



ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage

March 9, 2021

Ms. Lisa Felice
Michigan Public Service Commission
7109 W. Saginaw Hwy.
P. O. Box 30221
Lansing, MI 48909

RE: MPSC Case No. U-20763

Dear Ms. Felice:

The following are attached for paperless electronic filing:

Application by the Environmental Law & Policy Center and Michigan Climate Action Network for Leave to Appeal October 23, 2020 and February 23, 2021 Rulings Excluding Evidence

Brief in Support of Application to Appeal Ruling

Declaration of Peter A. Erickson

C.V. of Peter A. Erickson

Declaration of Dr. Peter H. Howard, Ph.D.

C. V. of Dr. Peter H. Howard, Ph.D.,

Certificate of Service

1514 Wealthy Street SE, Suite 256 • Grand Rapids, MI 49506
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Minneapolis, MN • Madison, WI • North Dakota • South Dakota • Washington, D.C.



ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage

Sincerely,

Margrethe K. Kearney

Margrethe Kearney
Environmental Law & Policy Center
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cc: Service List, Case No. U-20763

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**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the matter of **Enbridge Energy, Limited Partnership**'s declaratory request that it has the requisite authority needed from the Commission for the proposed Line 5 pipeline Project.)
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)
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)

Case No. U-20763

**APPLICATION BY THE ENVIRONMENTAL LAW & POLICY CENTER AND
MICHIGAN CLIMATE ACTION NETWORK FOR LEAVE TO APPEAL OCTOBER
23, 2020 AND FEBRUARY 23, 2021 RULINGS EXCLUDING EVIDENCE**

1. The Environmental Law & Policy Center (“ELPC”) and Michigan Climate Action Network (“MiCAN”) (collectively, “Climate Organizations”) pursuant to Rule 792.10433 of the Commission’s Rules of Practice and Procedure, respectfully file this application for leave to appeal Administrative Law Judge (“ALJ”) Dennis W. Mack’s October 23, 2020 ruling (“First Ruling”) and February 23, 2021 ruling (“Second Ruling”) (jointly, “the Rulings”) on Enbridge Limited Partnership’s (“Enbridge”) Motion *in Limine*. The Rulings (1) exclude any evidence relating to the environmental effects of greenhouse gas (“GHG”) emissions and climate change from the scope of review in the above-captioned case, and (2) conclude that the issuance of the Governor’s Notice of revocation and termination of the 1953 Easement allowing Enbridge to operate under the Straits does not change or expand the First Ruling’s reasoning. This application is timely filed within 14 days after the Ruling on February 23, 2021, and is consistent with the scheduling order issued by the ALJ.

2. The Climate Organizations’ application meets the requirements of Rule

792.10433 because a decision on the Rulings before submission of the full case to the Commission for final decision will (1) materially advance a timely resolution of the proceeding, and (2) prevent substantial harm to the appellant and the public-at-large.¹ No party will be prejudiced by the Commission’s consideration of the Climate Organizations’ application. Staff and Intervenor testimony are due on May 18, 2021, and although discovery is ongoing, the Climate Organizations have found it materially difficult to receive discovery from Enbridge because the discovery requests are considered “outside the scope” of this proceeding based on the Rulings from which the Climate Organizations now appeal. Given the complexity and importance of this proceeding, the Climate Organizations are aware that the reversal of the ALJ’s Rulings will require an extension of the deadlines set. Nonetheless, the Commission has recognized “that significant developments may arise that could affect the schedule and scope of the proceeding and, therefore, looks to the ALJ to work with the parties to make appropriate adjustments to this general timeframe without seeking approval from the Commission.” (June 30, 2020 Order). Climate Organizations will participate in good faith with the ALJ and other parties to move this case forward despite new developments.

3. A prompt Commission decision on the Rulings will materially advance a timely resolution of the proceeding because it will prevent discovery disputes over permissible subjects for discovery. Given the timing of Enbridge’s Motion *in Limine*, the primary function of the Rulings is to limit discovery, and as a result limit the information presented to the Commission for consideration. The First Ruling purports to exclude evidence about GHG emissions directly related to the construction and operation of the Proposed Project while simultaneously

¹ Rule 433(2)(b), R 792.10433(2)(b).

recognizing that review under the Michigan Environmental Protection Act (“MEPA”) applies to the construction and operation of the Proposed Project. (First Ruling at 19). The First Ruling concluded that consideration of any environmental impacts under the MEPA was limited to the construction and operation of the Proposed Project, not the “extraction, refinement, or consumption of the oil transported on Line 5,” and therefore “any evidence in that regard, including the environmental effect of greenhouse gas emissions and climate change, is irrelevant.” (First Ruling at 19). The Judge then expanded upon this conclusion, granting Enbridge’s motion to exclude all evidence related to GHG emissions, stating that “review of the project under MEPA does not entail the environmental effects of greenhouse gas emissions and climate change.” (First Ruling at 20). In the related Second Ruling, the ALJ concluded that the issuance of the Governor’s revocation and termination of the 1953 Easement, which requires Enbridge to decommission Line 5 under the Straits of Mackinac before May 13, 2021 (the “Notice”) does not change or expand the MEPA inquiry to include the environmental effects of GHG emissions and climate change in the scope of review in this case. (Second Ruling at 20). The ALJ further concluded that under MEPA, the Notice does not change the activity proposed in the Application, i.e., the conduct under MEPA. (Second Ruling at 20). As written, the Rulings would prevent any discovery seeking evidence relevant to GHG emissions related to the construction of the tunnel or the operation of the pipeline and would exclude testimony describing the climate impacts of the proposed project.

4. A prompt Commission decision on the Rulings will prevent substantial harm to the appellant and the public-at-large. In its June 30, 2020 Order concluding that the Proposed Project is not authorized by the Commission’s original 1953 approval of Line 5, this

Commission concluded that “due to the significant public interest and concern regarding the Line 5 Project’s potential environmental impact on the Great Lakes, the Commission finds that it is in the public interest to conduct a contested case proceeding.” (June 30, 2020 Order at 69-70). The public interest and concern regarding the Proposed Project’s potential environmental impact on the case is not served by a contested case proceeding in which evidence relevant to the environmental impacts of GHGs is excluded in its entirety. If the Commission delays consideration of the Rulings until the case is submitted for final conclusion, information regarding the environmental impact will not be discovered and the public interest and concern regarding environmental impacts will not be taken into account in the Commission’s decision.

5. The Commission also concluded that “[o]pportunities for interested parties and members of the public to participate and present evidence, arguments, and comments in this proceeding are of utmost importance to the Commission.” (June 30, 2020 Order at 70). The Rulings are directly in opposition to the Commission’s conclusion, and injure both the Climate Organizations and the public-at-large by limiting the opportunity for interested parties to present evidence and set forth arguments regarding a key environmental impact of the Proposed Project – increased GHG emissions.

6. The Commission further instructed potential intervenors that “[t]he quality of the evidence and argument (i.e., *depth and breadth of issues addressed and the support given to expert opinion and analyses*), rather than the quantity of intervenor support, is most important for the Commission to make an informed decision.” [June 30, 2020 Order at 71]. The Rulings injure the Climate Organizations and undermine the Commission’s directive by erroneously limiting both the depth and breadth of issues and by excluding the testimony of experts who are uniquely able to estimate and value the GHG emissions associated with Enbridge’s construction

and operation of the Proposed Project. The Rulings are not limited to a narrow subset of evidence, but rather exclude a broad swath of evidence from being presented in this case, including any evidence related to the environmental effect of GHG emissions and climate change.


7. As required by Rule 792.10433(4), this application is accompanied by a supporting brief stating the basis for the appeal and demonstrating that the appeal complies with the provisions the Rule. The Climate Organizations also bring to the Commission's attention an Offer of Proof pursuant to Rule 792.10433(3), consisting of: (1) a statement within the accompanying brief of the substance of the evidence excluded by the Rulings, and (2) expert witness declarations stating the substance of the evidence that would be established by the testimony excluded by the Rulings.

WHEREFORE the Climate Organizations respectfully request that the Commission:

- (1) Grant this Application for Leave to Appeal the Rulings, and
- (2) Reverse the Rulings for the reasons provided in the accompanying brief.

March 9, 2021

Respectfully Submitted



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**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the matter of **Enbridge Energy, Limited**)
Partnership's declaratory request that it has)
the requisite authority needed from the)
Commission for the proposed Line 5 pipeline)
Project.)

Case No. U-20763

**BRIEF IN SUPPORT OF APPLICATION BY THE ENVIRONMENTAL LAW &
POLICY CENTER AND MICHIGAN CLIMATE ACTION NETWORK FOR LEAVE
TO APPEAL OCTOBER 23, 2020 AND FEBRUARY 23, 2021 RULINGS**

March 9, 2021

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I. INTRODUCTION

The Environmental Law & Policy Center (“ELPC”) and Michigan Climate Action Network (“MiCAN”) (collectively, “Climate Organizations”) pursuant to Rule 792.10433 of the Commission’s Rules of Practice and Procedure, respectfully appeal Administrative Law Judge (“ALJ”) Dennis W. Mack’s October 23, 2020 ruling (“First Ruling”) and February 23, 2021 ruling (“Second Ruling”) (jointly, “the Rulings”) on Enbridge Limited Partnership’s (“Enbridge”) Motion *in Limine*, which (1) exclude any evidence relating to the environmental effects of greenhouse gas (“GHG”) emissions and climate change from the scope of review in the above-captioned case, and (2) conclude that the issuance of the Governor’s Notice of revocation and termination of the 1953 Easement allowing Enbridge to operate Line 5 under the Straits does not change or expand the First Ruling’s reasoning.²

The Climate Organizations appealed the ALJ’s First Ruling on Enbridge’s Motion *in Limine* because evidence of GHG emissions resulting from the relocation and extended useful life of Line 5 are relevant to the Michigan Public Service Commission’s (“MPSC” or “Commission”) Michigan Environmental Protection Act (“MEPA”) analysis and should not be excluded from discovery in this case. The Commission remanded that appeal to the ALJ to consider whether the Governor’s revocation and termination of the 1953 Easement (“the Notice”) impacted the Climate Organizations’ arguments. The Climate Organizations argued in supplemental briefs to the ALJ that the Notice makes consideration of GHG emissions even more essential to the Commission’s MEPA analysis because it changes the conduct at issue under MEPA. After the Notice, the conduct at issue in this case is no longer the replacement of the existing pipelines on the bottomlands with a pipeline in a Utility Tunnel, but rather the

² Second Ruling at 20.

construction of a pipeline in a Utility Tunnel for purposes of restarting a decommissioned pipeline. In the Second Ruling, the ALJ rejected Climate Organizations’ argument on essentially the same grounds articulated in the First Ruling – concluding that “issuance of the Notice does not expand the MEPA inquiry to include the environmental effects of the operation and safety of Line 5, or those arising from the production, refinement and consumption of the oil transported on Line 5.”³

The Climate Organizations request that the Commission reverse both the First and Second Rulings, and hold that (1) evidence regarding GHG emissions from Enbridge’s Proposed Project are relevant to the Commission’s MEPA evaluation and should be included in this case; and (2) the Governor’s Notice is relevant to an analysis of GHG emissions from Enbridge’s proposed project.

II. PROCEDURAL BACKGROUND

On April 17, 2020, Enbridge filed an application and supporting exhibits pursuant to 1929 PA 16, MCL 483.1 *et. seq.* (“Act 16”), and the Commission’s Rules of Practice and Procedure, Mich. Admin. Code, R. 792.10447 (“Rule 447”), requesting that the Commission grant Enbridge the authority to rebuild a segment of its operating Line 5 pipeline, removing two 20-inch diameter dual pipelines that currently traverse the lakebed of the Straits of Mackinac and building an underground tunnel containing a replacement 30-inch diameter pipeline that will be primarily located underneath the lakebed of the Straits of Mackinac (the “Proposed Project”).

Enbridge sought to bypass a contested case proceeding, seeking relief in the form of a declaratory ruling that the Commission’s March 31, 1953 order in Case No. D-3903-53.1 (“1953

³ Second Ruling at 21.

Order”) already gave Enbridge the authority to undertake the Proposed Project without need for a contested case.⁴ On June 30, 2020, the Commission denied Enbridge’s request for a ruling that the Proposed Project was authorized under the 1953 Order, finding instead that “Enbridge’s Line 5 Project involves significant factual and policy questions and complex legal determinations that can only be resolved with the benefit of discovery, comprehensive testimony and evidence, and a well-developed record in a contested case proceeding.”⁵

A prehearing conference was held on August 12, 2020, to rule on petitions for intervention and to set a schedule for the contested case. Enbridge objected to several petitions for intervention, including that of the Climate Organizations. Enbridge framed many of its arguments against intervention as related to the proper “scope” of the proceedings, including arguing that “climate change issues are clearly beyond the scope of this case.”⁶ Climate Organizations were granted intervention by right (1 TR 74:21-75:3) and a schedule was set for Motions *in Limine*, which are intended to decide the admissibility of specific items or categories of evidence.⁷ While Motions *in Limine* are normally filed after discovery is complete, and are intended to determine whether evidence obtained in discovery is admissible at trial, here these motions were scheduled to be considered prior to extensive discovery in this case.⁸ Given the early filing of Motions *in Limine*, the primary function of Enbridge’s motion is to limit

⁴ Application at 15.

⁵ June 30, 2020, Order at 69.

⁶ 1 TR 13:5-6.

⁷ See *Lapasinskas v. Quick*, 17 Mich. App 733 (1969); see also § 2:6 3 Motions *in limine*, Trial Handbook for Michigan Lawyers § 2:6 (4th); (Scheduling Memo, Aug. 13, 2020).

⁸ See Larry J. Saylor, Motions *in Limine*, Mich. B.J., January 2017, at 40.

discovery, which has the result of also limiting the information presented to the Commission for review.

