroit seniors already face.

Several factors contribute to older adults living alone, including increased life expectancy for women

<<https://theconversation.com/why-more-people-than-ever-are-living-alone-and-what-this-means-for-the-environment-156328#:~:text=this%20can%20be%20explained%20by%20women%20living,behind%20trends%20in%20elderly%20one%20person%20households.>>

as well as children and family members <<https://kffhealthnews.org/news/article/going-it-alone-americans-aging-by-themselves-support-networks-children/>>

moving farther away from each other. Older adults living alone are also more likely to be poorer

<<https://www.pewresearch.org/short-reads/2025/12/04/a-smaller-share-of-older-us-adults-live-alone-today-than-in-1990/>> than older adults who are a part of a larger household.

This issue is more pronounced in Detroit, where 54.7% of seniors live alone compared to the 43.2% statewide average. Living alone increases the risk of social isolation, which is linked to poorer health outcomes

<<https://www.nia.nih.gov/news/social-isolation-loneliness-older-people-pose-health-risks>>. Detroit seniors also have higher rates of

disability than other seniors in the state of Michigan, which can lead to higher health care costs, decreased

mobility and increased social isolation <<https://www.commonwealthfund.org/publications/fund-reports/2019/apr/challenges-living-disability-america-and-how-serious-illness-can>>.

Less funding could create more hardship

Historically the demand for support outstrips the available resources, with only a small proportion

<<https://aspe.hhs.gov/reports/approaches-low-income-energy-assistance-funding-selected-states-0>> of eligible households receiving energy

assistance. And now, programs that help vulnerable seniors with the costs of utilities are at risk of funding cuts

<<https://neada.org/press/liheap-under-threat/>>.

Detroit Water and Sewerage Department's Lifeline Plan, launched in 2022, ran out

<<https://www.bridgedetroit.com/detroit-water-affordability-program-to-raise-bills-serve-fewer-households-as-funding-dries/>> of state and federal money in October 2025.

Meanwhile, the entire staff that administers the federal Low Income Home Energy Assistance Program, known as LIHEAP, was cut in April 2025 <<https://nlihc.org/resource/entire-liheap-staff-hhs-fired-jeopardizing-distribution-home-energy-bill-assistance-low>>.

While the program is funded in the continuing resolution passed on Nov. 12, 2025, it is zeroed out

<<https://theconversation.com/trump-was-already-cutting-low-income-energy-assistance-the-shutdown-is-making-things-worse-as-cold-weather-arrives-269342>> in the president's fiscal year 2026 proposed budget.

Even before funding uncertainties emerged, Detroit seniors who own their homes faced institutional barriers accessing property tax relief <<https://doi.org/10.1080/02673037.2019.1667961>>, putting many at risk of tax foreclosure.

Additionally, Detroiters struggle to keep up with home repair costs <<https://poverty.umich.edu/2021/10/21/nearly-38000-households-in-detroit-estimated-to-be-living-in-inadequate-housing/>>.

heightened by the needs of older homes and because the

home repair assistance system is fragmented and difficult to access <<https://www.bridgedetroit.com/detroiters-share-frustrations-over-fragmented-system-for-housing-help>>.

Without these programs, Detroit seniors will be left without an essential lifeline.

This story was written by Amanda Nothaft <https://theconversation.com/profiles/amanda-nothaft-2509494>, director of data and analysis, Poverty Solutions at the University of Michigan, and published in Bridge Detroit and The Conversation.



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Michigan Energy Assistance Program

Report to the Legislature — Fiscal Year 2024

History

On March 28, 2013, [Public Act 615](#) of 2012 took effect creating the Michigan Energy Assistance Act that required the Michigan Department of Health and Human Services (MDHHS) to establish and administer the Michigan Energy Assistance Program (MEAP). The purpose of the MEAP is to establish and administer programs statewide that provide energy assistance to eligible low-income households. Energy assistance programs must include services that enable participants to become or move toward becoming self-sufficient, including assisting participants in paying their energy bills on time, assisting participants in budgeting for and contributing to their ability to provide for energy expenses, and assisting participants in utilizing energy services to optimize their energy efficiency. The Act requires that not more than 30% of the funds received for the program shall be spent outside the crisis season, which begins on November 1 and ends May 31 each year. Public Act 87 of 2019 extended the sunset of the Michigan Energy Assistance Program until September 30, 2023. On July 26, 2023, Public Act 105 was signed by Governor Whitmer eliminating the sunset provision for the Michigan Energy Assistance Program.

On July 1, 2013, [Public Act 95](#) of 2013 was enacted creating the Low-Income Energy Assistance Fund (LIEAF) and charging the MDHHS with expending money from the fund as provided by the Michigan Energy Assistance Act. The Act allows the Michigan Public Service Commission (MPSC) to annually approve a low-income energy assistance funding factor, not to exceed \$50,000,000, to support the LIEAF. The funding factor is the same across all customer classes and the monthly customer charge shall not exceed \$1.00. The Act also tasks the MDHHS and MPSC with ensuring that all money collected for the fund from a geographic area is returned, to the extent possible, to that geographic area.

On July 26, 2023, in Case No. [U-17377](#), the MPSC adopted a funding factor of 88 cents per meter per month for all Michigan electric utilities that have opted to participate in the funding of the LIEAF, effective for the September 2023 billing month. Table 6 (page 10) provides a list of the electric utilities that chose to participate in the LIEAF for fiscal year 2024, and Table 7 (page 11) provides a list of the

electric utilities that chose not to participate. The funding factor is dependent on the total number of electric meters of the utilities opting to participate in the LIEAF.

Table A provides a history of the monthly LIEAF surcharge and the number of participating electric utilities.

Table A								
LIEAF Surcharge and Number of Participating Electric Utilities (Case No. U-17377, Public Act 95 of 2013)								
Fiscal Year	FY2024	FY 2023	FY 2022	FY 2021	FY 2020	FY 2019	FY 2018	FY 2017
Monthly Surcharge Approved	\$0.88	\$0.90	\$0.87	\$0.91	\$0.92	\$0.93	\$0.93	\$0.96
Number of Participating Utilities	29	28	28	28	28	27	26	22

As set forth in PA 95 of 2013, "an electric utility, municipally owned electric utility, or cooperative electric utility that elects to not collect a low-income energy assistance funding factor shall not shut off service to any residential customer from November 1 to April 15 for nonpayment of a delinquent account."

2024 Program Overview

The 2024 budget appropriated \$50,000,000 in LIEAF to MDHHS to operate the MEAP as well as additional funding for the operation of federal Assurance 16 (A16 funds), a portion of the Low-Income Home Energy Assistance Program (LIHEAP). MDHHS and the Michigan Department of Licensing and Regulatory Affairs (LARA) entered into an Interagency Agreement charging the MPSC with the administration of a low-income energy assistance grant process on behalf of MDHHS in the amount of \$55,000,000; \$50,000,000 collected through the LIEAF factor approved by the MPSC and \$5,000,000 from Federal LIHEAP Assurance 16 (A16) funds. The A16 funds were included to assist grantees in providing additional in-depth self-sufficiency services for eligible low-income households, a key goal of both the MEAP and LIHEAP programs.

Beginning in the 2020 program year, MEAP grantees were no longer providing initial crisis relief funded by the LIHEAP nor determining MEAP eligibility. Rather, these functions and program operations have been generally managed directly by MDHHS. Collaborating State agencies established a client-centered approach in 2020 to provide a more holistic distribution of LIHEAP and LIEAF, allowing the State to leverage federal funding while reducing the administrative burden for the MEAP grantees. The energy assistance model ensures that crisis assistance is administered consistently throughout the state

and affords MEAP grantees time to focus on self-sufficiency and the energy security needs of the household.

Households experiencing an energy crisis generally initially apply for the State Emergency Relief (SER) program funded through the federal LIHEAP, either directly with MDHHS or with assistance from a MEAP grantee or MI Bridges Navigator. MDHHS then determines eligibility for LIHEAP crisis assistance. SER recipients are eligible to receive self-sufficiency services, including case management through MEAP grantees. Households who qualify for SER energy services are also eligible for MEAP direct payment assistance, including enrollment in an affordable payment plan.

This program year, SER funds were exhausted as of June 15th due to the decrease in Low Income Home Energy Assistance Program (LIHEAP) funding the State of Michigan received for fiscal year 2024 and the increase in the number of households that received energy crisis assistance benefits. Once SER funds were exhausted, MDHHS also stopped verifying eligibility for MEAP. As a result, from mid-June through the end of September, MEAP grantees again began providing crisis assistance as well as determining MEAP eligibility, similar to what was in place prior to the 2020 program year. The increase in the amount of inquiries and applications impacted the grantees' processing time and ability to forecast how long their MEAP funding would last. Some administrative time-saving measures were put into place to allow for households to receive assistance sooner and for grantees to reserve as much of their funding as possible for direct payment assistance. For FY2025, MDHHS has put into place some additional safeguards to prevent the early exhaustion of funds moving forward.

2024 Proposal and Awards – Year One

On May 16, 2023, the MPSC invited proposals for MEAP grants from public or private entities or local units of government that will intervene in energy crisis situations and provide energy assistance program services. The Request for Proposals (RFP) offered a three-year grant program that runs through September 30, 2026. The services delivered by the grantees are designed to help eligible low-income households meet home energy costs for their primary residence to prevent future crisis situations through payment or partial payment of bills for one or more of the following: 1) electricity; 2) natural gas; 3) propane; 4) heating oil; or 5) any other deliverable fuel used to provide heat. The RFP required that proposed energy assistance programs include services that enable participants to become

or move toward becoming self-sufficient, including assisting participants in paying their energy bills on time, assisting participants in budgeting for and contributing to their ability to provide for energy expenses, and assisting participants in utilizing energy services to optimize on energy savings.

The MPSC, in conjunction with the MDHHS, approved the following MEAP grants for Year One totaling \$54,500,000 as listed below. The [State Administrative Board](#) approved the MEAP grant awards for a grant term beginning October 1, 2023, and ending September 30, 2024. The list also includes the territory served by the grantee.

- Barry County United Way: \$150,000, Barry County.
- Bureau of Community Action and Economic Opportunity: \$6 million, statewide.
- Society of St. Vincent de Paul of the Archdiocese of Detroit: \$4.85 million; multiple counties throughout Michigan.
- Superior Watershed Partnership: \$2.46 million, 15 Upper Peninsula counties and multiple Northern-Lower Peninsula counties.
- The Heat and Warmth Fund: \$6.8 million, statewide.
- The Salvation Army: \$11.8 million, statewide.
- TrueNorth Community Services: \$11.2 million, statewide.
- United Way for Southeastern Michigan: \$6.46 million, statewide.
- United Way of Jackson County: \$5.3 million, statewide.

Grantees may experience fluctuations in requests for assistance from year to year. In instances where requests for assistance are lower than a grantee originally anticipated, the grantee may reduce their award amount, voluntarily returning unneeded funds at the time of award notification or during the course of the program year for distribution to other grantees that may be experiencing higher than anticipated requests for assistance. No instances of this occurred during this program year.

2024 Expenditures

Grant funds totaling \$53,967,573.08 (\$49,127,425.09 State LIEAF and \$4,840,147.99 Federal LIHEAP) were spent by grantees during the term of the grant. Six grantees are returning funds at program year end totaling \$517,426.92 (\$372,574.91 State LIEAF and \$159,852.01 Federal LIHEAP). Grant funds totaling \$40,370,465.15 (State LIEAF) were spent assisting low-income households with energy bills; \$9,287,900.66 (\$4,413,701.77 State LIEAF and \$4,874,198.89 Federal LIHEAP) was spent on total energy assistance program expenses including low-income self-sufficiency programs; and \$4,309,207.27 (State LIEAF) was spent on administrative costs, including indirect costs. These are initial

numbers and may be adjusted slightly once all final reports are approved.

2024 Coordination and Collaboration

Michigan customers needing assistance benefited from the joint efforts of many people and organizations working together to ensure that low-income and temporarily unemployed customers did not experience service interruptions.

During FY24, MEAP Grantees utilized the lessons learned during prior program years and broadened their collaborations with established community partners and established new partnerships with non-traditional partners to provide a more holistic approach to self-sufficiency and energy security services. The MEAP Grantees and other community partners have been instrumental in helping customers complete the State Emergency Relief (SER) application. Grantees served households by providing self-sufficiency services, assisting households with SER co-payments and other one-time assistance, and enrolling customers in Affordable Payment Plans (APP). From June to September this program year, MEAP grantees also determined household eligibility and provided crisis assistance payments.

MPSC and MDHHS staff continue to meet regularly to coordinate and problem-solve as workflow and program implementation issues may arise. Additionally, the State MEAP team connects monthly with grantees and utilities through the MEAP workgroup. The MEAP workgroup continued two subcommittees in FY24 that focus on APP Alignment and A16 & Tiered Approach assessing household needs. The subcommittees held separate meetings throughout FY24 which increased the collaboration between the grantees, utilities, and State MEAP Team toward discovering workable solutions to new or previously identified barriers to assistance. The subcommittee work aims to continue to discover solutions to previously identified program challenges. MEAP grantees and State program administrators will continue to employ the best practices learned over the last few years, in preparation for the projected FY25, including working with the grantees to minimize the negative impact of challenges of having decreased funding available from other sources and expected increases in energy costs.

The APP Alignment subcommittee assisted in the implementation of a soft launch of the aligned modified APP budget. The group worked collaboratively to refine the program and ensure that program design became aligned across the utilities, including alignment of consumption guidelines, eligibility

guidelines, treatment of arrearages, and reconciliation cadence, as well as communication plans. The group has also begun discussions around re-enrollment guidelines and the tracking of outcomes.

The Assurance 16 subcommittee worked in the prior grant year to agree on a few standard questions for each grantee to implement during the application process to ensure customers were flagged if their household had a high usage risk. Each grantee was able to then report with their monthly client list both the Income Cohort (Fixed Income, No Income, and Other) as well as the propensity for the household to have higher usage. During the course of the program year, the Assurance 16 subcommittee also put together a summary report of progress. The MEAP State Team took information provided by the subcommittee into account and consulted with the subcommittee leadership to move forward to refine and train on a standardized needs assessment for implementation in FY2025.

2024 Program Data

Table 1 provides an overview of households served by various types of MEAP assistance in FY24, revealing an average of \$724 in payment assistance per household.

Table 1		
MEAP Assistance by Type (FY24)		
Assistance Type	Households Served*	Direct Payments Issued
Self-Sufficiency Services	40,644	N/A
Affordable Payment Plan	38,849	\$22,035,734.44
One-time/Other Payment Assistance	16,650	\$18,343,411.45
Any type*	55,732	\$40,379,175.89

**Households may have received more than one type of assistance.*

Table 2 provides Households Served with Assurance 16 services.

Table 2	
Assurance 16 – Self-sufficiency Services (FY24)	
Service Type	Households Served*
Needs Assessment (includes referrals)	24,699
Vendor Advocacy	23,851
Energy Education	27,262
Financial Counseling	15,286
Short-term Case Management	20,404
Long-term Case Management	4,362

**Households may have received more than one service.*

A total of 40,644 households received some type of Assurance 16 service.

Table 3 provides the number of unduplicated households served and MEAP funds spent broken down by Affordable Payment Plan Enrollment.

Table 3**			
Affordable Payment Plan Assistance (FY24)			
Program	Households Served	New Enrollments FY24	Total MEAP Funds Spent
Consumers Energy – CARE	10,275	4,262	\$8,706,010.19
DTE Energy – LSP	15,720	8,226	\$11,635,674.15
SEMCO Energy - MAP	3,751	2,002	\$1,037,172.32
UPPCO – EASE	385	198	\$367,889.78
Great Lakes Energy	267	73	\$288,986.57

***Table 3 may omit additional payments which are still being processed for reporting.*

Table 4 provides the total energy assistance payments (any type) and MEAP funds spent by energy type.

Table 4***		
Households Served by Energy Type & Total MEAP Funds Spent (FY24)		
Energy Type	Number of Households	Total MEAP Funds Spent
Non-Heat Electricity	37,125	\$26,444,198.05
Natural Gas	31,036	\$11,599,213.46
Propane/ LP Gas	1,285	\$1,198,990.50
Wood	341	\$488,554.32
Fuel Oil	139	\$145,712.81
Other	538	\$502,506.75

***Table 4 may omit additional payments which are still being processed for reporting.

Table 5 provides the number of unduplicated households receiving an energy assistance payment and the MEAP funds spent by county.

Table 5		
Unduplicated Households Served by County (FY24)		
County	Households Served	Total MEAP Funds Spent
Alcona	26	\$22,987.10
Alger	82	\$73,375.23
Allegan	256	\$252,292.20
Alpena	64	\$55,023.57
Antrim	60	\$72,668.87
Arenac	85	\$101,548.77
Baraga	79	\$58,595.73
Barry	161	\$146,006.57
Bay	307	\$191,408.60
Benzie	43	\$47,982.48
Berrien	341	\$179,256.57
Branch	47	\$40,616.31
Calhoun	1,588	\$761,132.58
Cass	169	\$76,249.89
Charlevoix	55	\$39,479.41
Cheboygan	118	\$97,414.50
Chippewa	110	\$58,852.45
Clare	240	\$255,408.62
Clinton	109	\$80,099.85

Crawford	55	\$60,539.79
Delta	260	\$215,046.53
Dickinson	63	\$43,953.26
Eaton	196	\$143,250.55
Emmet	62	\$55,155.12
Genesee	4,110	\$2,929,971.25
Gladwin	145	\$151,405.24
Gogebic	149	\$131,364.45
Grand Traverse	92	\$73,047.04
Gratiot	163	\$161,201.01
Hillsdale	188	\$203,242.71
Houghton	311	\$264,599.94
Huron	79	\$65,462.01
Ingham	568	\$345,788.36
Ionia	149	\$126,731.02
Iosco	111	\$118,639.53
Iron	153	\$147,037.57
Isabella	197	\$173,142.21
Jackson	935	\$678,580.84
Kalamazoo	1,040	\$700,967.51
Kalkaska	77	\$93,283.89
Kent	1,962	\$1,190,797.43
Keweenaw	22	\$20,291.07
Lake	157	\$193,040.18
Lapeer	132	\$116,046.10
Leelanau	12	\$15,626.20
Lenawee	222	\$178,525.56
Livingston	111	\$79,988.07
Luce	65	\$34,571.29
Mackinac	27	\$14,222.29
Macomb	2,925	\$1,663,420.04
Manistee	106	\$116,885.12
Marquette	578	\$344,097.47
Mason	162	\$157,422.33
Mecosta	192	\$204,183.18
Menominee	106	\$114,830.99
Midland	331	\$293,998.96
Missaukee	102	\$126,040.59
Monroe	357	\$231,818.66

Montcalm	301	\$236,311.23
Montmorency	23	\$25,493.92
Muskegon	1,045	\$820,381.44
Newaygo	351	\$417,812.77
Oakland	2,434	\$1,388,056.80
Oceana	178	\$188,265.95
Ogemaw	109	\$98,086.35
Ontonagon	85	\$72,768.56
Osceola	118	\$111,185.93
Oscoda	77	\$46,999.34
Otsego	71	\$62,590.49
Ottawa	553	\$187,548.18
Presque Isle	21	\$18,197.61
Roscommon	89	\$75,929.96
Saginaw	2,689	\$1,851,477.54
Saint Clair	1,204	\$529,743.00
Saint Joseph	174	\$90,493.08
Sanilac	234	\$126,800.60
Schoolcraft	99	\$51,792.42
Shiawassee	226	\$213,918.34
Tuscola	143	\$130,244.32
Van Buren	83	\$87,694.20
Washtenaw	778	\$426,270.31
Wayne	24,318	\$18,274,061.46
Wexford	244	\$256,722.59

Table 6 provides the list of Participating Electric Service Providers for FY2024.

