

2019

Strictly Leakage: How Minnesota Export Subsidies Pay for Climate Pollution

Hudson B. Kingston
hudson.kingston@mitchellhamline.edu

Follow this and additional works at: <https://open.mitchellhamline.edu/mhlr>

 Part of the [Energy and Utilities Law Commons](#), [Environmental Law Commons](#), and the [Natural Resources Law Commons](#)

Recommended Citation

Kingston, Hudson B. (2019) "Strictly Leakage: How Minnesota Export Subsidies Pay for Climate Pollution," *Mitchell Hamline Law Review*. Vol. 46 : Iss. 1 , Article 8.

Available at: <https://open.mitchellhamline.edu/mhlr/vol46/iss1/8>

This Article is brought to you for free and open access by the Law Reviews and Journals at Mitchell Hamline Open Access. It has been accepted for inclusion in Mitchell Hamline Law Review by an authorized administrator of Mitchell Hamline Open Access. For more information, please contact sean.felhofer@mitchellhamline.edu.

© Mitchell Hamline School of Law

STRICTLY LEAKAGE: HOW MINNESOTA EXPORT SUBSIDIES PAY FOR CLIMATE POLLUTION

Hudson B. Kingston

“We are quite in the electric way. We boast that we have made electricity our slave, but the slave whom we do not understand is our master. And before we know him we shall be transformed.”

—*Charles Dudley Warner* “The Electric Way”¹

“We will all burn together when we burn.”

—*Tom Lehrer* “We Will All Go Together When We Go”²

I.	INTRODUCTION	239
II.	THE THEORY AND PRACTICE OF EITE OUTSIDE OF MINNESOTA	241
	<i>A. The IEA Framework for Sectoral Approaches.....</i>	<i>242</i>
	<i>B. Examples of Anti-Leakage EITE Measures.....</i>	<i>247</i>
	1. <i>U.S. Clean Power Plan</i>	<i>248</i>
	2. <i>EU Carbon Market.....</i>	<i>249</i>
	3. <i>Australia’s Carbon Tax and Credit System</i>	<i>249</i>
	4. <i>Subnational EITE Programs in North America</i>	<i>250</i>
	<i>i. West Coast: Carbon Markets and Efficiency.....</i>	<i>250</i>
	<i>ii. Canadian: Carbon Markets and Tax</i>	<i>252</i>
III.	MINNESOTA’S UNIQUE EITE POLICY.....	253
	<i>A. Minnesota’s Efficiency Exemption</i>	<i>254</i>
	<i>B. Minnesota’s EITE Statute</i>	<i>256</i>
	<i>C. EITE Implementation at the Minnesota PUC</i>	<i>260</i>
	1. <i>Two EITE Rate Proposals.....</i>	<i>261</i>
	2. <i>The PUC’s Approval of Minnesota Power’s EITE Rate</i>	<i>264</i>
	3. <i>Commissioners’ Significant Disagreements</i>	<i>267</i>
IV.	EITE AND THE ENVIRONMENT.....	268
	<i>A. Water Pollution from Iron Mining and Processing.....</i>	<i>269</i>
	<i>B. Climate Pollution’s Effects on Minnesotans</i>	<i>272</i>
	1. <i>Emissions Attributable to the EITE Statute</i>	<i>274</i>

Hudson B. Kingston, J.D. University of Iowa, LL.M. New York University, LL.M. National University of Singapore, has experience in public health and environmental law and has worked in international trade law and human rights in Laos and India. The author thanks Aaron White, Samuel Foster, and the journal staff for their patience and assistance with this piece. Thanks also to Alvaro Antoni, Louise Miltich, Peter Scholtz, and Craig Segall who offered feedback and input on early drafts of relevant parts of this piece, and to Atmosphere for inspiring the title.

¹ CHARLES DUDLEY WARNER, *The Electric Way*, in 7 AS WE GO 41 (Kessinger Publ’g Co. 2005) (1893).

² TOM LEHRER, *We Will All Go Together When We Go*, on AN EVENING WASTED WITH TOM LEHRER (Decca Records 1959).

	2. <i>Minnesota Iron’s GHG emissions</i>	275
	3. <i>Other EITE-linked GHG Emissions</i>	278
	4. <i>Preventable Inefficient GHG Emissions</i>	279
V.	EITE AND INTERNATIONAL TRADE	280
	A. <i>National Policies Protecting the American Iron and Steel Industry</i>	280
	1. <i>U.S. Protectionism Against Imports</i>	282
	2. <i>Increasing Trade Conflicts and Repercussions</i>	284
	B. <i>Trade Law and Minnesota’s EITE</i>	286
	1. <i>WTO Prohibition on Subsidies of Goods for Export</i> ...	288
	2. <i>Minnesota’s EITE Subsidy Under the WTO Regime</i> ...	291
	3. <i>WTO “Precedent” of India Solar Cells and Made in Minnesota</i>	294
VI.	EITE STUNTING MINNESOTA IRON INNOVATION	297
	A. <i>Minnesota’s Iron History</i>	298
	B. <i>Minnesota Iron’s Future</i>	300
VII.	CONCLUSION	302

I. INTRODUCTION

On June 13, 2015, Minnesota DFL Governor Mark Dayton signed an omnibus energy bill sent to him by the Republican-controlled state legislature.³ Donald Trump announced his candidacy for the President of the United States three days later.⁴ At the time, many energy policy experts—at least in Minnesota—would have predicted the former would have more lasting effects on state policy and the global climate. Many things have changed since 2015.

Nevertheless, one small part of the omnibus energy bill that came into effect that summer is having a largely unnoticed but lasting impact on Minnesota and the world. Buried within the legislation is a policy that is making its mark on Minnesota’s water and the world’s climate—Minnesota Statute § 216B.1696, the “Competitive Rate for Energy-Intensive, Trade-Exposed Electric Utility Customer”⁵ subsection. This legacy of policymakers’ efforts to support resource extraction and export industries imposes high costs on Minnesotans.

Who is an Energy-Intensive Trade-Exposed (EITE) Utility Customer? What is an EITE rate, and what does it matter if Minnesota hands it out to

³ H.F. 3, 89th Leg., 1st Spec. Sess. (Minn. 2015).

⁴ Donald Trump, Presidential Campaign Announcement in New York City (June 16, 2015), in *Transcript: Donald Trump Announces his Presidential Candidacy*, CBS News (June 16, 2015, 3:31 PM), <https://www.cbsnews.com/news/transcript-donald-trump-announces-his-presidential-candidacy/> [<https://perma.cc/R57T-FWWK>].

⁵ MINN. STAT. § 216B.1696 (2018).

the largest consumers of energy in the state.⁵ This article seeks to introduce these concepts without getting too deep into the economic theory or political horse-trading behind the law's enactment.

At its root, an EITE rate is a subsidy that is only granted to “Trade-Exposed” large users of energy.⁶ In Minnesota, it seeks to increase production and resource extraction by statutorily-defined “Energy-Intensive” industries that receive consistent support from politicians across the political spectrum.⁷ These companies see a profitable upside to acquiring their electricity at deeply discounted rates.⁸

The resultant downside to an EITE subsidy can be remarkably broad, however, touching Minnesotans' livelihoods and shared resources alike. While the money generated by the subsidized industries is mostly funneled out of the state,⁹ the externalities created by these industries—often in the form of water pollution—remain on Minnesota's ledger. Additionally, the

⁶ *Energy-Intensive, Trade-Exposed Industries*, AM. COUNCIL FOR AN ENERGY EFFICIENT ECON., <https://aceee.org/topics/energy-intensive-trade-exposed-industries> [<https://perma.cc/96K3-MT6B>].

⁷ Elizabeth Dunbar, *Nolan, Franken, Klobuchar Weigh in on PolyMet Mine*, MINN. PUB. RADIO NEWS (Mar. 18, 2014), <https://blogs.mprnews.org/capitol-view/2014/03/nolan-franken-klobuchar-weigh-in-on-polymet-mine/> [<https://perma.cc/NP4Z-TEG5>]; Leah Ryan, *It Is a History Worth Telling*, MESABI DAILY NEWS (June 27, 2018), https://www.virginiamn.com/mine/it-is-a-history-worth-telling/article_248ce90e-7976-11e8-9f61-eb53bd32cac9.html [<https://perma.cc/GR67-6QNP>] (quoting DFL lawmakers); Kurt Daudt, Letter to the Editor, *DFL Anti-Mining; Not so GOP*, MESABI DAILY NEWS (Aug. 16, 2016), https://www.virginiamn.com/opinion/letters_to_editor/dfl-anti-mining-not-so-gop/article_718e8ae-61b4-11e6-a389-6fa6912f9c21.html [<https://perma.cc/65UF-5BNR>] (“Republicans . . . have and will continue to support the responsible mining of our natural resources, and will work in St. Paul and in Washington to promote the future of mining in our state[.]”).

⁸ U.S. STEEL CORP., FIRST QUARTER 2017: EARNINGS PRESENTATION 14 (Apr. 25, 2017), https://www.ussteel.com/sites/default/files/reports_filings/USS%20Earnings%20Call%20Slides [<https://perma.cc/2EMA-NNYM>] (noting that maintaining profitability depends on keeping energy prices low).

⁹ As discussed later, Minnesota's iron mining industry produces largely lower-value inputs for steelmaking conducted in other states, ultimately profiting companies headquartered outside of Minnesota—some in foreign countries. *See About Us*, CLEVELAND-CLIFFS INC., <http://www.clevelandcliffs.com/English/about-us/default.aspx> [<https://perma.cc/GU56-XWTR>]; Press Release, Verso Corp., Verso Corporation Reports Second Quarter 2019 Financial Results (Aug. 8, 2019), <http://investor.versoco.com/2019-08-08-Verso-Corporation-Reports-Second-Quarter-2019-Financial-Results> [<https://perma.cc/26LG-GCB5>]; *Sustainability*, ARCELORMITTAL S.A., <https://corporate.arcelormittal.com/sustainability/reporting-hub/country-reports/luxembourg> [<https://perma.cc/4EJ4-LBSX>]. The two proposed copper/nickel sulfide mines in northern Minnesota are principally owned by Swiss and Chilean companies. *See* GLENCORE PLC, MODERN SLAVERY STATEMENT 2018, at 24 (2018), <https://www.glencore.com/dam/jcr/06fa4bf0-e9b7-4a11-b372-f60f6b633388/2018-modern-slavery-statement.pdf> [<https://perma.cc/Y4N3-ND5H>] (listing Swiss address); *About Us*, ANTOFAGASTA PLC, <https://www.antofagasta.co.uk/about-us/> [<https://perma.cc/Z47T-L7QT>]; *see also infra* note 10.

ostensible purpose of an EITE subsidy is to offset and adjust for comprehensive climate change policies, which Minnesota does not have. As a result of this counterweight to controls that do not exist, the EITE subsidy funds pollution impacting Minnesotans and the world, while profits are realized primarily by out-of-state interests.¹⁰

This article attempts to describe both climate change pollution impacts that are local to Minnesota, and the longer-term global social cost of carbon. In the world of climate change economic theory, the word “leakage” is a term of art. Normally: “carbon leakage occurs when a developed country threatens or puts restrictions on carbon emissions (cap-and-trade, for example) into effect, and subsequently emission-dependent industries relocate to countries with no emissions restrictions.”¹¹ Relocation to a country with weaker standards on climate pollution is “leakage,” because the pollution leaks out of regulatory controls despite a strong standard in the original jurisdiction. Leakage could ultimately lead to larger total greenhouse gas (GHG) emissions over time.¹² Turning the normal concept on its head, Minnesota’s failure to restrict carbon emissions, paired with its subsidy on the most energy-intensive industries, attracts leakage to the state—pulling production from other countries that might have better regulatory control on the same industries.

The discussion that follows attempts to cover global issues and international law while also touching on Minnesota law and specific facilities. This article first discusses the theory behind EITE rates before addressing how the issue has been handled in Minnesota. It then turns to the EITE subsidy’s impacts on Minnesota’s economy and the local and global environment. Finally, it addresses how export subsidies on goods are usually treated under international trade law applicable to the United States.