Enbridge timely filed a Motion *in Limine* on September 2, 2020, seeking to exclude a broad swath of evidence from being discovered or presented in this case including: (1) any consideration of the construction of the tunnel itself, (2) any consideration of the impact of the Proposed Project on the continued operation of the pipeline, and (3) any consideration of GHG emissions resulting from the construction or operation of the Proposed Project. The Climate Organizations timely filed a response on September 23, 2020, focusing on Enbridge's efforts to exclude evidence related to GHG emissions resulting from the Proposed Project, while referencing and endorsing the responses of other intervenors. The Climate Organizations and other interested parties participated in oral argument on September 30, 2020.

On October 23, 2020, the ALJ issued the First Ruling, denying in part and granting in part Enbridge's Motion. While recognizing that the Commission must consider the applicable provisions of MEPA,⁹ the First Ruling concluded that consideration of any environmental impacts under MEPA is limited to the construction and operation of the Proposed Project, not the "extraction, refinement, or consumption of the oil transported on Line 5," and therefore any evidence related to the environmental effect of GHG emissions and climate change "is irrelevant."¹⁰ The First Ruling focused on the meaning of the word "conduct" in MEPA, concluding that:

The conduct in this case is the activity proposed in the Application and subject to the Commission's jurisdiction under Act: the replacement of the existing pipelines on the bottomlands with a pipeline in a Utility Tunnel.

⁹ First Ruling at 3 (citing MCL 324.1701, et. seq; *State Highway Commission v. Vanderkloot*, 329 Mich. 159, 167-68 (1974))

¹⁰ First Ruling at 19.

On November 6, 2020, the Climate Organizations filed an Application for Leave to Appeal the First Ruling excluding evidence. The Application included an Offer of Proof consisting of the Declarations of Dr. Peter H. Howard, Ph.D. and Peter. A. Erickson addressing the substance of the evidence that would be established by the testimony excluded by the First Ruling.

On November 13, 2020, before the Commission ruled on Climate Organization's Appeal, Governor Gretchen Whitmer and Director of the Michigan Department of Natural Resources Daniel Eichinger issued the Notice. On that same day, Michigan Attorney General Dana Nessel filed a request for declaratory and injunctive relief in the Ingham County Circuit Court, asking the Court to declare that the State properly revoked and terminated the easement, and seeking injunctive relief requiring Enbridge to cease operation of the pipeline within 180 days of the November 13, 2020 Notice and permanently decommission Line 5 in the Straits. While Enbridge has rejected the State's revocation and termination and has filed a separate lawsuit in the Federal District Court for the Western District of Michigan, alleging that the revocation and termination of the 1953 easement violate the United States Constitution and seeking removal of Attorney General Nessel's state court filing, Enbridge is currently required to shut down the portion of Line 5 that traverses the Straits of Mackinac before May 13, 2021.

On December 9, 2020, the Commission issued an Order remanding Enbridge's Motion *in Limine* to the ALJ for rehearing and reconsideration in light of the Governor's revocation and termination of the easement.¹¹ The Commission emphasized the need for clarity with respect to the scope of this proceeding, and noted that the ALJ's Prior Ruling was premised on the

¹¹ December 9, 2020 Order at 6.

continued existence of the 1953 easement.¹² The Commission correctly characterized the Notice as a “fundamental change” and noted that Enbridge argued in response to applications for leave to appeal that Line 5 will operate indefinitely, regardless of whether the Proposed Project is approved.¹³

The Climate Organizations, pursuant to the new schedule set by the ALJ, filed briefs addressing the question identified by the Commission of “whether, and, if so, to what extent Governor Whitmer’s action to revoke and terminate the 1953 Easement changes the scope of review in this proceeding and how that change, if any, [a]ffects the issues presented in the motion *in limine*.”¹⁴ Climate Organizations argued that the Notice changed the conduct at issue in this case from a replacement of the existing pipelines on the bottomlands with a pipeline in a Utility Tunnel, to the construction of a pipeline in a Utility Tunnel for purposes of restarting a decommissioned pipeline. This change in the conduct reinforced and clarified the need for the Commission to consider direct and indirect GHG emissions in its analysis under the MEPA.

On February 23, 2021, the ALJ ruled that although the Notice constitutes an official act of the State of Michigan, it does not expand the scope of this case to include an examination or determination of the public need of Line 5, or any aspect of its operation and safety. (Second Ruling at 13, 19). Moreover, relating to the issue of GHG emissions and climate change, the ALJ ruled that the Notice does not change the scope of the Commission’s MEPA review of the project at issue in this case as set forth in the Initial Ruling. (Ruling at 20). According to the ALJ, under MEPA, the Notice does not provide substantive legal basis in Michigan law to expand the

¹² *Id.* at 5.

¹³ *Id.* at 6, n. 2.

¹⁴ *Id.* Order at 6.

MEPA review to the environmental effects of the extraction, refinement or consumption of oil shipped by Line 5.¹⁵ The ALJ further concluded that the Notice does not change the activity proposed in the Application, *i.e.*, the conduct under MEPA.¹⁶

The Climate Organizations focus this brief on addressing (1) why GHG emissions must be included in the Commission’s MEPA “pollute, impair, and destroy” analysis, and (2) why the Governor’s Notice is relevant to the scope of this proceeding. The Climate Organizations have incorporated arguments from the November 6, 2020, Application into this March 9, 2021, Application in an effort to streamline the appeal of both Rulings into this filing.

III. APPELLANTS’ OFFER OF PROOF

As described in the attached declarations of expert witnesses Peter Erickson¹⁷ and Peter Howard the Climate Organizations seek to offer evidence into the record that estimates the environmental impact of the conduct for which Enbridge seeks approval in this case—the relocation and replacement of a key portion of its Line 5 pipeline.

As described more fully in his declaration, attached as Exhibit A, Peter Erickson has over a decade of experience in GHG emissions accounting and the role of policy mechanisms in reducing GHG emissions. Should ELPC be permitted to seek relevant information in discovery, Mr. Erickson will use that information to provide testimony and analysis that: (1) counts total GHG emissions from the Proposed Project, including both construction and operation, (2) estimates the increase in GHG emissions from the Proposed Project compared to a

¹⁵ Second Ruling at 20.

¹⁶ *Id.* at 19-20.

¹⁷ Peter Erickson has provided an updated Declaration which includes the Governor’s Notice.

counterfactual, no-action scenario, and (3) places that estimated volume of GHG emissions into the context of global and state public policy goals.¹⁸

The Climate Organizations will also present the testimony of expert Peter Howard, described more fully in Exhibit B. Mr. Howard will quantify the environmental, public health, and social welfare costs associated with the emission of greenhouse gases estimated by Mr. Erickson using the social cost of greenhouse gases. Mr. Howard's attached declaration describes how monetizing GHG emissions resulting from the Proposed Project will assist the Commission in its decision-making.

In order to present this testimonial and documentary evidence, the Climate Organizations seek the opportunity to discover information relevant to Enbridge's proposed conduct—an examination required under MEPA—such as information on the materials and methods used in construction of the tunnel and pipeline, the known sources of the petroleum to be transported through the Proposed Project, the known end-uses of that petroleum, the operational and economic life of the Proposed Project, and whether the Proposed Project is expected to extend the time period over which petroleum products will be transported by Enbridge through the Straits of Mackinac. The Rulings prevent the Climate Organizations from discovering this information, analyzing it, and submitting expert testimony regarding its relevance to the Commission's MEPA determination. The Climate Organizations also seek to discover information on alternatives to the Proposed Project, and to understand what alternatives to the Proposed Project Enbridge has considered and how those impact GHG emissions.

¹⁸ Mr. Erickson's no-action scenario will evaluate two possible states of the world: one in which the dual pipelines are decommissioned before May 13, 2021 and the pipeline does not restart until the tunnel is completed and a second in which the dual pipelines continue to operate, but the relocation of the pipeline serves to extend the operating life of Line 5.

IV. ARGUMENT

As explained in the Climate Organizations' response to Enbridge's Motion *in Limine* and in the Climate Organizations' November 5, 2020 Appeal, GHG emissions must be included in the Commission's MEPA determination because by contributing to climate change, GHG emissions pollute, impair, and destroy the environment.¹⁹ Moreover, contrary to the ALJ's Second Ruling, the Notice is relevant to this proceeding because the activity proposed in Enbridge's Application is no longer the relocation of a segment of an existing pipeline; rather, Enbridge requests approval to restart a decommissioned pipeline. In other words, Enbridge now proposes building a tunnel so that it can restart a decommissioned segment of Line 5 that cannot operate as a result of the Notice. In either case – whether Enbridge is relocating an operating pipeline or restarting a decommissioned one – the Commission has the authority to allow evidence about the environmental effects of GHG emissions and climate impacts of the Proposed Project.

A. GHG Emissions Are Pollutants that Impact the Air, Water and other Natural Resources by Contributing to Climate Change and Must be Considered Under MEPA.

GHGs are widely recognized as pollutants. GHGs are gases trapped in the atmosphere such as water vapor, carbon dioxide, methane and nitrous oxide that can absorb infrared radiation, trapping heat in the atmosphere.²⁰ Since the late 1980s, scientific evidence has established that GHG emissions have environmental impacts, and the magnitude and importance

¹⁹ See MCL 324.1705(2).

²⁰ See IPCC Updates Methodology for Greenhouse Gas Inventories, IPCC, last visited Sept. 22, 2020 at <https://www.ipcc.ch/2019/05/13/ipcc-2019>; see also Greenhouse Gas Emissions: Sources of Greenhouse Gas Emissions, U.S. EPA, last visited Sept. 22, 2020 available at <https://www.epa.gov/ghgemissions/sources-greenhousegas-emissions>.

of those impacts have been more thoroughly developed over the past thirty years by organizations such as the Intergovernmental Panel on Climate Change (“IPCC”). The most important and prevalent GHG is carbon dioxide; it is emitted in by far the greatest quantities and is largely produced due to activities such as the combustion of fossil fuels (oil, natural gas, coal etc.) for transportation, electricity, and many industrial processes.²¹

The impact of GHGs on the environment as a result of climate change is real and immediate and creates significant societal costs that can be analyzed and evaluated by agencies when weighing the impact of agency action.²² GHG emissions from proposed fossil-fuel infrastructure or projects can be, and usually are, estimated based on information about the construction of the project itself and the use of the proposed infrastructure in the future. (*See* Offer of Proof). Those estimated GHG emissions can then be evaluated with respect to their impact (do they impair, pollute or destroy?) on the environment and natural resources as a result of their contribution to climate change.²³

MEPA requires state agencies such as the MPSC to determine whether the conduct to be approved will pollute, impair, or destroy the air, water or other natural resources or the public trust in those resources.²⁴ Although Michigan courts have had little occasion to consider what

²¹ *See* Global Climate Change: Legal Summary, SN044 ALI-ABA 275, 280 (Feb. 2008); *see also* U.S. Energy Information Administration, Emissions of Greenhouse Gases in the United States 2004 (December 2005) at 12, based on IPCC Third Assessment Report.

²² *See generally* Burger, Michael and Horton, Radley and Wentz, Jessica, *The Law and Science of Climate Change Attribution* (April 5, 2019), Forthcoming, Columbia Journal of Environmental Law (January 2020), available at <https://perma.cc/L779-2XDB>.

²³ GHG emissions from proposed fossil-fuel infrastructure can be, and usually is, estimated based on information about the construction of the project itself and the use of the proposed infrastructure in the future. Those estimated GHG emissions can then be evaluated with respect to their impact on the environment and natural resources as a result of their contribution to climate change.

²⁴ MCL 324.1705(2).

constitutes “pollute,” “impair,” or “destroy” under MEPA, existing case law and well-worn canons of statutory construction clearly include GHG emissions as conduct that will, or is likely to, “pollute,” “impair,” and “destroy” Michigan’s natural resources.²⁵

Michigan courts endeavor to determine the “plain and ordinary” meaning of a statute by construing the language of the statute itself.²⁶ Where a statute does not define its terms, those terms are given their plain and ordinary meaning, and courts may properly consult dictionary definitions to determine plain and ordinary meaning.²⁷ The plain and ordinary meaning of pollute, impair and destroy indicate that all three words reference those activities that cause harm to the environmental or natural resources. Article 4, § 52 of the Michigan Constitution directed the Legislature “to provide for the protection of the air, water and other natural resources of the state from pollution, impairment and destruction.” Article 4, § 52 provides that this mandate serves the “paramount concern in the interest of the health, safety and general welfare of the people” specifically with respect to “the conservation and development of the natural resources of the state.” Employing the precise words of art. 4, § 52, the Legislature enacted MEPA in fulfillment of art. 4, § 52's mandate.²⁸

²⁵ Climate Organizations’ Response to Enbridge’s Motion *in Limine* at 10-14.

²⁶ *S. Dearborn Env'tl. Improvement Ass'n, Inc. v. Dep't of Env'tl. Quality*, 502 Mich. 349, 361, 917 N.W.2d 603, 609 (2018).

²⁷ *Honigman Miller Schwartz & Cohn LLP v. City of Detroit*, No. 157522, 2020 WL 2530162, at *11 (Mich. May 18, 2020), citing *Oakland Co. Bd. of Co. Rd. Comm'rs v. Mich. Prop. & Cas. Guaranty Ass'n*, 456 Mich. 590, 604, 575 N.W.2d 751 (1998).

²⁸ *Nat'l Wildlife Fed'n v. Cleveland Cliffs Iron Co.*, 471 Mich. 608, 665, 684 N.W.2d 800, 834 (2004), overruled on other grounds by *Lansing Sch. Educ. Ass'n v. Lansing Bd. of Educ.*, 487 Mich. 349, 792 N.W.2d 686 (2010).