Table 6		
FY2024 Participating Electric Service Providers	Estimated LIEAF Remittance	Number of Years Participating
Alger Delta Cooperative Electric Association	\$108,296.57	12
Alpena Power Company	\$172,149.89	11
City of Bay City	\$211,657.31	12
City of Crystal Falls	\$16,588.12	7
City of Dowagiac	\$28,792.31	5
City of Gladstone	\$30,291.80	9
City of Hart	\$11,235.77	8
City of Norway	\$22,159.14	12
City of Petoskey	\$49,431.14	12
City of St. Louis	\$20,711.72	12
Consumers Energy	\$19,576,874.63	12
Croswell Light & Power Department	\$11,100.40	5
DTE Energy	\$23,777,386.09	12
Great Lakes Energy Cooperative	\$1,292,321.68	8
Hillsdale Board of Public Utilities	\$63,520.10	12
HomeWorks Tri-County Electric Cooperative	\$280,113.24	8
Indiana Michigan Power Company (AEP)	\$1,365,942.52	12
Lansing Board of Water & Light	\$1,026,307.83	1
Marshall Electric Department	\$47,588.01	12
Midwest Energy Cooperative	\$348,277.60	12
Negaunee Department of Public Works	\$21,065.76	12
Newberry Water & Light Board	\$15,463.50	12
Niles Utilities Department	\$65,602.73	12
Northern States Power Company -Wisconsin (Xcel)	\$93,010.09	12
Presque Isle Electric & Gas Co-op	\$356,680.99	12
Thumb Electric Cooperative	\$124,218.25	12
Union City Electric Department	\$16,140.35	12
Upper Peninsula Power Company	\$555,936.26	8
Village of Baraga	\$8,247.20	12

Table 7 provides the list of Non-Participating Electric Service Providers for FY2024.

Table 7	
FY2024 Non-Participating Electric Service Providers	Number of Years Participating
Bayfield Electric Cooperative	0
Chelsea Department of Electric & Water	0
Cherryland Electric Cooperative	1
City of Charlevoix	0
City of Eaton Rapids	0
City of Escanaba	0
City of Harbor Springs	0
City of Portland	0
City of Sebewaing	0
City of South Haven	0
City of Stephenson	0
City of Sturgis	0
City of Wakefield	0
Cloverland Electric Cooperative	0
Coldwater Board of Public Utilities	0
Daggett Electric Department	0
Grand Haven Board of Light & Power	0
Holland Board of Public Works	0
Lowell Light & Power	6
Marquette Board of Light & Power	0
Ontonagon County Rural Electrification Association	0
Traverse City Light & Power	0
Upper Michigan Energy Resources Corporation (UMERC)	0
Village of Clinton	4
Village of L'Anse	0
Village of Paw Paw	0
Wisconsin Electric Power Company (We Energies)	0
Wyandotte Department of Municipal Services	0
Zeeland Board of Public Works	0

Conclusion

In FY24, more than 50,000 households engaged in some type of MEAP assistance with two-thirds of those households receiving longer term assistance that helps make their monthly payments more affordable. Nearly 75% of households receiving MEAP assistance engaged with a grantee on services to help the household become more self-sufficient. The average household received \$724 in payment

assistance. Rural households required higher amounts of assistance on average, with the highest household assistance averages being in the northern Lower and the Upper Peninsula, despite a lack of participation in the MEAP program from a number of the larger utilities serving these areas. The MEAP program continues to work to serve Michigan residents where they are throughout the State.

Michigan Energy Assistance Program

Report to the Legislature — Fiscal Year 2025

History

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On July 23, 2024, in Case [No. U-17377](#), the MPSC adopted a funding factor of 87 cents per meter per month for all Michigan electric utilities that have opted to participate in the funding of the LIEAF, effective for the September 2024 billing month. **Table 7** (page 8) provides a list of the electric utilities that chose to participate in the LIEAF for fiscal year 2025, and **Table 8** (page 9) provides a list of the electric utilities that chose not to participate. The funding factor is

¹ The MEAP and LIEAF Statutes were amended by Public Acts 168, 169, 170, and 198 of 2024, effective in the 2025-2026 program year. Principally, these Acts expanded eligibility for the MEAP and funding for LIEAF. The Annual MEAP report issued for the 2025-2026 program year will discuss these changes in more detail and provide initial data related to these expansions.

dependent on the total number of electric meters of the utilities opting to participate in the LIEAF.

Table 1 provides a history of the monthly LIEAF surcharge and the number of participating electric utilities.

Table 1
LIEAF Surcharge and Number of Participating Electric Utilities
(Case No. U-17377, Public Act 95 of 2013)

Fiscal Year	FY 2025	FY 2024	FY 2023	FY 2022	FY 2021	FY 2020	FY 2019	FY 2018	FY 2017
Monthly Surcharge Approved	\$0.87	\$0.88	\$0.90	\$0.87	\$0.91	\$0.92	\$0.93	\$0.93	\$0.96
Number of Participating Utilities	29	29	28	28	28	28	27	26	22

As set forth in PA 95 of 2013, “an electric utility, municipally owned electric utility, or cooperative electric utility that elects to not collect a low-income energy assistance funding factor shall not shut off service to any residential customer from November 1 to April 15 for nonpayment of a delinquent account.”

2025 Program Overview

The 2024 budget appropriated \$50,000,000 in LIEAF to MDHHS to operate the MEAP as well as additional funding for the operation of federal Assurance 16 (A16 funds), a portion of the Low-Income Home Energy Assistance Program (LIHEAP). MDHHS and the Michigan Department of Licensing and Regulatory Affairs (LARA) entered into an Interagency Agreement charging the MPSC with the administration of a low-income energy assistance grant process on behalf of MDHHS in the amount of \$55,000,000; \$50,000,000 collected through the LIEAF factor approved by the MPSC and \$5,000,000 from Federal LIHEAP Assurance 16 (A16) funds. The A16 funds were included to assist grantees in providing additional in-depth self-sufficiency services for eligible low-income households, a key goal of both the MEAP and LIHEAP programs.

Households experiencing an energy crisis generally initially apply for the State Emergency Relief (SER) program funded through the federal LIHEAP, either directly with MDHHS or with assistance from a MEAP grantee or MI Bridges Navigator. MDHHS then determines eligibility for LIHEAP crisis assistance. SER recipients are eligible to receive self-sufficiency services, including case management through MEAP grantees. Households who qualify for SER

energy services are also eligible for MEAP direct payment assistance, including enrollment in an affordable payment plan.

2025 Proposal and Awards – Year Two

On May 16, 2023, the MPSC invited proposals for MEAP grants from public or private entities or local units of government that will intervene in energy crisis situations and provide energy assistance program services. The Request for Proposals (RFP) offered a three-year grant program that runs through September 30, 2026. The services delivered by the grantees are designed to help eligible low-income households meet home energy costs for their primary residence to prevent future crisis situations through payment or partial payment of bills for one or more of the following: 1) electricity; 2) natural gas; 3) propane; 4) heating oil; or 5) any other deliverable fuel used to provide heat. The RFP required that proposed energy assistance programs include services that enable participants to become or move toward becoming self-sufficient, including assisting participants in paying their energy bills on time, assisting participants in budgeting for and contributing to their ability to provide for energy expenses, and assisting participants in utilizing energy services to optimize on energy savings.

On June 6, 2024, the MPSC issued a request for revisions to Year Two Work Plans and Budgets to all current MEAP grantees. Nine revisions were submitted and all nine were funded with the same amounts awarded in Year One. The MPSC, in conjunction with the MDHHS, approved the following MEAP grants for Year Two totaling \$54,500,000 as listed below. The [State Administrative Board](#) approved the MEAP grant awards for a grant term beginning October 1, 2024, and ending September 30, 2025. The list below also includes the county in which the grant was administered, the amount awarded, and the territory served by the grantee.

- Barry County United Way (Barry County): \$150,000, Barry County.
- Bureau of Community Action and Economic Opportunity (Ingham County): \$6 million, statewide.
- Society of St. Vincent de Paul of the Archdiocese of Detroit (Wayne County): \$4.85 million; multiple counties throughout Michigan.
- Superior Watershed Partnership (Marquette County): \$2.46 million, 15 Upper Peninsula counties and multiple Northern-Lower Peninsula counties.
- The Heat and Warmth Fund (Wayne County): \$6.8 million, statewide.
- The Salvation Army (Kent County): \$11.28 million, statewide.
- TrueNorth Community Services (Newaygo County): \$11.2 million, statewide.
- United Way for Southeastern Michigan (Wayne County): \$6.46 million, statewide.
- United Way of South Central Michigan (Kalamazoo County): \$5.3 million, statewide.

Grantees may experience fluctuations in requests for assistance from year to year. In instances where requests for assistance are lower than a grantee originally anticipated, the grantee may reduce their award amount, voluntarily returning funds at the time of award notification or during the course of the program year for distribution to other grantees that may be experiencing higher than anticipated requests for assistance. Grantees collaborated to limit the return of undistributed funds during this program year.

2025 Expenditures

Grant funds totaling \$54,270,178.20 (\$49,397,638.92 State LIEAF and \$4,872,539.25 Federal LIHEAP) were spent by grantees during the term of the grant. Six grantees are returning funds at program year end totaling \$229,821.83 (\$102,361.08 State LIEAF and \$127,460.75 Federal LIHEAP). Grant funds totaling \$40,644,421.72 (State LIEAF) were spent assisting low-income households with energy bills; \$9,203,646.29 (\$4,331,107.04 State LIEAF and \$4,872,539.25 Federal LIHEAP) was spent on total energy assistance program expenses including low-income self-sufficiency programs; and \$4,422,110.16 (State LIEAF) was spent on administrative costs, including indirect costs. These are initial numbers and may be adjusted slightly once all final reports are approved.

2025 Coordination and Collaboration

Michigan customers in need of assistance benefited from the joint efforts of many people and organizations working together to ensure that low-income and temporarily unemployed customers did not experience service interruptions.

During FY25, MEAP Grantees utilized the lessons learned during prior program years and broadened their collaborations with established community partners and established new partnerships with non-traditional partners to provide a more holistic approach to self-sufficiency and energy security services. The MEAP Grantees and other community partners have been instrumental in helping customers complete the State Emergency Relief (SER) application. Grantees served households by providing self-sufficiency services, assisting households with SER co-payments and other as-needed assistance, and enrolling customers in Affordable Payment Plans (APP).

MPSC and MDHHS staff continue to meet regularly to coordinate and problem-solve as workflow and program implementation issues may arise. Additionally, the State MEAP team connects monthly with grantees and utilities through the MEAP workgroup. The MEAP workgroup is a collaborative space between the grantees, utilities, and State MEAP Team, with the mutual goal of proactively developing workable solutions to new or previously identified barriers to assistance. MEAP grantees and State program administrators will continue to employ the best practices learned over the last few years, in preparation for the projected FY26,

including working with the grantees to minimize the negative impact of inflationary costs on customers.

2025 Program Data

Table 2 provides an overview of households served by various types of MEAP assistance in FY25, revealing an average of \$721 in payment assistance per household.

Table 2
MEAP Assistance by Type
(FY25)

Assistance Type	Households Served*	Direct Payments Issued
Self-Sufficiency Services	41,139	N/A
Affordable Payment Plan	29,139	\$23,724,106
As-needed/Other Payment Assistance	16,558	\$16,921,024
Any type*	56,018	\$40,645,130

**Households may have received more than one type of assistance.*

Table 3 provides Households Served with Assurance 16 services.

Table 3
Assurance 16 – Self-Sufficiency Services
(FY25)

Service Type	Households Served**
Needs Assessment (includes referrals)	15,192
Vendor Advocacy	30,336
Energy Education	28,946
Financial Counseling	16,624
Short-Term Case Management	20,045
Long-Term Case Management	3,586
Total receiving Assurance 16 services	41,139

***Households may have received more than one service.*

Table 4 provides the number of unduplicated households served and MEAP funds spent broken down by Affordable Payment Plan Enrollment.

Table 4***
Affordable Payment Plan Assistance
(FY25)

Program	Households Served	New Enrollments FY 25	Total MEAP Funds Spent
Consumers Energy – CARE	9,191	2,642	\$8,746,970
DTE Energy – LSP	17,674	9,211	\$13,116,753

SEMCO Energy - MAP	3,228	1,399	\$1,120,589
UPPCO - EASE	473	244	\$522,222

*****Table 4 may omit additional payments which are still being processed for reporting.**

Table 5 provides the total energy assistance payments (any type) and MEAP funds spent by energy type.

Table 5****

Households Served By Energy Type & Total MEAP Funds Spent (FY25)

Energy Type	Number of Households	Total MEAP Funds Spent
Non-Heat Electricity	37,158	\$24,033,286
Natural Gas	30,271	\$11,628,882
Propane/LP Gas	1,633	\$1,675,504
Wood	455	\$601,416
Fuel Oil	143	\$162,572
Other	387	\$338,277

******Table 5 may omit additional payments which are still being processed for reporting.**

Table 6 provides the number of unduplicated households receiving an energy assistance payment and the MEAP funds spent by county. Median annual household income for recipients of the grant is not available for FY 2024/2025.

Table 6

Unduplicated Households Served by County (FY25)

County	Households Served	Total MEAP Funds Spent
Alcona	37	\$30,878
Alger	84	\$106,632
Allegan	352	\$271,737
Alpena	60	\$61,371
Antrim	72	\$79,043
Arenac	110	\$110,077
Baraga	70	\$54,220
Barry	121	\$141,992
Bay	308	\$221,039
Benzie	46	\$46,943
Berrien	326	\$187,975
Branch	64	\$63,054
Calhoun	1,513	\$812,785
Cass	145	\$68,028
Charlevoix	37	\$28,820
Cheboygan	140	\$110,169
Chippewa	80	\$46,020
Clare	270	\$284,439

Clinton	141	\$84,114
Crawford	73	\$61,665
Delta	214	\$221,595
Dickinson	48	\$35,385
Eaton	219	\$165,878
Emmet	58	\$37,893
Genesee	4,592	\$3,040,630
Gladwin	169	\$176,901
Gogebic	99	\$96,484
Grand Traverse	75	\$55,878
Gratiot	187	\$196,409
Hillsdale	206	\$183,124
Houghton	312	\$294,587
Huron	69	\$52,794
Ingham	703	\$359,630
Ionia	160	\$105,721
Iosco	140	\$110,245
Iron	151	\$167,130
Isabella	202	\$172,019
Jackson	987	\$751,776
Kalamazoo	1,228	\$733,513
Kalkaska	90	\$83,543
Kent	2,523	\$1,620,221
Keweenaw	21	\$23,167
Lake	173	\$213,086
Lapeer	169	\$97,004
Leelanau	12	\$13,167
Lenawee	243	\$201,397
Livingston	106	\$72,663
Luce	51	\$41,154
Mackinac	20	\$16,320
Macomb	2,841	\$1,583,983
Manistee	102	\$98,443
Marquette	454	\$353,930
Mason	167	\$186,112
Mecosta	184	\$206,907
Menominee	58	\$51,089
Midland	374	\$355,226
Missaukee	137	\$117,517
Monroe	327	\$253,607
Montcalm	268	\$251,799
Montmorency	30	\$26,968

Muskegon	1,130	\$885,936
Newaygo	350	\$422,955
Oakland	2,375	\$1,430,235
Oceana	159	\$190,787
Ogemaw	144	\$111,737
Ontonagon	72	\$75,770
Osceola	110	\$129,765
Oscoda	72	\$47,008
Otsego	113	\$66,600
Ottawa	559	\$203,089
Presque Isle	31	\$25,398
Roscommon	126	\$84,859
Saginaw	2,589	\$1,818,637
Saint Clair	1,143	\$547,090
Saint Joseph	158	\$84,166
Sanilac	203	\$122,324
Schoolcraft	78	\$47,167
Shiawassee	245	\$201,052
Tuscola	165	\$162,951
Van Buren	118	\$100,027
Washtenaw	800	\$449,938
Wayne	23,148	\$17,444,373
Wexford	237	\$223,997

Table 7 provides the list of Participating Electric Service Providers for FY2025.

Table 7

FY2025 Participating Electric Service Providers	Estimated LIEAF Remittance	Number of Years Participating
Alger Delta Cooperative Electric Association	\$108,297	13
Alpena Power Company	\$172,150	12
City of Bay City	\$211,658	13
City of Crystal Falls	\$16,589	8
City of Dowagiac	\$28,793	6
City of Gladstone	\$30,292	10
City of Hart	\$11,236	9
City of Norway	\$22,160	13
City of Petoskey	\$49,432	13
City of St. Louis	\$20,712	13
Consumers Energy	\$19,576,875	13
Croswell Light & Power Department	\$11,101	6
DTE Energy	\$23,777,387	13

Great Lakes Energy Cooperative	\$1,292,322	9
Hillsdale Board of Public Utilities	\$63,521	13
HomeWorks Tri-County Electric Cooperative	\$280,114	9
Indiana Michigan Power Company (AEP)	\$1,365,943	13
Lansing Board of Water & Light	\$1,026,308	2
Marshall Electric Department	\$47,589	13
Midwest Energy Cooperative	\$348,278	13
Negaunee Department of Public Works	\$21,066	13
Newberry Water & Light Board	\$15,464	13
Niles Utility Department	\$65,603	13
Northern States Power Company – Wisconsin (Xcel)	\$93,011	13
Presque Isle Electric & Gas Co-op	\$356,681	13
Thumb Electric Cooperative	\$124,219	13
Union City Electric Department	\$16,141	13
Upper Peninsula Power Company	\$555,937	9
Village of Baraga	\$8,248	13

Table 8 provides the list of Non-Participating Electric Service Providers for FY2025.

Table 8

FY2025 Non-Participating Electric Service Providers	Number of Years Participating
Bayfield Electric Cooperative	0
Chelsea Department of Electric & Water	0
Cherryland Electric Cooperative	1
City of Charlevoix	0
City of Eaton Rapids	0
City of Escanaba	0
City of Harbor Springs	0
City of Portland	0
City of Sebewaing	0
City of South Haven	0
City of Stephenson	0
City of Sturgis	0
City of Wakefield	0
Cloverland Electric Cooperative	0
Coldwater Board of Public Utilities	0
Daggett Electric Department	0
Grand Haven Board of Light & Power	0
Holland Board of Public Works	0
Lowell Light & Power	6

Marquette Board of Light & Power	0
Ontonagon County Rural Electrification Association	0
Traverse City Light & Power	0
Upper Michigan Energy Resources Corporation (UMERC)	0
Village of Clinton	4
Village of L'Anse	0
Village of Paw Paw	0
Wyandotte Department of Municipal Services	0
Zeeland Board of Public Works	0

Conclusion

In FY25, more than 55,000 households engaged in some type of MEAP assistance with half of those households receiving longer term assistance that helps make their monthly payments more affordable. Nearly 75% of households receiving MEAP assistance engaged with a grantee on services to help the household become more self-sufficient. The average household received \$721 in payment assistance. Rural households required higher amounts of assistance on average. The MEAP program continues to work to serve Michigan residents where they are throughout the state.



Temporary heat and utility assistance may be available for eligible low-income families and individuals when heating or electric service has been or will be shut off.

Payments may include the amount needed to restore or continue the service for at least 30 days. Assistance may also be available to provide payment for necessary charges to deliver a 30-day supply of a deliverable fuel.

You are required to pay a portion of your bill. The table below provides the amount you are expected to pay. MDHHS may be able to assist with the amount of your bill above your required payment when heating or electric service has been or will be shut off.