II. THE THEORY AND PRACTICE OF EITE OUTSIDE OF MINNESOTA

There was an ongoing discussion about the best way to reduce GHG emissions among heavy industries before the term of art “Energy-Intensive, Trade-Exposed” was coined. Termed “sectoral approaches” in 2007, the International Energy Administration (IEA) analyzed the sectoral approaches available to heavy industry with significant GHG emissions in a

¹⁰ In some cases, such as ArcelorMittal USA and Enbridge Energy, EITE subsidies ultimately benefit foreign owned corporations and profits flow overseas. See INT’L TRADE ADMIN., U.S. DEPT. COMMERCE, STEEL IMPORTS REPORT: UNITED STATES 6 (Sept. 2019), <https://www.trade.gov/steel/countries/pdfs/imports-us.pdf> [<https://perma.cc/S23M-YGP7>]; *About Us*, ENBRIDGE INC., <https://www.enbridge.com/About-Us/Our-Company.aspx> [<https://perma.cc/HJ6B-X4VU>] (“Enbridge Inc. is headquartered in Calgary, Alberta.”).

¹¹ Stephen Sewalk, *A Carbon Tax with Reinvestment Is WTO Compatible*, 25 FORDHAM ENVTL. L. REV. 338, 341 (2014).

¹² AM. COUNCIL FOR AN ENERGY EFFICIENT ECON., *supra* note 6.

seminal report.¹³ That IEA paper was first to describe “trade-exposed and emissions-intensive” industries and is cited by scholarly literature on the EITE policies that followed.¹⁴ The subject of this report¹⁵ has been embraced by economists and climate policy experts alike.¹⁶ Many jurisdictions that have taken action on climate change have also passed EITE controls consistent with these economic theories.

A. The IEA Framework for Sectoral Approaches

In the report, IEA attempted to establish the best way to quickly reduce GHG emissions among EITE industries. While not an environmental organization, IEA recognized the importance of crafting economic models that would minimize harmful pollution and prevent a race to the bottom:

As economies grow, so does their appetite for various energy services. This translates into liquid fuels for transport, and electricity for various end-uses, including in industry. The increasing cost of conventional resources would lead to the reliance on non-conventional resources and the transformation of coal, abundantly available, into liquid and gaseous products—with much higher level of CO₂ emissions than conventional fuels emit.¹⁷

Describing the challenge as “significant,” and admitting that the “current energy path is simply not sustainable,” the IEA explained that this problem requires new breakthrough technologies, higher efficiency in energy use across the board, and a large shift to low-carbon or zero-carbon

¹³ As discussed below, *infra* note 347, the sectors identified by the IEA create significant emissions, but in Minnesota, reliance on coal and other fossil fuels for electricity production renders them even more greenhouse-gas intensive in the aggregate. Regardless, even if industry fully adopted modern technology and only used clean electricity, their activities would still result in emissions. The sectoral approach seeks to update sector technology and address direct emissions from industry processes as much as possible. See RICHARD BARON ET AL., INT’L ENERGY AGENCY, SECTORAL APPROACHES TO GREENHOUSE GAS MITIGATION 8 (2007), https://www.iea.org/publications/freepublications/publication/Sectoral_Approach_Info_WEB.pdf [<https://perma.cc/C6UF-X6PZ>].

¹⁴ Search Results for ‘Sectoral approaches to greenhouse gas mitigation,’ GOOGLE SCHOLAR, https://scholar.google.com/scholar?cites=6717972325260854185&as_sdt=5,24&sciodt=0,24&hl=en [<https://perma.cc/2HD8-AW56>].

¹⁵ It is not the author’s intent to suggest IEA was the first to address this topic, only that the report has been cited by many scholars discussing EITE rates since its publication.

¹⁶ See, e.g., AM. COUNCIL FOR AN ENERGY EFFICIENT ECON., *supra* note 6.

¹⁷ See BARON ET AL., *supra* note 13, at 14.

energy sources.¹⁸ Well-designed EITE rates could help achieve many of these ends.¹⁹

This IEA Report was written in the context of the Kyoto Protocol to the UN Framework Convention on Climate Change²⁰ and was especially interested in how to engage heavy-emitting industries across the two categories of countries: (1) developed countries that made “binding” GHG reduction commitments²¹ and (2) developing countries that were encouraged to reduce emissions without similar binding commitments.²² As such, the IEA explored how heavy-emitting industries operating across both categories of countries might work together—cooperating to reduce overall emissions while making sure that strong climate change policies did not give facilities in developing countries (where there are generally weaker environmental protections) a competitive advantage that could distort global markets.²³

¹⁸ See *id.* at 14.

¹⁹ IEA found promise in information sharing between developing countries across the Asia/Pacific region but admitted that success would depend “on a range of factors” and that it was not certain to succeed. See *id.* at 9. In the EU, the steel industry proposed an efficient-production-incentivization system, which would “reward higher than average performance and penalize installations below, based on a global assessment.” See *id.* at 9. European firms are also “[t]urning to technology development, iron and steel seems the most advanced in efforts to develop low-CO₂ steelmaking processes, with coordination ensured by the [International Iron and Steel Institute].” See *id.* at 9. This coordination initiative seems to have been active until at least 2010. WORLD RES. INST. & WORLD BUS. COUNCIL FOR SUSTAINABLE DEV., *International Iron and Steel Institute (IISI)*, GREENHOUSE GAS PROTOCOL, <https://ghgprotocol.org/Third-Party-Databases/IISI> [<https://perma.cc/N4QT-NHSU>]. The organization asserts it is still active in climate change initiatives and is an accredited observer at the UNFCCC. *Who We Are*, WORLD STEEL ASS’N, <https://www.worldsteel.org/about-us/who-we-are.html> [<https://perma.cc/3LSS-75GB>].

²⁰ For some background on this treaty and the regime it sought to establish, see the UN’s primer. *What is the Kyoto Protocol?*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, <https://unfccc.int/process-and-meetings/the-kyoto-protocol/what-is-the-kyoto-protocol/what-is-the-kyoto-protocol> [<https://perma.cc/M6ZY-G5WY>].

²¹ Binding commitments still relied on the good intentions of developed countries. Canada, for example, left the Kyoto Protocol when it was apparent it would not meet its commitment. *Canada Pulls Out of Kyoto Protocol*, CBC NEWS (Dec. 12, 2011), <https://www.cbc.ca/news/politics/canada-pulls-out-of-kyoto-protocol-1.999072> [<https://perma.cc/FD3G-LB88>]. Without accountability mechanisms, like those built into WTO trade agreements, treaty obligations rely on political pressure, face-saving, and national pride as means of enforcement.

²² “Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of ‘common but differentiated responsibilities.’” See U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, *supra* note 20.

²³ Because the U.S. did not join the Kyoto Protocol, it has not committed to control its GHG emissions along with other developed nations. The U.S. is, however, a member of the UN Framework Convention on Climate Change, the more general umbrella treaty.

According to IEA's analysis, the overall objective is to set an EITE policy that "would aim at reducing emissions from large industrial sectors while alleviating the concerns about unfair competition from unregulated areas and possible associated carbon leakage."²⁴ The IEA analysis discusses several global industries which have major impacts on the environment due to their high GHG emissions. Relevant to the discussion in this piece, the analysis briefly mentions the paper industry but does a deep dive into the global iron and steel industry.²⁵

Why these industries? According to the UN, resource extraction accounts for half of global GHG emissions.²⁶ "Extraction and primary processing of metals and other minerals is responsible for 20% of health impacts from air pollution and 26% of global carbon emissions."²⁷ As established by the U.S. Environmental Protection Agency (EPA), iron and steel production is a massive source of direct GHG emissions²⁸ and is often integral to many other manufacturing industries.²⁹ Within the metals sector,

²⁴ See BARON ET AL., *supra* note 13, at 24.

²⁵ See *id.* at 17.

²⁶ Press Release, UN Env't Programme, UN Calls for Urgent Rethink as Resource use Skyrockets (Mar. 12, 2019), <https://www.unenvironment.org/news-and-stories/press-release/un-calls-urgent-rethink-resource-use-skyrockets> [<https://perma.cc/QRE2-8RVD>]; Elsa Tsioumani, *Global Outlook Highlights Resource Extraction as Main Cause of Climate Change, Biodiversity Loss*, INT'L INST. FOR SUSTAINABLE DEV. (Mar. 19, 2019), <http://sdg.iisd.org/news/global-outlook-highlights-resource-extraction-as-main-cause-of-climate-change-biodiversity-loss/> [<https://perma.cc/AUQ8-ML9W>] (referencing the Global Resources Outlook 2019 report on the status and trends of natural resource use and management, which was released during the fourth session of the UN Environment Assembly).

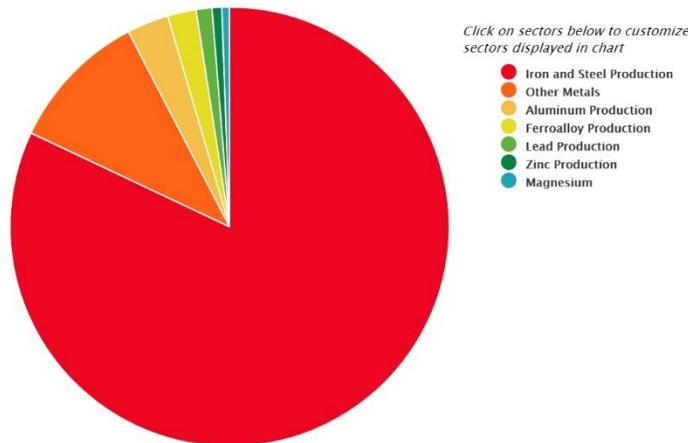
²⁷ Jonathan Watts, *Resource Extraction Responsible for Half World's Carbon Emissions*, THE GUARDIAN (Mar. 12, 2019), <https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss> [<https://perma.cc/4M5F-9WM2>]; see also *id.* ("The biggest surprise to the authors was the huge climate impact of pulling materials out of the ground and preparing them for use. All the sectors combined together accounted for 53% of the world's carbon emissions - even before accounting for any fuel that is burned.")

²⁸ See *Greenhouse Gas Reporting Program*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/ghgreporting/ghgrp-metals> [<https://perma.cc/GQU7-3WVJ>] [hereinafter *GHGRP*] ("[F]erroalloy, iron and steel . . . production facilities report GHG emissions from metal smelting, refining, and/or casting activities, as well as from stationary fuel combustion sources."); MICHAEL TURNER, COLUMBIA UNIVERSITY, THE GLOBAL NETWORK FOR CLIMATE SOLUTION, MITIGATING IRON AND STEEL EMISSIONS 1 (Nico Tyabji ed., 2012), <http://climate.columbia.edu/files/2012/04/GNCS-Iron-Steel.pdf> [<https://perma.cc/W3GF-T2YC>] (stating emissions come from indirect electricity emissions as well as onsite combustion and the use of coal and lime as feedstock).

²⁹ Homegrown iron and steel production is seen by many countries as necessary to hedge against times of scarcity or war. C.R., *Why the World Has Too Much Steel*, THE ECONOMIST (May 5, 2016), <https://www.economist.com/the-economist-explains/2016/05/05/why-the-world-has-too-much-steel> [<https://perma.cc/3QM3-RH7F>]. As the IEA put it, across the EITE industries and the GHG policies that address them, "so-called national circumstances loom large[.]" See BARON ET AL., *supra* note 13.

EPA data shows iron and steel production are by far the largest direct emitters of GHGs with 82% of the share and 72,609,302 metric tons of CO₂e³⁰ emissions:

2017 Total Reported Emissions from the Metals Sector, by Subsector



31

A large portion of these iron and steel industry emissions, at least in the facilities that exist in Minnesota, comes from blast furnaces, which are responsible for fully 70% of all direct CO₂ emissions.³² An overview of global industry emissions estimates that “[a]lthough emissions vary by country and region depending on the reducing materials used, other energy inputs, the source of electricity inputs and plant efficiency, 75% of all CO₂ emissions from the steel industry come from coke and coal in iron making

³⁰ “CO₂e” is a common denominator of GHG emissions where the attributable impacts of other gasses are calculated to their equivalent in terms of tons of carbon dioxide. This allows policymakers and scientists to compare emissions of carbon dioxide against other GHG emissions that are more, or less, harmful on a per-ton basis than carbon dioxide.

³¹ See *GHGRP*, *supra* note 28.