The Merriam Webster collegiate dictionary supports this plain language interpretation. The dictionary defines pollute as “to make physically impure or unclean; to contaminate (an environment) especially with man-made waste.”²⁹ The IPCC has concluded that changes in the frequency, type and timing of precipitation as a result of increased GHGs will increase contaminant capture and increase contaminant loading in the environment.³⁰ GHG emissions easily fit within the dictionary definition of conduct that pollutes the environment. Impair is defined as “to reduce the soundness, effectiveness, or perfection of.”³¹ According to the IPCC, impacts of climate change threaten to cause – and are already causing – losses and damages to ecosystems, livelihoods, properties and non-tangible assets, with implications for human development and well-being.³² GHG emissions also fit within the dictionary definition of conduct that impairs the environment. Destroy is defined as “to ruin the structure, organic existence, or condition of.”³³ The IPCC has concluded that some natural resources will be permanently damaged by GHG emissions and their contributions to climate change.³⁴ GHG

²⁹ “Pollute.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriamwebster.com/dictionary/pollute>. Accessed 22 Sep. 2020.

³⁰ See generally *The Intergovernmental Panel on Climate Change (IPCC), (2007). Summary for Policymakers*. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

³¹ “Impair.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriamwebster.com/dictionary/impair>. Accessed 22 Sep. 2020.

³² Intergovernmental Panel on Climate Change, “Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report,” at 2-41, Nov. 16, 2007, available at http://www.ipcc.ch/pdf/assessmentreport/ar4/syr/ar4_syr_spm.pdf. (hereinafter “IPCC Report”).

³³ “Destroy.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriamwebster.com/dictionary/destroy>. Accessed 22 Sep. 2020.

³⁴ IPCC Report at 7-11.

emissions also fall squarely within the definition of conduct that destroys the environment. The IPCC has developed a significant body of knowledge and analysis supporting the plain and ordinary meaning of conduct under MEPA that pollutes, injures or destroys the environment as including the emission of GHGs.

It is already well known that carbon dioxide, the most prevalent of the GHGs, threatens Michigan's natural resources.³⁵ “[W]hen carbon dioxide is released into the atmosphere, it acts like the ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat. GHG emissions, in turn, accelerate climate changes that adversely impact the air, water, and other natural resources.”³⁶ As a result, the magnitude of that impact must be determined or considered by the Commission under MEPA, and failure to do so would be clear legal error.

MEPA does not require up-front proof of pollution, impairment or destruction of air, water or other natural resources to employ a MEPA analysis. MEPA expressly directs an agency to “determine” the “**alleged** pollution, impairment, or destruction of the air, water, or other natural resources” and if such a determination is made to consider whether a feasible and prudent alternative exists.³⁷ The vast body of evidence surrounding the impact of GHG emissions on

³⁵ See Global Climate Change: Legal Summary, SN044 ALI-ABA 275, 280 (Feb. 2008); see also U.S. Energy Information Administration, Emissions of Greenhouse Gases in the United States 2004 (December 2005) at 12 (based on Intergovernmental Panel on Climate Change IPCC Third Assessment Report).

³⁶ See Intergovernmental Panel on Climate Change, *Global Warming of 1.5°C, An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, Chapter 3, (2018), available at <https://perma.cc/3ZTQ-ABTV>.

³⁷ MCL 324.1705(2) (emphasis added).

Michigan’s air, water and other natural resources is sufficient to trigger such an agency determination here.³⁸

In *Nemeth v. Abonmarche Dev.*, the Michigan Supreme Court considered whether soil erosion was a source of water pollution.³⁹ The *Nemeth* court looked to a single respected treatise to support its conclusion that erosion “is a well-recognized source of water pollution.”⁴⁰ The cited treatise discussed how erosion impacted the volume of suspended solids in U.S. waters, which was enough for the court to conclude that statutory efforts to prevent erosion were efforts intended to protect the environment from pollution, and were therefore subject to MEPA.⁴¹ In contrast to the single treatise relied upon in *Nemeth*, a massive body of work has been developed demonstrating that GHG emissions are a well-recognized source of air pollution, and injure and destroy water and other natural resources. While the ALJ concluded that GHG gas emissions are outside the scope of an environmental assessment, the plain language of the statute, the dictionary definition of MEPA’s terms and the available caselaw all support that it is within the scope of this contested case for the Commission to consider whether GHG emissions from Enbridge’s proposed project will or are likely to pollute, injure, or destroy Michigan’s natural resources.

³⁸ See ELPC Climate Change Report at 18, 39-48; see also *What Climate Change Means for Michigan*, EPA 430-F-16-024 (Aug. 2016) available at <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-mi.pdf> accessed 22 Sep. 2020.

³⁹ *Nemeth v. Abonmarche Dev., Inc.*, 457 Mich. 16, 27, 576 N.W.2d 641, 647 (1998).

⁴⁰ *Id.*

⁴¹ *Id.*

B. MEPA Requires Consideration of Evidence of Both Direct and Indirect GHG Emissions

MEPA requires analysis of both direct and indirect environmental impacts, because it instructs agencies to consider both conduct that has and conduct that is likely to have the effect of polluting, impairing, or injuring the environment.⁴² Because the First Ruling focuses on the meaning of the term “conduct” in the statute, it overlooks the statutory directive to consider impacts that are not only a direct result of the conduct, but also impacts that are likely to result from that conduct. MEPA’s requirement that agencies determine whether approval of conduct is likely to have the effect of polluting, impairing, or injuring the environment is a clear statutory mandate to include indirect environmental impacts in an agency MEPA determination.

To evaluate emissions, MEPA requires the Commission to compare two different worlds: one in which the proposed project is not constructed and one in which the proposed project is constructed. This approach is well-documented under Michigan law.⁴³

In analyzing the environmental impact of the Proposed Project under MEPA, the Commission must evaluate net GHG emissions.⁴⁴ Although the state MEPA statute is more robust than the federal National Environmental Policy Act (“NEPA”), judicial interpretation of

⁴² MCL 324.1705(2).

⁴³ See, e.g., *Trout Unlimited, Muskegon-White River Chapter v. City of White Cloud*, 209 Mich. App. 452, 455, 532 N.W.2d 192, 194 (1995) (upholding the trial court’s conclusion “that none of the proofs established that the dam reconstruction project caused the trout habitat to deteriorate from the condition that existed before the project”); *Kent Cty. Rd. Comm’n v. Hunting*, 170 Mich. App. 222, 233, 428 N.W.2d 353, 358 (1988) (in answering the question of whether impact of activity on the environment rises to the level of impairment, the “trial court should evaluate the environmental situation before the proposed action and compare it with the probable condition of the environment after”); *City of Portage v. Kalamazoo Cty. Rd. Comm’n*, 136 Mich. App. 276, 282, 355 N.W.2d 913, 915–16 (1984) (“In determining whether the impact of a proposed action on wildlife is so significant as to constitute an environmental risk and require judicial intervention, the court should evaluate the environmental situation prior to the proposed action and compare it with the probable condition of the particular environment afterwards.”).

⁴⁴ The difference in GHG emissions if the Proposed Project is approved.

the less substantive federal statute is illustrative in this case. MEPA requires state agencies to determine “the alleged pollution, impairment, or destruction of the air, water, or other natural resources, or the public trust in these resources” and “conduct shall not be authorized or approved that has or is likely to have such an effect if there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare.”⁴⁵ Although a less robust analysis than MEPA, a federal Environmental Impact Statement (“EIS”) under NEPA examines the scope of a federal action, evaluates the consequences of the action, and includes viable alternatives for the project.⁴⁶ Every EIS must include a “no action alternative.”⁴⁷ This is consistent with Michigan courts’ interpretation of MEPA, which, as described above, always evaluates the environmental impacts without the proposed action as compared to the environmental impacts with the proposed action.

The question of indirect versus direct effects has not been squarely addressed by Michigan Courts, but existing MEPA precedent does not construe MEPA to limit agencies and courts to considering direct effects. In fact, under MEPA, Michigan courts consider the “total effect” of conduct on the environment.⁴⁸ Michigan MEPA case law supports an analysis of both the direct and the indirect, or consequential, impacts of the conduct at issue. In the 1998 case—*Nemeth v. Abonmarche Dev. Inc.*, 457 Mich. 16, 25, 576 N.W.2d 641, 646 (Mich. 1998), the Michigan Supreme Court considered whether violations of Michigan’s Soil Erosion and Sedimentation Control Act that resulted in dispersal of sand, fly ash, and other pollutants,

⁴⁵ MCL 324.1705(2).

⁴⁶ See 40 CFR 1502.9a.

⁴⁷ See 40 CFR 1502.14d.

⁴⁸ See *Preserve the Dunes v. Dep’t of Envtl. Quality*, 264 Mich. App. 257, 265, 690 N.W.2d 487, 493 (Mich. App. 2004).

established a prima facie case under MEPA. The *Nemeth* Court looked to prior precedent established in *Ray v. Mason Co. Drain Comm'r*, 393 Mich. 294, 224 N.W.2d 883 (1975) and *Portage v. Kalamazoo Co. Road Comm.*, 136 Mich.App. 276, 355 N.W.2d 913 (1984) for guidance in its analysis. Citing *Ray*, the *Nemeth* Court confirmed that “the necessary showing to establish a plaintiff’s prima facie case is ‘not restricted to actual environmental degradation but also encompasses probable damage to the environment as well.’”⁴⁹ In making that evaluation, the *Nemeth* Court looked to the factors established in *Portage*, including “. . . (3) whether the proposed action will have any significant consequential effect on other natural resources (for example, whether wildlife will be lost if its habitat is impaired or destroyed), and (4) whether the direct or consequential impact on animals or vegetation will affect a critical number, considering the nature and location of the wildlife affected.”⁵⁰ The *Portage* line of cases considers whether there are direct or consequential impacts, clearly recognizing the distinction between the two and the need to consider both.

While Michigan courts have yet to hear the precise question of whether restarting a decommissioned oil pipeline is conduct that impairs the environment, treatment of the issue by federal courts under NEPA is instructive. A recent Ninth Circuit case provides an illustration of how GHG emissions can efficiently and effectively be considered under MEPA. The Ninth Circuit recently considered the adequacy of an EIS conducted by the Bureau of Ocean Energy Management (“BOEM”) in response to an application to construct the “Liberty” project, an

⁴⁹ *Ray*, 393 Mich. at 309.

⁵⁰ *Portage*, 136 Mich. App. At 282, 355 N.W.2d at 916; *Nemeth*, 457 Mich. At 31-32, 576 N.W.2d at 648-49.

offshore oil drilling and production facility along the coast of Alaska in the Beaufort Sea.⁵¹ The Center for Biologic Diversity (“CBD”) challenged BOEM’s EIS on several grounds, one of which was that the EIS “failed to include a key variable (foreign oil consumption) in its no action alternative.”⁵² By omitting foreign oil consumption, BOEM overestimated GHG emissions from the no-action alternative.⁵³ The Ninth Circuit succinctly expressed the economic underpinnings and the necessity for consideration of upstream and downstream emissions in the GHG emissions analysis.⁵⁴

The ALJ here, in contrast, ruled that climate change – widely recognized as the most exigent environmental issue of our time – is beyond the scope of Michigan’s most significant environmental protection statute. The ALJ’s ruling contradicts Governor Whitmer’s recent recognition that: “The science is clear, and message urgent: the earth’s climate is now changing faster than at any point in the history of modern civilization, and human activities are largely responsible for this change.”⁵⁵ While not controlling precedent, the Commission can look to guidance from federal law in the logistics of evaluating the environmental impacts of GHG emissions. In conducting its analysis, the Ninth Circuit provided a helpful background on how GHG emissions must be evaluated to provide the opportunity for the agency to make “an ‘informed and meaningful’ choice.”⁵⁶ The offers of proof provided by Climate Organizations’

⁵¹ See *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723 (9th Cir. 2020) (the “*Liberty*” case).

⁵² *Liberty* at 735-36.

⁵³ *Id.* at 737.

⁵⁴ *Id.* at 736-37.

⁵⁵ Executive Order No. 2020-182.

⁵⁶ *Liberty* at 735, citing *Bob Marshall All. V. Hodel*, 852 F.2d 1223, 1228 (9th Cir. 1988).

experts – one of whom participated in the *Liberty* case - are consistent with the information that will allow this Commission to make an informed and meaningful choice.

The Ninth Circuit decision in the *Liberty* case demonstrates that analysis of GHG emissions is now a well-developed component of an environmental impact statement that could be undertaken in this case without resulting in delay or prejudice to any party. The Ninth Circuit recognized that new oil production impacts GHG emissions by changing the market price of oil, which in turn influences oil consumption. Here, the proposed tunnel can impact market prices either by increasing supply by extending the operating life of the pipeline or, more dramatically, by allowing Enbridge to restart a previously decommissioned pipeline. While the First Ruling concluded that extending the interpretation of conduct to include impacts on the extraction and refinement process would be too broad, the Notice recasts Enbridge’s conduct such that the analysis described by the Ninth Circuit must be conducted under MEPA. The Second Ruling did not acknowledge this distinction, resting on its prior determination that oil market impacts of Enbridge’s project, which could in turn affect GHG emissions, can *never* be part of a MEPA analysis and that information about climate change – the most significant environmental issue of our time – is not even *discoverable* in a MEPA case. The Commission cannot allow this erroneous conclusion to stand.

The ALJ’s efforts to exclude any consideration of GHG emissions on a narrow reading of Enbridge’s “conduct” is a misapplication of MEPA. The question of whether “conduct” impacts natural resources is similar under the state and federal statutes, and indirect impacts of conduct are relevant under both. *See* First Ruling at 18, (stating that “MEPA requires an examination of the “conduct” to determine its effect on the natural resources”). Under MEPA, agencies must evaluate any impairment “resulting from the conduct” and under NEPA, agencies evaluate

effects - both indirect and direct - that are “caused by the action.”⁵⁷ Direct effects occur “at the same time and place” as the proposed projects, while indirect effects occur “later in time or are farther removed in distance.”⁵⁸ The MEPA directive to determine what impairments “result from the conduct” cannot logically be read to exclude impacts that aren’t an immediate and direct result of Enbridge’s construction activities.