Household	Heat: Your Required Payment	Electric: Your Required Payment
One	\$40	\$22
Two	\$53	\$29
Three	\$64	\$35

Four	\$78	\$42
Five	\$90	\$48
Six	\$107	\$58
For each member over a total of six, add the following amount to your required	\$10	\$6



Heat & Utilities

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- General Assistance
- Low-Income Programs
- Low-Income Self-Sufficiency Plan
- Payment Agreement
- Customer Resource Fairs
- Energy Assistance Agencies
- Help Others
- Shutoff Protection Plan

Low-Income Programs

We understand the importance of energy in your life, and our goal is to keep your services turned on. Throughout the year, we work with government agencies and community organizations to offer payment assistance to income-qualified residents.

If you are behind on your energy bill, we will work with you to discuss payment plan options or direct you to [energy assistance agencies](#) in your area. For more information, contact us at [\(800\) 477-4747](#).

How to Apply

[This video](#) describes which documents and information you will need to provide when applying for energy assistance.

Income Eligibility

Based on your income, you could qualify for energy assistance or a payment plan to help pay your past-due balance or current bill.

Within the table below, determine the number of members in your household and then your monthly or yearly income. Then decide if you might qualify for a specific type of energy assistance or payment plan.

Type of Energy Assistance	Maximum Income 110% (HHC) Annual	Maximum Monthly Income 150% (SER)	Maximum Monthly Income 200% (WAP, SPP)	Maximum Monthly Income 60% SMI (MEAP)
Number of Household Members				
1	\$17,215	\$1,956	\$2,608	\$3,043
2	\$23,265	\$2,644	\$3,525	\$3,979
3	\$29,315	\$3,331	\$4,442	\$4,916
4	\$35,365	\$4,019	\$5,358	\$5,852
5	\$41,415	\$4,706	\$6,275	\$6,788
6	\$47,465	\$5,394	\$7,192	\$7,725
7	\$53,515	\$6,081	\$8,108	\$7,900
8	\$59,565	\$6,769	\$9,025	\$8,076
For each additional person add	\$6,050	\$688	\$917	\$176

Some non-profit agencies may provide assistance to households with a higher income level than listed above. Contact the specific agency for details.

You can also call [United Way for Southeastern Michigan](#) at 211 or [\(844\) 211-4994](#) or [United Way of Central Michigan](#) at [\(517\) 741-0202](#).

⌵

Earned Income Credit

⌵

Energy Efficiency Assistance Program (EEA)

⌵

Federal – Earned Income Tax Credit

⌵

The Heat and Warmth Fund

Home Heating Credit

[Income-qualified](#) customers may be eligible for a home heating credit for the previous tax year to help pay winter heating bills. The Home Heating Credit tax form must be completed no later than September 30 each year. Ask your local tax preparer or seek free assistance from the [Accounting Aid Society](#) at [\(866\) 673-0873](#) or [\(313\) 556-1920](#).

 Lifeline

 Michigan 2-1-1

 Michigan Community Action

 Michigan Veterans Trust Fund Emergency Grant Program

Residential Income Assistance Credit

Income-qualified customers may be eligible for a \$8.50 per month credit on your electric account and/or a \$14.50 per month credit on your gas account.

To determine eligibility for the Residential Income Assistance credit, the DTE account holder is required to submit the following documentation.

Required Documents

Photo Identification

Provide one of these documents for each adult member of the household (18 years or older) including the DTE account holder. Household members' identification **MUST** match the DTE account address. A valid, color copy must be submitted.

- Michigan driver's license
- Michigan state ID
- City-issued ID
- Passport (Applies to account holder only)

Proof of Dependents

- For dependents 17 years old or younger, please provide a birth certificate.
- If a dependent does not have a birth certificate, please provide us with the DTE Account Holder's most recent tax form 1040 (pages 1 and 2) with all household members listed.

Proof of Income

Provide the applicable documents below for each household member, including the Account Holder.

- Two most recent pay stubs dated within the past 60 days.
- Social Security and/or Supplemental Security Income (SSI) statement for the current year.
- Unemployment compensation benefit statement.
- If self-employed, account and business records showing income (a 1099 tax statement is acceptable).
- Most recently filed Tax Form 1040, pages 1 and 2, with dependents and income listed. Only valid for submission until June 1 of the year it was filed.
- Pension statement for current year.
- For unreported wages or if employment just started, a letter from the employer on company letterhead dated within the last 30 days. Please include the hourly rate or monthly gross amount including the employer's signature.
- Michigan Department of Health and Human Services Benefit Letter that includes cash benefits. All pages required for Cash Assistance, Food Assistance and/or Medicaid Award Letters.
- Veterans Award Benefit Letter.

DTE customers who were granted a Home Heating Credit (HHC) from another gas provider can submit a copy of the HHC draft. Photo identification and proof of income as listed above are not required.

Documentation Submission Process

Submit documents through the [Document Submission Portal](#). You will be presented with two options:

- Option 1: Submit documents by **Signing in**.
- Option 2: Submit documents through **Guest Access**. For the protection of your DTE account, this option requires completing a short form to obtain a one-time passcode.

Please select *RESIDENTIAL INCOME ASSISTANCE CREDIT* from the Your Request drop-down as the reason for submitting documentation.

 The Salvation Army**State Emergency Relief Program**

The State Emergency Relief program provides immediate help to households who have a past-due energy bill and are **income-qualified**.

Apply online through the Michigan Department of Health and Human Services at **michigan.gov/mibridges**, or contact one of our **community partners** who can assist with the application process.

 Wayne County – Foreclosure Prevention

Welcome to MI Bridges

Apply for Benefits, Manage Your Case, and Explore Resources.

[Login](#)
[Apply for Benefits](#)

[Create an Account \(https://milogin.michigan.gov/eai/login/authenticate?Target=https%3A%2F%2Fmilogin.michigan.gov%2Fuisecure%2Fselfservice%2Fsp%2F401%3Flang%3Den\)](https://milogin.michigan.gov/eai/login/authenticate?Target=https%3A%2F%2Fmilogin.michigan.gov%2Fuisecure%2Fselfservice%2Fsp%2F401%3Flang%3Den)

What Benefits are Available to You?

You can apply for more than one program at a time.



Healthcare Coverage

Helps with healthcare costs.



Food Assistance Program (FAP)

Helps you buy or grow food.



Cash Assistance

Provides cash to parents with children, people with disabilities, refugees, and people over 65.



Women, Infants, and Children (WIC)

Provides food, referrals, and education to mothers, infants, and young children.



Child Development & Care (CDC)

Help covering child care costs for working families.



State Emergency Relief (SER)

Help covering the cost of emergency situations.

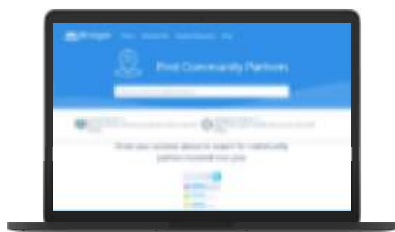

[Apply for Benefits today](#)

Apply for Special Programs!



Summer EBT Program

Provides grocery benefits to low-income families with school-aged children.


[Apply for Special Programs](#)


Need help getting started?

Organizations in your community are ready to help you use MI Bridges.



Receive One-on-One Assistance

A Navigation Partner can guide you on using MI Bridges, Apply for Benefits, and Finding Resources.



Get Online

An Access Partner can provide computers, tablets, or mobile devices for clients to use MI Bridges.

[Find Community Partner](#)

Need additional resources?

Find information about local and state resources that may be able to help during a Life Event.



Housing & Shelter

Shelters
Low-cost Housing
Home Repairs



Food

Food Pantries
Free or low-cost meals
Pet Food



Work & School

Unemployment
School Lunch Programs
Adult Education



Family Support

Having a Baby
Getting Married or Divorced
Becoming a Foster Parent

[Find Resources](#)


Need help applying for FAP?



Food Bank Council of Michigan (FBCM) can help you apply for FAP over the phone. Click 'Send' to share your contact details and someone from FBCM will call you within 2 business days.

Hi! How can I help you?



Need more help?

**Find a MDHHS Office**
Search by County to find your local MDHHS office. >

**Michigan Voter Information Center**
Find information on registering to vote, updating voter information, early voting, and more! >

**Have questions?**
Get answers to frequently asked questions. >

Get started today.

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[Apply for Benefits](#)

[Create an Account](#)

[\(https://mlogin.michigan.gov/eal/login/authenticate?Target=https%3A%2F%2Fmlogin.michigan.gov%2Fuisecure%2Fselfservice%2Fsp%2F401%3Flang%3Den\)](#)

[MI Bridges Home](#)
[Policies](#)
[MI.gov Home](#)

[Community Partners](#)

[Help](#)
[MDHHS Home](#)
[Mandated Reporters](#)

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State Emergency Relief (SER)

Overview: Help covering the cost of emergency situations.

How do I know if I'm eligible?

- Your utilities have been disconnected, or you have a utility disconnect notice.
- You have received a past due utility notice.
- You are experiencing housing instability, and/or need help covering housing-related costs.
- You are struggling to cover mortgage, insurance, and/or property tax payments and are at risk forfeiture, foreclosure, or tax sale.
- You have an unexpected home repair and need help covering the cost.
- You need financial help covering burial costs.

How are benefits calculated?

How long does it take?



**MDHHS**

State Emergency Relief (SER) Program

The State Emergency Relief (SER) Program provides immediate help to individuals and families facing conditions of extreme hardship or for emergencies that threaten health and safety. Through a combination of direct financial assistance and contracts with a network of non-profit organizations such as the Salvation Army and local Community Action Organizations, SER helps low-income households meet emergency needs such as:

- Heat & Utilities
- Home Repairs
- Relocation Assistance
- Home Ownership Services
- Burial

The SER program is primarily designed to maintain low-income households who are normally able to meet their needs but occasionally need help when unexpected emergency situations arise. The SER program is not an appropriate solution to ongoing or chronic financial difficulties.

Local Department of Human Services specialists only should make eligibility determinations for this program due to many variables. Ask for details when turning in a completed application.

**State Emergency Relief (SER) Program**

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State Emergency Relief Program

Low Income Home Energy Assistance Program



What are SER and LIHEAP?

The State Emergency Relief (SER) program provides financial assistance to Michigan residents facing extreme hardship or emergencies that threaten health and safety. One part of this program, the Low Income Home Energy Assistance Program (LIHEAP), consists of federal funds for crisis assistance for energy-related services like heat and electricity. Low-income households that meet all SER eligibility requirements may receive assistance with heat and electric costs.

Changes for Fiscal Year 2025

To avoid exhaustion of LIHEAP funding for Fiscal Year 2025, which begins October 1, MDHHS has implemented SER policy changes for energy-related services (natural gas, electricity, propane, wood, wood pellets, fuel oil and coal) as follows:

Service Caps – The maximum benefit for the fiscal year for natural gas, wood, wood pellets and electricity is \$500, and for propane, fuel oil and coal is \$800.

Single Payment – SER requests for an energy-related service are subject to one payment for heat-related (natural gas, propane, wood, wood pellets, fuel oil and coal) and one for non-heat electric. To receive a single payment, an individual or household must have a past due account or shut-off notice on an energy bill or the propane tank is estimated to contain no more than 25% of its heating fuel capacity or has more than 25% and the tank has been locked by the provider. All other SER eligibility requirements must be met.

Crisis Season – Payments will only be issued during the crisis season, which begins October 1 and continues until resources are exhausted.



Other Resources

An applicant that has received a single payment for heat or non-heat electricity service during the crisis season means the household qualifies for additional energy services through the Michigan Energy Assistance Program (MEAP). The applicant is encouraged to call 2-1-1 for a referral to a MEAP grantee to determine eligibility for other assistance. They may also log in to MI Bridges ([Michigan.gov/MIbridges](https://michigan.gov/MIbridges)) to explore additional resources.



STATE OF MICHIGAN

GRETCHEN WHITMER
GOVERNOR

DEPARTMENT OF HEALTH & HUMAN SERVICES
LANSING

ELIZABETH HERTEL
DIRECTOR

State Emergency Relief Policy Manuals

**DEPARTMENT
POLICY**

State Emergency Relief (SER) prevents serious harm to individuals and families. SER assists applicants with safe, decent, affordable housing and other essential needs when an emergency situation arises.

Requirements

Residence in the state of Michigan is not required. SER serves all persons physically present in Michigan. In addition SER applicants must:

- Complete the application process.
- Meet financial and non-financial requirements.
- Have an emergency which threatens health or safety and can be resolved through issuance of SER.
- Take action within their ability to help themselves. For example, obtain potential resources and/or apply for assistance.
- Not have caused the emergency; see ERM 204, Client-Caused Emergencies.
- Cooperate in providing information about income, assets, living arrangements, and other persons living in the home.

Deny SER services for applicants who fail to meet any of the above requirements.

**DEPARTMENT
POLICY**
Right to Apply

SER applicants can file or obtain an application until at least 5:00 p.m. each business day. Accept and register an application for SER if the following information is provided:

- Applicant name.
- Address or statement of homelessness.
- Birthdate.
- Applicant's or authorized representative's signature.

An MDHHS-1171, Assistance Application, is considered an application for SER if the client indicates they are applying for State Emergency Relief and the minimum information is provided, even if the MDHHS-1171-SER supplement has not been submitted. In instances where the MDHHS-1171-SER supplement is not received by the department, it should be requested from the client or completed during an interview.

**Applicant
Responsibilities**

Applicants must cooperate with the following:

- The application process.
- Provide verifications.
- Answer all questions truthfully and completely, whether written or oral.

Deny SER if applicants refuse to take action or provide information within their ability, or withdraw their application.

**Department
Responsibilities**

The Michigan Department of Health and Human Services (MDHHS) must provide the following:

- Help in completing forms, answering inquiries, or obtaining verification.
- Confidentiality.
- Information about department programs.

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**APPLICANT/DEPARTMENT RIGHTS &
RESPONSIBILITIES**

ERB 2020-002

10-1-2020

- Assistance to applicants who have trouble reading and/or understanding.

**Non-
discrimination**

SER applicants may not be discriminated against because of race, sex, religion, age, national origin, color, height, weight, marital status, political beliefs or disability.

**Hearings and
Complaints**

SER applicants have the right to request a hearing regarding any action, failure to act, or undue delay in processing by the department. Hearing requests must be in writing.

**DEPARTMENT
POLICY**

Applicants must complete and sign one of the following applications in order to apply for State Emergency Relief (SER):

- DHS-1514, Application for State Emergency Relief.
- MDHHS-1171, Assistance Application, and the MDHHS-1171-SER, State Emergency Relief (SER) supplemental form.
- A MI Bridges online application in which a SER service has been requested.

Applicants may file an application for SER in any county in Michigan. An application submitted through MI Bridges for a SER covered service is considered a complete application, no additional application is required. Incomplete applications may be filed, but must be completed before authorizing SER.

An MDHHS-1171, Assistance Application, is considered an application for SER if the client indicates they are applying for State Emergency Relief and the minimum information is provided, even if the MDHHS-1171-SER supplement has not been submitted. In instances where the MDHHS-1171-SER supplement is not received by the department, it should be requested from the client or completed during an interview. Any person has the right to apply for an SER. Authorized representatives may apply on behalf of a person who is deceased, physically or mentally disabled, or a minor. Obtain written permission from all other applicants designating an authorized representative outside the SER group.

Obtain all supporting verifications and applicant signatures. The signature(s) establishes that clients understand their rights and responsibilities and that they prepared the application(s) truthfully under penalty of perjury. Applications may be transferred between counties if it is in the best interest of the applicant. Both counties must mutually agree to the transfer.

Age

There is no minimum age requirement to apply for SER; however, if the applicant is an unemancipated minor, we must refer him/her to children's services for further evaluation.

Note: Do not delay processing the SER application pending the evaluation by services staff.

Burial Applications

An application for burial services must be made no later than 20 business days after the burial, cremation or donation takes place. Any person who has the legal right to claim the body may be the authorized representative; see ERM 306, Burials.

APPLICATION REGISTRATION

Applications must be registered within one day of receipt. Online applications will be sent electronically to a registration inbox for proper assignment. Emailed applications are not acceptable.

Accept and register a SER application if the following information is provided:

- Applicant name.
- Address or statement of homelessness.
- Birthdate.
- Applicant's or authorized representative's signature.

APPLICATION DATE

Requests for SER become an application on the day the application is received by the Department. For electronic applications submitted through MI Bridges, the application date is determined based on the time and date of submission. Any application submitted after 5:00 pm or on a non-business day will have an application date of the next business day.

The application date is the first day of the 30-day SER eligibility period. If the application is approved, the 30-day eligibility period does not change regardless of how many service requests the client may make during that period. If the application is denied and the client reapplies, a new 30-day period will start with the new application date.

If additional SER services are requested during the approved 30-day eligibility period, a new application is not needed and the application date cannot be changed. Every additional request made during the approved 30-day eligibility period is entered into Bridges as

an additional SER service request and is subject to the original 30-day eligibility period.

Example: Client applies for assistance with an electric shut-off on 4/1 and is approved. This establishes a 30-day SER eligibility period of 4/1-4/30. On 4/25, the client requests an additional SER service for a natural gas shut-off. The client's shut off exceeds the fiscal year cap resulting in a copay. Because the client has requested the additional service during the 4/1-4/30 eligibility period, this request is subject to that period. The client only has until 4/30 to provide proof of the copay made for the 4/25 request.

ELIGIBILITY DETERMINATION

Budget

Complete a SER budget in Bridges for each request/application; see ERM 208 for budget procedures. Bridges calculates payment maximums, required payments, income and asset copayment, client contributions, etc. based on the information entered from the SER application and determines eligibility or ineligibility for SER. Bridges electronically stores the budget; therefore, it is not necessary to place a printed copy of the budget in the case record; see ERM 208, Budget Procedures.

Approval

Certain conditions must be met before SER can be issued to help individuals and families whose health and safety are threatened:

- Prior written or oral approval must be given by an authorized department staff person before SER issuance.
- **Do not issue SER to reimburse expenses incurred or paid without prior department approval.**
- The SER payment must resolve the emergency.
- The group must meet all applicable policy requirements for the SER service.

Case Documentation

Case comments must be entered to support SER processing. Minimum documentation should include, SER service requested, if interview was completed, clearances completed (SOLQ, CI and, address), household size (group comp), income for household members used in determining eligibility, assets, clarification for any discrepancies between what was reported on the application to that currently in Bridges and approval/denial of SER application.

Example: SER application 9/17/2024 for heat with DTE. No interview needed, active FAP benefits. SOLQ and CI pulled and reviewed. Address clearance completed; no companions found. Client and two children in home. Client working, income has not changed since FAP app. No change in assets reported, under \$15K. SER approved; commitment entered on DTE portal.

Prior Approval

After-Hours Emergency

Immediate action may be necessary to prevent harm to SER group members when an emergency arises after hours or on weekends. The prior approval requirement may be waived in any case when the emergency occurred while department offices were closed.

The first-line manager may approve a waiver of the prior approval requirement in non-burial cases, provided a SER application is filed within five business days from the date the emergency began.

DHS-1419, Decision Notice

Inform all SER applicants in writing of the decision made on their application. Mail or give the DHS-1419, Decision Notice, to the applicant. The notice must also be provided whenever a client withdraws their application.

Note: Applications that have been pseudo certified may only be withdrawn in Bridges to reprocess an incorrect eligibility determination.

Proof of Payment

If the SER group meets all eligibility criteria but has an income or asset copayment, shortfall, and/or contribution, do not issue payment until the client provides proof that their payment has been made. If another agency is making the payment, proof that payment will be made is required. Verification of payment must be received in the local office within the 30-day eligibility period or no SER payment will be made, and the client must reapply. Use the DHS-1419, Decision Notice, to inform the SER group of the amount they must pay and the due date for returning proof of their payment.