³² J. DE BEER ET AL., INT’L ENERGY AGENCY, GREENHOUSE GAS EMISSIONS FROM MAJOR INDUSTRIAL SOURCES III – IRON AND STEEL PRODUCTION, at ii (2000), https://www.ieaghg.org/docs/General_Docs/Reports/PH3-30%20iron-steel.pdf [<https://perma.cc/Z459-PW3J>]. “Smaller but still significant CO₂ emissions come from rolling and finishing of products (12%), ore preparation (12%) and oxygen and power production (7%). By contrast in scrap based mini-mills the main emissions are from the electric arc furnace (45%), finishing and rolling (36%) and oxygen/power production (16%).” *Id.*

for the [basic oxygen furnace] process.”³³ As will be seen below, this is the method of choice in Minnesota iron plants.³⁴

Notably, the IEA analysis of carbon leakage covers *producing* iron and steel products but not the mining of iron ore.³⁵ This makes sense because the likelihood that iron mining will move from an iron-rich ore body to an area without iron in the ground is exactly zero.³⁶ If the odds of leakage for emissions from mining are low, they should not need EITE policy protections.

The IEA identified and discussed four broad policy categories for “sectoral approaches” to guard against EITE leakage:

1. **Country-specific quantitative approach:** A country’s initiative limited to a sector, recognized by the international community (e.g., UNFCCC Parties) . . .
2. **Sustainable development policies and measures (SD-PAMs):** A country would pledge a policy that delivers both sustainable development objectives and, incidentally, lower greenhouse gas emissions. This pledge would be made to the international community (e.g., the UNFCCC Conference of the Parties).
3. **Transnational quantitative sectoral approach:** The most challenging of all options, these would aim at engaging a sector on a broad international basis.
4. **Technology-oriented approaches:** These range from pooled or coordinated R&D on innovative, low-GHG technologies, to activities towards the diffusion of existing technologies.³⁷

The report also discussed real-world experience in places where carbon emissions were controlled, using some of these techniques. As a result of the European Union (EU) leadership’s stance on pricing carbon emissions, the IEA found that the EU’s iron and steel industries’ attempt to lower GHG emissions already used carbon pricing concepts to encourage greater efficiency by producers.³⁸ The IEA analysis speaks positively of

³³ See TURNER, *supra* note 28.

³⁴ See *infra* Section VI.B.

³⁵ See BARON ET AL., *supra* note 13, at 56. See also AM. COUNCIL FOR AN ENERGY EFFICIENT ECON., *supra* note 6. (listing relevant industries including “glass, steel, metal casting, pulp and paper, aluminum, and chemicals” but not mining).

³⁶ While relative costs do affect business interests and could impact the pace of extraction at a certain location, the relative scarcity of ore and location-specific nature of mining mitigates the threat that industry will pack up and forever leave town due to incremental cost increases. Interest in northern Minnesotan copper and precious metals mining has been an on-again off-again proposition amongst wildcat mining companies for over forty years, and while no mines have opened to date, new prospectors are consistently looking to extract those resources.

³⁷ See BARON ET AL., *supra* note 13, at 7. As will be seen below, Minnesota’s EITE statute doesn’t adopt any of these approaches.

³⁸ See *id.* at 9.

setting sectoral best-practices benchmarks and then crediting sectors that outperform the baseline.³⁹ However, implementation and the details of how this is done are not trivial problems.⁴⁰ Baselines could be affected by any number of factors specific to the countries where the industry exists.⁴¹

Particularly relevant to this discussion and Minnesota's EITE rate, the IEA explained that: "Energy efficiency performance in competitive industries results naturally from prevailing energy prices. Incentives may be needed to achieve similar performance elsewhere."⁴² It makes sense that a competitive industry participant's interest in becoming more efficient (i.e., saving on energy costs) is heightened by high energy prices, while the same interest can be depressed by low prices. In places with artificially low (and, in Minnesota, overtly subsidized) energy prices that shelter participants from competition, there is little inducement for polluters to adopt better, more efficient technology.

To summarize some of IEA's main findings, after a carbon tax or cap-and-trade system is in effect, an EITE policy should: (1) force technological innovation and the adoption of new technologies for GHG reductions in key industries; (2) protect producers from being undercut by competitors who are not subject to strong GHG reduction standards; and (3) keep costs of technological improvement as low as possible and allow for fair integration into larger GHG reduction systems. As will be discussed further below, Minnesota's EITE statute and subsequent regulator-approved subsidy of pollution fails on the first metric. Thus far it has entrenched the status quo and induced pollution output without any inducement to adopt new efficient technologies among most-emission-intensive industries.

B. Examples of Anti-Leakage EITE Measures

"Lawmakers around the world, including in China, the European Union, and California, have enacted carbon pricing programs."⁴³ Carbon fees of some sort exist in seventy regions or countries, and potentially cover 20% of worldwide emissions.⁴⁴ While not all measures have been fully

³⁹ These benchmarks measure how many inputs result in a certain volume of outputs, thus measuring efficiency on a per-unit basis rather than only looking at energy savings. *See id.* at 9.

⁴⁰ *See id.* at 9.

⁴¹ *See id.* at 10 (noting that energy prices, regulatory barriers, and other specific facility conditions can impact baseline data).

⁴² *See id.* at 10.

⁴³ Coral Davenport, *Major Climate Report Describes a Strong Risk of Crisis as Early as 2040*, N.Y. TIMES (Oct. 7, 2018), <https://www.nytimes.com/2018/10/07/climate/ipcc-climate-report-2040.html> [<https://perma.cc/4UWY-KH2H>].

⁴⁴ John Vidal, *Concrete Is Tipping Us into Climate Catastrophe. It's Payback Time*, THE GUARDIAN (Feb. 25, 2019), <https://www.theguardian.com/cities/2019/feb/25/concrete-is->

successful, and some policies in the U.S., Australia, and Canada were changed or repealed before they could be fully implemented, many attempts at GHG-controlling regimes have included EITE measures. These were designed to balance the reduction of GHG emissions with the intent to minimize leakage and damage to key industries.

1. *U.S. Clean Power Plan*

In the U.S., a comprehensive nationwide EITE-like standard was proposed for one sector in the Obama years. The Clean Power Plan, a regulation adopted under the federal government's Clean Air Act authorities, had many elements of the credit-based trading system (either based on an overall cap on tons of GHG emission or rate-based credits,⁴⁵ depending on which system states opted for) which the IEA paper described as a good sectoral approach.⁴⁶ While the U.S. Congress has not passed comprehensive climate change legislation, the House of Representatives passed a scheme in 2009 that included EITE provisions which would have protected U.S. industries from unfair competition in countries that did not control carbon pollution.⁴⁷ However, this bill failed to pass the Senate, never becoming law.

tipping-us-into-climate-catastrophe-its-payback-time-cement-tax [https://perma.cc/G88J-5TJ2] (“The consensus is that the carbon in all these schemes is still priced way too low to drive change and to encourage fuel-intensive industries like cement to change practices. At best, the carbon schemes have encouraged cement makers and other big emitters to relocate to avoid charges.”).

⁴⁵ In this case, the term “rate-based” means the rate at which pounds of GHGs are emitted per unit of energy produced. *See generally* Clayton Munnings, *Emission Rate vs. Mass Goals in EPA’s Clean Power Plan*, RESOURCES (Sept. 5, 2014), <https://www.resourcesmag.org/common-resources/emission-rate-vs-mass-goals-in-epa039s-clean-power-plan/> [https://perma.cc/M9G4-GZYC].

⁴⁶ *See* BARON ET AL., *supra* note 13, at 24. While the electrical sector is less prone to carbon leakage than the iron and steel industries (steel can be shipped to the other side of the planet while electrical grids rarely traverse more than a few thousand miles), EPA organized the Clean Power Plan in a manner suggested by the IEA—so all states’ energy producers would have been subject to the same rigorous standards but were able to research and adopt new technologies on the way to compliance. The Trump Administration subsequently announced plans to review and upend the Clean Power Plan and similar Obama-era GHG reduction rules. *See* Review of the Clean Power Plan, 40 C.F.R. 60 (2017). As of publication, the final repeal of the Clean Power Plan has been published and environmental groups, as well as several states, had committed to suing the federal government to block the new rule and Clean-Power-Plan repeal. *See* Repeal of the Clean Power Plan, 84 F.R. 32520 (2019); e.g., Press Release, Nat. Res. Def. Council, Others Sue to Overturn Trump’s Do-nothing Climate Plan, (Aug. 14, 2019), <https://www.nrdc.org/media/2019/190814-0> [https://perma.cc/2NY7-VY99].

⁴⁷ *See* Joshua Schneck et al., *Primer, Protecting Energy-Intensive Trade-Exposed Industry*, NICHOLAS INST. ENVTL. POLY SOLUTIONS 2 (Oct. 2009), <https://nicholasinstitute.duke.edu/sites/default/files/publications/understanding-hr2454-protecting-energy-intensive-trade-exposed-industry-primer.pdf> [https://perma.cc/3W75-GYXF] (discussing how such an EITE rate would work in the House’s bill).

2. *EU Carbon Market*

The EU created and implemented a carbon cap and trade system that requires all member states of the EU to enforce carbon controls on polluters in their jurisdictions. Member states punish emitters for exceeding their allotted or purchased carbon credit allowances, including per-ton fines for excessive emissions.⁴⁸ “The push for carbon efficiency is clear: After measuring emissions and distributing initially-free allowances, the E.U. cap and trade system transitions into auctioning allowances, with criteria-based exceptions playing a mitigating role.”⁴⁹

In addition to the initially-free allowances to major emitters, EU member states were also explicitly allowed to prevent carbon leakage by adopting “financial measures” that account for certain industries’ large energy usage and seek to mitigate energy costs in order to avoid forcing these industries to relocate.⁵⁰

3. *Australia’s Carbon Tax and Credit System*

While it has since been repealed, Australia in 2011 passed a different type of carbon restriction that serves as another example of how an EITE exception might fit within a strong system of pollution restrictions. The law’s first stage imposed a carbon tax at a set per-ton rate for all large emitters.⁵¹ Recognizing the danger of carbon leakage, Australia also set up a system to support major emitters subject to carbon regulation.⁵² “Sectors [included] range from aluminum, steel, paper, glass, and cement manufacturers to oil refineries[.]” Eighty percent of emissions from manufacturing were subject to the program.⁵³

⁴⁸ Juscelino Colares, *The Dynamics and Global Implications of Subglobal Carbon-Restricting Regimes*, 25 GEO. INT’L ENVTL. L. REV. 417, 421 (2013).

⁴⁹ *Id.* at 423.

⁵⁰ *Id.* Entities in industries at “significant risk” of carbon leakage, due to overseas competition from non-carbon-restricted rivals, can obtain free carbon credits, but only if they are the most-efficient producers in their industry. “Companies in these at-risk sectors may receive up to 100% free allowances based on benchmarks set by the average performance of the 10% most efficient installations from 2007-2008 in the same sector.” *Id.* at 422-23 (internal quotations omitted). With state-specific financial measures plus EU-given free allowances, this structure allowed for two different levels of local-industry protections, and state policies could potentially undercut the incentive for efficiency if pushed too far.

⁵¹ *Id.* at 427-28. The law was set to transition to an EU-style cap-and-trade system within three years. *Id.* at 428. However, it was repealed before that fully came into effect. *Id.* at 430 (discussing how the opposition had pledged to repeal the law in 2013).

⁵² *Id.* at 429 (discussing the Jobs and Competitiveness Program).

⁵³ *Id.*

4. *Subnational EITE Programs in North America*

Closer to home, some U.S. states and Canadian provinces have discussed or attempted EITE exceptions within strong carbon regulation regimes.

i. *West Coast: Carbon Markets and Efficiency*

Under California's 2006 Global Warming Solutions Act, the state regulator was charged with minimizing GHG emissions across the economy, and adopting regulations to minimize leakage.⁵⁴ Under this authority, the California Air Resources Board promulgated a "leakage risk analysis methodology" in 2010 that ranks industries based on their energy intensiveness and trade exposure, then assigns them credits in the carbon market if they are especially prone to leakage.⁵⁵ Through its "Industrial Assistance" allocation of credits in the carbon market, the state holds industries to mandatory reporting regulations and allocates some credits to the industries through a combined analysis of their products and energy output under the leakage methodology.⁵⁶ The state also allocates some credits to utilities to protect ratepayers from spikes in their bills due to carbon market regulation.⁵⁷ California's carbon cap and trade system was updated and extended in 2017, prolonging the GHG limits and carbon market until at least 2030. In doing so, the Legislature locked in carbon market credits for some of the state's biggest polluters (including the oil industry) that could also be characterized as EITE standards.⁵⁸ The Legislature's action slowed the phase-out of the carbon credit allowances and kept the allowance allocation at 100% until 2021 rather than lowering

⁵⁴ California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38505(j) (2006) (defining "leakage" as a "reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state").