The Ninth Circuit’s analysis in *Liberty* does not have precedential value here, but does provide a clear picture of how the Commission could evaluate GHG emissions resulting from Enbridge’s Proposed Project. Under NEPA, indirect effects must be included in an EIS if they are “reasonably foreseeable,” and GHG emissions are a reasonably foreseeable consequence of activities such as constructing a new natural gas pipeline or, as in the *Liberty* case, developing an offshore drilling platform.⁵⁹ Here, Enbridge seeks to prevent the Commission from even reviewing evidence that could suggest that changes in GHG emissions are a reasonably foreseeable result of Enbridge restarting a decommissioned Line 5.

The evidence Climate Organizations seek to discover and the testimony experts would present on GHG emissions is clearly relevant to whether Enbridge’s conduct will result in environmental harm. While Enbridge and Staff suggested in briefing before the ALJ that the Climate Organizations’ analysis of GHG emissions would create an unwieldy process that interjected political arguments rather than meaningful evidence, the process by which federal courts have evaluated GHG emissions undermines those unsupported contentions. The Ninth

⁵⁷ *Liberty* at 737.

⁵⁸ 40 C.F.R. 1508.8(a).

⁵⁹ *Liberty* at 737-38; *Sierra Club v. Federal Energy Regulatory Comm’n*, 867 F.3d 1357 (D.C. Cir 2017) (evaluating new natural gas pipeline).

Circuit summarized the process by which GHG emissions can be evaluated and compared as follows:

To calculate the emissions for each of the action alternatives, BOEM calculated both the “upstream” and the “downstream” emissions. Upstream emissions are those that result directly from the project itself (e.g., construction and operation), and downstream emissions are those that result from the consumption of the oil produced by the project (e.g., heating homes or fueling cars). BOEM then summed the two types of emissions, resulting in a ‘lifecycle greenhouse gas emissions’ estimate for each alternative.⁶⁰

In that case, BOEM failed to recognize that if the project did not go forward, supply would decrease, prices would rise, and oil consumption outside the United States would decrease. And even though BOEM used a market simulation model to predict the GHG emissions for energy sources that would substitute for the oil not produced by the project, the agency contended that it could not have summarized or estimated foreign emissions with accurate or credible scientific evidence. The Ninth Circuit rejected BOEM’s argument. The court pointed to studies in the record establishing the feasibility of estimating the effects of increasing foreign oil consumption, citing a study by Peter Erickson of the Stockholm Environment Institute, who submitted an Offer of Proof in this case explaining how he would analyze GHG emissions from the Proposed Project.

Enbridge seeks approval to construct a massive utility tunnel and pipeline that would allow the Company to restart a pipeline that will have been decommissioned for at least five years. Restarting the pipeline will impact GHG emissions, though the extent of the net impact cannot be determined without discovery and analysis in this contested case. In this case, Mr. Erickson proposes to provide for the Commission the expected GHG emissions both from

⁶⁰ *Liberty*, 982 F.3d 723, 735.

extending the operating life of Line 5 and from restarting Line 5, as compared to GHG emissions if Line 5 is not restarted.⁶¹ Rather than rebut Mr. Erickson’s analysis through testimony or documentary evidence, Enbridge seeks to prevent the Commission from even considering how the Proposed Project may lead to increased GHG emissions.

C. The Conduct at Issue in this Proceeding has Changed, but it still Requires the Commission to Determine Both Direct Emissions that Impact the Environment and Indirect Emissions that Are Likely to Impact the Environment

In the First Ruling, the ALJ erroneously excluded any evidence related to GHG emissions from the operation of the Proposed Project, even though he correctly concluded that the Commission has jurisdiction over both the construction and the operation of pipelines under Act 16.⁶² The ALJ’s decision hinged on his interpretation of the word “conduct” under MEPA. In relevant part, MEPA states:

In administrative, licensing, or other proceedings, and in any judicial review of such a proceeding, the alleged pollution, impairment, or destruction of the air, water, or other natural resources, or the public trust in these resources, shall be determined, and **conduct shall not be authorized or approved that has or is likely to have such an effect** if there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare.⁶³

The ALJ ultimately concluded that GHG emissions were not relevant to this case because the “conduct” for which Enbridge seeks approval does not extend to the extraction, refining, and end use of the oil transported in the pipeline.⁶⁴

⁶¹ Declaration of Peter A. Erickson at 2.

⁶² First Ruling at 9-10.

⁶³ MCL 324.1705(2) (emphasis added).

⁶⁴ First Ruling at 18.

The Climate Organizations disagreed with the ALJ and appealed this conclusion.⁶⁵ Climate Organizations assert that pollution resulting from Enbridge’s conduct is part of the Commission’s MEPA determination, even where the Commission does not have jurisdiction to grant those particular permits or approve that particular conduct.⁶⁶ Climate Organizations do not ask the Commission to regulate individual consumption choices. Climate Organizations ask the Commission to hear evidence on the net change in GHG emissions if Enbridge’s conduct is approved.

In the First Ruling, the ALJ relied on an unpublished Court of Appeals decision—*Buggs*, to exclude evidence of GHG emissions from the Commission’s MEPA analysis.⁶⁷ The ALJ’s reliance on the *Buggs* decisions is misplaced in the First Ruling and in light of the Notice; as a result, it cannot be applied to this case—a request to restart a decommissioned pipeline. The First Ruling analogized the impacts of market prices on oil consumption, (and therefore on GHG emissions), to the *Buggs* case in which parties argued that siting of a gas pipeline would serve as “bait” for production wells, and therefore a MEPA analysis must consider the environmental impact of potential gas wells.⁶⁸ The *Buggs* court quoted from the Commission’s Order, but did not directly address the “bait” argument when upholding the Commission’s decision. Additionally, in the *Buggs* case, there was no discussion of models that could estimate market impacts of the gas pipeline, as was the case in the *Liberty* decision discussed above and as is

⁶⁵ See Application for Leave to Appeal at 11.

⁶⁶ See, e.g., the Commission’s Order in U-20471, considering the environmental impact of air emissions that are under the jurisdiction of EGLE.

⁶⁷ First Ruling at 18-19.

⁶⁸ First Ruling at 18-19, citing Case Nos. U-17195/U-17196, September 23, 2015 Order, pg. 7 and *Buggs v. Public Service Commission*, et al., unpublished per curium decision of the Court of Appeals, issued May 16, 2017 (Docket Nos. 329781 and 329909).

presented in the Climate Organizations' Offers of Proof. Thus, *Buggs* should be read to conclude that the Commission will not deny an activity solely on the basis that it could lead to other activities not regulated by the Commission, but it should not be read to limit the scope of MEPA review such that the approved activity is assumed to have no impact on the environment outside of its immediate construction.

The Governor's Notice clarifies why Enbridge's application requires the Commission to consider GHG emissions under MEPA. Prior to the Notice, Enbridge's relocation of the dual pipelines would extend the operating life of the pipeline, resulting in an increase in GHG emissions that the Climate Organizations' experts would seek to quantify. Enbridge argued that the relocation of the pipeline would not result in any increase in GHG emissions, because it would operate the pipeline indefinitely whether or not the tunnel was built.⁶⁹ Enbridge cannot rely on this argument following the Governor's Notice, and the Climate Organizations' experts will estimate the amount of GHG emissions that will result when Enbridge restarts the pipeline after the tunnel is completed.⁷⁰

Following the Governor's Notice, the activity proposed in the Application --the "conduct" -- is now the construction of a new pipeline segment for purposes of restarting a decommissioned pipeline. In other words, Enbridge's Application no longer requests approval for the relocation of a portion of an existing pipeline; it requests approval for the restart of a decommissioned pipeline.⁷¹

⁶⁹ Enbridge Motion *in Limine*, September 2, 2020 at 16.

⁷⁰ Mr. Peter Erickson expects to provide for the Commission the expected GHG emissions from restarting Line 5, as compared to GHG emissions if Line 5 is not restarted.

⁷¹ The fact that Enbridge now seeks approval to re-start a decommissioned pipeline also changes the Ruling's analysis of the scope of the Act 16 public need analysis. The Commission cannot rely on the

Enbridge’s current Proposed Project entails the construction of a new 30-inch pipeline segment which would be located within an underground tunnel that would span 3.58 miles.⁷² The Proposed Project is projected to cost at least \$500 million and take at least five years to complete.⁷³ The existing dual pipelines cannot legally operate on and after May 13, 2021, because the easement allowing Enbridge to operate has been revoked and terminated by the State of Michigan.⁷⁴ As a result, Line 5 will have been decommissioned for no less than five years – the time Enbridge anticipates it needs to complete the Proposed Project – before the Commission’s approval in this case would allow the pipeline to re-start.

In framing the analysis, the First Ruling stated that:

The scope of this case is necessarily dictated by two factors. The first is the activity proposed in the Application: replace the existing 4-miles of dual pipelines located on the bottomlands under the auspices of the 1953 easement with a pipeline in a proposed Utility Tunnel as contemplated in Act 359 and various Agreements with the State. The second factor is the Commission’s jurisdiction over that proposal under Act 16, the administrative rules promulgated under its authority, and MEPA, which is addressed below.⁷⁵

The First Ruling reasoned that the Commission’s jurisdiction is limited to “the proposal to relocate the existing pipelines into the Utility Tunnel, and a component of that jurisdiction is

1953 analysis of public need, because the question can no longer be construed as whether Enbridge’s relocation of a segment of an existing pipeline complies with Act 16. The question is now whether there is a public need to re-start a pipeline that has been decommissioned for at least five years. The public need analysis is addressed by the MEC, GTB, Watershed Council NWF, and Bay Mills, and Climate Organizations adopt and incorporate those arguments without repeating them in this brief.

⁷² Application at 8-10.

⁷³ Exhibit A-9, p. 14.

⁷⁴ See Notice of Revocation and Termination of Easement (November 13, 2020).

⁷⁵ First Ruling at 14.

examining the environmental impacts of that conduct under MEPA.”⁷⁶ The First Ruling went on to conclude that the conduct at issue – the relocation of the existing pipelines – did “not include the environmental effects from the extraction, refinement, or consumption of the oil transported in Line 5.”⁷⁷ The Climate Organizations appealed that decision, and the Notice not only reinforces the grounds for appeal, but also requires an adjustment in the analysis of the proper scope of the case.

Enbridge’s conduct now more dramatically and directly results in increased GHG emissions, because rather than simply extending the life of an operating pipeline, the Proposed Project puts back into operation a previously decommissioned pipeline. Putting into operation a pipeline allows for oil transportation that would not otherwise be possible, therefore enabling expanded oil supply and oil consumption, and resulting in GHG emissions from each.

When Enbridge’s application is viewed as a request to restart a decommissioned pipeline, both the Company’s and Staff’s arguments to exclude GHG emissions from the MEPA analysis are even more tenuous. In its Motion, Enbridge argued that GHG emissions are not relevant because the Company merely seeks a relocation of an existing pipeline that will continue to operate regardless, and therefore no change in emissions would result from the conduct.⁷⁸ Staff argued that Enbridge’s conduct could not result in changes to GHG emissions, because GHG emissions are entirely demand-driven, and could only be altered through changes in individual demand for products.⁷⁹ The First Ruling concluded that evaluating GHG emissions in the context

⁷⁶ First Ruling at 19.

⁷⁷ *Id.*

⁷⁸ Enbridge’s Motion *in Limine* at 15.

⁷⁹ MPSC Staff Response to Motion *in Limine* at 19.

of a pipeline relocation impermissibly broadened the meaning of conduct under MEPA.⁸⁰ The Climate Organizations respectfully disagree with these arguments and the First Ruling, and assert that the Governors' actions, and the resulting change in the activity for which Enbridge seeks approval, changes the conduct at issue such that the First Ruling must be changed.

Line 5 will not operate if the Commission does not grant Enbridge's Application.⁸¹ This has broad implications because it undermines Enbridge's persistent argument that the purpose of the Proposed Project is to reduce risk to the environment from the existing dual pipelines.⁸² It also calls into question the entirety of the decommissioned pipeline and the need for its future operation. Since MEPA must be applied to the activity over which Enbridge actually seeks approval, an analysis involving the effects of the restart of a decommissioned pipeline is necessary.

Before the Notice, the relevant MEPA comparison was between the two different time periods over which Line 5 would run. The existing dual pipelines are more than 68 years old and have had multiple problems, including significant damage to an anchor support, inadequate

⁸⁰ First Ruling 18-19.

⁸¹Both Staff and Enbridge argue that even after the termination of Line 5 operations, as a result of the Governor', the pipeline could be restarted without seeking Commission approval. Particularly, both Staff and Enbridge do not provide legal support for this argument. The ALJ's Second Ruling seems to adopt Enbridge's and the Staff's interpretation. (Second Ruling at 18). Yet, that interpretation is directly contrary to the Commission's June 30, 2020 ruling which rejected Enbridge's attempt to use the same basic reasoning to bypass the approval process for the tunnel project. The Commission states that "two factors that have initiated the filing of a new application pursuant to Rule 447: (1) a change in pipe diameter (i.e., capacity), and (2) a relocation of the pipeline." (June 30, 2020 Order at 63). The Commission indicates that only one of these factors is needed to trigger the need for an application. *Id.* If Enbridge no longer has an easement for the dual pipelines to operate along the lakebed, any plan to restart Line 5 most definitely will involve a relocation of the pipeline—whether it is in a new pipeline in the tunnel or another proposed reroute of the pipeline. At that time, the analysis of the public need for the relocation of the pipeline will depend considerably on a several factual developments—e.g., how the market adjusts to the shutdown of Line 5.

multi-layer coating, and pipeline curvature, which indicate that the dual pipelines are approaching the end of their useful life.⁸³ Approval of the Proposed Project would result in an increase in the useful life of Line 5, allowing more oil to be transported through the line, which would in turn cause a net increase in GHG emissions.