Energy Services

Example: For energy services, the Michigan Department of Health and Human Services (MDHHS) payment is not reduced when another agency is paying the client's current balance or arrearages, in addition to the copay, as long as the additional payment results in a zero-account balance. Verify the payments and account balance with the energy provider. A client has an account balance of \$1150 and a shut off notice for \$900. MDHHS energy cap is \$600 therefore the client copay is the \$300 over cap amount. A community agency is willing to pay the client copay amount and \$250 to get the bill current for a total payment of \$550. The MDHHS payment of \$600 would not be reduced.

If the agency had paid \$100 toward the need, the MDHHS would be reduced since the extra contribution was not enough to bring the total account balance to zero.

Anytime the copay is not made by another agency, the MDHHS payment is reduced.

Application Denial

If the copayment, shortfall, contribution or combination exceeds the need, the application shall be denied unless good cause is granted.

**INTERVIEW
REQUIREMENTS****All Applicants**

An interview is only required in instances where changes are reported or there are discrepancies that must be resolved in order

to process the application or when the household has no other active MDHHS programs which requires an interview.

Exception: An interview is not required for an application for an unclaimed body.

Note: A witnessed signature is not necessary for mail-in, faxed or online applications. The witness signature is only needed when an in person interview is held.

Standard of Promptness

Give priority to SER applicants when there is a direct threat to health or safety requiring immediate attention.

The SER standard of promptness is **10 business days**, beginning with the date the signed SER application is received in the local office. The case record must include documentation for any delay in processing the application beyond the standard of promptness.

- Do not use the standard of promptness as a basis for denial of SER applications.
- Continue to pend an application if the SER group is cooperating within their ability to provide verifications.
- Deny the application if the group does not cooperate.

Note: The case record must include documentation for any delay in processing the application beyond the standard of promptness.

VERIFICATION

Clients must be informed of all verifications that are required and where to return verifications. The due date is **eight calendar days**, which begins on the date the DHS-3503, SER Verification Checklist is generated.

Example: A SER application is received on July 1st, the specialist generates a DHS-3503, SER Verification Checklist on July 2nd, the verification due date would be July 9th as July 2nd is considered the first day of the eight calendar day calculation.

Note: When the eighth day falls on a state-observed holiday, the due date for verifications to be returned will be extended to the following business day.

Use the DHS-3503, SER Verification Checklist, to request verification and to notify the client of the due date for returning the verifications.

The client must make a reasonable effort to obtain required verifications. The specialist must assist if the applicant needs and requests help. If neither the client nor the specialist can obtain the verifications despite a reasonable effort, use the best available information. If no evidence is available, the specialist must use their best judgment.

Verifications are considered timely if received by the date they are due. For electronically transmitted verifications (fax, email or MI Bridges document upload), the date of the transmission is the receipt date. Verifications that are submitted after the close of regular business hours through the drop box or by delivery of a MDHHS representative are considered received the next business day.

Identity

The client's identity must be verified. If an authorized representative (AR) applies on behalf of a group, the AR must verify his own **and** the client's identity.

Note: Documents used to verify identity may be originals or copies of the original document. Facsimiles are acceptable documents for identity.

The following are examples of acceptable verification of identity:

- Driver's license.
- State-issued identification.
- School-issued identification.
- Individual SSN has been validated by SSA in Bridges.
- Document indicating a client's receipt of benefits under a program which requires verification of identity (SSI, RSDI).
- Identification for health benefits.
- Voter registration card.
- Birth certificate/record.

- U.S. military card or draft record.
- U.S. passport.
- Certificate of Naturalization (Department of Homeland Security (DHS) forms N-550 or N-570).
- Certificate of U.S. citizenship (DHS forms N-560 or N-561).
- Military dependent's identification card.
- Certificate of Degree of Indian Blood, or other U.S. American Indian/Alaska native tribal document.
- U.S. Coast Guard Merchant Mariner card.

LEGAL BASE

Mich Admin Code, R 400.7001 et seq.

**SER POLICY
EXCEPTIONS**

Exceptions may be requested at any time for any SER covered service and may be granted for unique and unusual circumstances on a case by case basis by central office only. Unique and unusual circumstances may include instances where the household has used the available money for employment-related expenses or some other type of crisis, or the lives of the household members may be in jeopardy if the emergency goes unresolved.

Example: The client is newly employed but will not receive a full month of income during the State Emergency Relief (SER) 30-day period, resulting in a denial due to housing being unaffordable. The local office can request an SER policy exception if the ongoing rental expense will be affordable once employment wages are received regularly.

Requests for exceptions to SER policy must be submitted by the local office supervisor through Bridges, the same day the worker requests the exception from their supervisor.

Note: For UCL counties, it is recommended that the manager email SER policy after submitting the exception request in Bridges.

The supervisor must review the SER before approving the exception request to ensure that the case information, including but not limited to: group composition, proof of emergency, need amount, income, required payments, the Liquid Asset Questions screen, etc., have been updated and verified as required by policy and that all supporting documentation has been scanned into the ECF. Any case that has not been updated with current eligibility information will be denied by central office.

Note: For burial requests, Bridges uses the actual non-cash and cash asset records, not the Liquid Asset Questions screen.

An approved exception is retained electronically in Bridges and can be viewed through the Exception Inquiry function. Exception requests that have been denied can be seen under Pending Casework in Bridges.

Exception requests must include the following information:

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SER POLICY EXCEPTIONS

ERB 2022-001

10-1-2022

- Client's name and case number.
- Group composition.
- Specific reason for the exception request.
- Detailed information on the emergency.
- Extenuating circumstances.
- Household income.
- Total amount needed.
- Provider name.
- Bridges provider ID number.
- Copay verification date and amount verified.
- Account number, if there is one.
- Required payment history for all requests.
- Theft or illegal usage, if the request is for an energy or utility service.
- Assistance provided from another agency/organization.

LEGAL BASE**SER**

Social Welfare Act, PA 280 of 1939, as amended
 Mich Admin Code, R 400.7001-400.7049

DEPARTMENT POLICY

Determine State Emergency Relief (SER) eligibility for the group as a whole. SER groups are the basic unit of SER eligibility. Verify income, assets and potential resources of all group members.

Note: This includes viewing and storing the Consolidated Inquiry and SOLQ along with completing an address clearance and documenting results at application.

A single SER group consists of persons who occupy the same home. Home means the place where the members of the SER group keep their personal belongings and sleep. A home may be an apartment, a house, a mobile home, or a rented room. Consider a homeless family or group of individuals as a single SER group if they previously lived together in the same home and plan to do so again when they find permanent housing.

A number of SER services have a yearly or lifetime payment limit. This limit is referred to as a cap. All persons who are included in the SER group at the time of approval and who benefit from the payment will have that payment amount included in their individual cap. The cap payments are retained even if the individual moves from one group to another.

Exception: For Relocation services, the SER payment will only be applied to the fiscal year cap of the adult SER group members

Included Group Members

Adults and dependent children who normally live together are in the same SER group. See ERG Glossary for a definition of dependent.

Persons temporarily absent due to illness or employment are also in the same group. For SER burials, the deceased person is an included group member; 18 to 21-year-old children of the deceased parents of the burial group are not.

Note: Group members who are absent from the home for 90 consecutive days or more are not in the SER group.

Note: All members must be included in Bridges.

Excluded Group Members

Do not include the following persons in the SER group.

- Visitors in the home who do not normally live with the SER group.
- Renters who live with the SER group, provided a fair market rental rate is paid. Include the rental income in determining the SER group's eligibility.
- The SER group's landlord, provided the group pays fair market rent to live in the home.

See the most current Fair Market Rents online at [Fair Market Rents \(40th PERCENTILE RENTS\) | HUD USER](#).

- A person physically present in the home who claims and verifies that they do not have any responsibility for meeting household emergencies. A person who desires exclusion on this basis has the burden of providing proof of the following:
 - The emergency does not adversely affect the person requesting exclusion.
 - The person will not benefit if the group's application for SER is approved.

Example: A group of five adults share an apartment. The group includes a husband and wife and three unrelated persons. The husband dies, and the wife applies for SER burial assistance. Exclude the other three unrelated persons from the SER group for this service.

VERIFICATION REQUIREMENTS

Verify the SER group's payment of fair market rent by:

- Cancelled checks.
- Money order carbons.
- Landlord's federal or state tax return showing rental income.

LEGAL BASE

Mich Admin Code, R 400.7001 et seq.

DEPARTMENT POLICY

Residence and age does not normally affect eligibility. Eligibility based on non-citizen and fugitive felon status is limited to the requirements listed in this section.

Residence

Presence in Michigan, not permanent residence, is required for State Emergency Relief (SER) eligibility.

Age

There is no minimum age requirement to apply for SER; however, if the applicant is an unemancipated minor, we must refer him/her to children's services for further evaluation.

Note: Do not delay processing the SER application pending the evaluation by services staff.

Citizenship/ Non-Citizenship Status

A person must be a U.S. citizen or a qualified non-citizen to be eligible.

Qualified non-citizen means a non-citizen who is one of the following:

- Amerasian.
- Lawfully admitted for permanent residence under the INA.
- Granted asylum under section 208 of the INA.
- A refugee who is admitted to the U.S. under section 207 of the INA.
- A non-citizen whose deportation is being withheld under section 241(b)(3) or 243(h) of the INA.
- Granted conditional entry pursuant to section 203(a)(7) of the INA.
- A Cuban/Haitian entrant.

- A non-citizen who has been battered or subjected to extreme cruelty in the U.S. by a U.S. citizen or legal permanent resident spouse or parent, or by a member of the spouse or parent's family living in the same household, or is the parent or child of a battered person; see BEM 225, Citizenship/Non-Citizen Status.
- Nonimmigrant (student).
- For energy related services only-Citizens of COFA countries (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau) (effective 3/9/2024).

Fugitive Felons

Effective April 8, 2015, this policy is suspended.

Fugitive felons are not eligible, **their presence disqualifies** the group.

Groups With Undocumented Non-citizen(s)

Undocumented non-citizens are not eligible, **but their presence does not disqualify the group**. The following applies to all households containing one or more undocumented non-citizens:

- Any member of the household may apply.
- Include all household members for purposes of determining eligibility for SER.
 - Include the income and assets of all household members.
 - For shelter and energy services, include all household members when determining required payments, affordability, etc.
- Prorate the benefit for the U.S. citizens and legal non-citizens only. See ERM 208, Budget Procedures, for the prorated payment calculation.

Note: Households must meet all other SER eligibility requirements.

**Verification
Requirements**

Verify the Social Security number of each household member as well as the status of each person identified as a non-citizen; see BEM 223 and BEM 225.

The data match with the Social Security Administration is sufficient verification of citizenship.

When an individual does not have a Social Security number, provide an SS-5, Application for a Social Security Card, or refer them to Social Security number & card | SSA for application instructions.

LEGAL BASE

MAC R400.7001 et seq.

MAC R400.7021

DEPARTMENT POLICY

As a condition of State Emergency Relief (SER) eligibility, all the adults in the SER group must agree to take actions within their ability to make potential resources available. Potential resource means an asset or income that may be available to a client if action is taken to make this available. Do not require the SER group to apply for loans, including home equity loans from financial institutions or individuals.

Pursuing a potential resource increases the group's ability to resolve their emergency with the additional income or asset.

Potential Resource Examples

The SER group must take reasonable action to obtain potential resources including, but not limited to:

- Program benefits under FIP, SDA, RAP, CDC, SSI, RSDI; settlements of lawsuits or insurance claims; unemployment insurance benefits and other employment-related benefits if there is the potential of benefits. Do not delay approval of SER while the group applies for other benefits. Their agreement to apply is sufficient.

Exception: Local offices may choose to waive the requirement to apply for FIP, SDA, RAP, or CDC programs. Groups should still be encouraged to apply for all benefits for which they qualify.

- Poverty exemption from property taxes if the group is applying for home ownership services for taxes. Local taxing authorities (not the county treasurer) establish their own criteria for granting tax exemption. Generally, a request for exemption is filed after January 1 but before the last day of the board of review. The local office should not require a client to pursue this benefit at a time when requests are not being taken.
- Home heating credit if the group is applying for energy services.
- Assets to be received in the future, such as tax refunds and money owed to the SER group.

- Goods or services which the SER group can obtain by requesting them. Examples include home repair and weatherization services provided by a government or non-profit agency.

Note: Refer SER groups to other agencies for assistance only when the group does not meet SER eligibility requirements for the service, or when SER does not cover the service including any unmet required payment and/or copayment on the DHS-1419.

MEAP Referrals

When a SER group has been approved for SER energy services, a referral to 2-1-1 for additional energy self-sufficiency services, through the Michigan Energy Assistance Program (MEAP), must be provided.

Penalties

When an SER group member has been denied or terminated assistance for failure to comply, when able, with a procedural requirement of FIP, SDA or SSI, the group is not eligible for SER. Groups that are non-cooperative with the Office of Child Support are also ineligible for SER.

SER ineligibility continues as long as the group member fails or refuses to pursue potential resources. Sanctioned groups that are able to comply are ineligible for SER until they comply.

LEGAL BASE

MAC R400.7001 et seq.

MAC R400.7021

DEPARTMENT POLICY

Count all non-excluded assets of State Emergency Relief (SER) group members for all SER services with every application. Count only available assets when determining SER eligibility. Consider an asset totally available unless it is claimed and verified that a portion of the asset's value belongs to another individual.

ASSET LIMITS

Cash/Liquid

The SER group must use countable cash assets (identified as liquid assets in Bridges) to assist in resolving their emergency. The cash asset limit is \$15,000. With the exception of burial, service requests with cash assets of \$15,000 or more will be denied. See ERM 306 for information on asset policy for burial requests.

Non-Cash

SER groups have a \$15,000 non-cash asset limit. With the exception of burial, service requests with non-cash assets of \$15,000 or more will be denied. See ERM 306 for information on asset policy for burial requests.

Note: SER groups composed solely of Family Independence Program (FIP), State Disability Assistance (SDA), Supplemental Security Income (SSI), Medicaid (MA) and Food Assistance Program (FAP) recipients have automatic eligibility on the basis of **non-cash** assets.

Burial Assets

For burials, if the decedent is the only group member, there is no asset exclusion. The decedent's homestead, vehicle, bank accounts, etc. are all countable if there are no surviving group members or if the asset is not jointly owned with rights of survivorship.

Allow a \$15,000 cash asset exclusion if there is a surviving group member.

Allow a \$15,000 non-cash asset exclusion if there is one or more surviving group members.

If any surviving group member is a current recipient of FIP, SDA, SSI, MA or FAP, there is automatic eligibility on the basis of non-cash assets only; see ERM 306, Burials.

TYPES OF ASSETS

Assets are cash or non-cash.

Cash/Liquid Assets

Examples of **cash**/liquid assets are:

- Currency and coins.
- Amounts on deposit in banks, savings and loan associations, credit unions and other financial institutions.
- Money in a vendor pre-paid debit card (examples: Direct Express, ReliaCard, etc.).
- Uncashed checks, drafts and warrants.
- Traveler's checks.
- Stocks, bonds and other investments, including negotiable instruments.
- Individual retirement accounts.
- Keogh plans.
- Revocable prearranged funeral contracts.
- Nonrecurring lump-sum payments that do not represent an accumulation of monthly benefits, (such as lottery winnings).

Non-Cash Assets

Examples of **non-cash** assets are:

- Land contracts.
- Real property.
- Vehicles.

Excluded Assets

Count all assets except the following:

- Assets of non-responsible relatives for burials; see ERM 306, Burials.
- Homestead owned or being purchased. This includes the home, all adjoining land and any other buildings on the land.

Note: If the homestead is owned solely by the deceased client, it is **not** excluded.
- Migrant homestead. The homestead may be outside of Michigan if the migrant group intends to return to the home. If the migrant group owns more than one homestead, either in Michigan or outside of Michigan, only one is exempt. All other homesteads are countable assets.
- Household goods (such as furniture, appliances, hand tools, equipment, and machinery).
- Personal goods.
- Burial space. One burial space for each SER group member.
- Assets that are essential to employment or self-employment, including all of the following:
 - Farm livestock and farm equipment.
 - Farmland.
 - Tools, equipment and machinery.
- Motor vehicle. One motor vehicle used as the SER group's primary means of transportation.
- Life insurance (whole life and term).
- Medicare Set-Aside account.
- Irrevocable funeral agreement.
- The budgetable portion of income deposited into a checking or savings account. Do **not** count the same funds as both income and an asset in the same month.

- Educational grants and scholarships: Any amount of a grant, scholarship on deposit or in the group member's possession is exempt as an asset.
- The accumulated earnings of a member of the SER group who is a dependent child (under age 21). The accumulated earnings are exempt if both of the following conditions are met:
 - The earnings are held in a savings account of which the dependent child who earned the money is the sole tenant.
 - The earnings are not commingled with money from any source except the earnings of the dependent child.

Value of Assets

Count the equity value of an asset when determining SER eligibility. Determine equity value of an asset by subtracting the amount legally owed and the cost of sale from the asset's market value.

Market value is the amount of money the owner would receive in the local area if the asset were sold on short notice. Deduct from market value:

- The amount legally owed on the asset.
- The cost of selling the asset.
- An amount which is claimed and verified to belong to a person outside of the SER group.

Verify the amount of cash the group would receive if they sold the non-cash assets. **Deny the application if the equity value of non-cash assets exceeds the non-cash asset limit.**

The value of retirement plans (IRA, 401K, 457, etc.) is the amount of money the person can currently withdraw or borrow from the plan. A repay agreement may be needed if the money is available but will not be received in time to resolve the emergency; see ERM 210, REPAY AGREEMENTS.

Jointly Owned Assets

Cash

Count jointly owned **cash** assets as totally available unless the SER group claims and verifies that a portion of the asset belongs to

someone not in the group. Each owner's share is the amount owned; see Value of Assets in this item.

Non-Cash

Count jointly owned **non-cash** assets as equal shares unless the ownership document specifies otherwise.

Burials

For burials, if the deceased jointly owns an asset and the asset ownership document indicates the joint owner has rights of survivorship, the asset is not counted for the SER burial.

Not Countable

Do not count an asset if the SER applicant cannot dispose of their share without the consent of other owner(s) who are not in the SER group and it is verified that the other owner(s) does not agree to the sale of the SER applicant's share.

Domestic Violence Situations

Count only available assets when the SER applicant is in a domestic violence situation. Assets owned exclusively by or under the control of the abusive co-owner are unavailable. This includes homesteads, jointly owned **non-cash** assets and cash assets in the abusive co-owner's possession. Count and verify available **cash** assets in the SER applicant's possession when determining eligibility.

Divestment

Determine divestment when both of the following have occurred within 90 days prior to the SER application:

- A member of the SER group transferred an asset to a person not in the SER group for less than the asset's fair market value, and
- The person transferred the asset to qualify for SER, to receive a larger SER payment than would otherwise have been payable under policy, or to avoid honoring a repay agreement.

There is no divestment if the person who transferred the asset can verify some reason for the transfer other than one of the above reasons.

If divestment has occurred, determine the amount divested by adding the SER group's current assets to the amount divested. Then subtract the appropriate cash asset exemption and non-cash asset limit from the total equity value of current assets. The result is the divested amount.

Deduct the divested amount from the amount that SER would pay. Treat divested funds like a copayment and subtract the funds from the cost of resolving the emergency. Refer the matter to the county prosecuting attorney if the reason for divestment is to avoid honoring a repay agreement.

VERIFICATION

The client's statement (written or verbal) is the only verification needed for assets, unless the self-attestation is questionable. If questionable, obtain verification of all countable assets at application.