⁵⁵ 17 CAL. HEALTH & SAFETY CODE §§ 96012-96014 (2006) app. B.

⁵⁶ *Allowance Allocation*, CAL. AIR RES. BOARD, <https://ww3.arb.ca.gov/cc/capandtrade/allowanceallocation/allowanceallocation.htm> [<https://perma.cc/XZ8U-F4VB>]. For the relevant rules in California law: "Sections 95852.2(e), 95870(e), 95890, 95891, and 95894 of the Cap-and-Trade Regulation describe allowance allocation for industrial assistance." *Id.*

⁵⁷ *See id.*

⁵⁸ Georgina Gustin, *California's New Cap-and-Trade Plan Heads for a Vote—with Tradeoffs*, INSIDE CLIMATE NEWS (Jul. 15, 2017), <https://insideclimatenews.org/news/12072017/california-cap-trade-climate-legislation-AB32-carbon-trading-rewrite> [<https://perma.cc/8VAZ-THN8>].

it.⁵⁹ Both Washington⁶⁰ and Oregon⁶¹ have attempted to pass similar carbon pollution limits with anti-leakage EITE standards included,⁶² but both proposed legislation (Oregon)⁶³ and agency action (Washington)⁶⁴ were scrapped under industry and political opposition.

⁵⁹ See A.B. 398, Gen. Assemb., Reg. Sess. (Cal. 2017) (“This bill would, until January 1, 2031, require the state board to include specified price ceilings, price containment points, offset credit compliance limits, and industry assistance factors for allowance allocation as part of a regulation that establishes a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases from January 1, 2021, to December 31, 2030, inclusive.”).

⁶⁰ In implementing its Clean Air Rule, the Washington state Department of Ecology proposed an EITE program of its own, requiring below-average industry participants to increase production efficiency by 2.7 percent annually and requiring lesser efficiency improvements for already efficient manufacturers. Wash. Dep’t of Ecology, *Efficiency Baselines and Limits for Energy-Intensive, Trade-Exposed Businesses*, YOUTUBE (Dec. 19, 2016), https://youtu.be/nGme_F0ebtg [<https://perma.cc/2EPQ-RL2Y>]. In this case, “production efficiency” is the number of pounds per tons of GHG emitted per unit of production. Under the rule, major emitters in the EITE category would have had to comply with standards by 2020 but would have also benefitted from designation. WASH. DEP’T OF ECOLOGY, CLEAN AIR RULE: POTENTIALLY ELIGIBLE PARTIES, at iii (June 2016), <https://ecology.wa.gov/DOE/files/03/03f1c305-7f1c-4a66-bf1b-2285d63a5388.pdf> [<https://perma.cc/5DRK-TH2H>].

⁶¹ Oregon considered carbon-reducing legislation incorporating an exception for EITE businesses. The proposed bill would set a cap on GHG pollution and would give EITE entities 90 percent of the credits they would need for their business. Kristin Eberhard, *Oregon’s Clean Energy Jobs Bill Is Poised for a Breakthrough*, SIGHTLINE INST., (Jan. 22, 2018), <https://www.sightline.org/2018/01/22/oregons-clean-energy-jobs-bill-is-poised-for-a-breakthrough/> [<https://perma.cc/2RM9-ZE2Z>].

⁶² See, e.g., Samantha Larson, *Washington State Implements Rule to Combat Climate Change*, HIGH COUNTRY NEWS (Sept. 16, 2016), <https://www.hcn.org/articles/washington-climate-change-plan-rules> [<https://perma.cc/EF4F-5YMH>] (“The Clean Air Rule, which goes into effect Oct. 17, will initially apply to 24 businesses that each produce at least 100,000 metric tons of carbon each year, including all five oil refineries in Washington, as well as power plants, fuel distributors and other industries.”).

⁶³ Dirk Vanderhart, *After Republican Protest, Oregon’s Climate Plan Dies*, NAT’L PUB. RADIO (Jun. 25, 2019), <https://www.npr.org/2019/06/25/735792788/after-republican-protest-oregons-climate-plan-dies> [<https://perma.cc/BM2B-24M6>].

⁶⁴ Jim Brunner, *Judge: Washington State Can’t Enforce Inslee Order to Cut Greenhouse-gas Emissions*, THE SEATTLE TIMES (Dec. 19, 2017), <https://www.seattletimes.com/seattle-news/politics/judge-state-cant-enforce-inslee-order-to-cut-greenhouse-gas-emissions/> [<https://perma.cc/L6US-4DAK>]; see also Press Release, Ass’n of Wash. Bus., Judge Declares Clean Air Rule Invalid (Dec. 15, 2017), <https://www.awb.org/press-releases/?id=1656> [<https://perma.cc/2UGV-G4E6>] (supporting the invalidation of the rule); News Release, Wash. Dept’ of Ecology, Clean Air Rule (2018), <https://ecology.wa.gov/Air-Climate/Climate-change/Clean-Air-Rule> [<https://perma.cc/V3BE-F7XM>] (resulting in the suspension of the clean air rule). But see News Release, Wash. Dep’t of Ecology, Ecology Statement on Appeal Filed with Washington State Supreme Court (May 14, 2018) <https://ecology.wa.gov/About-us/Get-to-know-us/News/2018/May-Ecology-appeals-Washington-State-Supreme-Court> [<https://perma.cc/2J8J-CS45>] (announcing the government’s intent to appeal court ruling).

ii. *Canadian: Carbon Markets and Tax*

Canada's economy depends heavily on resource extraction. At the same time, the country presents itself as a leader on addressing GHG emissions. This contradiction creates tension between its economy and image. In 2016, Alberta's government announced its intention to protect EITE industries, specifically the oil and gas extraction industries, in conjunction with its provincial price on carbon.⁶⁵ "The Alberta Climate Leadership Panel advised . . . that 'sector-specific, output-based allocations of emissions rights should be used to mitigate competitiveness and employment impacts in trade-exposed sectors and to protect electricity consumers from significant and unnecessary rate increases as coal-fired power is phased out in the province.'⁶⁶ Consistent with Alberta's 2016 commitment, it established a crediting system for its largest emitters and updated the program further in 2018 to account for additional considerations and complexities.⁶⁷ The first North American jurisdiction to impose a carbon tax was British Columbia (BC).⁶⁸ At the time, BC gave short-term relief to its cement industry to offset impacts as the industry modernized.⁶⁹ Additionally, some Canadian jurisdictions with relatively low populations and fewer resources have come close to implementing comprehensive carbon restrictions (that likely would have included EITE

⁶⁵ Mark Lowey, *Alberta will Protect Energy-Intensive, Trade-Exposed Industries in Implementing Climate Plan: Environment Minister*, ENVIROLINE (Jul. 21, 2016), <http://enviroline.ca/news-analysis/news/2016/07/21/alberta-will-protect-energy-intensive-trade-exposed-industries-in-implementing-climate-plan-environment-minister/> [https://perma.cc/4NCJ-647M]. The province's economy is heavily reliant on EITE industries, accounting for 18 percent of the province's economic activity at the time. *Id.*

⁶⁶ *Id.* The government agreed and decided to apply the carbon price to tar sands and mining operations, while giving the largest emitters "emissions rights" based on "output or value added." *Id.* The allocations went to the most efficient performers and decrease by one to two percent annually, while less efficient producers must pay the provincial carbon price's going rate. *Id.*

⁶⁷ Thomas McInerney & Duncan McPherson, *Alberta Replaces Specified Gas Emitters Regulation with Carbon Competitiveness Incentive Regulation*, BENNET JONES: BLOG (Jan. 3, 2018), <https://www.bennettjones.com/en/Blogs-Section/Alberta-Replaces-Specified-Gas-Emitters-Regulation-with-Carbon-Competitiveness-Incentive-Regulation> [https://perma.cc/FSK2-DZM2].

⁶⁸ *British Columbia's Carbon Tax*, BRITISH COLUMBIA, <https://www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action/carbon-tax> [https://perma.cc/S5AM-7TCR].

⁶⁹ Lowey, *supra* note 65. The IEA report discussed above also provided an analysis of the impacts and potential for an EITE policy in the cement industry. See BARON ET AL., *supra* note 13, at 52–56. See also Vidal, *supra* note 44 for a discussion of the GHG impacts of cement.

policies), including those that economically rely heavily on fossil fuel production.⁷⁰

Judging by the previous examples, it is evident that a carbon controlling regime and any associated EITE policy will often be politically controversial and a likely target of vested interests. By contrast with these attempts to limit GHG emissions, Minnesota's EITE rate is unique as it only increases carbon pollution and is not controversial among either of the state's main political parties. However, not everyone has weighed in on this stand-out EITE policy. As discussed more fully below, perhaps it will prove true, as one commentator foresaw, that "political differences aside, trade policy will have a critical role in the emerging carbon-restricting economy."⁷¹

III. MINNESOTA'S UNIQUE EITE POLICY

Minnesota does not mine or drill for fossil fuels,⁷² but nonetheless has a long history of resource extraction in various forms.⁷³ Minnesota is currently the only state with significant iron mining capacity⁷⁴ but

⁷⁰ In 2017, the province of Newfoundland and Labrador's Premier announced he would be imposing a carbon price in keeping with national federal guidelines by 2018. *Newfoundland and Labrador's Carbon Pricing Plan to be Unveiled Next Spring: Ball*, THE TELEGRAM (Oct. 31, 2017), <https://www.thetelegram.com/business/newfoundlands-carbon-pricing-plan-to-be-unveiled-next-spring-ball-158276/> [<https://perma.cc/K7PK-79Y3>]. He announced that the carbon price would "tak[e] into consideration what is happening in our offshore"—a reference to the oil platforms that produce a considerable amount of the province's economic activity. *Id.* But less than one year later, the same Premier, who had obtained a federal extension to plan his province's compliance with the national carbon plan, balked and said that if any other province opted out of the national plan his province would as well. David Maher, *Newfoundland and Labrador Carbon Pricing Plan on Thin Ice*, THE WESTERN STAR (Sept. 3, 2018), <https://www.thewesternstar.com/news/local/newfoundland-and-labrador-carbon-pricing-plan-on-thin-ice-238416/> [<https://perma.cc/BH7K-HPTA>].

⁷¹ Colares, *supra* note 48, at 442.

⁷² Setting aside peat mining, which is a going concern in Minnesota. *See Peat: The Forgotten Fossil Fuel*, NAT'L GEOGRAPHIC, <https://www.nationalgeographic.org/media/peat-forgotten-fuel/> [<https://perma.cc/S3HN-E7R6>] (describing how peat might be viewed as a "fossil fuel"); *see also Permit to Mine - Peat*, MINN. DEP'T. OF NAT. RES., <https://mn.gov/elicence/a-z/?id=1083-231014#/list/appId/filterType/filterValue/page/1/sort/order/> [<https://perma.cc/MXG3-8ZSP>] (describing the Minnesota Department of Natural Resources' peat mining permitting regime).

⁷³ *Minnesota Mining History*, MINN. DEP'T. OF NAT. RES., <https://www.dnr.state.mn.us/education/geology/digging/history.html> [<https://perma.cc/XS3R-LY5P>]; *see also Supporting a Competitive Forest Industry*, MINN. FOREST RES. COUNCIL, <https://mn.gov/frc/forest-products-industry.html> [<https://perma.cc/7L2X-VMS6>].

⁷⁴ Press Release, Iron Mining Ass'n. of Minn., Outlook Good for 2018 Minnesota Iron Shipments (Jan. 14, 2019), <https://www.taconite.org/news/latest/?273> [<https://perma.cc/8HL5-4G38>] (describing how "[m]ore than 80% of iron mined in the United States comes from Minnesota. There is currently only one other operating iron mine in the nation").

paradoxically has not parlayed this into the more profitable business of steelmaking.⁷⁵ Even the most advanced iron processing facility ships its output to be processed into more valuable products.⁷⁶ The state has a long history of logging and paper milling, industries that are still regionally significant although they are in decline.⁷⁷ Additionally, Minnesota hosts numerous oil and gas pipelines that move fossil fuels produced in Alberta and North Dakota to refineries in across the Midwest and South, and with some additional steps, places like Singapore.⁷⁸ While pipelines do not result in long-term employment or profits for many Minnesotans,⁷⁹ they use a significant amount of electricity. Minnesota has two laws working in concert to increase the pollution output of these specially cared-for industries.