After the Notice, the two different worlds the Commission must compare come into clear focus: one in which Line 5 remains decommissioned and is not used to transport oil, compared to one in which the Commission approves the Proposed Project, allowing Enbridge to restart the pipeline and transport significant quantities of oil. Comparing GHG emissions between these two worlds provides the Commission with information on the net change in GHG emissions if it approves the Proposed Project. The Commission will use that information to determine whether approval of the Proposed Project will impair the environment by increasing GHG emissions. This comparison requires a somewhat more straightforward analysis under MEPA. Absent approval of the Proposed Project, Line 5 will not directly cause any GHG emissions once it is shut down in May 2021, though there may be an indirect increase in GHG emissions from alternative means of transporting the oil from Line 5. If the Proposed Project is approved by the Commission, Line 5 will directly cause GHG emissions as part of the construction process and indirectly cause GHG emissions as a result of its impact on oil production and consumption.

D. The Commission has the Authority to Allow Evidence Involving the Environmental Effects of GHG Emissions and Climate Impacts of a Proposed Project.

Wholesale exclusion of evidence of GHG emissions and climate change under MEPA, as the Rulings require, is contrary to Michigan law. The Commission is well within its authority to make the decision to receive the Climate Organizations' evidence into the record and weigh that

⁸³ See Notice of Revocation and Termination of Easement (November 13, 2020).

evidence as appropriate under the broad discretion granted to the Commission under MEPA and Act 16.

Generally, in a contested case such as U-20763, the rules of evidence as applied in a non-jury civil case shall be followed as far as practicable, but an agency may admit and give probative effect to evidence of a type commonly relied upon by reasonably prudent men in the conduct of their affairs.⁸⁴ Objections to these offers of evidence may be made and noted in the record.⁸⁵ Evidence, including records and documents in the possession of the Commission, that a party desires or intends to rely on shall be offered and made a part of the record in the proceeding.⁸⁶ Nevertheless, “so that the [C]ommission will be well-informed in the exercise of its discretion within this range, and so that individuals and interested groups may make a meaningful contribution to Commission decisions, the law relaxes somewhat the rules of evidence which would apply in a formal judicial proceeding.”⁸⁷

Administrative agencies such as the Commission are not bound by the strict rules of a regular courtroom and may allow different evidence into the record. *See In the Matter of the Application of Michigan Bell Tel. Co. for Auth. to Revise Its Schedule of Rates & Charges*, No. U-5125, 1977 WL 426597, at *1 (Apr. 4, 1977) (stating that “Staff recognizes that administrative agencies [like the MPSC] are not bound to the rules of evidence in the same way that courts are, but asserts that agencies are required to base orders on legally competent evidence”).

⁸⁴ *See In re Consumers Energy Co. to Increase Rates*, No. 334276, 2018 WL 3076940, at *14 (Mich. Ct. App. June 21, 2018) citing R. 792.10427.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *See Re Consumers Power Co.*, 25 P.U.R.4th 167 (July 31, 1978) citing *Viculin v. Department of Civil Service*, 386 Mich. 375, 403 (1971).

The Commission's rules of evidence are much more relaxed and generally rest on the side of allowing more evidence into the record than not. *See Re Consumers Power Co.*, 25 P.U.R.4th 167 (July 31, 1978) (explaining that "so that the [C]ommission will be well-informed in the exercise of its discretion... and so that individuals and interested groups may make a meaningful contribution to commission decisions, the law relaxes somewhat the rules of evidence which would apply in a formal judicial proceeding"); *see also Viculin v. Department of Civil Service*, 386 Mich. 375, 403. (1971); *see also Ford Motor Co. v. Public Service Comm.*, 221 Mich. App. 370, 373, 562 N.W.2d 224 (1997) (stating that "the PSC is not bound to apply any particular formula or use any specific method in setting rates, it has the discretion to use whatever terminology it deems appropriate").

Here, exclusion of any evidence regarding GHGs or climate change would be a bold ruling contrary to Michigan law that rejects a clear scientific understanding that GHG emissions impact our environment. Neither Staff nor Enbridge can cite to any authority for the argument that the Commission is restricted from allowing evidence of GHG emissions into this proceeding. Nor can Staff or Enbridge locate any statutory mandate preventing the Commission from viewing the environmental effects of the Project on GHG emissions and climate impacts. In actuality, and consistent with MEPA, the Commission can weigh for itself the probative value of that evidence in the Climate Organization's analysis of GHG emissions. Because the Commission "may admit and give probative effect to evidence of a type commonly relied upon by reasonably prudent men in the conduct of their affairs," allowing the environmental effects of GHG emissions of the Proposed Project will provide more information to the Commission to make a well-informed decision within its range, so that interested groups may make a meaningful contribution to Commission decisions.

Here, the Commission should receive into evidence any testimony or documents relevant to the question of GHG emissions and then conclude whether that evidence establishes that Enbridge's conduct will result in increases in GHG emissions that impair or pollute the environment. This process of weighing evidence is illustrated by Michigan courts' consideration of the direct or consequential impacts of the activity at issue in a MEPA case.

The Governor's Notice clarifies and sharpens the analysis in this case, and justifies reversal of the Prior Ruling, by creating a clear dichotomy between the environment without the conduct (no pipeline operation) and the environment with the pipeline (Line 5 restarted and transporting oil). The Notice magnifies and expands the need for evidence regarding GHG emissions resulting from Enbridge's restarting a decommissioned pipeline. The *Nemeth* court reached a decision on direct or consequential effects of the conduct only after looking to whether parties had introduced evidence on the topic in the trial court. The *Nemeth* court explained that "there was no showing that there was a direct or consequential effect on a 'critical number' of animals or vegetation."⁸⁸

Here, Enbridge seeks to prevent parties from discovering information and the Commission from even considering whether the Utility Tunnel will have consequential impacts on the environment as a result of changes in the market price for oil that impact GHG emissions. The Commission must ultimately engage in the important task of weighing evidence on consequential impacts, but *Ray*, *Portage*, and *Nemeth* all suggest that evidence on consequential impacts should be allowed into the record, rather than being excluded entirely as a matter of law.

Moreover, the Commission cannot shy away from statutory duties simply because those duties evolve over time or are not explicitly written. Staff argues that because there is no law or

⁸⁸ *Nemeth*, 457 Mich. at 33, 576 N.W.2d at 649.

authority authorizing the Commission from considering the environmental effects of GHG emissions and climate change of a Proposed Project, the Commission cannot consider it.⁸⁹ To the contrary, because MEPA was written so that agencies and courts could adapt to evolving understandings of the environmental impacts of any pollutants, the Commission can and must proactively consider GHG emissions and fulfill the intent of MEPA by protecting the Great Lakes and the State of Michigan. Approximately twenty years ago, neither PFAs nor GHG emissions would have been considered in a MEPA review, but information development over time demonstrates that both pollutants can impair the environment. Certainly, no Michigan court would find that PFAs are not subject to analysis under MEPA on the basis that consideration of PFAs is not explicitly authorized under MEPA.

The consideration of GHG emissions and their impacts on climate change as part of the Environmental Assessment or review is not obscure; rather it is the trend on both the state and federal level. Other states already consider the environmental impacts of GHG emissions and climate change in their review. For example, Wisconsin will include GHG emissions and climate change in its Environmental Impact Statement for the re-routing of Line 5 in Wisconsin.⁹⁰ In Minnesota, not only were GHG emissions and climate change considered as part of the proposed Enbridge Line 3 Air Quality impacts, but they were also considered in determining the proper route and route alternatives by the Minnesota Public Utility Commission (“MPUC”).⁹¹

⁸⁹ MPSC Staff Initial Brief at 17 and 19.

⁹⁰ See Wisconsin Department of Natural Resources Draft Outline for its Environmental Impact Statement on the Proposed Relocation of Enbridge Line 5 Pipeline at https://dnr.wi.gov/topic/EIA/documents/Enbridge/EnbridgeLine5_DraftEISOutline.pdf

⁹¹ Minnesota Public Utilities Commission, Line 3 Project Final Environmental Impact Statement: Chapter 5-6 (December 9, 2019) at <https://mn.gov/eera/web/file-list/13765/>

In 2018, the U.S. District Court for the District of New Mexico held that the National Environmental Policy Act (“NEPA”) requires the Bureau of Land Management (“BLM”) to take a hard look at the impacts of greenhouse gas emissions, including quantifying and analyzing impacts of foreseeable downstream greenhouse gas emissions from combustion of produced oil and gas likely to be developed from leases, and therefore the agency’s failure to do so was arbitrary.⁹² In 2019, the U.S. District Court for the District of Columbia concluded that the BLM’s failure to quantify greenhouse gas emissions that were reasonably foreseeable effects of oil and gas development on public land was arbitrary and capricious.⁹³ The Court agreed that BLM’s leasing stage analyses of GHG emissions in its EA were inadequate and that the agency failed to take the requisite “hard look” at GHG emissions and the climate change impact of those emissions.

Allowing the GHG emissions and climate impacts will not only prevent undue delays, but it would allow for a full record, and a less complicated and more efficient proceeding that does not involve continuous commutation. Consequently, the Commission should receive into evidence testimony and information regarding the Notice and GHG emissions for the purpose of a complete record. There is no indication that the interests of other parties will substantially be prejudiced. The Commission may use the record provided by the Climate Organizations as evidence provided to determine whether Enbridge’s conduct will result in increases in GHG emissions that impair, destroy or pollute the environment.

⁹² *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227 (D.N.M. 2018).

⁹³ *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019).

As demonstrated in the Offer of Proof and expert declarations, the Climate Organizations will provide testimony that assists the Commission in quantifying GHG emissions resulting from the Proposed Project and translate those emissions into a monetized value that will assist the Commission in its complete review.⁹⁴ There is no risk of confusion of the issues or prejudicing the decisionmaker because the Commission has chosen to read the record in this case “[g]iven the significance of this proceeding and the novel legal questions that may arise.”⁹⁵ Moreover, objections to these offers of evidence by Staff, Enbridge or other parties, may still be made and noted in the record.

E. Exclusion of All Evidence Regarding GHG Emissions Through a Motion *in Limine* Is Improper at This Stage of the Proceedings.

Given the importance of this case to the public interest and the benefits that can be provided by robust discovery and expert analysis, the Commission should reverse the ALJ’s Ruling broadly excluding from discovery or testimony a key subject relevant to the Commission’s MEPA determinations. The scope of discovery under MCL 2.302(B) is broad:

- (1) In General. Parties may obtain discovery regarding any nonprivileged matter that is relevant to any party’s claims or defenses and proportional to the needs of the case, taking into account all pertinent factors, including whether the burden or expense of the proposed discovery outweighs its likely benefit, the complexity of the case, the importance of the issues at stake in the action, the amount in controversy, and the parties’ resources and access to relevant information. Information within the scope of discovery need not be admissible in evidence to be discoverable.

⁹⁴ See ELPC-MiCAN Application for Appeal for Leave to Appeal and Offer of Proof.

⁹⁵ June 30, 2020 Order at 79.

Here, the direct and indirect emissions that result from Enbridge’s conduct in this case – the construction and operation of the Proposed Project – are relevant to their request that the Commission approve the Act 16 Application. As Michigan caselaw establishes and the ALJ recognized, the Commission must make a MEPA determination before approving the Proposed Project.⁹⁶ The burden and expense of discovery and testimony lie largely with the Climate Organizations, not with Enbridge. Having compiled significant documentation regarding the Proposed Project for submission to not only this Commission, but also the Army Corps of Engineers and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”), Enbridge already has in its possession the information the Climate Organizations will seek in discovery and discuss based on the Offer of Proof.

The complexity and importance of the case also mitigate against exclusion of discovery and analysis of GHG emissions. As demonstrated in the Offer of Proof and expert Declarations, the Climate Organizations will provide testimony that assists the Commission in quantifying GHG emissions resulting from the Proposed Project and translates those emissions into a monetized value that will assist the Commission in its review. Additionally, the Notice’s change to the conduct in this proceeding only sharpens the Commission’s need to consider direct and indirect GHG emissions in its analysis under the MEPA.

As mentioned above, provision of the GHG emission analysis to the Commission does not present a risk of confusion of the issues or prejudicing the decisionmaker because the Commission has chosen to read the record in this case “[g]iven the significance of this

⁹⁶ First Ruling at 3 (citing MCL 324.1701, et. seq; *State Highway Commission v. Vanderkloot*, 329 Mic. 159, 167-68 (1974)).

proceeding and the novel legal questions that may arise.”⁹⁷ Rather than excluding testimony and documents relevant to both direct and indirect GHG emissions, the Commission should receive the Climate Organizations’ evidence into the record and weigh that evidence as appropriate under the broad discretion granted to the Commission under MEPA and Act 16.⁹⁸

Finally, Enbridge will have the opportunity to file Motions to Strike if they believe the testimony and evidence Climate Organizations seek to have admitted into evidence are not admissible. Rather than exclude from consideration under MEPA the most significant environmental issue confronting our state, the Commission should allow the Climate Organizations to seek discovery and develop expert testimony that informs the Commission’s MEPA analysis.

V. CONCLUSION

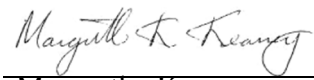
The analysis can be done, and Climate Organizations’ experts stand at the ready. *See* Declaration of Dr. Peter H. Howard, Ph.D. and Declaration of Peter. A. Erickson. It is then up to the Commission to determine, based on a robust record, whether a change in GHG will occur, whether it will impair the environment or natural resources, and whether there are feasible alternatives to the proposed activity.

The Climate Organizations ask that the Commission (1) reverse both the First and Second Ruling, (2) deny the relief requested in Enbridge’s Motion *in Limine*, and (3) hold that evidence regarding the Notice and GHG emissions from Enbridge’s Proposed Project are relevant to the Commission’s determination of Enbridge’s Application.

⁹⁷ June 30, 2020 Order at 79.