Note: Verbal attestation must be documented in the case record.

Example: Client applies for SER. The household's total liquid assets are close to the asset limit. The specialist determines during a conversation with the client that the amount reported is questionable. Verification of the assets is requested.

Exception: Client statement is not an acceptable verification for trusts and annuities.

Do not require verification when countable assets exceed the limit based on a person's own statement of value.

Verification Sources

Verify the ownership and equity value of all non-excluded assets when the client's statement is questionable. Do not verify the value of assets that are not available.

You may use the:

- DHS-20, Verification of Assets.
- DHS-27, Release of Information.

- DHS-223, Documentation Record - used to document information verified by telephone contact with the appropriate source.
- Statement from the vendor or online printout which reflects the current account balance, (examples: Direct Express, ReliaCard, etc.).

Other forms/documents as appropriate.

- Deposit amounts in banks, savings and loan associations, credit unions and other financial institutions can be verified via:
 - Monthly account statement (examination of checkbook is **not** sufficient).
 - Written, faxed or emailed statement from financial institution.
 - Telephone contact with financial institution.
 - Statement from the vendor or online printout which reflects the current account balance (examples: Direct Express, ReliaCard, etc.).
- Money held by another:
 - Written statement from person holding the money.
- Real property/homestead/land contract:
 - Deed, mortgage, purchase agreement of contract.
 - State equalized value (SEV) on current property tax records multiplied by two.
 - Attorney or court records.
 - Contract holder.
 - County records.
 - Statement of real estate agent or financial institution.
- Retirement Account:
 - Written statement from plan administrator.
 - Current account statement.

- Savings Certificate:
 - Written statement from financial institution.
 - Certificate itself.
- Stocks and bonds:
 - Written statement from broker or company.
 - Listing in current newspaper.
- Trust:
 - Copy of trust document.
 - Copy of documents transferring ownership of assets to the trust.
 - Appropriate source for the asset types owned by the trust.
- U.S. Savings bond:
 - Statement from financial institution.
 - Bond.
- Vehicles:
 - Secretary of State Inquiry.
 - Title, registration or proof of insurance.
 - Blue book or NADA book wholesale (trade-in) value. Do **not** add the value of optional equipment, special equipment or low mileage when determining value.
 - Kelley Blue Book at www.kbb.com.
 - Loan statement or payment book.
 - Statement of vehicle dealer or junk dealer, as appropriate.
 - Allow the client to verify a claim that the vehicle is worth less (example: due to damage) than wholesale book value. If the vehicle is no longer listed, accept the person's statement of value.

Documentation

All assets must be entered into Bridges for eligibility and documentation purposes.

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ASSETS

ERB 2022-002

12-1-2022

LEGAL BASE

Mich Admin Code, R 400.7001 et seq.

DEPARTMENT POLICY

Bridges establishes the State Emergency Relief (SER) countable income period and determines the SER group's net countable income based on the application date and entry of income information in the data collection screens. See ERM 208, Budget Computation, for policy on determining the group's SER financial eligibility and their required copayments.

COUNTABLE INCOME PERIOD

The SER budget computation period is 30 days. This is referred to as the countable income period. The first day of the countable income period is the date the local office receives a signed application for SER.

Example: The local office receives a signed application on November 16. The countable income period is November 16 through December 15.

COUNTABLE INCOME

Verify and budget all non-excluded gross income the SER group expects to receive during the countable income period. **Do not pro-rate income.**

Note: Bridges will average income with an irregular pay frequency based on the number of months calculated, from the period start month and the period end month, to determine countable income for the SER countable income period.

Unearned Income Examples

- Family Independence Program (FIP) and State Disability Assistance (SDA).
- Social Security benefits (RSDI/SSI) use the gross amount received.
- SSI State Supplemental payments. Refer to Reference Schedules Manual (RFS) Item 106, State SSI Payment Payroll Deadline Schedule.

Note: Budget the actual amount if it is expected to be received in the countable income period. (For example, do not budget \$14 per month as a prorated amount.)

- Alimony, child support and child support participation payments.
- VA benefits, except clothing allowance or the court ordered amount for aid and attendance.
- Lump sum payments of accumulated monthly benefits.
- Payments from sick and accident insurance plans.
- Pensions and retirement benefits.
- Unemployment benefits, railroad unemployment benefits, and other governmental unemployment benefits.
- Worker's compensation.
- Strike benefits.
- Income received from the sale of property.
- Military allotments.
- Investment income, such as dividends, interest and royalties paid directly to the client.
- Income from annuities, bonds, stocks and trusts.
- Refugee Resettlement Funds. If a client receives resettlement funds, email the policy mailbox at Policy-SER, Policy-SER-DHS@michigan.gov.
- Adoption assistance payments.
- Guardianship Assistance Program (GAP) payments.

Earned Income Examples

- Earnings from work as an employee (wages, salary, college work-study, commissions, tips).
- Earnings from self-employment (includes USDA PIK income).

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INCOME

ERB 2025-004

10-1-2025

- Training allowances paid to persons enrolled in sheltered work-shops.
- Rental income, room and board.
- Chore services payments to providers.

EXCLUDED INCOME

Do not count or verify income from the following sources:

- Americorps income.
- Income of non-responsible group members in burial cases.
- Reimbursement of Medicare premiums.
- Income in kind (not in the form of cash).
- Earned income of a dependent child when both of the following conditions are met:
 - The accumulated earnings are held in a savings account of which the dependent child who earned the money is the sole owner.
 - The accumulated earnings are not commingled with money from any other source; see ERM 205, Assets.
- Michigan Homestead Property Tax Credit and Home Heating Credit.
- Earned Income Credit.
- All services program benefits paid by the department on behalf of a SER group member (such as foster care payments).
- Income of the SER applicant's spouse when the applicant is in an emergency shelter as a victim of domestic violence.
- Reimbursement for past, current or future training-related, medical or volunteer expenses.
- Compensation awarded for a particular use (such as Victim's Compensation Award).
- Disaster relief assistance.

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INCOME

ERB 2025-004

10-1-2025

- Child care payments and allowances made by DHHS.
- Housing assistance that is paid pursuant to any state or federal law. Examples include:
 - Title II of the Uniform Relocation and Real Property Acquisition Act of 1970.
 - U.S. Housing Act of 1937.

This includes Experimental Housing Allowance Program made under Annual Contribution Contracts entered into prior to January 1, 1975.

 - National Housing Act.
 - Section 101 of the Housing and Urban Development Act (HUD) of 1965.
- Educational grants, scholarships and benefits.
- Family support subsidy payments.
- WIC program benefits.
- Title VII nutrition program for the elderly.
- LIHEAP energy assistance benefits.
- Child nutrition and school lunch benefits.
- Food assistance benefits.
- Guaranteed Income Program (GIP)- GIP is also known as Universal Basic Income Program (UBI). These payments are funded from private and public funds. Examples include:
 - Detroit Jump Start.
 - RX Kids.
 - Grow Ann Arbor (GIG 2).
 - Washtenaw County Community Housing Prioritization.

INCOME EXPENSES

Unearned Income

Net unearned income must be determined by deducting all of the following from the gross amount received:

- Mandatory withholding taxes.
- Court ordered child support paid, including arrears, but not more than the amount ordered by the court. No deduction is made for paid, voluntary child support.
- Payments for health insurance.
- Medicare premiums that will not be reimbursed.

Earned Income

Net income from employment or self-employment must be determined by deducting allowable expenses of employment from the gross amount received.

Note: SER does not allow deductions for garnishment actions or expenses of **producing** self-employment income (such as capital expenditures, labor costs, transportation costs while on the job, materials, loan and property payments, taxes, insurance, etc.).

Expenses of employment are **limited** to the following:

- Mandatory withholding taxes (25 percent of the gross for employment and 50 percent for self-employment and room and board).
- Deductions required by employer as a condition of employment.
- Deductions for health insurance.
- Court-ordered child support paid, including arrears. Expense amount cannot exceed the court ordered amount; no deduction is made for paid, voluntary child support.
- The cost of dependent care for either of the following:
 - A dependent child who is less than 13 years old.
 - A person who is 13 years old or older who needs care due to a mental or physical impairment.

Deduct the unsubsidized cost of care or \$200, whichever is less for each qualifying individual. The cost of dependent care must not be allowed as a deduction from the earnings of more than one member of the SER group.

Do not deduct the cost of child care if caregiver is any of the following persons:

- A member of the SER group.
- A responsible relative of the employed person or of the person who needs care.
- A dependent relative of the employed person.
- A person who is not a member of the SER group, if the care can be provided reasonably and safely by one of the following persons living in the home:
 - A member of the SER group.
 - A responsible relative of the employed person or the person who needs care.
 - A dependent relative of the employed person.

SER INCOME NEED STANDARDS

Group Size	Income Need Standard
1	\$445
2	\$500
3	\$625
4	\$755
5	\$885
* 6	\$1015
* Groups larger than 6 persons: Add \$100 for each additional person.	

VERIFICATION

Verify all non-excluded income, expenses and deductions. The client must make a reasonable effort to obtain required verifications. The specialist must assist if the applicant needs and requests help. If neither the client nor the specialist can obtain the verifications despite a reasonable effort, use the best available information. If no evidence is available, the specialist must use their best judgment.

For energy services, income verification used in the current eligibility determination for any other Michigan Department of Health and Human Services (MDHHS) program may be used if available. If not available, income must be verified; see ERM 301, Energy Services.

Unearned Income

Acceptable methods of verification include:

- Written statements from the department, organization or person administering the payment, which shows the monthly amount of the benefit, the amount of deductions, and confirming whether or not the deductions are mandatory.
- Recipient award letters if dated within the last 60 days.
- Copies of checks or check stubs if dated within the last 60 days.
- Electronic data exchange with reliable income source.

Earned Income

- Pay stubs.
- DHS-38, Verification of Employment.
- Written statements of the employer.
- Business receipts.
- Accounting and other business records for self-employed persons.
- Written statements of persons paying money to a SER group member in cases where the SER group member provides child care, chore services, room and board, or other services for pay.
- Electronic data exchange with reliable income source.

REFERENCES

MAC R400.7001 et seq.

POLICY

State Emergency Relief (SER) group members must use their available income and cash assets that will help resolve the emergency. Do not authorize a SER payment unless it will resolve the emergency.

**Budget
Computation**

Bridges determines eligibility or ineligibility for each SER application and service requested. The worker is responsible for verifying information, certifying the eligibility results and authorizing the payment. It is not necessary to place a printed copy of the budget in the case record.

**Asset
Copayment**

In most cases cash assets in excess of \$15,000 will result in a denial. See *ERM 306, Burials*, for more information on assets for burials.

**Income
Copayment**

A group is eligible for non-energy SER services with respect to income if the total combined monthly net income that is received or expected to be received by all group members in the 30-day countable income period does not exceed the standards found in the *SER Income Need Standards for All Non-Energy Services (Except Water/Sewer)* at the end of this item.

Income that is more than the basic monthly income need standard for the number of group members must be deducted from the cost of resolving the emergency. This is the income copayment.

There are no income copayments for SER energy and water/sewer services. With respect to income, clients are either eligible or they are not. For a group to be eligible for energy and water/sewer services, the combined monthly net income that is received or expected to be received by all group members in the 30-day countable income period, cannot exceed the standard for SER energy/LIHEAP and water/sewer services for the number of group members. If the income exceeds the limit, the request must be denied; see *SER Income Need Standards for Energy/LIHEAP and Water/Sewer Services* in this item.

Total Copayment

The income and asset copayments combined together determine the SER group's total copayment.

The total copayment is the amount the SER group must pay toward their emergency. Copayment amounts are deducted from the cost of resolving the emergency.

Example: The applicant has an eviction for \$100. The shortfall copayment is \$15 and the income copayment is \$100. Subtract the total \$115 copayment from the \$100 need. SER is denied because the copayment exceeds the need.

Example: The applicant has an eviction for \$400. The shortfall copayment is \$15 and the income copayment is \$100. Subtract the total \$115 copayment from the \$400 need. The available SER payment is then \$285. The \$285 payment may be made once it is verified that the client's \$115 copayment has been paid.

The group is not required to pay the copayment more than once during the 30-day authorization period. If multiple services are requested, the client is only required to pay the copayment on one service. However, the copayment must be paid before any other service is paid.

The client is notified on the DHS-1419, Decision Notice, of their copayment amount and the deadline to return verification that they have paid their copayment. In Bridges, the worker must pseudo-authorize the application in order to establish the deadline date and to issue the DHS-1419. The deadline date is always the last day of the 30-day eligibility period regardless of when the client requests the service. The client must provide verification of their payment by the last day of the 30-day eligibility period.

INCOME COPAYMENT MODIFICATION

First line managers can modify an income copayment for non-energy services. The manager must approve the modification in Bridges. This applies **only** if one of the following circumstances exist:

- The SER group used available income:

- To meet unusual expenses essential to protect their safety.
- To secure or maintain employment.
- The provider demands payment in advance, but the income is not available to the SER group until later in the budget period. **(Example:** RSDI is the only source of income and will not be received for three weeks.)

When modifying an income copayment, the copayment may be reduced or waived entirely. The full copayment amount up to the SER need may be paid. Take this alternative when no other alternative exists for meeting the emergency. The SER group may be required to sign a DHS-2157, Repay Agreement, for the income copayment amount; see ERM 210.

Reminder: Repay agreements cannot be taken against RSDI/SSI.

Copayment Corrections

Decrease the income copayment when a member of the SER group notifies the specialist of a shortfall in projected income within the 30-day budget period.

Do not increase an income copayment once a copayment has been determined and the client has been notified of the amount.

Client Contribution

The SER group must contribute toward the cost of resolving the emergency if SER does not cover the full cost of the service. Other persons or organizations can also contribute funds on behalf of the SER group. Verification that the contribution has been paid must be received before any SER payment can be made. For burial contributions; see ERM 306.

For energy services, verification from a MEAP grantee that the household will be enrolled into an energy provider's Affordable Payment Plan (APP) can be used to satisfy the household's client contribution. Any additional payment made by another agency to reduce the balance on the client's total bill to zero should not reduce the SER payment.

**Required
Payments/
Shortfall**

If an application is made for Cooking Gas, Rent to Prevent Eviction, Rent to Relocate, Security Deposit, Moving Expenses, Mortgage/Land Contract, Home Owners Insurance, or Mobile Home Lot Rent, a determination of required payments must be made. Required payments are determined based on the group size, the group's income and the obligation to pay for the service that existed during each month of the six months prior to application; see ERM 204, ERM 302, ERM 303, and ERM 304. If the client failed without good cause to make required payments, a shortfall amount is determined. The client must pay the shortfall amount toward the cost of resolving the emergency. Verification that the shortfall has been paid must be received before any SER payment can be made.

The Shelter Obligation Amount is the amount the household is obligated to pay for their housing costs each month. The Paid Amount field is the amount that was actually paid for the 6 months prior to the SER application

**Prorated
Payments**

Undocumented non-citizens are not eligible for SER, **but their presence does not disqualify the group**. Bridges determines how much the ineligible group members must pay to help resolve the emergency. This is called the prorated payment. To determine the prorated payment:

- Count the income and assets of all household members, including the undocumented non-citizen(s).
- Include all household members when determining required payments, affordability and other eligibility requirements.
- The portion of the final SER payment is prorated to remove the undocumented non-citizens' share. That share is the prorated amount that the group must pay toward the cost of service.

Note: MEAP funds cannot be used to pay the prorated amount.

Notification

If the SER group meets all eligibility criteria but has a copayment, shortfall or contribution, do not issue payment until the client provides proof that their payment has been made or will be made by another agency. Verification from a MEAP grantee that the household will be enrolled into an energy provider's Affordable Payment Plan (APP) can be used to satisfy the household's client contribution for energy-related SER services.

Verification of payment must be received in the local office within the 30-day eligibility period or no SER payment will be made. The client will then have to reapply. The DHS-1419, Decision Notice, must be used to inform the SER group of the amounts that they must pay and the due date for returning proof of their payment

Use the DHS-849, Authorization/Invoice, to notify the vendor and local office fiscal unit of the SER group's copayment and approved services.

See ERM 103, Application Procedures, and the DHS-1419, Decision Notice, regarding timeframes allowed for the client to make their payment when all other eligibility criteria are met.

Verification

Before authorizing the department's portion of the cost of services, verify that the copayment, shortfall, non-citizen proration, and contribution have been paid by the client or will be paid by another agency. Verification of payment must include enough identifying information to match the copayment to the requested service. Identifying information includes but is not limited to: the client's name, service address, provider name and account number. See ERM 306 for burial copayments and contributions.

Avoid creating situations where the department issues a partial payment for services, but the SER group fails to pay the remainder of the payment and the vendor does not provide the service. This can result in loss of the SER payment and no benefit to the SER group.

A written statement from the MEAP grantee that indicates the household will be enrolled into an energy provider's Affordable Payment Plan (APP) can be used as verification that the client's client contribution amount has been met for energy-related SER services.

**Verification of
Copayment**

- Payment receipt from provider.
- Written statement from provider.
- Payment commitment including APP enrollment.
- Collateral contact with provider.

**Emergency
Services (ES)
Funds**

In some instances, it may be prudent to use ES funds to resolve an emergency. See ERM 209, Emergency Services (ES) Fund for current instructions and allowable uses for ES funds.

**SER INCOME NEED STANDARDS FOR ALL NON-ENERGY SERVICES (EXCLUDING
WATER/SEWER)**

INCOME NEED STANDARD FOR ALL NON-ENERGY SERVICES (EXCLUDING WATER/SEWER)	
SER Group Size	Income Need Standard
1	\$ 445
2	\$ 500
3	\$ 625
4	\$ 755
5	\$ 885
6	\$1015
Groups larger than 6 persons: Add \$100 for each additional person.	

**SER INCOME NEED STANDARDS FOR ENERGY/LIHEAP AND WATER/SEWER
SERVICES**

INCOME LIMIT FOR ENERGY AND WATER/SEWER SERVICES (Effective 10/01/2025)	
Family Size	150% Federal Poverty Level/Month
1	\$1956
2	\$2644
3	\$3331
4	\$4019
5	\$4706
6	\$5394
7	\$6081

INCOME LIMIT FOR ENERGY AND WATER/SEWER SERVICES (Effective 10/01/2025)	
8	\$6769
For each additional family member add \$688 per month.	

LEGAL

Mich Admin Code, R 400.7001 et seq.

Low-Income Home Energy Assistance Act of 1984; Section 2605(2)(B)

POLICY

Low-income households who meet all State Emergency Relief (SER) eligibility requirements may receive assistance to help them with household heat and electric costs. Funding for energy services assistance is provided through the Low Income Home Energy Assistance Program (LIHEAP).

A household may receive one SER payment for heat and one for non-heat electricity, not to exceed the SER cap, for the current fiscal year.

Payments are applied to the fiscal year cap based on the SER Service Request Date, not the Benefit Issuance date(s). As a best practice, check the fiscal year cap(s) for each individual household member. Caps can be viewed in Benefit Issuance>Refunds>View SER Cap.

CRISIS DEFINED

In compliance with Section 2604 of the LIHEAP statute, the Michigan Department of Health and Human Services (MDHHS) must provide some form of assistance within 48 hours of receiving an application for crisis assistance.

Eligibility staff must contact the energy provider to secure a hold on the pending disconnect to resolve the immediate emergency and allow time to determine the household's eligibility for program benefits, if an automatic hold was not placed through MI Bridges.

An energy crisis is one of the following:

- An individual or household has a past due account or shut-off notice on an energy bill for his or her household.
- A residential fuel tank is estimated to contain no more than 25 percent of its heating fuel capacity or has more than 25 percent and tank is locked by provider
- A stated need for household deliverable fuel or nontraditional fuel source such as wood, corn, cherry pits, etc.
- A notice that the balance of a prepayment account is below \$100.