A. *Minnesota's Efficiency Exemption*

Since 1997, Minnesota agencies have enforced and implemented a Conservation Improvement Program (CIP) that imposes duties on electric and natural gas utilities to increase efficiency across power grids, gas distribution systems, and among consumers in order to reduce wasted

⁷⁵ Dan Kraker, *On the Iron Range, a Push for a New Kind of Iron*, MINN. PUB. RADIO NEWS (June 24, 2015), <https://www.mprnews.org/story/2015/06/24/taconite-mn> [<https://perma.cc/HPZ3-283X>] (“For more than a century, iron ore mined from Minnesota’s Iron Range has fed enormous blast furnaces at steel mills around the Great Lakes in old rust belt cities like Chicago, Detroit, Cleveland and Hamilton, Ontario.”). There is some small and specialized steel fabricating capacity around the Twin Cities, but nothing akin to the large steel mills that process Minnesota iron. *See, e.g.,* LEJEUNE STEEL CO., <https://www.lejeunesteel.com/> [<https://perma.cc/67EL-BJSY>] (fabricating over 40,000 tons of steel at sites in Minnesota and Wisconsin).

⁷⁶ Dan Kraker, *Northern Minnesota. Iron Ore Mining Company Invests in Steel Industry’s Future*, MINN. PUB. RADIO NEWS (Aug. 7, 2019), <https://www.mprnews.org/story/2019/08/07/northshore-iron-ore-mining-company-cleveland-cliffs-invests-in-steel-industry-future> [<https://perma.cc/29V4-KQ4N>].

⁷⁷ Dan Kraker, *Wood City: Cloquet Hopes to Keep its Identity After Country’s Last Matchstick Factory Closes*, MINN. PUB. RADIO NEWS (June 19, 2017, 4:00 AM), <https://www.mprnews.org/story/2017/06/19/cloquet-hopes-to-keep-identity-after-countrys-last-matchstick-factory-closes> [<https://perma.cc/K9MN-GXL9>]. The Minnesota paper milling industry also claims to be far more environmentally responsible and efficient than its foreign competitors. *See Cloquet: The Industry Standard for Environmental Performance*, SAPP, <https://www.sappi.com/cloquet-industry-standard-environmental-performance> [<https://perma.cc/76X3-PH6V>].

⁷⁸ In the Matter of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line Three Replacement Project in Minnesota, Direct Testimony of Dr. Marie Fagen, at 20, PL9/CN-14-916, (Minn. P.U.C. Sept. 11, 2017).

⁷⁹ Enbridge projects the new Line 3 oil pipeline project will employ between zero and twenty full-time permanent employees. Under cross examination, its expert estimated between five and twenty. *See* In the Matter of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line Three Replacement Project in Minnesota, Office of Administrative Hearings Findings of Fact, Conclusions of Law, and Recommendation, at ¶ 904, PL-9/CN-14-916 (Minn. P.U.C. Apr. 23, 2018) [hereinafter PUC Line Three Findings of Fact].

energy resources.⁸⁰ For the sake of this discussion, it is relevant that the law effectively excepted many heavy-energy-use industries (e.g., iron, paper, and pipelines) from CIP standards.⁸¹ Under the CIP, eligible “large customer facilities” include:

all buildings, structures, equipment, and installations at a single site that collectively (1) impose a peak electrical demand on an electric utility’s system of not less than 20,000 kilowatts, measured in the same way as the utility that serves the customer facility measures electrical demand for billing purposes, or (2) consume not less than 500 million cubic feet of natural gas annually. In calculating peak electrical demand, a large customer facility . . . if engaged in mineral extraction, may aggregate peak energy demand from the large customer facility’s mining and processing operations.⁸²

These large customer facilities can petition the Commissioner of the Minnesota Department of Commerce “to exempt both electric and gas utilities serving the large customer facility from the investment and expenditure requirements” that otherwise require those utilities to invest in energy conservation improvements.⁸³ Instead of abiding by statewide standards, the petitioners must present some evidence of how they’re attempting to save energy as they see fit.⁸⁴

Once the CIP exemption is granted, the customer will not have to fund and the utility cannot be required to invest in energy conservation programs that would benefit the large customer.⁸⁵ This means that unlike all other utility customers in the state, the excepted largest users of electricity and gas receive no incentives or utility assistance to conserve energy. And then under EITE, they are further incentivized to use as much electricity and gas as possible to maximize output and profit.

⁸⁰ *Conservation Improvement Program*, MINN. COMMERCE DEP’T, <https://mn.gov/commerce/industries/energy/utilities/cip/> [https://perma.cc/JX5A-QR5J]; SHELDON STROM, CTR. FOR ENERGY & ENV’T, MINNESOTA’S NEXT GENERATION ENERGY ACT OF 2007, at 14 (2007), <https://aceee.org/files/pdf/conferences/ee/2007/STROMbs1.pdf> [https://perma.cc/U3GT-M63P]. For a description of any utility’s required regular filings under the law and their detailed requirements, see MINN. R. § 7690.0500.

⁸¹ See MINN. STAT. § 216B.241 (2019).

⁸² *Id.* at subdiv. 1(h)(2)(i).

⁸³ *Id.* at subdiv. 1a(a)–(b).

⁸⁴ “The filing must include a discussion of the competitive or economic pressures facing the owner of the facility and the efforts taken by the owner to identify, evaluate, and implement energy conservation and efficiency improvements.” *Id.* at subdiv. 1a(b).

⁸⁵ *Id.* at subdiv. 2(d) (“A public utility may not spend for or invest in energy conservation improvements that directly benefit a large energy facility or a large electric customer facility for which the commissioner has issued an exemption pursuant to subdivision 1a, paragraph (b).”).

B. Minnesota's EITE Statute

The EITE statute creates a similar category of large customer facilities that overlaps in some ways with the CIP exemptions. This short law appears supportive of “clean energy technology” on its face.⁸⁶ Unfortunately, looks can be deceiving.

The EITE statute delineates its policy justification in a findings section:

It is the energy policy of the state of Minnesota to ensure competitive electric rates for energy-intensive trade-exposed customers. To achieve this objective, an investor-owned electric utility that has at least 50,000 retail electric customers, but no more than 200,000 retail electric customers, shall have the ability to propose various EITE rate options within their service territory under an EITE rate schedule that include, but are not limited to, fixed-rates, market-based rates, and rates to encourage utilization of new clean energy technology.⁸⁷

Compared to other Minnesota laws on utility regulation,⁸⁸ this drafting is strange. It includes a general “policy of the state” section that functions as a definition that omits the state’s largest utility, Xcel Energy (which has more than 200,000 retail electric customers and therefore is not covered by this law), the primary Minnesota utility furthering “new clean energy technology.”⁸⁹ Because of that omission, this law applies only to two utilities: Minnesota Power and Otter Tail Power. Both lag far behind Xcel in adopting either renewable energy⁹⁰ or relying on “clean energy technology” as defined in the section (including nuclear power).⁹¹

Another odd feature for a utility rate statute, the next section creates a blanket exception to the reasonable ratemaking provisions of Minnesota law. It effectively excepts utilities that propose an EITE rate from having to prove most of the ordinary elements and meet the fundamental fairness

⁸⁶ *Id.* at subdiv. 2(a).

⁸⁷ MINN. STAT. § 216B.1696, subdiv. 2(a).

⁸⁸ Many, though not all, of the relevant statutes are long, convoluted, and comprehensive. See, e.g., MINN. STAT. §§ 216B.2422, 216B.243, 216B.16 (2019).

⁸⁹ *Wind Power, XCEL ENERGY*, https://www.xcelenergy.com/Energy_Portfolio/Renewable_Energy/Wind [https://perma.cc/6AS3-NGFC] (“As a national leader in wind power for over a decade, more than 20 percent of our energy supply company-wide comes from wind energy – about seven times the wind generation on our system than in 2005.”).

⁹⁰ For example, Minnesota Power’s 2015 Integrated Resource Plan (a mandatory planning process which all three investor-owned utilities implement and submit to the PUC for approval) indicates that it intends to avoid buying any additional wind power unless it is punished with a “carbon regulation penalty.” See In the Matter of Minnesota Power’s Application for Approval of its 2015-2029 Resource Plan, Minnesota Power’s 2015 Integrated Resource Plan, at 63, E015/RP-15-690, (Minn. P.U.C. Sept. 15, 2015).

⁹¹ MINN. STAT. § 216B.1696, subdiv. 1(b). The only two nuclear power plants in Minnesota are owned by Xcel. See *Nuclear Energy, XCEL ENERGY*, https://www.xcelenergy.com/energy_portfolio/electricity/nuclear [https://perma.cc/M9V4-4MX9].

requirements of a ratemaking proposal.⁹² All ratemaking decisions are normally made by the Public Utilities Commission (PUC or Commission), an independent Minnesota agency⁹³ (discussed further below). For the EITE rate, instead of subjecting utility applications to the normal discretion and expertise of Commissioners—determining, for example, what is “reasonable” or what are discriminatory rates—this statute seeks to limit the agency’s discretion, commanding it “shall, upon a finding of net benefit to the utility or the state, approve an EITE rate schedule and any corresponding EITE rate.”⁹⁴ As the Commission summarized in implementing the law:

The language of Minn. Stat. § 216B.1696, subd. 2 therefore expressly limits Commission consideration of a proposed EITE rate schedule to whether the rate schedule and corresponding rate results in a net benefit to the utility or the state. In particular, the Commission must evaluate the proposed EITE rate schedule and rates notwithstanding the ordinary legislative prohibition against unreasonably preferential or prejudicial rates, or the ordinary requirement that every rate be just and reasonable. In addition, the Commission must evaluate the EITE rate schedule and rates notwithstanding section 216B.03’s ordinary requirement to set rates that advance Minnesota’s energy conservation and renewable energy goals “to the maximum reasonable extent.”⁹⁵

Far from encouraging clean energy development, the EITE rate explicitly disallows considering either the conservation or renewable energy goals set by the Legislature and applicable to other Commission rate decisions.

Exceptional provisions and exceptions continue in this short provision. This statute requires the PUC to make a decision on a miscellaneous filing on an EITE rate within ninety days, in an apparent attempt to keep such rates out of the periodically-held rate cases that utilities must otherwise bring

⁹² § 216B.1696, subd. 2(b) (creating an exception to the application of the “Reasonable Rate” statute, normal filing requirements, a prohibition on charging different customers more for the same service, antidiscrimination prohibitions against “unreasonable preference or advantage to any person or subject any person to any unreasonable prejudice or disadvantage,” and the normal hearing procedure for a rate change).

⁹³ See *infra* Section III.C.

⁹⁴ § 216B.1696, subd. 2(b).

⁹⁵ In the Matter of a Revised Petition by Minnesota Power for a Competitive Rate for Energy-Intensive Trade-Exposed (EITE) and an EITE Cost Recovery Rider, Order Approving EITE Rate, Establishing Cost Recovery Proceeding, and Requiring Additional Filings, at 4, E-015/M-16-564 (Minn. P.U.C. Dec. 21, 2016) (citation omitted) [hereinafter PUC Order Approving Minnesota Power EITE Rate].

in order to increase their rates across their customer classes.⁹⁶ The statute also protects both EITE customers and statutorily-defined low-income customers from adjustments from the EITE rate,⁹⁷ essentially passing all costs and potential savings of the rate onto the remaining customers who are neither EITE entities nor the lowest-earning Minnesotans.⁹⁸

This statute's purpose statement defined one of three investor-owned utilities out of the EITE program, and its definition of EITE customers further focuses the benefit on a small list of companies. The EITE statute defines these eligible EITE customers as:

- (1) an iron mining extraction and processing facility, including a scam mining facility as defined in Minnesota Rules, part 6130.0100, subpart 16;
- (2) a paper mill, wood products manufacturer, sawmill, or oriented strand board manufacturer;
- (3) a steel mill and related facilities; and
- (4) a retail customer of an investor-owned electric utility that has facilities under a single electric service agreement that: (i) collectively imposes a peak electrical demand of at least 10,000 kilowatts on the electric utility's system, (ii) has a combined annual average load factor in excess of 80 percent, and (iii) is subject to globally competitive pressures and whose electric energy costs are at least ten percent of the customer's overall cost of production.⁹⁹

Because of the generic fourth prong of the definition, the EITE regime can be used to provide an EITE rate to a pipeline or new mining projects in Minnesota—such as the proposed projects for copper and nickel sulfide mines by PolyMet,¹⁰⁰ Twin Metals,¹⁰¹ and other mining companies currently

⁹⁶ MINN. STAT. § 216B.1696, subdiv. 2(c); *id.* at subdiv. 2(d) (discussing cost recovery and allocation of savings to customers between general rate cases); *id.* (laying out requirements for a utility rate change).