⁹⁸ *See In Re Wolverine Pipe Line Co.*, No. U-12334, 2001 WL 306697 (Mar. 7, 2001).

Respectfully submitted,



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Dated: March 9, 2021

**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the matter of **ENBRIDGE ENERGY,**)
LIMITED PARTNERSHIP application for)
the Authority to Replace and Relocate the)
Segment of Line 5 Crossing the Straits of)
Mackinac into a Tunnel Beneath the Straits of)
Mackinac, if Approval is Required Pursuant)
to 1929 PA 16; MCL 483.1 et seq. and Rule)
447 of the Michigan Public Service)
Commission’s Rules of Practice and)
Procedure, R 792.10447, or the Grant of other)
Appropriate Relief)

Case No. U-20763

DECLARATION OF DR. PETER H. HOWARD, Ph.D.

1. My name is Peter H. Howard. I am the Economics Director at New York University School of Law’s Institute for Policy Integrity, a nonpartisan think tank dedicated to improving the quality of government decision-making through advocacy and scholarship in the fields of administrative law, economics, and public policy. My fields of expertise include climate economics and natural resource economics. I received my Ph.D. in Agricultural and Resource Economics from University of California–Davis. I have published in academic journals on the social cost of greenhouse gases, including in *Science*, *Nature*, *Environmental and Resource Economics*, *Climatic Change*, *Harvard Environmental Law Review*, and the *Columbia Journal of Environmental Law*. My curriculum vitae is attached for a full description of my professional background, experience, and relevant publications.

2. On behalf of the Environmental Law & Policy Center (“ELPC”) and the Michigan Climate Action Network, I will provide testimony in the above-captioned case. I understand that the Administrative Law Judge has issued an opinion limiting the scope of the issues and the evidence that will be considered relevant to the Michigan Public Service Commission (the “Commission”) in this case. I am providing this declaration to describe the type of analysis that I am qualified to conduct in this case, subject to Enbridge’s good faith production of documents and information during discovery. My work in this case is ongoing, and I will provide testimony and respond to discovery in accordance with the timelines established by the court and as advised by ELPC.

3. I am aware that Enbridge Energy, Limited Partnership (“Enbridge”) currently operates an oil pipeline called Line 5, which transports oil and Natural Gas Liquids (“NGL”) from western Canada to eastern Canada. A portion of Line 5 currently consists of two 20-inch diameter pipelines that run through the Straits of Mackinac in Michigan. In the above-captioned case, Enbridge is seeking approval to build an underground tunnel and to replace and relocate into that tunnel the portion of the Line 5 petroleum pipeline that currently sits on the bottom of the Straits (the “Proposed Project”).

4. If called upon to testify in the above-captioned case, I would provide testimony that quantifies the environmental, public health, and social welfare costs associated with the emission of greenhouse gases resulting from construction of a Utility Tunnel underneath the Straits of Mackinac and the resulting extended operation of Enbridge’s Line 5. I will quantify this cost resulting from the Proposed Project using the social cost of greenhouse gases, described more fully below. My testimony will be based on information provided in Enbridge’s

application and supporting testimony, documents and information provided in discovery, and publicly available information. I will also rely on the conclusions reached by expert witness Peter Erickson.

5. Economists can estimate and monetize many categories of climate damages by linking together global climate models with global economic models, producing what are called integrated assessment models. These integrated assessment models can take a single additional unit of greenhouse gas emissions (such as from driving a car or burning natural gas at a power plant) and calculate the change in atmospheric greenhouse concentrations; translate that change in concentration into a change in temperature; and model how that temperature change and associated weather changes will cause economic damages. The resulting monetary estimate of how each additional unit of greenhouse gases will impact our health, our economic activity, our quality of life, and our overall well-being is called the social cost of greenhouse gases.

6. Climate change is already causing quantifiable and monetizable damages, such as increased extreme storm activity and coastal destruction. In both the near future and over the long term, unabated climate change will cause significant impacts to both market and nonmarket sectors, including agriculture, forestry, water, energy use, sea-level rise, human health, and ecosystem services. For example, climate change will strain Michigan's energy, water, and transportation infrastructures. Increased heat decreases the efficiency of energy systems and distribution and can reduce operating capacities—as the D.C. Cook Nuclear Power Plant has experienced when Lake Michigan has become too warm to use for cooling the reactors.¹

¹ Risky Business, *Heat in the Heartland: Climate Change and Economic Risk in the Midwest* 46 (2015), <https://riskybusiness.org/site/assets/uploads/2015/09/RBP-Midwest-Report-WEB-1-26-15.pdf>. ² U.S. Global Change Research Program, *Fourth National Climate Assessment* 894 (2018), <https://nca2018.globalchange.gov/chapter/midwest>.

Increased temperatures in Lake Michigan have also begun to disrupt aquatic food webs, “potentially leading to cascading effects on the health and abundance of species across all levels of Great Lakes food webs.”²

7. Monetizing the impacts of emissions changes will facilitate comparisons against other costs and benefits. Without such values, decisionmakers and the public are faced with imperfect information; by contrast, when impacts are translated into the common metric of money, decisionmakers can more readily compare society’s preferences for competing priorities, and the public can more readily understand the consequences of a regulatory choice.

8. It also may be especially difficult for the public and decisionmakers to give appropriate consideration to climate effects that are only presented through estimates of emissions volumes. As the U.S. Environmental Protection Agency’s website explains, “abstract measurements” of so many tons of greenhouse gases can be rather inscrutable for the public, unless “translat[ed] . . . into concrete terms you can understand.”²

9. The testimony I plan to provide in the above-captioned case will assist the Commission in its evaluation of the environmental impact of the Proposed Project and may also be helpful in allowing the Commission to contextualize whether the Proposed Project improves Michigan’s welfare or is an appropriate solution if Enbridge is able to establish a public need for the Proposed Project.

10. The facts provided and statements made in this declaration are true and accurate to the best of my knowledge and belief.

² EPA, Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> (last updated Sept. 2017).

11. In accordance with Executive Order 2020-23 and due to the Coronavirus 2019 (COVID-19), this declaration has not been notarized. Should the Commission require additional attestation, declarant will certainly comply.

Dated: November 6, 2020

Respectfully Submitted,
Peter Howard

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FIELDS OF INTEREST

Environmental Economics and Policy, Climate Economics and Policy, Natural Resource Economics, Land Economics and Policy, Agri-Environmental Policy, Agricultural Marketing and Organization

EDUCATION

Doctor of Philosophy June 2012
Department of Agricultural and Resource Economics
University of California, Davis, CA

Dissertation
The Economics of Climate Change at the Local Level: The Case of Shifting Oak Habitat Range in the Tulare Lake Basin

Bachelor of Arts 2003
Economics
Bard College, Annandale-on-Hudson, NY

CURRENT POSITION

Economics Director February 2015-Present
Institute for Policy Integrity, New York University School of Law
Research, mathematical programming, econometric analysis, reviewing literature, writing, hiring and managing economic fellows, research assistants and interns, and grant writing
Projects: Conduct research, write policy briefs, and develop and submit legal comments on climate change, resource extraction, and automobile emissions
Supervisor: Richard Revesz

PROFESSIONAL EXPERIENCE

Economic Fellow August 2012-February 2015
Institute for Policy Integrity, New York University School of Law
Research, mathematical programming, econometric analysis, reviewing literature, writing, and hiring and managing research assistants and interns
Projects: Develop an interactive website on the social cost of carbon (SCC); write policy briefs; co-write comments on the SCC; develop research projects that address potential shortcomings in the current SCC estimates
Supervisors: Michael Livermore, Richard Revesz
Work in Conjunction with: Environmental Defense Fund and Natural Resource Defense Council

Research Assistant April 2006-August 2012
Department of Agricultural and Resource Economics, University of California, Davis
Mathematical programming, data collection and cleaning, reviewing literature, econometric analysis, writing, and managing graduate student research assistants
Projects: Estimate the economic cost to California agriculture of a proposed state-wide ban on chloropicrin; estimate the economic cost to California agriculture of California Department of Pesticide

Regulation's proposed surface water regulations; estimate the economic cost of fumigant and emulsifiable concentrate regulations in Fresno County, California; estimate the economic cost to California agriculture of the non-registration of methyl iodide; estimate the economic cost of fumigant regulations in Ventura County, California; estimate the economic cost to California agriculture of California Department of Pesticide Regulation's VOC regulations

Supervisors: Rachael Goodhue, Richard Howitt

Work in Conjunction with: California Department of Food and Agriculture

Research Assistant

January 2006-April 2006

Department of Agricultural and Resource Economics, University of California, Davis

Write a summary explaining the Statewide Agricultural Production Model (a mathematical programming model for California agriculture), and data collection and cleaning

Supervisor: Richard Howitt

Teaching Assistant

September 2005-December 2005

Department of Agricultural and Resource Economics, University of California, Davis

Design lesson plans, teach, and grade

Undergraduate Course: Econometrics

Supervisor: Sandeep Mohapatra

Conference Coordinator

January 2004-May 2004

Association for Geo-classical Studies, NY

Create contact list, plan conference, and contact potential attendees

Supervisor: Kris Feder

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Between Two Worlds:: Methodological and Subjective Differences in Climate Impact Meta-Analyses

Peter Howard and Thomas Sterner

Option value and the social cost of carbon: What are we waiting for?

Peter Howard, Alexander Golub, and Oleg Lugovoy

The Relative Price of Agriculture: The Effect of Food Security on the Social Cost of Carbon

Peter Howard and Thomas Sterner

Optimal Preservation of Private Open Space within a Municipality under Irreversibility and Uncertainty

Peter Howard

Measuring the Welfare Loss to Landowners of Future Geographic Shifts in the Suitable Habitat for Vegetation Due to Climate Change

Peter Howard

PRESENTATIONS AND POSTERS

Between Two Worlds:: Methodological and Subjective Differences in Climate Impact Meta-Analyses

Peter Howard and Thomas Sterner, 2020 AERE Summer Conference

Option value and the social cost of carbon: What are we waiting for?

Peter Howard, Alexander Golub, and Oleg Lugovoy, 2020 AERE Summer Conference

Between Two Worlds:: Methodological and Subjective Differences in Climate Impact Meta-Analyses

Peter Howard and Thomas Sterner, 13th Annual Meeting of EfD- in Colombia

Option value and the social cost of carbon: What are we waiting for?

Peter Howard, Alexander Golub, and Oleg Lugovoy, 2019 SISC Annual Conference

Two Heads are Better than One: Using Economic Consensus to Address Positive and Normative Uncertainties in Climate-Economic Models

Peter Howard and Derek Sylvan, 2018 at 2018 World Congress of Environmental and Resource Economists

Wisdom of the Experts: Using Economic Consensus to Address Positive and Normative Uncertainties in Climate-Economic Models

Peter Howard and Derek Sylvan, 2018 at Environmental Defense Fund

The Wisdom of the Economic Crowd: Calibrating Integrate Assessment Models Using Consensus

Peter Howard and Derek Sylvan, 2016 AAEA Annual Meeting

Few and Not So Far Between: A Meta-analysis of Climate Damage Estimates

Peter Howard and Derek Sylvan, 2016 AAEA Annual Meeting

Few and Not So Far Between: A Meta-analysis of Climate Damage Estimates

Peter Howard and Derek Sylvan, 2016 EAERE Annual Meeting

Comments on the 2017-2022 Outer Continual Shelf (OCS) Oil and Gas Leasing Program

Peter Howard, Invited speaker to BOEM's Energy Supply/Demand Modeling, Market Substitutions, and Implications of Downstream GHGs/Climate Policy Change. June 2016.

The Economic Climate: Establishing Expert Consensus on the Economics of Climate Change

Peter Howard, Invited speaker to Bard College's Environmental and Urban Studies Colloquium

The Economic Climate: Establishing Expert Consensus on the Economics of Climate Change

Peter Howard and Derek Sylvan, 2015 AAEA Annual Meeting

Estimating the Option Value of Offshore Drilling in United States' OCS Regions

Peter Howard, 2015 Society for BCA Conference

The Social Cost of Carbon: How the Federal Government Values Carbon Dioxide Emissions

Peter Howard, 2015 Climate Leadership Conference sponsored by the Environmental Protection Agency

What's the Cost of Climate Change? How to Improve the Social Cost of Carbon

Peter Howard, Invited Speaker to Bard College

Raising the Temperature on Food Prices: Climate Change, Food Security, and the Social Cost of Carbon

Peter Howard and Thomas Sterner, 2014 AAEA Annual Meeting

Loaded DICE: Refining the Meta-analysis Approach to Calibrating Climate Damage Functions

Peter Howard and Thomas Sterner, 2014 AAEA Annual Meeting

The Relative Price of Agriculture: the Effect of Food Security on the Social Cost of Carbon

Peter Howard and Thomas Sterner, 2013 AAEA & CAES Joint Annual Meeting

The Relative Price of Agriculture: the Effect of Food Security on the Social Cost of Carbon

Peter Howard and Thomas Sterner, 2013 AERE Summer Conference

The Relative Price of Agriculture: the Effect of Food Security on the Social Cost of Carbon

Peter Howard, 2013 Society for BCA Conference

Climate Change, Vegetation, and Welfare: Estimating the Welfare Loss to Landowners of Marginal Shifts in Blue Oak Habitat

Peter Howard, 2012 AAEA Annual Meeting

Are Pesticide Buffers Expensive? Using Positive Mathematical Programming to Estimate the Cost of Proposed Pesticide Buffers in California

Peter Howard, Rachael Goodhue, Pierre Mérel. 2012 AAEA Annual Meeting

Optimal Preservation of Agricultural and Environmental Land within a Municipality Under Irreversibility and Uncertainty

Peter Howard, 2011 AAEA & NAREA Joint Annual Meeting

Measuring the Welfare Loss to Landowners of Future Geographic Shifts in the Suitable Habitat for Vegetation Due to Climate Change

Peter Howard, 2011 AERE Summer Conference

Optimal Preservation of Oak Woodlands within a Municipality

Peter Howard, 12th Occasional California Workshop on Environmental and Resource Economics (2010)

Optimal Preservation of Oak Woodlands within a Municipality

Peter Howard, 2010 Belpasso International Summer School on Environmental and Resource Economics, Sicily

Optimal Preservation of Oak Woodlands within a California Municipality

Peter Howard, 2010 Giannini ARE Student Conference

Optimal Preservation of Oak Woodlands within a California Municipality

Peter Howard, 2010 UCD Brown Bag Presentation

Should More California Oak Habitat Be Protected Because of Global Warming?