- A statement from a licensed service provider indicating the homeowner's furnace is inoperable and in need of repair or replacement.

LIFE THREATENING CRISIS DEFINED

In compliance with Section 2604 of the LIHEAP statute, MDHHS must provide some form of assistance within 18 hours of receiving an application for crisis assistance.

A household is considered to have a life-threatening energy crisis if **all** of the following criteria is met:

- The household is not protected by Michigan's Winter Protection Plan (WPP) or some other shut off protection/moratorium.
- The household has experienced disconnection of natural gas or electric service, has ran out of their household heating fuel, or the household has a statement from a licensed service providing indicating that the furnace is inoperable and in need of repair or replacement.
- Restoration of energy service(s) is medically necessary.
- The household does not have any temporary housing alternatives while the emergency is being resolved.

COORDINATION WITH MEAP

As required by Public Act 615, agencies receiving a grant to administer the Michigan Energy Assistance Program (MEAP) are required to offer services that will enable participants to become or move toward becoming self-sufficient, including assisting participants in paying their energy bills on time, assisting participants in budgeting for and contributing to their ability to provide for energy expenses, and assisting participants in utilizing energy services to optimize on energy efficiency.

A household receiving an energy-related SER payment, for services covered in this item, qualify for MEAP services and assistance. The DHS-1419, State Emergency Relief Decision Notice, must inform the applicant that additional services are available through MEAP. Include the following comment on each DHS-1419 when an energy service has been approved or when

there is a denial due to the household already receiving the same type of energy assistance in the current fiscal year:

DHHS will only issue one payment for heat and one payment for non-heat electricity between October 1 and September 30 each year. Please call 2-1-1 to see what other assistance you may be eligible to receive.

Households that are currently enrolled in a provider-sponsored affordable payment plan (APP) through Consumers Energy's Consumers Affordable Resource for Energy (CARE) Program, DTE Energy's Low Income Self-Sufficiency Plan (LSP), SEMCO Energy's Monthly Assistance Program (MAP) or UPPCO's Energy Assistance, Self-Sufficiency & Education (EASE) Program, Great Lakes Energy (Pathways) Program are not eligible for SER energy services.

If a client is enrolled in a provider-sponsored program through Consumers Energy, DTE, SEMCO UPPCO or GLE for only **one** energy service, it may be possible for the household to receive SER assistance for the energy service not covered by the provider's program.

Information regarding MEAP, participating grantees and a list of providers who have opted out of participating in MEAP, can be found on the Michigan Public Service Commission's website under [MPSC - Michigan Energy Assistance Program](#)

COVERED SERVICES

Heating, Electric or Deliverable Fuels

When the group's heat or electric service for their current residence is in past due status, in threat of shutoff or is already shut off and must be restored, payment may be authorized to the enrolled provider. The energy request should be processed using the past due or shut-off amount, whichever is the most advantageous. Payment must resolve the emergency by restoring or continuing the service for at least 30 calendar days. Current bills that are not past due or subject to shutoff should not be included in the amount needed.

Note: SER may be used to assist a household who is enrolled in the shut-off protection plan (SPP) as long as all other eligibility requirements are met.

Payment may be made on a prepayment account for natural gas or electric services when the balance remaining in the account does not exceed \$100. The SER benefit amount must not exceed the average billing amount for the past six months.

Payment may be made up to the fiscal year cap for the necessary charges to deliver a 30-day supply of fuel for households that heat with deliverable fuel (fuel oil, propane or coal). For fuel oil and propane, the SER should be processed using a quote from the provider for a 30-day supply or minimum fill. Payment for deliverable fuel will not be made if the deliverable fuel tank contains more than 25 percent of its heating fuel capacity. If, upon delivery, the existing supply is greater than 25 percent of the heating fuel capacity, the SER payment shall not be made.

Note: Wood, including wood pellets, are not considered a deliverable fuel.

Exception: For deliverable fuel, if the remaining fuel in the household's tank is above 25 percent but they have received a notice that their tank will be locked/disconnected or the tank has been locked/disconnected due to an unpaid balance, a policy exception can be submitted through Bridges to assist, up to the cap if all other eligibility requirements are met. See ERM 104 for policy exception requirements.

Deposit, Reconnect Fees/Deliverable Fuel Fees

Deposits, special trip charges, delivery fees including out of route (emergency delivery fees), pilot relights, pressure checks, leak test, reconnect fees, disconnection notice printing fee, and related charges such as storage tank (pig) installation, delivery or rental can be paid if they are necessary to prevent an emergency and are required by the provider. These fees are **not** included in the fiscal year cap but do have a dollar limit per occurrence.

SERVICES NOT COVERED

Do not authorize energy services to pay for:

- Repair or protection plans.
- Unauthorized or illegal use.
- Bankrupt accounts.
- Cooking gas; see ERM 302, Utility Services.
- Service used in businesses or nonresidential buildings or facilities such as rental units, garages, stores, or nonresidential farm uses. When a bill represents combined residential and nonresidential or business usage, pay only the residential portion if the utility can provide an approximate breakdown showing the residential use portion and the group applying for energy services pays the nonresidential costs. In the case of a client who works in their own home, if the bill is in the client's name and the service address is the same as the client's residence address, it is considered a residential bill and payment may be authorized. If the bill is in the name of the client's business, it is considered a commercial bill and payment cannot be authorized.

Exception: Payment shall not be issued for energy services when the usage is in violation of the federal law.

Example: A client has requested assistance for an electric shut off which includes costs associated to manufacturing medical marijuana. The client is not eligible for SER since federal law, 21 U.S.C. 841(a) prohibits the manufacturing of marijuana.

- Air conditioning billed separately from residential electric service.
- Common meter/service situations. This occurs when one meter or heat/electric unit services more than one residential unit or residence. If the energy provider can verify the group's actual usage and the provider will accept the SER group's portion and maintain services, payment may be made in full.
- Back rent when the client has a judgment which includes money owed on a heat or electric bill. This is considered a relocation service, not an energy service.

Example: A client has requested payment for eviction which includes money owed on a heat or electric bill. The landlord has paid the bill up to date with the provider, but the client has

not paid the landlord for the heat/electric, which is part of the rental agreement. The heat/electric payment would be included as part of the total amount needed to prevent eviction.

- Payments to residential landlords, residential management companies, billing service agencies, or collection agencies are not eligible to receive emergency service (ES) or SER funds, as they are not the actual service provider. Examples of third-party billing companies who are not eligible providers include:
 - Universal Utilities.
 - D & B Billing Services.
 - Electrical Inspection Company.
 - Infinity Billing Enterprises.
- Secondary household fuel types. Payment may only be approved for the primary heating source.
- Deposit for new service when the energy provider is regulated by the Michigan Public Service Commission (MPSC).
- Late payment charges when the energy provider is regulated by the Michigan Public Service Commission (MPSC).

Note: Per MPSC billing rules, a regulated utility shall not assess a late payment charge against a customer whose payment is being made by MDHHS. The 2 percent late fee should **not** then become the responsibility of the customer but should be reduced to zero for any payments made by MDHHS through State Emergency Relief (SER) or the Michigan Energy Assistance Program (MEAP).

For a list of regulated Gas Utilities go to [MPSC - Gas Utilities in Michigan](#)

For a list of regulated Electric Utilities go to [MPSC - Utility Addresses & Contacts \(michigan.gov\)](#)

ELIGIBILITY CRITERIA

The client must complete the DHS-1514, Application for State Emergency Relief, the MDHHS-1171, Assistance Application, along with the MDHHS-1171-SER supplemental form or submit an application electronically through MI Bridges.

- All household members are included in the SER group.

- Income of all household members is budgeted.
- Assets of all household members are budgeted.
- Income verification used for current eligibility for any other MDHHS administered program may be used, if available. If not available, income must be verified.
- There is no income copayment for energy-related services. The household income must be at or below the LIHEAP income limit for the group to qualify for SER; see *Exhibit II - SER Income Need Standards for Energy/LIHEAP Services* in ERM 208.
- The bill must be connected to the group's current address. If the bill, including old or transferred balances, must be paid to start or maintain service at the current or new address, payment may be authorized up to the fiscal year cap, as long as the payment resolves the emergency.
- A past due or shut off connected to the group's current address when heat or electric is included in rent or service is disconnected and requires restoration. If the payment is required to prevent disconnection or restore service, payment may be authorized up to the fiscal year cap, as long as the payment resolves the emergency. Payment must be made to the energy provider, not the landlord.
- The household fuel type must be correct for the type of payment requested.
- The requested amount in Bridges must match the amount on the past due or shut off notice/bill, or the 30-day supply or minimum fill amount needed for a deliverable fuel. If there is a discrepancy in the amount needed to resolve the emergency, there must be documentation in the case record.

Note: The requested amount for a prepayment account must equal the group's average billing amount for the past 6 months.

- Verification that the required copayment(s) has been paid must be obtained prior to the MDHHS payment being issued. All other non-financial eligibility requirements must be met.
- Payment can only be made to an enrolled energy provider, see ERM 401, Payments.

MULTIPLE SER SERVICES

Same Provider

When processing multiple SER services with the same provider, payment for one service cannot be approved until all requirements are met (copay, verifications, etc.). Release of one payment without the other will result in a partial payment to the account and not resolve the emergency.

Example: Client applies for shut off with non-heat electric and water/sewer with LBWL (Lansing Board of Water and Light). Shut off amount total is \$925.00. Non-heat electric balance is \$485.00, water/sewer balance is \$440.00. Non-heat electric is approved for the full amount of \$485.00 with no copay. Water/sewer is approved for cap of \$350.00 with a co-pay of \$90.00. Since this is a combined account with the same provider, the co-pay must be verified before the non-heat electric payment can be authorized.

Example: Client applies for shut off with non-heat electric and natural gas with Consumers Energy. Shut off amount total is \$1180.00. Non-heat electric shut-off balance is \$325.00, natural gas shut-off balance is \$855.00. Non-heat electric is approved for the full amount of \$325.00 with no copay. Natural gas is approved for the full cap of \$500.00 with a co-pay of \$355.00. Since this is a combined account with the same provider, the co-pay must be verified before the non-heat electric payment can be authorized.

Different Providers

When processing multiple SER services with different providers, approval for one service can be paid/released without the need for the other service requirements being met. Since the services are with different providers, one does not affect the other's eligibility and therefore, payment can be paid without the requirement of the co-pay, verification, etc. for the other service.

Example: Client applies for shut off with non-heat electric with Consumers Energy and water/sewer with county. Non-heat electric shut off is \$485.00, water/sewer shut off is \$440.00. Non-heat electric is approved for the full amount of \$485.00 with no copay. Water/sewer is approved for cap of \$350.00 with a co-pay of \$90.00. Since the services are with different providers and neither affect each other, the non-heat electric payment can be approved

and released. The water/sewer would require the copay be verified before it can be authorized.

Example: Client applies for shut off with natural gas with DTE and rent to prevent eviction. DTE shut off amount total is \$365.00. Court order shows rent owed is \$1325.00. DTE shut off is approved for \$365.00, however rent to prevent eviction requires verification of six-month payment history. Since the services are with different providers and neither affect each other, the natural gas payment can be approved and released. The rent to prevent eviction would pend for verification of six-month payment history.

Good Cause

The required payment amount for both heat and non-heat electricity is \$0, therefore *Good Cause* is granted for each energy-related service request. A SER group is not required to make payments in the 6 months prior to the SER application for an energy-related service request in order to be eligible for energy assistance.

The *SER Required Payments - Details* screen should be completed as follows for any of the 6 months prior to the SER application month:

The dropdown value next to the applicable SER service type(s) should contain a **no** response to the question, "Did the client have an obligation to pay for this month?"

Decision Notice

The DHS-1419, Decision Notice, must be sent to the client for every energy request. The notice must include the required payment amounts to inform the client of their obligation; see ERM 103, Application Procedures.

The DHS-1419, State Emergency Relief Decision Notice, must inform the applicant that additional services are available through MEAP. Include the following comment on each DHS-1419 when an energy service has been approved or when there is a denial due to the household already receiving the same type of energy assistance in the current fiscal year:

DHHS will only issue one payment for heat and one payment for non-heat electricity between October 1 and September 30 each year. Please call 2-1-1 to see what other assistance you may be eligible to receive.

Note: The DHS-1150, Application Eligibility Notice, may be used to notify a client of a denied SER request and must be issued in instances where no DHS-1419 is generated through Bridges.

SALES TAX ON DELIVERABLE FUELS

Payment for deliverable fuels are either exempt or non-exempt from sales tax. When emailing the provider for an estimate/quote, specialist **must** instruct the provider to list DHHS as the purchaser of propane on the estimate/quote with the client's address for the service delivery. The specialist must email the DHS-849 to the propane provider upon approval of SER benefits.

Follow the below to determine when to include or not to include sales tax:

- Exempt from sales tax:
 - If the estimate/quote/final invoice is received in the name of DHHS, with the client's address listed as the service delivery, it is tax exempt.
 - If the final invoice is received in the name of the client, not in DHHS' name, but the DHS-849 is attached, it is tax exempt.
 - If the final invoice is received in the name of the client, not in DHHS' name and no DHS-849 is attached, but the worker's email request to the provider clearly instructed the provider to list DHHS as the purchaser of the propane, it is tax exempt. Email correspondence **must** be uploaded to ECF for verification.
- Non-exempt from sales tax:
 - Only when the client submits the quote/invoice, it's in the name of the client, and no DHS-849 is returned with the final invoice is payment eligible for sales tax.

Note: The DHS-849 informs the provider that the service is tax exempt, therefore when returned to DHHS, it is acknowledgment that the provider received the notice of exemption status for the deliverable fuel..

TRIBAL PAYMENTS

Indian tribal organizations may receive LIHEAP funds directly from the federal government to help with heat, electric and furnace repair bills. Payments are made available by the tribal organization to the members of the tribe, usually in the form of direct payments to the provider. The tribal members may apply for SER, but payments are limited to the highest amount available either from MDHHS or the tribal organization.

The specialist must notify the program office, via an email to: Policy-SER@michigan.gov, of the tribal LIHEAP payment so the fiscal year cap can be adjusted.

To avoid duplicate payment, verify any tribal LIHEAP authorizations. Notify Front End Eligibility (FEE) if necessary.

VERIFICATION OF NEED AND COST OF EMERGENCY

Verify past due status, threatened shutoff or the need for reconnection of natural gas or electricity, by using the online portal or contacting the energy company. For SER groups who have a prepayment account, verify that their prepayment balance does not exceed \$100. Contact can be in the form of a written notice, telephone call, fax, email or information on the provider's secure website. Documentation of this verification must be uploaded and saved into the ECF.

Note: Verification of a past due or shut off or service disconnection when heat is included in rent must be obtained through the online portal or by contacting the energy company. Landlord statement or invoice from landlord is not acceptable.

Accept the group's statement as verification of need for wood and other non-metered heating sources. For deliverable fuel, a quote from the provider for a 30-day supply or minimum fill is required. Release of payment under Benefit Issuance MUST not be completed until the final invoice has been received and uploaded to ECF. Household fuel type on the Household Information Page and Household heating source on the SER Service Request Details MUST be entered correctly to match the service being authorized.

A bill must be obtained before authorizing a payment. A fax, email or scanned copy of the bill received directly from the

provider is acceptable as long as it includes all the pertinent information that would be included on the actual bill. For deliverable fuel, the bill must indicate the delivery is for a 30-day supply or minimum fill.

Exception: The specialist may only use a DHS-223, Documentation Record, for deliverable fuels, wood and other non-traditional heating source estimates or to clarify discrepancies. The DHS-223 may not be used as a verification source for natural gas, non-heat electric or other energy types that receive monthly statements and shut off notices. Documentation on the DHS-223 must include:

- Date.
- Client name and case number.
- Amount needed to resolve the emergency.
- Name on account.
- Any other pertinent account information.
- The name of the person at the utility company who provided the information along with the signature of the MDHHS staff person obtaining the information.

Photocopies of bills are not accepted.

The original bill must be uploaded or scanned into the ECF, photocopies are not accepted. A scanned copy/fax of original bill, email or DHS-223 must be uploaded to the ECF.

PAYMENT LIMITES

**Effective
October 1, 2025**

Energy Type	Service Code	Fiscal Year Cap
Natural gas and wood	63	\$600
Deliverable fuel (fuel oil, propane, coal)	63	\$900
Other fuel (kerosene, corn pellets, cherry pits, etc.)	63	\$600

Energy Type	Service Code	Fiscal Year Cap
Residential electric (not used for heat)	65	\$600
All-electric home (combined heat & residential use)	64	\$900
Deposits/fees for energy service	26 (heat)/27 (electric)	\$200 per occurrence

Authorizations

Before authorizing the department's portion of the cost of services, verify that the non-citizen proration and/or client contribution have been paid by the client or will be paid by another agency. Verification from a MEAP grantee that the household will be enrolled into an energy provider's Affordable Payment Plan (APP) can be used to satisfy the household's client contribution.

Approve payment if it will resolve the emergency and if the energy provider will maintain or restore service for at least 30 days. Do not authorize any energy services payment that will not resolve the current emergency, even if the payment is within the fiscal year cap.

Note: MEAP cannot be used for non-citizen proration. Additional payments made by another agency, which reduce the client's total bill to a zero balance, should not reduce the SER payment. The MDHHS payment is not reduced when another agency is paying the client's current balance (the amount **not** subject to shut off) so the client's account will have a \$0 balance. If you are unsure if the additional agency commitment results in \$0 owed on the account, please confirm the information with the energy provider.

Payments are applied to the cap of the client. Client is defined as the applicant for or recipient of SER and includes all group members. Every individual in the group who benefits from the payment, including minor children, will have payments applied to their individual cap. The payments applied to the cap follow the individual even if they move from one household to another.

In instances where a group member has met the cap, but the rest of the household has not received an energy-related SER payment, an exception request should be submitted through Bridges. This will allow the household to qualify for additional MEAP services.

Example: A SER payment is made for heat on the mother's case. The payment applies to the mother's cap and to all the children who live with her. One child leaves the home and moves in with the father. The father then applies for SER for heat. The child's cap is applied to the father's eligibility determination because the child has benefited from the previous heat payment.

Bridges tracks all energy service authorizations and cap limits for each individual. In order to view the payment caps, complete an inquiry in Bridges for each SER group member. Caps can be viewed in *Benefit Issuance>Refunds>View SER Cap*.

ACCESSING CLIENT ENERGY ACCOUNT INFORMATION

On-line Account Access

DTE – DTE Energy Assistance Portal

URL: [DTE - Agency Portal \(dteenergy.com\)](http://dteenergy.com)

Consumers Energy – Consumers Energy Portal for Agency Self Service (CE PASS)

URL: [Login \(consumersenergy.com\)](http://consumersenergy.com)

Michigan Gas Utilities- MGU

URL: [Select a New Customer \(michigangasutilities.com\)](http://michigangasutilities.com)

Lansing Board of Water and Light

URL: [Sign in · Starter Portal \(powerappsportals.us\)](http://powerappsportals.us)

MDHHS local office security coordinators and their backups are the designated account administrators for DTE and Consumers Energy online access. Security coordinators are responsible for enrolling staff and maintaining appropriate access to DTE Energy Assistance Portal and CE PASS to determine SER eligibility. MGU is

responsible for enrolling staff and maintaining appropriate access, contact CAC@michigangasutilities.com for any questions.

Changes to local office security coordinators should be reported directly to the SER policy mailbox, do not contact DTE or Consumers Energy directly with these requests.