⁹⁷ *Id.* at subdiv. 2(d), 3. It also requires the utility in question make a small investment in programs for low-income customers. *See id.* The statute also allows the Department of Commerce to collect money from the utilities for its additional work in overseeing EITE rates but caps the amount of recovery. *See id.* at subdiv. 4.

⁹⁸ For a representation of the proximity between poverty and power plants in northern Minnesota, *see Power Plants and Environmental Justice*, MINN. POLLUTION CONTROL AGENCY, <https://www.pca.state.mn.us/air/power-plants-and-environmental-justice> [https://perma.cc/T78S-DT4V].

⁹⁹ MINN. STAT. § 216B.1696, subdiv. 1.

¹⁰⁰ *NorthMet Mining and Land Exchange Final Environmental Impact Statement (Final EIS)*, MINN. DEPT. OF NAT. RES., <https://www.dnr.state.mn.us/input/environmentalreview/polymet/index.html> [https://perma.cc/RPB2-M2HE].

¹⁰¹ Memorandum from Hilary C. Tompkins, Solicitor, U.S. Dept. of the Interior, to the Director of the Bureau of Land Mgmt., (Mar. 8, 2016), <https://www.doi.gov/sites/doi.gov/files/uploads/m-37036.pdf> [https://perma.cc/NK46-SMEL]. *But see* U.S. DEPT. OF THE INTERIOR BUREAU OF LAND MGMT., NE. STATES DIST. OFFICE, ENVIRONMENTAL ASSESSMENT, ADDITION OF TERMS AND CONDITIONS FOR

eying Minnesota for precious metals mining¹⁰²—but cannot be used by otherwise qualified businesses that fall outside of Minnesota Power’s or Otter Tail Power’s service areas.¹⁰³

The law’s legislative history brings this point home. An earlier version of the bill explicitly named seven classes of recipients including “copper, nickel, or precious metals mining extraction and processing facilit[ies]; . . . oil and liquids pipeline[s]; . . . [and] ceiling panel manufacturers” in addition to those defined above.¹⁰⁴ The earlier version of the EITE customer definition was clearer in its intent to benefit “globally competitive electric utility customer[s]” and lower their “overall cost of production.”¹⁰⁵ However, in the earlier “policy of the state” version, there was not an exception for Xcel.¹⁰⁶ Apparently, the law was scaled back to subsidize businesses in rural Minnesota rather than across the entire state. This earlier draft’s companion bill had identical language, suggesting the as-passed legislation did not result from reconciling the two chambers’ different visions.¹⁰⁷

What is glaringly absent from the prior versions of the bill and the statute that ultimately passed is any mechanism that would support “clean energy technology,” one of the stated purposes of the bill. Indeed, considering the special preference given to industries with significant sunk costs in old polluting technologies and the decision to apply the statute only to the two investor-owned utilities in the state that are slow to adopt clean

RENEWAL OF HARDROCK LEASES, MNES 001352 AND MNES 001353 (Dec. 2018), https://eplanning.blm.gov/epl-front-office/projects/nepa/98730/164517/200658/DraftEA_TwinMetalsLeaseRenewal_2019_12_20.pdf [https://perma.cc/8T5F-AQD4].

¹⁰² See, e.g., MINN. DEP’T. OF NAT. RES., MINERALS EXPLORATION PLAN ON STATE NONFERROUS METALLIC MINERALS LEASES: KENNECOTT EXPLORATION COMPANY’S EXPLORATION PLAN (Mar. 31, 2016), https://files.dnr.state.mn.us/lands_minerals/exp_plans/20160331_kennecott.pdf [https://perma.cc/YNM4-8TPF].

¹⁰³ For example, since Xcel Energy’s customers are excluded from this potential subsidy, the EITE regime cannot provide a reduced rate to Minnesota’s two oil refineries, both Xcel customers. See *Communities Served*, XCEL ENERGY, https://www.xcelenergy.com/energy_portfolio/communities_served [https://perma.cc/53VS-2UEP]; ANDEAVOR, ST. PAUL PARK REFINERY FACT SHEET (Aug. 2018), http://andeavor.com/media/1395/andv_stpaulpark_factsheet-082118.pdf [https://perma.cc/LQY2-5ZVJ] (“The St. Paul Park Refinery (SPPR) occupies approximately 170 acres along the Mississippi River southeast of St. Paul Park, Minnesota[.]”); *About Us*, FLINT HILLS RES., <https://pinebendrefinery.com/pine-bend-mn-oil-refinery/> [https://perma.cc/S5WC-34T3] (“Located 17 miles southeast of Minneapolis, the Flint Hills Resources Pine Bend refinery is a landmark like no other in Minnesota.”).

¹⁰⁴ S.F. 1312, 89th Leg. (Minn. 2015).

¹⁰⁵ *Id.* (noting the original wording is “any other globally competitive electric utility customer whose energy costs are a significant portion of the customer’s overall cost of production.”).

¹⁰⁶ *Id.*

¹⁰⁷ See H.F. 1782, 89th Leg. (Minn. 2015).

energy and have little carbon-free generation capacity in place, the EITE statute does not seem to foster change so much as cementing a status quo. To the extent that it could have been used to support technological innovation,¹⁰⁸ that is not how it has played out in the two utilities' proposed rates under the statute. The implementation of the EITE statute in the first EITE rate approved by regulators demonstrates how far this law is from the pollution-limiting model that other jurisdictions and the IEA proposed.

C. *EITE Implementation at the Minnesota PUC*

For better or worse, Minnesota's climate change policy and progress goes through its PUC. This agency is the principal point of contact for exerting statutory climate change reduction goals¹⁰⁹ on regulated utilities¹¹⁰—until recently Minnesota's largest source of GHG pollution.¹¹¹ It is also where the legislature has required agency action on electric vehicle-supportive energy rates,¹¹² renewable energy adoption,¹¹³ and energy conservation—with the CIP program (partly administered by the Department of Commerce but relevant to PUC decisions) being an across-the-board thumb on the scale for more efficient energy use for *almost* every utility customer in the state. The Commission has been successful in some respects and has moved slowly on others; it has approved both significant renewable energy advances¹¹⁴ and a tar sands pipeline that will more than offset the GHG emissions avoided by all of the PUC's greener actions.¹¹⁵ It

¹⁰⁸ While Minnesota Power and Otter Tail Power only proposed EITE rate subsidies for large customers, if either had wanted to promote innovation or conservation they might have conditioned the rate on adopting certain measures. But there is no reason to expect these utilities to act as regulators or avoid maximizing sales, so the real-world outcome is the logical product of letting these companies propose their own EITE rates without any PUC oversight using ratemaking laws that promote conservation and fairness.

¹⁰⁹ MINN. STAT. § 216H.02 (2007).

¹¹⁰ MINN. STAT. §§ 216B.2422, subd. 2C, 216B.2422, subd. 4.

¹¹¹ *Greenhouse Gas Emissions Data*, MINN. POLLUTION CONTROL AGENCY, <https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data> [<https://perma.cc/A7R6-VBM3>] (stating that under “Change in emissions by sectors, 2005-2016,” only the transportation industry emitted more GHGs than the electrical generation industry).

¹¹² MINN. STAT. § 216B.1614.

¹¹³ MINN. STAT. § 216B.243, subd. 3a.

¹¹⁴ For a discussion of the Commission's role in the “renewable energy revolution” see Jacob B. Shoop, *The Rise of Renewables and Distributed Generation in Minnesota*, 41 WM. MITCHELL L. REV. 1691, 1692 (2015).

¹¹⁵ In the matter of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line Three Replacement Project in Minnesota, Order Granting Certificate of Need as Modified and Requiring Filings, at 29, PL-9/CN-14-916, (Minn. P.U.C. Sept. 5, 2018); see PUC Line Three Findings of Fact, *supra* note 79, at ¶ 676 (“The ALJ accepts these calculations as established in fact and adopts the finding of the incremental life-cycle GHG emissions (GHGe) for the [Line 3 Replacement] Project will be 193 million tons of carbon dioxide emissions (CO₂e), totaling \$287 billion in social costs.”). At the time of

is in this agency—one never designed to be the principal pollution control agency for the state¹¹⁶—where the EITE statute landed, causing more than the normal amount of regulatory trepidation.

When the EITE statute arrived at the PUC, it created more conflict than is customary in a body that usually rules by consensus. The PUC deals with technical issues that are often difficult to get excited about.¹¹⁷ This law was different than most that it administers, however, and its difference resulted in several obstacles on the road to implementation that are worth discussing.

1. *Two EITE Rate Proposals*

The first application for an EITE rate structure was submitted by Minnesota Power. It was rejected by the Commission without prejudice—allowing the company to come back with a refiled petition for the same rate.¹¹⁸ The reason for its rejection was that Minnesota Power did not make the necessary showing of a net benefit either to the state or the utility.¹¹⁹ Moreover, as proposed, the EITE rate would have slapped small customers (residential customers and all but the largest businesses in Minnesota Power’s service territory) with up to 14.5% increases in their energy rates to

writing, this approval was the subject of litigation, having been reversed by the Minnesota Court of Appeals. Dan Kraker, *MN Court says PUC Didn’t Weigh Oil Spill Impact in Line 3 Pipeline Decision*, MINN. PUB. RADIO NEWS (June 3, 2019, 11:00 AM), <https://www.mprnews.org/story/2019/06/03/line3-oil-pipeline-minnesota-court-environment-spill-impact> [https://perma.cc/F73Y-NQPN].

¹¹⁶ The clearest responsibility for protecting natural resources and preventing pollution resides with the Minnesota Pollution Control Agency, Department of Natural Resources, and Environmental Quality Board. See Act of May 25, 1967, ch. 882, 1967 MINN. LAWS 1845. See also GREG BREINING, MINN. DEP. NAT. RES., *MANAGING MINNESOTA’S NATURAL RESOURCES: THE DNR’S FIRST 50 YEARS, 1931-1981*, at 1 (Robert Kraske ed., 1981),

<https://web.archive.org/web/20061219122712/http://www.dnr.state.mn.us/aboutdnr/history/dnr.html> [https://perma.cc/SZV6-S9RG].

¹¹⁷ As a former Chair of the Commission recounted, meetings would normally cover something like “hedge contracts for natural gas, what proportion of the purchases of natural gas should a natural gas company be able to hedge, what’s the price they’re paying, what kind of long term contracts do they have,” and acknowledged that the highly formal and technical nature of the meetings, render them difficult for the public to engage with. Dan Kraker, *Line 3 Fight Brings PUC Higher Profile, Lots of Applicants*, MINN. PUB. RADIO NEWS (Jan. 9, 2019), <https://www.mprnews.org/story/2019/01/09/line-3-fight-brings-puc-higher-profile-lots-of-applicants> [https://perma.cc/U6QX-4D6E].

¹¹⁸ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 1.

¹¹⁹ *Id.*

pay the discount for a handful of large customers, an outcome that was understandably unpopular.¹²⁰

The second application was filed in the summer of 2016 to address these identified deficiencies. It was strongly supported by the few customers who would benefit from the rate decrease¹²¹ and was opposed by consumer advocate organizations with concerns on behalf of low income and elderly residential customers.¹²² Environmental groups also filed comments and reply comments in opposition to the proposed EITE rate.¹²³ On the other side, some of the legislators who had authored the EITE statute wrote in support of Minnesota Power's application.¹²⁴

Far from encouraging clean energy development, Minnesota Power's proposal was an across-the-board discount for its largest customers, paid for by the residential customers that make up most of the population of northern Minnesota.¹²⁵ While most these residents are not identified by Minnesota Power as "low-income"—which would have protected them somewhat from an unreasonable rate increase—there are large amounts of impoverished rural customers in the utility's service area particularly vulnerable to a rate shock.¹²⁶ The state's data on Environmental Justice and

¹²⁰ David Shaffer, *Iron Range Mines and Mills Slated for Electric Rate Relief that Will Boost Homeowners' Bills*, STAR TRIB. (Nov. 13, 2015), <http://www.startribune.com/iron-range-mines-and-mills-slated-for-electric-rate-relief-that-will-boost-homeowners-bills/347709291/> [<https://perma.cc/AQG3-97CX>].