Peter Howard, 2009 AAEA & ACCI Joint Annual Meeting

The Economic Effects of Regulations to Reduce VOC Emissions from Pesticides: The Case of Fumigants

Peter Howard, 40th California Nematology Workshop (2008)

EXPERT TESTIMONY

Report on Colorado's Zero Emission Vehicle Program

Peter H Howard and Jason A Schwartz, October 2018

Testimony Before the New Jersey Legislature: Senate Environment and Energy Committee and the Assembly Environment and Solid Waste Comm.

Peter Howard, April 2019

Testimony on Colorado's Low Emission Vehicle Program and the Social Cost of Carbon.

Peter H Howard and Jason A Schwartz, October 2018

WESTERN ORGANIZATION OF RESOURCE COUNCILS et al., Plaintiffs, vs. U.S. BUREAU OF LAND MANAGEMENT et al. Defendants.

Peter Howard, May 2018

BLOG

How Much Higher? The Growing Consensus on the Federal SCC Estimate

Peter Howard, September 2014, Cost of Carbon Pollution Project

Available at <http://costofcarbon.org/blog/entry/how-much-higher-the-growing-consensus-on-the-federal-scc-estimate>.

Working Group Estimated, GAO Approved

Peter Howard, September 2014, Cost of Carbon Pollution Project

Available at <http://costofcarbon.org/blog/entry/working-group-estimated-gao-approved>.

Is the rift between Nordhaus and Stern evaporating with rising temperatures?

Peter Howard and Charles Komanoff, August 2014, Carbon Tax Center

Available at <http://www.carbontax.org/blogarchives/2014/08/21/is-the-rift-between-nordhaus-and-stern-evaporating-with-rising-temperatures/>.

Playing Catch Up to the IPCC

Peter Howard, April 2014, Cost of Carbon Pollution Project

Available at <http://costofcarbon.org/blog/entry/playing-catch-up-to-the-ipcc>.

TEACHING

- Adjunct Assistant Professor of Public Service, Wagner Graduate School of Public Service, Environmental Economics: developed and taught course
- Advised on projects at Policy Integrity's Regulatory Policy Clinic (worked with New York University Law Students)

- Guest lecture at University of Cape Town
- Guest lecture for Katrina Wyman, New York University School of Law (Multiple times)
- Guest lecture for Rickey Revesz and Nathaniel Keohane, New York University School of Law
- Guest lecture for Principles of Macroeconomics at the University of North Carolina Asheville (UNCA)
- Guest lecture at Bard College (Multiple times)
- Supervised undergraduate summer interns
- Teaching Assistant in graduate school for undergraduate economics course
- Taught 7th Grade

GRANTS, FELLOWSHIPS, AND HONORS

- Gamma Sigma Delta - The Honors Society of Agriculture 2010-Present
- Giannini Foundation Mini-grant with Richard Howitt 2009-2010
- Non-Resident Tuition Fellowship 2005-2006

AWARDS

- UCD & Humanities Graduate Research Award 2010-11
- Jastro-Shields Graduate Research Scholarship Award 2010-2011
- UCD & Humanities Graduate Research Award 2009-2010
- Jastro-Shields Graduate Research Scholarship Award 2009-2010

PROFESSIONAL MEMBERSHIPS

- Agricultural and Applied Economics Association
- Former Board Member of the Henry George School

COMPUTER PROGRAMS

- Programming: Julia, MATLAB and GAMS
- Statistics: Stata
- Spatial: ArcGIS
- Microsoft office: Word, Excel, Access, PowerPoint
- Other word processing: Latex

SELECTED MEDIA COVERAGE

- **The U.S. Government's Price on Carbon Doesn't Value the Future Much.** Available <https://qz.com/1881523/the-us-government-wont-put-a-new-price-on-carbon/>
- **Material World: Global Warming Is Coming for Your Shopping Cart.** Available <https://www.bloomberg.com/news/articles/2017-11-28/material-world-global-warming-is-coming-for-your-shopping-cart>
- **Experts reject Bjørn Lomborg's view on 2C warming target.** Available <https://www.theguardian.com/environment/2017/may/21/experts-reject-bjorn-lomborg-centres-view-that-2c-warming-target-not-worth-it>
- **95% consensus of expert economists: cut carbon pollution.** Available <http://www.theguardian.com/environment/climate-consensus-97-per-cent/2016/jan/04/consensus-of-economists-cut-carbon-pollution>
- **Economic Impacts of Carbon Dioxide Emissions Are Grossly Underestimated, a New Stanford Study Suggests.** Available <http://www.forbes.com/sites/tomzeller/2015/01/13/economic-impacts-of-carbon-dioxide-emissions-are-grossly-underestimated-a-new-stanford-study-suggests/>
- **Climate change may add billions to wildfire costs, study says.** Available <http://www.latimes.com/nation/la-na-wildfire-climate-change-20140917-story.html>
- **Wildfire Cost May Soar With Climate Change, Report Warns.** Available http://www.huffingtonpost.com/2014/09/16/wildfires-climate-change_n_5832612.html
- **'Social Cost Of Carbon' Too Low, Report Says.** Available http://www.huffingtonpost.com/2014/03/13/social-cost-carbon_n_4953638.html

COMPUTER PROGRAMS

- Programming: Julia, MATLAB and GAMS
- Statistics: Stata
- Spatial: ArcGIS
- Microsoft office: Word, Excel, Access, PowerPoint
- Other word processing: Latex

PEER REIVEW

- Ecological Economics
- Nature Climate Change
- Nature Communications
- Nature Sustainability

**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the matter of **ENBRIDGE ENERGY,**)
LIMITED PARTNERSHIP application for)
the Authority to Replace and Relocate the)
Segment of Line 5 Crossing the Straits of)
Mackinac into a Tunnel Beneath the Straits)
of Mackinac, if Approval is Required)
Pursuant to 1929 PA 16; MCL 483.1 et seq.)
and Rule 447 of the Michigan Public Service)
Commission’s Rules of Practice and)
Procedure, R 792.10447, or the Grant of)
other Appropriate Relief)

Case No. U-20763

DECLARATION OF PETER A. ERICKSON

1. My name is Peter A. Erickson. I have worked in environmental research and consulting for 20 years. During the last twelve years, my professional focus has been on greenhouse gas (GHG) emissions accounting and the role of policy mechanisms in reducing GHG emissions. Specifically, I have conducted and led research projects on these topics on behalf of numerous partners and clients, including international institutions (e.g., the United Nations Framework Convention on Climate Change, the World Bank), the U.S. government (U.S. Environmental Protection Agency), state governments (e.g., State of Washington, State of Oregon), and local governments (e.g., City of Seattle, City of Chicago). These and other projects are documented in my curriculum vitae, attached hereto as Exhibit A.

2. I am currently a Senior Scientist with Stockholm Environment Institute – U.S., a 501(c)(3) organization based in Somerville, Massachusetts, where I have been employed since 2008. Stockholm Environment Institute – U.S. is affiliated with the Stockholm Environment Institute (SEI) based in Stockholm, Sweden. My office is in Seattle, Washington.

3. I have been retained by the Environmental Law & Policy Center (“ELPC”) to provide testimony in the above-captioned case. I understand that the Administrative Law Judge has issued opinions limiting the scope of the issues and the evidence that will be considered relevant to the Michigan Public Service Commission (the “Commission”) in this case. I am providing this declaration to describe the type of analysis that I am qualified to conduct in this case, subject to Enbridge’s good faith production of documents and information during discovery. My work in this case is ongoing and I will provide testimony and respond to discovery in accordance with the timelines established by the court and as advised by ELPC.

4. I am aware that Enbridge Energy, Limited Partnership (“Enbridge”) currently operates an oil pipeline called Line 5, which transports oil and Natural Gas Liquids (“NGL”) from western Canada to eastern Canada. A portion of Line 5 currently consists of two 20-inch diameter pipelines that run through the Straits of Mackinac in Michigan. In the above-captioned case, Enbridge is seeking approval to build an underground tunnel, and to replace and relocate into that tunnel the portion of the Line 5 petroleum pipeline that currently sits on the bottom of the Straits (the “Proposed Project”).

5. I am aware that the Governor of Michigan and the Director of the Michigan Department of Natural Resources notified Enbridge on November 13, 2020 that the state will be revoking and terminating the 1953 Easement which allow Line 5 to operate under the Straits. As a result of this revocation and termination, the conduct at issue in this case is no longer the replacement of the existing pipelines on the bottomlands with a pipeline in a Utility Tunnel, but rather, the construction of a pipeline in a Utility Tunnel for purposes of restarting a decommissioned pipeline. This change in the conduct reinforces and clarifies the need for the Commission to consider direct and indirect GHG emissions in its analysis under the Michigan

Environmental Protection Act (“MEPA”). As a result, I expect to provide for the Commission the expected GHG emissions from restarting Line 5, as compared to GHG emissions if Line 5 is not restarted.

6. I expect to submit testimony in this case that would describe my analysis of the greenhouse gas emissions and climate impact of the Proposed Project. I anticipate testifying regarding three different analyses, all of which the Commission could rely upon to inform their understanding of the environmental impact of the Proposed Project.

7. First, I will estimate all the greenhouse gas emissions associated with the Proposed Project. This will include the greenhouse gas emissions directly resulting from the construction and operation of the Proposed Project as well as the greenhouse gases contained in or associated with the oil and NGL fuel carried by the pipeline. This would produce an estimate of the greenhouse gas emissions resulting from the Proposed Project that will be measured in metric tons (Mt) CO₂-equivalent annually. In my experience, this accounting is fairly straightforward and has commonly been conducted for other pipeline projects, including the replacement of Enbridge’s Line 3 pipeline in Minnesota and the proposed Keystone XL pipeline through Montana, South Dakota, and Nebraska.

8. Second, I will count only the *increase* in greenhouse gas emissions attributed to the Proposed Project *relative* to a counterfactual, no-action scenario. Again, this will consider both the greenhouse gas emissions directly resulting from the construction of the Proposed Project as well as the greenhouse gases contained in or associated with the oil and NGL fuel carried by the pipeline. This approach would evaluate likely changes to global oil supply and demand as a result of the pipeline being replaced and would also be measured and presented in Mt CO_{2e}. I have used this methodology in other cases, such as the Keystone XL pipeline case,

and it is similar to the approach used by federal agencies when conducting Environmental Impact Statements under the National Environmental Policy Act (“NEPA”).

9. Third, I will contrast the flow of oil through the pipeline to the oil phase-down rates required to meet the globally agreed temperature limits (i.e., in the Paris Agreement) of well below 2 degrees C or 1.5 degrees C. This approach would draw from the oil phase-down rates published in the *Production Gap Report* and also by the Intergovernmental Panel on Climate Change. I understand that Michigan’s Governor Gretchen Whitmer has initiated the MI Healthy Climate Plan aimed at protecting public health and the environment and helping to develop new clean energy jobs by putting Michigan on a path towards becoming carbon-neutral, meaning net zero greenhouse gas emissions, by 2050. The initiative further aims to reduce greenhouse gas emissions in the state to 28% below 1999 levels by 2025. I am hopeful that my third approach may be helpful to the Commission in contextualizing the impact of the construction of the Proposed Project on the MI Healthy Climate Plan.

10. My ability to conduct these three analyses is dependent on Enbridge’s good faith production of documents and information in response to discovery requests. I will also use publicly available information and studies, such as the alternatives analysis commissioned by the State of Michigan.

11. The facts provided and statements made in this declaration are true and accurate to the best of my knowledge and belief.

12. In accordance with Executive Order 2020-23 and due to the Coronavirus 2019 (COVID-19), this declaration has not been notarized. Should the Commission require additional attestation, declarant will certainly comply.

Dated: March 9, 2021

Respectfully Submitted,



Peter Erickson
Climate Policy Program Director
pete.erickson@sei.org
Stockholm Environment Institute
Seattle, WA, USA.