- All MDHHS staff and managers who intend to use the online access must provide all necessary profile information requested by the energy provider, which may include personal information.
- MDHHS staff must be trained and supplied with a user ID and password prior to use.
- All trained staff and managers are allowed to access the website to obtain payment history, other account information, and to allow a confirmation of payment.
- MDHHS staff **MUST** use the account statement provided on the website in lieu of an actual bill. A copy of the online statement must be uploaded to the ECF by the specialist. The DHS-849 must be local printed to move from pending correspondence to history.
- MDHHS staff **MUST** submit a payment confirmation via the website. The commitment requires the approved DHS-849 invoice number and amount. If the commitment is not entered for DTE, the 30-day eligibility hold placed will remain in lieu of an additional 30 days from the payment date.

Example: Client applies on 9/7/2023, 30-day hold is placed through 10/6/2023. Worker processes SER on 9/8/2023 which results in a copay. Client makes copay on 9/12/2023 and provides verification. Worker processes copay on 9/13/2023, releases DHHS payment and adds commitment to DTE online portal. A new 30-day hold is placed through 10/12/2023. Client cannot be put into shut off before 10/12/2023.

- An application for assistance includes a disclaimer to allow access to account information with energy providers via fax, email, and phone or company website. When the client signs the application (which is required for all SER energy requests), they are giving MDHHS staff permission to access the site. No separate release of information is required.

ERM 301

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ENERGY SERVICES

ERB 2026-001

1-1-2026

- Energy providers' websites are to be used for business purposes only, are not for unauthorized or personal use and are monitored. Providing false information for a user profile or conducting personal activity can result in disciplinary actions.

LEGAL

Mich Admin Code, R 400.7001 et seq.

Wholesale Marihuana Tax Update

Preliminary information for the Wholesale Marihuana Tax is now available.

[Read the Guidance](#) >



Treasury Taxes

Home Heating Credit Information

How do I file a Home Heating Credit MI-1040CR-7?

Filing your Home Heating Credit Claim MI-1040CR-7 can be done by mail or electronically. If you are required to file a Michigan Individual Income Tax Return MI-1040, submit a completed MI-1040CR-7 with your Individual Income Tax Return. If you are not required to file an MI-1040, then submit a completed MI-1040CR-7 on its own.

The due date for filing a Home Heating Credit Claim is September 30.

If you are unable to [print the Home Heating Credit Form](#), MI-1040CR-7, it is available at your local library, MDHHS office, community agencies or the Michigan Department of Treasury. Submit the form by mail or electronically.

Frequently Used Home Heating Credits Forms and Instructions

- [MI-1040CR-7](#)
- [MI-1040CR-7 Instructions](#)
- [Form 4976 MI-1040CR-7 Supplemental](#)
- [Form 5049 Worksheet for Married, Filing Separately and Divorced or Separated Claimants](#)

What is the Home Heating Credit?

The Home Heating Credit is a way the State of Michigan helps low-income families pay some of their heating expenses if they are a qualified Michigan homeowners or renters. You should complete the Home Heating Credit Claim [MI-1040CR-7](#) to see if you qualify for the credit. **The deadline for submitting this form is September 30, 2026.**

Given that each taxpayer has unique circumstances that determine their eligibility for the credit, the Michigan Department of Treasury encourages you to review the information below and/or contact a tax professional if you have additional questions.

The credit is based on income (total household resources), household size, and a comparison between either your standard credit allowance or your actual heating costs.

Who qualifies for a Home Heating Credit Claim?

You may qualify for a home heating credit if **all** of the following apply:

- You own or were contracted to pay rent and occupied a Michigan homestead
- You were **NOT** a full-time student who was claimed as a dependent on another person's return
- You did **NOT** live in college or university operated housing for the entire year
- You did **NOT** live in a licensed care facility for the entire year
- Your income was within the limits in [Table A](#) and [Table B](#)

You may be required to submit documentation to support your claim.

What if I do not qualify or need additional assistance?

If you do not qualify for the home heating credit, you may be eligible for other assistance through the Michigan Department of Health and Human Services. The Low Income Home Energy Assistance Program (LIHEAP) aims to fund programs to help low-income households with energy needs, such as high energy bills, shut off notices, and home energy repairs.

[Find MDHHS Emergency Relief](#)

Why is the amount of my credit different from what I expected?

Before calling or writing, we suggest you use the [Home Heating Credit Checklist](#).

How do I Check the Status of my Home Heating Credit Claim?

You may check the status of your home heating credit by using the [Individual Income Tax eService](#).

There are two options to access your account information: Account Services or Guest Services.

Account Services

Select "My Return Status" once you have logged in.

When you create a MiLogin account, you are only required to answer the verification questions one time for each tax year. If you have previously established a MiLogin account, you may use the same username and password for multiple state agency access. (Treasury, Secretary of State, Unemployment/UIA)

Guest Services

Select "Where's My Refund" and you will be asked to enter the following information for security reasons:

- Primary filer's Social Security number
- Primary filer's last name
- Tax year
- Filing status
- Adjusted gross income (AGI)/Total Household Resources (THR)
 - If your AGI is a negative number, enter "-" after the number. Example: 1045-

Payment Process

You pay your heating bills

If you are responsible for paying your heating bills, State law requires the Michigan Department of Treasury to issue your credit in the form of a State of Michigan Energy Draft. You can only use the draft to pay heat bills. Give the draft to your enrolled heat provider who will apply it to current or future heating bills for your home. If the amount of your draft is more than you owe, you may request a refund of the difference by checking the box on line 46.

If you receive a draft and your heat provider is not enrolled in Michigan's energy assistance program, or if you use bulk fuel and have already bought your energy supply for the year, return the draft with a note of explanation to Michigan Department of Treasury. We will review your explanation and, if appropriate, reissue your credit in the form of a check. If you are notified of an adjustment or denial and you disagree, you must submit your appeal in writing.

If your heat is provided by DTE Energy, Consumers Energy, or SEMCO Energy Gas, your home heating credit may be sent directly to your heat provider.

Your heat is included in your rent

If you receive a draft and your heat is included in your rent, or your heat service is in someone else's name, return the draft with a note of explanation and a copy of your lease agreement(s) and/or property tax statements to: Michigan Department of Treasury, P O Box 30757, Lansing, MI 48909. We will review your explanation and, if appropriate, reissue your credit in the form of a check. If you are notified of an adjustment or denial and you disagree, you must submit your appeal in writing.

You receive family independence program assistance or MDHHS benefits

If you receive FIP assistance or other MDHHS benefits or you are enrolled with MDHHS for direct payment, the law requires your credit to be sent directly to your heat provider, who will then apply it to your account.

Common Mistakes to Avoid

Mistakes may delay your credit payment. Some common errors are:

- Filing after the deadline of September 30th

- Failure to report total household resources from all sources including gifts of cash/expenses paid on your behalf and Social Security benefits received on behalf of a dependent
- Entering monthly amount of income (various types) instead of annual amount in total household resources
- Incorrect or missing Social Security number(s) for eligible filers and/or dependents
- Entering incorrect heat amount
- Failure to mark box 10 if your heating costs are currently included in your rent
- Entering figures on the wrong lines or not entering figures on required lines
- Illegible writing
- Using a name and address label with incorrect information
- Computation errors (addition, subtraction, etc.)

Standard Credit

The standard credit computation uses standard allowances established by law.

Use [Table A](#) to find the standard allowance for the number of exemptions you claimed. If your heat costs are currently included in your rent, you must check the box on line 10 of the Home Heating Credit Claim.

You may be eligible to use the Standard method if:

- You resided in Michigan for any amount of time in the year of claim. You will need to prorate the standard allowance for the time you resided in Michigan if it is less than 12 months.
- You claimed heat costs for your Michigan home, not a vacation home or a commercial account.
- Your total household resources level was within the limits for this credit found in [Table A](#).

Alternate Credit

The alternate credit uses heating costs to compute a home heating credit. Add the amounts you were billed for heat from November 1, 2024 through October 31, 2025. If you purchased bulk fuel (oil, coal, wood, or bottled gas), add your receipts to get your total heating cost. Treasury may request receipts to verify your heating costs. You may claim heating costs on your Michigan homestead only. You may not claim heating costs on a vacation home or a home outside of Michigan.

You are NOT eligible to calculate the credit using the Alternate method if:

- You were not a Michigan resident for a full 12 months for the year of the claim.

- Your heating costs were included in your rent at the time you filed your claim.
- You claimed heat costs for your vacation home or a commercial account.
- You were a claimant filing a deceased taxpayer's home heating credit claim in the year they passed.
- Your total household resources level was above the limits for this credit found in [Table B](#).

What is a "Homestead"?

Your homestead is the place where you have your permanent home. It is the place to which you plan to return whenever you go away. You must be the owner and occupant or be contracted to pay rent and occupy the dwelling. You can only have one homestead at a time. Cottages, second homes and property you own and rent/lease to others does not qualify as a homestead.

Note: College or university operated housing does **not** qualify as a homestead. This includes dormitories, residence halls and/or apartments.

What are Total Household Resources?

Total Household Resources (THR) are the total income (taxable and nontaxable) of both spouses or of a single person maintaining a household. Losses from business activity may not be used to reduce total household resources. For a listing of income sources to include in total household resources, view [Income and Deductible Items](#).

Note: Gifts of cash and all payments made on your behalf must be included in THR.

What Are Qualified Health Insurance Premiums?

Some qualified paid health insurance premiums may be deducted from total household resources.

View [Qualified Health Insurance Premiums](#)

Special Situations

1. Shared Housing – If you share a home but are not the owner or you do not have a contract to pay rent, you cannot claim a credit.

When two or more single adults share a home, each may claim a credit if each has contracted to pay rent or owns a share of the home. Each should file a home heating credit based on his or her total household resources and his or her share of the standard allowance. First, determine the standard allowance, from [Table A](#), by adding the personal exemptions of all the claimants sharing a home. Divide this standard allowance by the number of claimants in the home.

Example: Three men share an apartment. Each has a signed lease and pays 1/3 of the rent. The standard allowance for three exemptions is \$958. Each person must use a standard allowance of \$319 ($\$958 \div 3 = \$319$) to compute his credit.

Example, if you are eligible for a special exemption or a dependent exemption: Catherine and Betty share a home and each pay one half of the rent. Catherine is age 59 and Betty is age 65 and totally and permanently disabled. They file separate MI-1040CR-7 claims. They must first divide \$760 (the standard allowance for two exemptions) by two. Catherine's allowance is \$380 ($\$760 \div 2 = \$380$).

Betty's allowance is also \$380, however, she qualifies for a special exemption for being disabled (as she is entitled to a disabled exemption until she is eligible for full Social Security at age 66 and 4 months). She may also add an additional \$198 to her standard allowance, because the difference between the standard allowance for three exemptions (\$958) and the standard allowance for two exemptions (\$760) is \$198.

$$\$958 - \$760 = \$198 + \$380 = \$578$$

The standard allowance Betty is eligible to claim is \$578.

2. Part-Year Resident or Occupied Homestead Less Than 12 Months – You must prorate your standard allowance for the number of days you owned or rented and occupied your Michigan homestead. For example, you moved to Michigan on September 1. It is 122 days from September 1 to December 31. Divide 122 by 365 days and multiply the result by your standard allowance. Enter the prorated standard allowance on line 38 of your claim. If you are a part-year resident, you must include all income received from any sources while a Michigan resident in total household resources.

3. Adult Foster Care, Licensed Home for the Aged, Nursing Home, and Substance Abuse Treatment Centers – If you live in a licensed care facility, generally you do not qualify for the home heating credit. Licensed care facilities include adult foster care homes, licensed homes for the aged, nursing homes, and substance abuse treatment centers. Subsidized senior citizen apartments are not licensed care facilities. If you live in a subsidized senior citizen apartment, you may apply for a credit.

If you lived in a licensed care facility only part of the year, you could qualify for a partial credit for the period you lived outside the facility. (See instructions on page 5 of the MI-1040CR-7 booklet.) If your spouse lives in a licensed care facility and you live in the family homestead, you may still qualify for a credit. File a joint credit claim and do not check a box on line 15.

If you are single and maintain a homestead (that is not rented to someone else) while living in an adult foster care, licensed home for the aged, nursing home or substance abuse treatment center, you may claim a credit for the heating costs paid on your homestead. You must provide proof of heating costs paid on your homestead.

4. Deceased Claimants –If the taxpayer died during 2024, the personal representative may claim the standard heating credit but may not claim the alternate heating credit. If your spouse died in 2024, use the same number of exemptions you would have used had your spouse lived all year.

The surviving spouse may file a joint claim for 2024. Write your name and the deceased's name and both Social Security numbers on the MI-1040CR-7. Write "DECD" after the deceased's name. You must report the deceased's income. Sign the claim on the deceased's signature line, write "Filing as surviving spouse." Enter the deceased's date of death in the "Deceased Taxpayers" box on the bottom of page 2 of the form.

If filing as a personal representative or claimant for a single deceased taxpayer or when both taxpayers are deceased:

- You must attach a U.S. Form 1310 or Michigan Claim for Refund Due a Deceased Taxpayer ([MI-1310](#)) and a death certificate
- Enter the name of the deceased person(s) in the Filer and Spouse name fields with "DECD" next to the name(s) and the representative's or claimant's name, title and address in the home address field
- Use the deceased's Social Security number on the form
- Enter date(s) of death in the designated boxes on bottom of page 2
- You must prorate for the number of days from January 1 until the date of death, see page 5 for prorating credit.

Other Helpful Information

Homestead Property Tax Credit – This credit is a way the State of Michigan provides relief to qualified Michigan homeowners or renters. [Homestead Property Tax Credit Information](#)

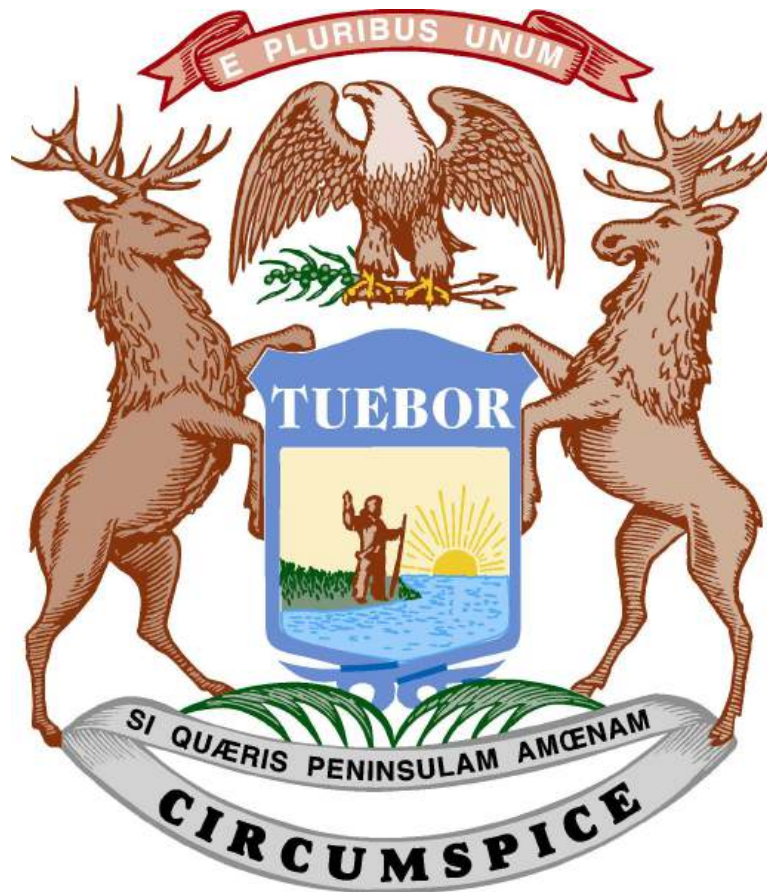
How to Choose a Tax Preparer Who's Right for You – Need assistance in completing your forms? You can hire a professional to prepare your taxes or you might qualify for free (or low fee) tax preparation services. [Choosing a Tax Preparer](#)



Home Heating Credit Information

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2022 Home Heating Expenses Reported by Home Heating Credit Filers



**Prepared by
Office of Revenue and Tax Analysis
Michigan Department of Treasury
July 2024**

Background

This report is completed in accordance with MCL 206.527a(15), which requires the Michigan Department of Treasury to complete an annual study of the heating costs of taxpayers receiving a home heating credit. The home heating credit is a refundable credit designed to assist low-income families with the cost of heating their homes. The credit was created by Public Act 458 of 1978 and is funded predominantly by federal funds disbursed to Michigan through the Low-Income Home Energy Assistance Program (LIHEAP).

The credit is based on the number of exemptions for which the household is eligible. Individuals who are disabled, deaf, blind, or qualified disabled veterans are entitled to extra exemptions. Prior to 1991, recipients of Aid to Families with Dependent Children or General Assistance were not eligible for this credit but were provided comparable benefits from other state and local programs.

Michigan law requires home heating credits to be prorated or uniformly reduced so that the expected amount of total credit payments does not exceed the available federal funding. Therefore, from 2003 through 2020, claimants received only a percentage of their credit each year: 80 percent for 2003, 76 percent for 2004 through 2006, 53 percent for 2007, 65 percent for 2008 and 2009, 52 percent for 2010 and 2011, 48 percent for 2012, 49 percent for 2013, 50 percent for 2014 and 2015, 67 percent for 2016, 75 percent for 2017 and 2018, 80 percent for 2019, 85 percent for 2020. For 2021, claimants received the full credit amount (proration percent was 100%). For 2022 credits processed in 2023, the proration percentage for the home heating credit was 90 percent.

There are two methods, standard and alternative, to calculate a home heating credit. Claimants eligible to use both methods use the one that provides the higher benefit.

The standard credit for most claimants is equal to a standard allowance amount determined by the number of personal exemptions less 3.5 percent of household resources¹. Taxpayers who rent their homestead may have heating expenses included in their rent. These taxpayers claim the credit using the standard calculation. The credit for renters with heat included in their rent is then reduced by 50 percent. Claimants with disabilities, who receive extra personal exemptions, have a greater average standard credit.

The alternative credit is equal to 70 percent of the difference between actual heating costs and 11 percent of household resources. The alternate calculation uses heating costs on the claimants' homestead to compute the home heating credit amount, and the heating costs used for the calculation cannot be for less than 12 months, nor can heat be included in the claimant's rent.

¹ Starting in tax year 2012, the household income measure used to determine home heating credit eligibility is replaced by household resources. Household resources exclude net losses from business (including farm), rental and royalties, and exclude net operating losses. For more information on total household resources, visit <https://www.michigan.gov/taxes/iit/tax-time/total-household-resources>

Data

The detailed information in this report was gathered from the Department of Treasury's Data Warehouse based on the mainframe taxpayer tapes. The overall summary totals are from the TA-12720 reports.

Summary of 2022 Home Heating Credits

Approximately 248,765 taxpayers received a total of \$66.8 million in traditional home heating credits for tax year 2022, compared to a total of 232,200 taxpayers receiving \$63.9 million in comparable credits in total credits for tax year 2021. In October 2023, all home heating credit claimants for tax year 2022 received a \$54 supplemental credit. The supplemental credits totaled \$12.9 million statewide. Supplemental credits are excluded from all computations beyond this point to better compare year-over-year changes.

The total of about \$66.8 million in regular credits represented an increase of more than 15,000 credits over the 2021 total, with \$2.9 million (4.5 percent) more in heating assistance provided to low-income families. The average regular credit for 2022 (\$268.50) was roughly 2 percent lower than the 2021 average regular credit (\$274.10). The home heating credit proration percentage for tax year 2022 decreased from 100 percent in 2021 to 90 percent.