¹²¹ Since the Commission rejected the first application, Minnesota Power's largest customers were motivated to lobby for their subsidized energy rate. Companies supporting Minnesota Power's application played up its economic benefits because "for many EITE customers energy costs amount to approximately 20–25% of the cost of the goods they produce." PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 8.

¹²² *Id.* at 1–2. Consumer advocates and the Minnesota Office of the Attorney General asserted that there was no showing of a net benefit because the costs of the EITE rate were not sufficiently addressed. *Id.* at 8. Environmental parties highlighted the fact that the cost/benefit analysis ignored environmental costs and that the EITE customers could have otherwise obtained the same benefits by investing in energy efficiency at their facilities. *Id.* The parties opposing the proposal also pointed out the limited time permitted to review the application, the need for oversight tracking the rate's effectiveness, and the need to review the rate before the company's next general rate case. *Id.*

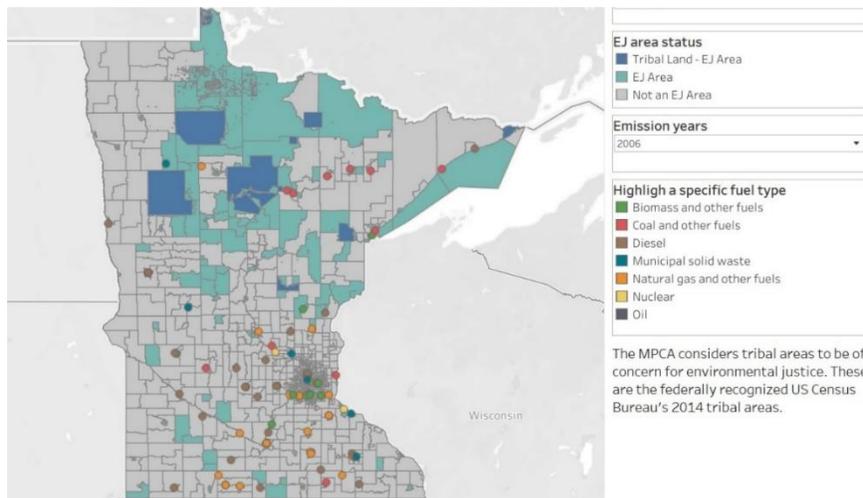
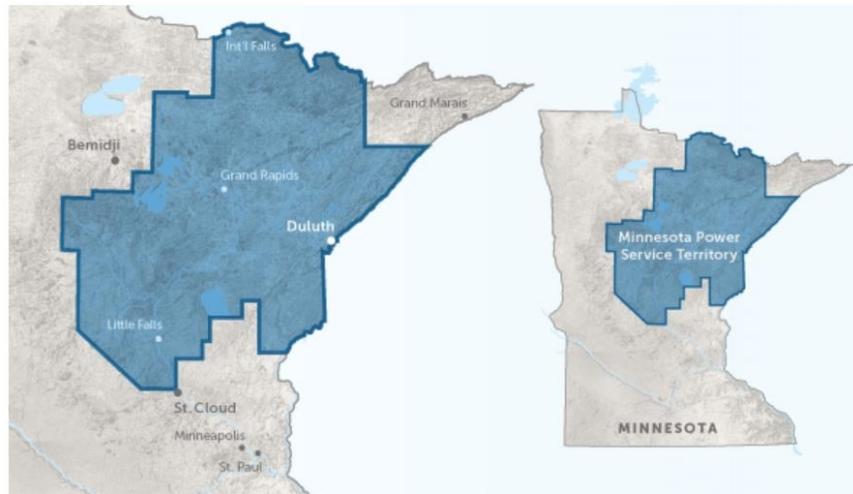
¹²³ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 2.

¹²⁴ "On September 14, 2016, the Commission received a letter supporting the petition from State Senators Thomas Bakk, Tom Saxhaug, and David Tomassoni, and State Representatives Rob Ecklund, Dale Lueck, and Jason Metsa." PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 2; *see also* S.F. 1312, 89th Sess. (Minn. 2015) (listing Senate authors Tomassoni, Bakk, Saxhaug, Hoffman, and Rosen).

¹²⁵ *Id.* at 4–5.

¹²⁶ Compare MINN. POLLUTION CONTROL AGENCY, *supra* note 98 (showing large swathes of northern Minnesota census tracts where the poverty levels are high enough to be labeled Environmental Justice areas by the Pollution Control Agency, which also designates Tribal Land as an EJ areas), with *Coverage Map*, MINN. POWER, <https://minpower.com/Company/CoverageMap> [<https://perma.cc/8R8V-YBN8>] (showing Minnesota Power's service area includes many of the same areas).

Native communities overlaps significantly with Minnesota Power’s service area:



Map Comparison¹²⁷

Unprotected residential customers would have to pay up to 10% more on their bills to cover the EITE rate.¹²⁸ Also, rates were projected to rise on general service, large light and power, and municipal customers—demonstrating that most businesses, local governments, and city street light

¹²⁷ *Id.*

¹²⁸ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 5.

payments would be tapped for the discount given to EITE customers.¹²⁹ The benefit of the EITE rate would be offered to only eleven identified customers.¹³⁰ The rate would end after four years,¹³¹ requiring Minnesota Power to reapply to renew this discount. However, because the Commission ultimately approved the initial program, it seems likely that in years to come the utility would successfully make its case for a renewal rate supported by data showing similar net benefit to its business.

In order to succeed where it had failed the first time, Minnesota Power had to show that it would “benefit” from the EITE rate in order to get the Commission’s approval. It did so by characterizing increased energy use and waste as a benefit: “According to the Company, the proposal would provide a net benefit to the utility in large part by increasing revenue from electricity sales to large industrial customers. The Company expects that the rate reduction would cause an increase in EITE customers’ electric consumption.”¹³² Minnesota Power estimated an \$80 million benefit from additional electricity sales to EITE customers and from money clawed back from non-EITE customers with \$40 million lost in fuel costs and disgorged to the EITE customers in their rate discount, giving it an overall “benefit” of \$40 million additional profit.¹³³ It also suggested that the EITE rate would increase overall economic activity benefitting the state.¹³⁴ Analysis by the Minnesota Department of Commerce, meant to check the company’s numbers for the Commission, similarly looked at economic benefit to the company (also concluding that non-EITE customers would have to cover Minnesota Power’s losses on increased rates), but failed to identify issues like environmental costs, and did not review whether there was any actual benefit to the state.¹³⁵

2. *The PUC’s Approval of Minnesota Power’s EITE Rate*

At the Commission’s hearing on the proposal, things became heated. U.S. Steel’s representative told the Commission that he would never ask for a “subsidy” to do business, and Commissioner Tuma informed him that the rate he was asking to be approved to benefit his company’s operations was

¹²⁹ *Id.* at 6. This would likely lead to increases in property taxes and cost of living as these costs were passed along to the same residents paying more for their own electricity.

¹³⁰ *Id.*

¹³¹ *Id.* at 5.

¹³² PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 6.

¹³³ *Id.* The company also asserted less tangible benefits including “financial strength, credit rating, and access to capital” resulting from more certain demand from its largest customers. *Id.* at 10.

¹³⁴ *Id.* at 7.

¹³⁵ *See* PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 7 (noting customers would not be able to reduce their electricity usage, so the utility would continue to bill them the upcharge as projected: “In the Department’s view, because elasticity of demand for electricity is ‘rather low,’ the effect of price increases on non-EITE customers would not result in a meaningfully large cost to the utility.”).

indeed a subsidy.¹³⁶ The two did not ultimately resolve this disagreement,¹³⁷ however, outside the EITE rate proceeding, U.S. Steel tells its investors that low energy prices maintain profitability at its iron facilities.¹³⁸ Commission Chairperson Heydinger also laid out the weakness of the evidence and the significant red flags that normally would have been taken more seriously in a normal Commission rate hearing.¹³⁹

Considering the many different arguments and perspectives, the PUC narrowly found in favor of Minnesota Power's proposed EITE rate. In doing so, the Commission underlined how the statute required it to disregard prohibitions on prejudicial or unreasonable rates and to ignore the normal requirements to consider both energy conservation and development of renewable energy to the maximum extent.¹⁴⁰ The order continued:

In other words, the governing statute precludes the Commission from “balancing the interests of the utility companies, their shareholders, and their customers to ensure that rates are ‘just and reasonable’” as the Commission does routinely in rate proceedings. Instead, the statute directs the Commission only to consider the interests of the utility, or the state, and to determine

¹³⁶ *Commission PUC Agenda Meeting on 2016-09-15 9:30 AM*, MINN. PUB. UTILS. COMM'N, at 5:00:00 (Sept. 15, 2016), http://minnesotapuc.granicus.com/MediaPlayer.php?view_id=2&clip_id=525 [<https://perma.cc/ZP4P-535D>] [hereinafter September 2016 PUC Agenda Meeting].

¹³⁷ Describing himself as a “prairie populist” Commissioner Tuma explained “you have an oversupply and what you’re asking under this rate to produce at max capacity.” *Id.* at 4:58:40. The representative instead suggested: “This energy rate is paramount to our operations moving forward competitively with the consideration of the severe overcapacity of global markets. For us to stay even at the current levels we are at in Minnesota, it’s paramount we receive a fair and competitive rate structure to move forward.” *Id.* at 4:57:50. Depending on who you agree with, a public subsidy of uneconomic overproduction at below-market energy rates is apparently also explainable as a commodity-producing company’s fair and competitive global market participation.

¹³⁸ Maintaining low energy prices is a top goal of U.S. Steel because it is important to the bottom line. A 2017 First Quarter Earnings Presentation mentioned maintaining current energy prices as one of just a few conditions required to ensure the company hit \$260 million in net annual earnings. U.S. STEEL CORP., FIRST QUARTER 2017: EARNINGS PRESENTATION 3 (Apr. 25, 2017), https://www.ussteel.com/sites/default/files/reports_filings/USS%20Earnings%20Call%20Slides [<https://perma.cc/2EMA-NNYM>] (“If market conditions, which include spot prices, raw material costs, customer demand, import volumes, supply chain inventories, rig counts and energy prices, remain at their current levels, we expect: . . . 2017 net earnings of approximately \$260 million, or \$1.50 per share.”).

¹³⁹ September 2016 PUC Agenda Meeting, *supra* note 136, at 7:08:00–7:14:30.

¹⁴⁰ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 4 (and accompanying block quote).

if a proposed EITE rate schedule would be a net benefit to one of them.¹⁴¹

Even under that pro-utility-profit reading of the law, only three of the Commissioners voted that Minnesota Power had made the necessary showing.¹⁴² The order approving Minnesota Power's EITE rate states that the Commission found that the company showed that it would benefit from the rate, but it required additional filings on the issue of cost recovery.¹⁴³ The Commission accepted the EITE customers' assertion that cheaper electricity will have a "positive impact . . . on their production by lowering their cost of producing goods[.]"¹⁴⁴ The Commission further supported its finding by stating: "Reduced energy costs will likely be a factor in keeping EITE customers viable in competitive markets and therefore remain in operation as Minnesota Power customers."¹⁴⁵ These findings go beyond any assumption of a net benefit to the utility from increased revenues. It seems that a significant part of the benefit of this rate, according to the decision makers, was that a subsidy for producers and shippers of commodities would make them more competitive in international commodity markets. Subsequent to this order and consistent with the Commissioners' assumptions, the Commission accepted the parties' argument that the EITE rate did in fact contribute to the re-opening of the Keetac mine,¹⁴⁶ owned by U.S. Steel and discussed further below.¹⁴⁷

In this proceeding, the Commission declined to look at whether the EITE rate would be a net benefit or loss to the state as a whole,¹⁴⁸ and punted on whether the rate was economical. It explained that it made no finding on whether the EITE rate was "competitive," asserting that, "Though 'competitive electric rates' is a stated policy objective of the EITE statute, the Legislature also stated that EITE rate options are the means to accomplish the objective, and stated under what circumstances those EITE rate options must be approved."¹⁴⁹ Additionally, the Commission declined to find that the EITE rate was in the public interest by normal legal standards used by the agency.¹⁵⁰ Instead, the Commission required Minnesota Power to file annual reports justifying the continued use of the EITE rate with a specific emphasis on the economic impact of the rate. Among the reporting requirements, the company must:

¹⁴¹ *Id.* (citation omitted).