Peter A. Erickson

Senior Scientist

Stockholm Environment Institute – U.S. Center

pete.erickson@sei-us.org

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Professional Summary

- Broad expertise in greenhouse gas abatement and policy analysis. Published first-author research articles in prominent journals, including *Climatic Change*, *Climate Policy*, *Energy Policy*, *Environmental Research Letters*, *Environmental Science and Technology*, *Nature*, *Nature Climate Change*, and *Nature Energy*.
- Twenty years experience in environmental policy research and consulting, supported by funders such as UNFCCC, European Commission, World Bank, U.S. EPA, Bloomberg Philanthropies, Energy Foundation, KR Foundation, Schmidt Family Foundation, C40 Cities, World Resources Institute, NRDC, SIDA, U.S. states of Washington and Oregon, Western Climate Initiative, City of Seattle, City of Chicago
- Outstanding skills in economic and financial analysis, modeling, writing, public speaking, project management, communication

Professional Experience

2008-Present STOCKHOLM ENVIRONMENT INSTITUTE – U.S., SEATTLE, WA
Staff Scientist 2008-2011; Senior Scientist 2012-2020

Selected Projects and Research

- **Oil market economics.** Leading long-term research into how supply and demand in oil markets interact, and with what CO₂ emissions implications. Major research publications in *Nature*, *Nature Climate Change*, *Nature Energy*, *Climatic Change*, and others. Popular commentary in the *New Yorker*, *Scientific American*, *Seattle Times*, *Salt Lake Tribune*, *Texas Tribune*, others.
- **Emissions implications of new fossil fuel supply infrastructure.** Researching the GHG implications and lock-in of investments in new infrastructure for supplying fossil fuels, such as oil pipelines, coal export facilities, and chemical facilities.
- **GHG emissions abatement potential of the world's cities.** Led a research effort, funded by Bloomberg Philanthropies, on the GHG emissions abatement potential of urban-scale policy levers worldwide.
- **Net emissions impact of the CDM.** Lead researcher for the UNFCCC's High Level Panel on the CDM Policy Dialogue focused on additionality and over- or under-crediting in the CDM. Contributed chapter to major research report.
- **Implications of international offsets on global climate mitigation.** Researched and modeled the supply and environmental efficacy of alternative sources and methods of crediting greenhouse gas offsets from developing countries.
- **Scenarios of domestic offset supply in a U.S. cap-and-trade system.** Lead researcher, with Michael Lazarus, on a partnership between SEI and the World Resources Institute on the economics and emissions implications of domestic greenhouse gas offsets.
- **Embodied emissions in international trade.** Led a research initiative on the embodied emissions in international trade and assessing opportunities to shift trade for both emissions and development benefits.
- **Emissions leakage and the CDM.** With Michael Lazarus, conducted an assessment of the potential for the CDM to induce activity or emissions leakage in the cement, steel, and aluminum sectors.

- **King County (WA) consumption-based GHG inventory and GHG measurement framework.** Led effort to conduct geographic and consumption-based greenhouse gas inventories and recommend a new measurement framework for King County.
- **Role of behavior and consumption in global climate mitigation.** Developed a method to estimate the GHG reductions for a nation or community due to shifts in consumption behaviors. Working paper published summer 2012.
- **City of Seattle (WA) carbon neutral scenario analysis.** Contributing to a technical scenario analysis of how the Seattle community could reduce greenhouse gas emissions to near zero in the next few decades, with a focus on the buildings and transportation sectors.
- **State of Oregon consumption-based GHG inventory.** Peter was the project manager on this effort to develop a consumption-based (rather than production- or geographic-based) GHG inventory for the State of Oregon. Published in *Environmental Science and Technology* in 2012.
- **Europe deep GHG emissions reduction scenario.** Peter developed a deep greenhouse gas reduction scenario for the EU-27's transportation, buildings, and agriculture sectors – the deepest reduction scenario proposed EU-wide at the time of its publication.
- **Greenhouse gas mitigation potential in developing countries (US EPA).** Peter was the lead researcher on a study of greenhouse gas mitigation potential and policies in six developing countries for the U.S. EPA. Published as working paper, June 2009.
- **Industry greenhouse gas benchmarking.** Peter led an assessment of benchmarking as a policy tool for reducing industrial GHGs. Funded by the Washington Department of Ecology and the Energy Foundation.
- **GHG and green energy planning in Mongolia.** Researcher on alternative scenarios of Mongolia's energy development.

2000-2008 CASCADIA CONSULTING GROUP, SEATTLE, WA

Senior Associate (2006-2008); Associate (2002-'05); Project Assistant ('00-'01)

Selected Projects - 2008

- **Climate Change Policy Initiatives (Seattle City Council).** Peter led the development of a legislative agenda to address climate change
- **Energy Efficiency Policy Study (Seattle Office of Sustainability and Environment).** Led a study of energy efficiency policies for existing buildings in Seattle to support Mayor Greg Nickels' Green Building Task Force.
- **Carbon Footprint Calculator (Seattle Office of Sustainability and Environment)** Updated the City of Seattle's greenhouse gas footprint tool for businesses to include a greater focus on business supply chain (included upstream, embedded emissions) and year-to-year tracking.
- **Greenhouse Gas Inventory (Pierce County, Washington).** Oversaw Pierce County's greenhouse gas inventory process.

Selected Projects – Pre-2008

- **Carbon Footprint Calculator (Seattle Office of Sustainability and Environment)** Peter created the City of Seattle's greenhouse gas footprint tool for businesses
- **Other Carbon Footprint Calculators (Various clients).** Peter adapted the Seattle carbon footprint calculator for use by several other state and local jurisdictions
- **Oregon Waste Prevention Strategy (Oregon Department of Environmental Quality).** Peter contributed to research in support of DEQ's Waste Prevention Strategy.
- **Zero Waste Plan (City of Chicago).** Led several tasks of the development of a Zero Waste Plan for the City of Chicago.

Committees

- 2015** Compact of Mayors, City Mitigation Goals – Member of aggregation technical advisory group.
- 2012-2014** WRI GHG Protocol Mitigation Accounting Initiative. Member of the mitigation goals accounting technical working group.
- 2010-2012** ICLEI-US Community Greenhouse Gas Protocol. Member of the lifecycle technical advisory committee

Education

- 1994-1998** Carleton College, Northfield, Minnesota, USA
B.A with major in geology and extensive studies in mathematics, studio art
Magna Cum Laude, Phi Beta Kappa, with distinction in major; GPA: 3.83

Selected Recent (2009-2020) Publications

- Erickson, P.** and Lazarus, M. (2020). Examining Risks of New Oil and Gas Production in Canada. SEI report. Stockholm Environment Institute, US Center, Seattle.
<https://www.sei.org/publications/examining-risks-of-new-oil-and-gas-production-in-canada/>
- Erickson, P.** et al. (2020). Why fossil fuel producer subsidies matter. *Nature* 578, E1–E4.
- SEI, IISD, ODI, Climate Analytics, CICERO, & UNEP. (2019). The Production Gap Report 2019. Retrieved from <http://productiongap.org/> [I was the lead author of Chapter 2 and contributing author to other chapters.]
- Koski, J., Kartha, S., & **Erickson, P.** (2019). Principles for aligning US fossil fuel extraction with climate goals. <https://www.sei.org/publications/principles-for-aligning-fossil-fuel-extraction-with-climate-limits/>
- Broekhoff, D., Piggot, G., & **Erickson, P.** (2019). Estimating consumption-based greenhouse gas emissions at the city scale [SEI Report].
<https://www.sei.org/publications/consumption-based-greenhouse-gas-emissions-city-scale/>
- Erickson, P.**, Lazarus, M., & Piggot, G. (2018). Limiting fossil fuel production as the next big step in climate policy. *Nature Climate Change*, 8, 1037–1043.
<https://doi.org/10.1038/s41558-018-0337-0>
- Erickson, P.**, & Lazarus, M. (2018). Would constraining US fossil fuel production affect global CO₂ emissions? A case study of US leasing policy. *Climatic Change*, 150, 29–42. <https://doi.org/10.1007/s10584-018-2152-z>
- Broekhoff, D., Piggot, G., & **Erickson, P.** (2018). Building thriving, low-carbon cities: the role of national policies. Stockholm Environment Institute / Coalition for Urban Transitions. Retrieved from <https://www.sei.org/about-sei/press-room/press-releases/low-carbon-cities-policy-options/>
- Erickson, P.** (2018). Confronting carbon lock-in: Canada’s oil sands. (Discussion Brief). Seattle: Stockholm Environment Institute. Retrieved from <https://www.sei.org/featured/continued-canadian-oil-sands-production-frustrate-global-climate-goals/>
- Erickson, P.** (2018). Boom or Bust. *The New Yorker*. Retrieved from <https://www.newyorker.com/magazine/2018/01/29/letters-from-the-january-29-2018-issue>
- Erickson, P.** (2018). One of Trump’s biggest scandals is happening in Utah. *Salt Lake Tribune*. Retrieved from

<https://www.sltrib.com/opinion/commentary/2018/03/08/commentary-one-of-trumps-biggest-scandals-is-happening-in-utah/>

Erickson, P., & Lazarus, M. (2018). How limiting oil production could help California meet its climate goals. Stockholm Environment Institute. Retrieved from <https://www.sei.org/publications/limiting-oil-production-california/>

Erickson, P., & Lazarus, M. (2018). Towards a climate test for industry: Assessing a gas-based methanol plant. Seattle, WA: Stockholm Environment Institute. Retrieved from <https://www.sei.org/publications/assessing-gas-methanol-plant/>

Erickson, P., & Lazarus, M. (2018). One way to break oil dependence: don't drill. *Los Angeles Times*. Retrieved from <http://www.latimes.com/opinion/readersreact/la-ol-le-california-oil-20180817-story.html>

Erickson, P. (2018). Global impact of oilsands growth could counteract Canada's promised carbon cuts. *National Observer*. Retrieved from <https://www.nationalobserver.com/2018/06/13/analysis/global-impact-oilsands-growth-could-counteract-canadas-promised-carbon-cuts>

Piggot, G., **Erickson, P.**, van Asselt, H., & Lazarus, M. (2018). Swimming upstream: Addressing fossil fuel supply under the UNFCCC. *Climate Policy*, 18(9), 1189–1202. <https://doi.org/10.1080/14693062.2018.1494535>

Verkuijl, C., Piggot, G., Lazarus, M., van Asselt, H., & **Erickson, P.** (2018). Aligning fossil fuel production with the Paris Agreement: Insights for the UNFCCC Talanoa Dialogue (Policy Brief). Retrieved from <https://www.sei.org/publications/aligning-fossil-fuel-production-paris-agreement/>

Down, A., & **Erickson, P.** (2017). Norwegian oil production and keeping global warming 'well below 2°C' (Discussion Brief). Stockholm Environment Institute. Retrieved from <https://www.sei.org/publications/norwegian-oil-production-and-keeping-global-warming-well-below-2c/>

Erickson, P. (2017). Obama's Arctic oil ban advances key climate test. *Seattle Times*. Retrieved from <http://www.seattletimes.com/opinion/obamas-arctic-oil-ban-advances-key-climate-test/>

Erickson, P. (2017). Final Obama administration analysis shows expanding oil supply increases CO2. Retrieved February 23, 2017, from <https://www.sei-international.org/blog-articles/3617>

Erickson, P. (2017). Carbon tangle: Norway must put oil ventures to a "climate test." Retrieved March 20, 2017, from <http://www.climatechangenews.com/2017/03/20/carbon-tangle-norway-must-put-oil-ventures-climate-test/>

- Erickson, P.** (2017). Norway's elections put oil in the spotlight – now what? Retrieved September 21, 2017, from <https://energiogklima.no/kommentar/norways-elections-put-oil-in-the-spotlight-now-what/>
- Erickson, P.** (2017). Rebuttal: Oil Subsidies – More Material for Climate Change Than You Might Think. Retrieved from <https://www.cfr.org/blog/rebuttal-oil-subsidies-more-material-climate-change-you-might-think>
- Erickson, P.** (2017). Texas oil subsidies, at a crossroads. *Texas Tribune*. Retrieved from <https://www.tribtalk.org/2017/11/13/texas-oil-subsidies-at-a-crossroads/>
- Erickson, P., & Broekhoff, D.** (2017). Baselines for assessing urban GHG abatement need to be transparent. Retrieved from <https://www.sei.org/perspectives/urban-ghg-abatement-baseline-transparency/>
- Erickson, P., & Down, A.** (2017). How tax support for the petroleum industry could contradict Norway's climate goals (Discussion Brief). Stockholm Environment Institute. Retrieved from <https://www.sei.org/publications/tax-petroleum-norways-climate-goals/>
- Erickson, P., Down, A., & Lazarus, M.** (2017). How would eliminating subsidies to the U.S. oil industry affect potential oil production and CO2 emissions? (SEI Policy Brief). SEI. Retrieved from <https://www.sei-international.org/publications?pid=3068>
- Erickson, P., Down, A., Lazarus, M., & Koplow, D.** (2017). Effect of government subsidies for upstream oil infrastructure on U.S. oil production and global CO2 emissions (Working Paper). Seattle, WA: Stockholm Environment Institute (U.S.). Retrieved from <https://www.sei-international.org/publications?pid=3036>
- Erickson, P., Down, A., Lazarus, M., & Koplow, D.** (2017). Effect of subsidies to fossil fuel companies on United States crude oil production. *Nature Energy*, 2(11), 891–898. <https://doi.org/10.1038/s41560-017-0009-8>
- Lee, C. M., & **Erickson, P.** (2017). How does local economic development in cities affect global GHG emissions? *Sustainable Cities and Society*, 35(Supplement C), 626–636. <https://doi.org/10.1016/j.scs.2017.08.027>
- Piggot, G., **Erickson, P.**, Lazarus, M., & van Asselt, H. (2017). Addressing fossil fuel production under the UNFCCC: Paris and beyond (Working Paper). Seattle, WA: Stockholm Environment Institute. Retrieved from <https://www.sei.org/publications/fossil-fuel-production-unfccc/>
- Piggot, G., **Erickson, P.**, Lazarus, M., & van Asselt, H. (2017). How to address fossil fuel production under the UNFCCC (Policy Brief). Stockholm Environment Institute.

Retrieved from <https://www.sei.org/publications/fossil-fuel-production-paris-agreement/>

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**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the matter of **Enbridge Energy, Limited Partnership**'s declaratory request that it has the requisite authority needed from the Commission for the proposed Line 5 pipeline Project.)
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Case No. U-20763

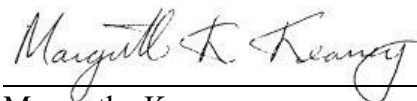
PROOF OF SERVICE

I hereby certify that a true copy of the foregoing *Application by the Environmental Law & Policy Center and Michigan Climate Action Network for Leave to Appeal October 23, 2020 and February 23, 2021 Rulings Excluding Evidence, Brief in Support of Application to Appeal Ruling, Declaration of Peter A. Erickson, C.V. of Peter A. Erickson, Declaration of Dr. Peter H. Howard, Ph.D., and C. V. of Dr. Peter H. Howard, Ph.D.*, was served by electronic mail upon the following Parties of Record, this 9th day of March, 2021.

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