About 24,450 taxpayers used the alternative calculation based on energy consumption claiming credits worth \$15.3 million. The average credit among those reporting expenses under the standard calculation was \$325.65 compared to \$627.18 under the alternative calculation. The alternate calculation uses heating costs on the claimants' homestead to compute the home heating credit amount.

Home Heating Expenses

From the total claimants of the home heating credits in tax year 2022, approximately 53.7 percent reported their heating expenses on the home heating credit form. From the total of claimants who reported their heating expenses, only 2.8 percent reported that heating expenses were included in their rent. This represents about 7.4 percent of all claimants who reported that heating was included in their rent. About 75.3 percent of all claimants who reported that heating expenses were not included in their rent disclosed their heating expenses on the credit form.

Filers likely omit their heating expenses, in part, because these expenses are not required to calculate the standard credit. The attached tables are based on two subgroups of credit filers. The first subgroup is all credits with heating expenses reported. The second is all credits using the alternate credit calculation. The tables show the number of credits, reported heating expenses, and the credit amount claimed for both 2021 and 2022. The distribution of credits for each subgroup is presented by total household resources, credit amount, and heating expenses.

Tables 1 through 3 present the distribution of home heating credits for all credits with heating expenses reported on the credit form for tax year 2022 by income, credit amount, and expenses. Similar distributions are presented for 2021 in Tables 7 through 9. To better compare 2021 and 2022 statistics, supplemental credit amounts were not included in any of the tables in this report.

The average heating expense amount reported for 2022 (\$1,295) was higher than the amount reported for 2021 (\$1,094). Total reported expenses increased by \$56.0 million to \$173.1 million for 2022. The average home heating credit among those credits reporting expenses increased from \$293 for 2021 to \$326 for 2022. The average percentage of expenses reimbursed by the home heating credit decreased to 25.1 percent in 2022 compared to 26.8 percent in 2021.

Tables 4 through 6 present the distribution of home heating credits for filers using the alternative credit calculation method by income, credit amount, and heating expenses for 2022. Similar distributions are presented in Tables 10 through 12 for 2021.

In general, alternative-credit filers have lower average incomes and higher average heating expenses than filers using the standard-credit calculation method. The average alternative credit is also significantly larger.

The average heating expense amount reported by filers using the alternative calculation in 2022 increased to \$2,581 (Approximately 8 percent), compared to the average of \$2,390 reported in 2021. Total credits increased by \$7.0 million to \$15.3 million in 2022. The average credit using the alternative calculation increased from \$580 in 2021 to \$627 in 2022 (8 percent). Claimants using the alternative calculation realized the same average of 24.3 percent of their reported heating expenses in both 2022 and 2021.

Table 1
2022 Home Heating Credits Reporting Heating Expenses by Household Income

Total Household Resources	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$3,000	4,225	\$3,714,344	\$879	\$2,495,786	\$591	67.2%
\$3,001 - \$6,000	5,322	5,297,566	995	2,760,513	519	52.1%
\$6,001 - \$9,000	10,119	10,925,972	1,080	4,385,516	433	40.1%
\$9,001 - \$12,000	28,977	32,266,377	1,114	10,031,216	346	31.1%
\$12,001 - \$15,000	27,108	32,705,539	1,206	7,467,630	275	22.8%
Over \$15,000	<u>57,827</u>	<u>88,199,537</u>	1,525	<u>16,359,927</u>	283	18.5%
Total	133,578	\$173,109,328	\$1,296	\$43,500,588	\$326	25.1%

Note:

. The household resources limits for the alternate credit for tax year 2022 were \$17,534 for one-person households, \$23,595 for two, \$29,661 for three, and \$31,818 for all others

. Does not include supplemental credit.

Table 2
2022 Home Heating Credits Reporting Heating Expenses by Credit Amount

Credit Amount	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$100	25,515	\$25,802,854	\$1,011	\$1,307,269	\$51	5.1%
\$101 - \$150	14,487	14,519,593	1,002	1,838,647	127	12.7%
\$151 - \$200	12,858	13,378,109	1,040	2,229,720	173	16.7%
\$201 - \$250	11,341	12,307,436	1,085	2,556,278	225	20.8%
\$251 - \$300	10,997	11,991,742	1,090	3,034,314	276	25.3%
More than \$300	<u>58,380</u>	<u>95,109,601</u>	1,629	<u>32,534,360</u>	557	34.2%
Total	133,578	\$173,109,328	\$1,296	\$43,500,588	\$326	25.1%

Note:

. Does not include supplemental credit.

Table 3
2022 Home Heating Credits Reporting Heating Expenses by Heating Expenses

Annual Heating Expenses	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$500	21,383	\$6,570,351	\$307	\$5,111,923	\$239	77.8%
\$501 - \$750	20,446	12,936,630	633	4,877,890	239	37.7%
\$751 - \$1,000	23,594	20,858,726	884	6,022,437	255	28.9%
\$1,001 - \$1,500	29,715	36,865,438	1,241	8,225,549	277	22.3%
More than \$1,500	<u>38,440</u>	<u>95,878,190</u>	2,494	<u>19,262,789</u>	501	20.1%
Total	133,578	\$173,109,328	\$1,296	\$43,500,588	\$326	25.1%

Note:

. Does not include supplemental credit.

Table 4
2022 Home Heating Credits Reporting Heating Expenses by Household Income
Alternate Credit Filers Only

Total Household Resources	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$3,000	1,383	\$1,794,364	\$1,297	\$1,010,236	\$730	56.3%
\$3,001 - \$6,000	1,519	2,593,968	1,708	1,121,468	738	43.2%
\$6,001 - \$9,000	2,418	4,965,185	2,053	1,759,726	728	35.4%
\$9,001 - \$12,000	5,772	13,300,903	2,304	3,867,412	670	29.1%
\$12,001 - \$15,000	5,050	13,016,982	2,578	3,066,429	607	23.6%
Over \$15,000	<u>8,292</u>	<u>27,389,674</u>	3,303	<u>4,499,263</u>	543	16.4%
Total	24,434	\$63,061,076	\$2,581	\$15,324,534	\$627	24.3%

Note:

. The household resources limits for the alternate credit for tax year 2022 were \$17,534 for one-person households, \$23,595 for two, \$29,661 for three, and \$31,818 for all others

. Does not include supplemental credit.

Table 5
2022 Home Heating Credits Reporting Heating Expenses by Credit Amount
Alternate Credit Filers Only

Credit Amount	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$100	611	\$1,430,764	\$2,342	\$35,514	\$58	2.5%
\$101 - \$150	577	1,165,613	2,020	73,418	127	6.3%
\$151 - \$200	776	1,630,646	2,101	136,130	175	8.3%
\$201 - \$250	1,016	2,149,917	2,116	230,195	227	10.7%
\$251 - \$300	1,131	2,365,275	2,091	312,245	276	13.2%
More than \$300	<u>20,323</u>	<u>54,318,861</u>	2,673	<u>14,537,032</u>	715	26.8%
Total	24,434	\$63,061,076	\$2,581	\$15,324,534	\$627	24.3%

Note:

. Does not include supplemental credit.

Table 6
2022 Home Heating Credits Reporting Heating Expenses by Heating Expenses
Alternate Credit Filers Only

Annual Heating Expenses	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$500	14	\$4,699	\$336	\$2,559	\$183	54.5%
\$501 - \$750	9	5,832	648	1,993	221	34.2%
\$751 - \$1,000	446	406,888	912	218,770	491	53.8%
\$1,001 - \$1,500	2,576	3,383,914	1,314	1,174,779	456	34.7%
More than \$1,500	<u>21,389</u>	<u>59,259,743</u>	2,771	<u>13,926,433</u>	651	23.5%
Total	24,434	\$63,061,076	\$2,581	\$15,324,534	\$627	24.3%

Note:

. Does not include supplemental credit.

Table 7
2021 Home Heating Credits Reporting Heating Expenses by Household Income

Total Household Resources	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$3,000	3,298	\$2,103,494	\$638	\$1,900,371	\$576	90.3%
\$3,001 - \$6,000	4,117	3,338,670	811	2,076,636	504	62.2%
\$6,001 - \$9,000	8,621	7,695,937	893	3,523,746	409	45.8%
\$9,001 - \$12,000	24,896	22,628,053	909	7,790,631	313	34.4%
\$12,001 - \$15,000	21,073	21,414,832	1,016	5,325,381	253	24.9%
Over \$15,000	<u>45,030</u>	<u>59,876,021</u>	1,330	<u>10,740,442</u>	239	17.9%
Total	107,035	\$117,057,007	\$1,094	\$31,357,207	\$293	26.8%

Note:

- . Totals include all home heating credits, both standard and alternate calculations, reporting annual heating costs.
- . Does not include supplemental credit.

Table 8
2021 Home Heating Credits Reporting Heating Expenses by Credit Amount

Credit Amount	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$100	24,314	\$22,596,637	\$929	\$1,209,987	\$50	5.4%
\$101 - \$150	11,612	10,467,541	901	1,451,843	125	13.9%
\$151 - \$200	11,683	10,593,694	907	2,010,612	172	19.0%
\$201 - \$250	8,714	8,551,552	981	1,952,246	224	22.8%
\$251 - \$300	7,902	7,951,974	1,006	2,164,988	274	27.2%
More than \$300	<u>42,810</u>	<u>56,895,609</u>	1,329	<u>22,567,531</u>	527	39.7%
Total	107,035	\$117,057,007	\$1,094	\$31,357,207	\$293	26.8%

Note:

- . Totals include all home heating credits, both standard and alternate calculations, reporting annual heating costs.
- . Does not include supplemental credit.

Table 9
2021 Home Heating Credits Reporting Heating Expenses by Heating Expenses

Annual Heating Expenses	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$500	24,550	\$7,429,229	\$303	\$5,881,018	\$240	79.2%
\$501 - \$750	21,637	13,243,707	612	5,232,950	242	39.5%
\$751 - \$1,000	16,393	14,171,792	865	4,152,107	253	29.3%
\$1,001 - \$1,500	19,648	23,593,567	1,201	5,323,375	271	22.6%
More than \$1,500	<u>24,807</u>	<u>58,618,712</u>	2,363	<u>10,767,757</u>	434	18.4%
Total	107,035	\$117,057,007	\$1,094	\$31,357,207	\$293	26.8%

Note:

- . Totals include all home heating credits, both standard and alternate calculations, reporting annual heating costs.
- . Does not include supplemental credit.

Table 10
2021 Home Heating Credits Reporting Heating Expenses by Household Income
Alternate Credit Filers Only

Total Household Resources	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$3,000	721	\$815,751	\$1,131	\$507,273	\$704	62.2%
\$3,001 - \$6,000	848	1,327,149	1,565	616,210	727	46.4%
\$6,001 - \$9,000	1,625	3,049,157	1,876	1,120,206	689	36.7%
\$9,001 - \$12,000	3,670	7,683,370	2,094	2,277,063	620	29.6%
\$12,001 - \$15,000	3,116	7,309,275	2,346	1,692,219	543	23.2%
Over \$15,000	<u>4,355</u>	<u>14,078,690</u>	3,233	<u>2,097,868</u>	482	14.9%
Total	14,335	\$34,263,392	\$2,390	\$8,310,839	\$580	24.3%

Note:

- . The household resources limits for the alternate credit for tax year 2021 were \$15,237 for one-person households, \$20,504 for two, \$25,775 for three, and \$27,700 for all others.
- . Does not include supplemental credit.

Table 11
2021 Home Heating Credits Reporting Heating Expenses by Credit Amount
Alternate Credit Filers Only

Credit Amount	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$100	392	\$737,861	\$1,882	\$24,943	\$64	3.4%
\$101 - \$150	393	793,216	2,018	49,693	126	6.3%
\$151 - \$200	542	1,158,681	2,138	95,568	176	8.2%
\$201 - \$250	662	1,415,934	2,139	148,971	225	10.5%
\$251 - \$300	794	1,701,173	2,143	218,426	275	12.8%
More than \$300	<u>11,552</u>	<u>28,456,527</u>	2,463	<u>7,773,238</u>	673	27.3%
Total	14,335	\$34,263,392	\$2,390	\$8,310,839	\$580	24.3%

Note:

- . Does not include supplemental credit.

Table 12
2021 Home Heating Credits Reporting Heating Expenses by Heating Expenses
Alternate Credit Filers Only

Annual Heating Expenses	Number of Credits	Total Expenses Reported	Average Expense Amount	Total Credit Amount	Average Credit Amount	Credit as Percent of Expenses
Up to \$500	10	\$3,398	\$340	\$1,524	\$152	44.8%
\$501 - \$750	28	19,163	684	10,347	370	54.0%
\$751 - \$1,000	274	243,494	889	141,367	516	58.1%
\$1,001 - \$1,500	1,700	2,175,910	1,280	750,174	441	34.5%
More than \$1,500	<u>12,323</u>	<u>31,821,427</u>	2,582	<u>7,407,427</u>	601	23.3%
Total	14,335	\$34,263,392	\$2,390	\$8,310,839	\$580	24.3%

Note:

- . Does not include supplemental credit.



LARA MPSC

Michigan Energy Assistance Program

Michigan Energy Assistance Program (MEAP)

The purpose of the MEAP is to establish and administer programs statewide that provide energy assistance and self-sufficiency services to eligible low-income households. Self-sufficiency services include assisting participants with the following: paying their energy bills on time; budgeting for and contributing to their ability to provide for energy expenses, which may include enrollment into an affordable payment plan (APP); and utilizing energy services to optimize on energy efficiency.

Concerned about your gas, electric, telecommunications or broadband service? For the latest on what utilities and telecommunications providers are doing to assist customers, [click here](#).

Energy Assistance Process

Electric, natural gas, and propane bills can have a major impact on household budgets. For people having trouble paying their energy bills, it is important to know that help may be available. Below you will find helpful tips on navigating the energy assistance process.

Be Proactive - Contact your utility company or propane supplier as soon as you know you will be unable to pay your bill on time. Do not wait for a shut-off notice or put yourself in a situation where you might run out of fuel.

Get Help by Calling 2-1-1 - Call 2-1-1 or go to www.mi211.org to learn about agencies in your county that may assist with your energy bill.

State Emergency Relief (SER) Program - SER may help low-income households pay part of their heating or electric bills, assist in keeping utilities in service, or have service restored. The program is available all year long. Call your local Department of Health and Human Services office for information or apply on [MI Bridges](#). Households must apply for SER assistance prior to receiving any MEAP services.

Please note that the State Emergency Relief (SER) Program provides financial assistance to Michigan residents facing extreme hardship or emergencies that threaten health and safety. One part of that program, the Low-Income Home Energy Assistance Program (LIHEAP), consists of federal funds for crisis assistance for energy-related services such as heating and electricity.

Michigan Energy Assistance Program (MEAP) - MEAP works with households to provide supplemental bill payment assistance and self-sufficiency services to low-income residents statewide. A list of organizations that deliver MEAP services can be found in the yearly grant program fact sheets [here](#). MEAP Grantees are all Community Partners with MDHHS and can help applicants to navigate the MDHHS application process.

Community Partners - Connect with an [MDHHS community partner](#) to help work through the process of applying for assistance

Home Heating Credit - Qualified persons may receive a credit to help pay winter heating bills. Apply for a [Home Heating Credit](#) if you are low-income, receive public assistance, or unemployment compensation. Eligible customers must meet guidelines based on household income, exemptions, and heating costs. You must apply by September 30 each year. The application form (MI-1040CR-7) can be requested from the Michigan Department of Treasury at 517-636-4486, or visit website at michigan.gov/Treasury

For more information check out our consumer tip on [energy assistance, how to apply for energy assistance](#), or visit michigan.gov/BeWinterWise for a variety of additional energy resources and information.

Energy Assistance Outreach Toolkit

The MPSC has created an outreach toolkit to help organizations share information about energy assistance programs with their local communities. The toolkit includes information on available assistance programs and shut off protections as well as outreach materials.

[Download the Energy Assistance Outreach Toolkit](#)

How to Access Energy Assistance

If you are a consumer seeking energy assistance, you can find more information on the MiBridges application, administered by our partner agency, the Michigan Department of Health and Human Services.

[Access MiBridges](#) >

MEAP Facts & Updates

[Public Acts 168](#) and [169](#) of 2024 make changes to the Low-Income Energy Assistance Fund (LIEAF) which funds the MEAP by removing the cap of \$50 million and allowing for the monthly surcharge on utilities that opt-into the LIEAF to increase by increments of \$0.25 until the surcharge reaches \$2.00. It requires the utilities that opt-out of the LIEAF to provide a heating and electric energy assistance program equivalent to the Michigan Energy Assistance Program for their customers.

[Public Act 170](#) of 2024 makes changes to the Michigan Energy Assistance Program (MEAP) which distributes the LIEAF by administering programs statewide that reduce energy insecurity by providing energy assistance and self-sufficiency services to eligible low-income households. It also increases the income eligibility to 60% [State Median Income\(SMI\)](#).

On April 24, 2025, in [Case No. U-17377](#), the MPSC adopted a funding factor of \$1.25 per meter per month for all Michigan electric utilities that have opted to participate in the funding of the LIEAF, effective for the September 2025 billing month.

[Pre-MEAP Program History 2000-2011](#)

Requests for Proposals

No requests for proposals are currently available.

Previous Energy Grant Programs

[Previous Energy Grant Programs](#)

2026

[April 24th, 2025 Commission Order in U-17377](#)

[PDF](#) [2026 LIEAF Opt-In Opt-out Electric Providers](#)

[2026 MEAP Grant Program Fact Sheets](#)

2025

[PDF](#) [2025 LIEAF Opt-in Opt-out Electric Providers](#)

[2025 MEAP Grant Program Fact Sheets](#)

[PDF](#) [2025 MEAP Grant Approvals](#)

[PDF](#)[MEAP 2025 Policy Manual – October 1, 2024](#)

2024

[PDF](#)[2024 MEAP Grant Approvals](#)[2024 MEAP Grant Program Fact Sheets](#)[PDF](#)[2024 MEAP Policy Manual](#)[PDF](#)[2024 MEAP Grant RFP - Closed July 10, 2023](#)[PDF](#)[MEAP 2024 Pre-proposal Conference Slide Deck](#)[PDF](#)[2024 LIEAF OPT-IN & OPT-OUT Electric Providers](#)[PDF](#)[2024 MEAP Response to Inquiries](#)

2023

[PDF](#)[2023 LIEAF Opt-in Opt-out Electric Providers](#)[2023 MEAP Grant Program Fact Sheets](#)[PDF](#)[2023 MEAP Grant Approvals](#)[PDF](#)[MEAP 2023 Policy Manual – February 8, 2023](#)

Reports to Legislature

[2024 MEAP Report to the Legislature](#)[2023 MEAP Report to the Legislature](#)[2022 MEAP Report to the Legislature](#)[2021 MEAP Report to the Legislature](#)[2020 MEAP Report to Legislature](#)[2019 MEAP Report to Legislature](#)[2018 MEAP Report to Legislature](#)[2017 MEAP Report to Legislature](#)

Governing Statutes

[PA 168 of 2024](#)

[PA 169 of 2024](#)

[PA 170 of 2024](#)

[PA 198 of 2024](#)



Consumer Information

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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of **DTE GAS COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of natural gas, and for miscellaneous accounting authority.

Case No. U-21973

ALJ Christopher S. Saunders

PROOF OF SERVICE

I, Mark N. Templeton, certify that an electronic copy of the **Direct Testimony of Liz Jacob on Behalf of Frontline Organizations and Accompanying Exhibits FLO-101 to FLO-130** (Part 1 of 2) was served on the following on March 13, 2026.

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The statements above are true to the best of my knowledge, information, and belief.

Date: March 13, 2026

Abrams Environmental Law Clinic
Counsel for Frontline Organizations

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