¹⁴² September 2016 PUC Agenda Meeting, *supra* note 136, at 7:22:00.

¹⁴³ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 9.

¹⁴⁴ *Id.* at 10.

¹⁴⁵ *Id.* at 10.

¹⁴⁶ *Id.* at 6-7.

¹⁴⁷ *See infra* text accompanying notes 302-04.

¹⁴⁸ PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 11 n.22.

¹⁴⁹ *Id.* at 11.

¹⁵⁰ *Id.* at 11 ("Read as a whole, the statute reflects a legislative determination that, by satisfying the net benefit test, an EITE rate schedule is deemed consistent with the public interest.").

Provide an update on EITE customers' operations, including production levels, employment levels, economic factors and competitive conditions, and taxes paid . . . contain a statement of Minnesota Power's view of regional economic conditions; and . . . include state agency or similar economic data on the condition of the regional economy.¹⁵¹

In this way, the Commission gave its regulatory role of assessing the competitiveness of a rate to a private party, the utility—Minnesota Power must assess and justify the EITE rate with showings that the rate is increasing production and boosting economic activity that would not otherwise occur.

3. *Commissioners' Significant Disagreements*

This PUC order came with a dissent. Dissents are not common at the PUC, a body that often makes decisions by consensus. Even though the Commission voted 3-2 to approve the proposed rate, Committee Chairperson Heydinger and Commissioner Tuma wrote separately to indicate that the utility had failed to properly assess the issues as required by law.¹⁵² They determined that Minnesota Power did not adequately show a net benefit because the “proposal did not address the cost side as well as the benefit side of the cost/benefit ledger.”¹⁵³ The negative impacts on ratepayers paying more for no benefit, and impacts to the environment, were costs that the utility did not address or quantify.¹⁵⁴ They also asserted that the EITE customers were already mostly operating at full capacity and there was “no analysis in the record showing that the rate discount would affect production levels.”¹⁵⁵ They noted that Minnesota Power could offer an EITE rate to *new* customers who would actually be able to show measurable growth, but instead chose to offer a rate to its eleven largest existing customers to maintain existing operations.¹⁵⁶ They also highlighted the fact that there was no accounting for the rate shock that would impact residential customers, who now had to pay 10% more for electricity, and that the company had not actually identified the low-income population that would need to be shielded from increases according to the law.¹⁵⁷ While not covered in depth in this article, the Commission has continued to interpret

¹⁵¹ *Id.* at 13.

¹⁵² PUC Order Approving Minnesota Power EITE Rate, *supra* note 95, at 15.

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

the law and adjust the societal impacts of Minnesota Power's proposed rate since approving it.¹⁵⁸

To summarize, in approving the first ever EITE rate under Minnesota's EITE statute, the Commission approved what it admitted was a potentially noncompetitive and unreasonably discriminatory rate which abandoned most of its normal doctrines for setting reasonable rates. It also presumed that the rate would distort production to the extent that it would make unviable producers viable and would lead to higher production of commodities by greatly reducing a significant input cost for select customers. Additionally, the Commission seemed to condition future approval of renewal of such a rate on proof from EITE customers that the subsidy they were receiving was doing the trick—that it was having a provable impact on employment and production. Boosting local production with subsidies is often not supported by competitive trading partners, though, and as will be discussed in the context of iron and steel below,¹⁵⁹ these requirements of the PUC seem to fly in the face of international trade law.¹⁶⁰ But first this article discusses some of the impacts in Minnesota beyond the economic harm for rural ratepayers.

IV. EITE AND THE ENVIRONMENT

All regulatory pollution limits are based on assumptions. For example, when establishing a technology-based standard for how much pollution a car can emit, it is necessary to first understand how often and how hard that car is going to be running. While a car that emits a pound of pollutant X per minute of normal operation might be acceptable if it runs for 60 minutes a day, pollution could nonetheless be significantly worse if that same car is

¹⁵⁸ In a subsequent order, the Commission made an adjustment to this last point that seemed significant to the participants. By requiring that profits from the EITE rate be used to offset residential ratepayers' EITE overpayment, the Commission moderated one of the societal negatives of the proposed rate—as long as Minnesota Power receives increased revenues from new energy demands from EITE ratepayers, residential ratepayers are not forced to offset discounts given to EITE customers. In the Matter of Minn. Power's Revised Petition for a Competitive Rate for Energy Intensive Trade-Exposed (EITE) Customers and an EITE Cost Recovery Rider, Order Authorizing Cost Recovery with Conditions, at 2-3, E-015/M-16-564, (Minn. P.U.C. Apr. 20, 2017) (“[T]he Commission . . . directs the Company to refund to non-EITE customers any revenue increases resulting from increased sales to customers taking service under the EITE rate schedule . . .”). EITE customers—despite benefitting from a windfall at the potential expense of thousands of rural Minnesotans—have sued the Commission twice over how the residential paybacks are structured. *See, e.g.*, Writ of Certiorari, Large Power Intervenors v. The Minn. Pub. Utils. Comm'n, No. A18-0184 (Minn. Ct. App. Feb. 7, 2018); Oral Argument, In re. the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv., No. A18-1029 (Minn. Ct. App. Feb. 7, 2019). These lawsuits have been unsuccessful.

¹⁵⁹ *See infra* Section IV.B.

¹⁶⁰ *See infra* note 265.

run 24 hours a day, emitting 24 times the pollution modeled.¹⁶¹ Similar to pushing an old polluting vehicle to work harder and longer than anyone thought possible when it was first built, the EITE rate changes the baseline assumptions underlying regulation of some of Minnesota's biggest pollution sources.¹⁶²

This section briefly addresses the existing pollution impacts from some EITE rate entities that are likely to be increased and prolonged by keeping their facilities running at maximum capacity regardless of the market demand. Because the iron industry is the largest and one of the longest existing¹⁶³ EITE rate beneficiary, this section focuses on these facilities rather than on all EITE recipients.

A. *Water Pollution from Iron Mining and Processing*

The EITE rate is a subsidization of electricity, but its impact can go well beyond the excess power generation that results from the subsidy. By keeping certain facilities operating at maximum output, the rate is likely to change the economics of operating long-term and could lead to otherwise uneconomic activity at plants and mines that might otherwise be idled or

¹⁶¹ In a more complicated interaction, low gasoline prices have led Americans to purchase more inefficient vehicles, so while the EPA has set fuel efficiency standards for each car company's fleet of vehicles, the individual choices of car buyers (itself influenced by larger economic forces and advertising) can significantly skew assumptions regarding how many efficient vehicles will be on the road. Regulating Minnesota's 130 EPA-tracked major emitters of GHG is a significantly simpler task and should be easier to manage.

¹⁶² The Trump Administration's attempt to replace the Clean Power Plan stands as another contemporary example of underestimating baseline pollution and mortality rates. See Rama Zakaria, *The Trump Administration's Clean Power Plan Replacement - for Many States, Worse than Doing Nothing*, ENVTL. DEF. FUND: CLIMATE 411 (Sept. 14, 2018), <http://blogs.edf.org/climate411/2018/09/14/the-trump-administrations-clean-power-plan-replacement-for-many-states-worse-than-doing-nothing/> [https://perma.cc/7HNH-X6PR]. However, the EITE statute does not replace controls on pollution with weaker ones, rather it changes the rate at which controlled facilities are operating. Accordingly, it has not garnered the attention a wholesale rewriting of Minnesota's pollution rules might have.

¹⁶³ *Minnesota mining history*, MINN. DEP'T NAT'L RES., <https://www.dnr.state.mn.us/education/geology/digging/history.html> [https://perma.cc/XS3R-LY5P]; see also *Mineral Commodities Summary 2019*, U.S. DEPT. OF THE INTERIOR, https://prd-wret.s3-us-west-2.amazonaws.com/assets/palladium/production/atoms/files/mcs2019_all.pdf [https://perma.cc/Y4V3-QVV5]. The Minnesota timber industry predates iron mining but does not face quite the same point-source pollution issues as the iron mining and processing industries. Timber pollution is spread over a wider area and water pollution impacts from logging are less well documented. Additionally, while Minnesota is the United States' primary source for iron ore, the Minnesota timber industry is exposed to competition from logging in other states, so the EITE rate might have a more muted impact on this industry in Minnesota.

closed.¹⁶⁴ Indeed, the Commission's decision to approve the first EITE rate appeared to be based on the promise that it would make then-nonviable facilities open and operate again.¹⁶⁵ This is good news for a small and shrinking¹⁶⁶ group of workers, but it also takes its toll on Minnesota's water resources near such facilities, and consequently on the local people and wildlife.

For example, well before the EITE rate was proposed, the state studied the overall water pollution impacts from U.S. Steel's Minntac plant. Minntac currently benefits from the EITE rate. Back in 2004 it was established that the facility was polluting water past legal limits in watersheds where its tailings basin (the dump where its leftover waste rock and other wastes are discarded) was leaking out.¹⁶⁷ In assessing a potential expansion of the mine in 2004, the Minnesota Pollution Control Agency (PCA) determined:

The number of exceedances of water quality standards for sulfate, [total dissolved solids], specific conductance, and hardness are anticipated to increase at Station D-2 [in the Dark River] with the proposed [2500 gallons/minute] or [5000 gallons/minute] discharge. Manganese, which is currently exceeding standards, would continue to do so under either of the proposed discharge scenarios. Similarly, the data indicate that Station S-1 [in the Sandy River] would also experience increases in the numbers of exceedances of chloride, specific conductance, and hardness water quality standards. Based on these data, the Dark River and

¹⁶⁴ While plant expansion could involve the modernization of machinery and potential efficiency gains, in Minnesota the expansion of an iron mine means blasting and expanding an existing pit, which lengthens the viability of the equipment already in use. *See generally* John Myers, *Minnesota Jack Pine Chopped Down Two Days After Setting State Record*, DL-ONLINE (Apr. 10, 2015), <https://www.dl-online.com/news/3719220-minnesota-jack-pine-chopped-down-two-days-after-setting-state-record> [<https://perma.cc/GG36-QNT8>].

¹⁶⁵ *See infra* text accompanying note 304, the Commission appeared to accept the reopening of Keetac as proof that the EITE rate was functioning as intended.

¹⁶⁶ Aaron Brown, *Many New Jobs, Too Few Opportunities in NE Minn. Economy*, STAR TRIB. (Dec. 16, 2014), <http://www.startribune.com/many-new-jobs-too-few-opportunities-in-ne-minn-economy/285943471/> [<https://perma.cc/PN69-WEVK>]. Ever since the EITE rate, and iron and steel tariffs supporting the industry have been in effect, some Minnesota facilities have lost money. Idled plants were subjected to the EITE rate and laid off dozens of employees. *Layoffs Announced at two U.S. Steel Mines on Iron Range*, MINN. PUB. RADIO NEWS (Nov. 9, 2019), <https://www.mprnews.org/story/2019/11/09/layoffs-announced-at-two-us-steel-mines-on-iron-range>.

¹⁶⁷ Minntac's waste dump is built on the headwaters of both the Dark River and Sand River watersheds, which flow north towards the Boundary Waters and Canada. The entire facility also straddles the continental divide (including the mine and processing plant on the south side of the divide) and as a result, the facility pollutes three distinct watersheds from one relatively large point.

Sandy River do not have sufficient capacity to assimilate some key constituents without exceeding standards.¹⁶⁸

The PCA's list of studied pollutants discharging from this facility is far from complete. The tailings basin also had the potential to indirectly increase the levels of toxic methylmercury in both watersheds, due to the interaction of its sulfate and mercury pollution discharges after they left the tailings basin.¹⁶⁹

These pollutants are dangerous to life. The mercury levels are high in the area around Minntac, and methylmercury is known to accumulate in fish in such a high level that eating just one can poison people or animals.¹⁷⁰ The available evidence of Minntac's conditions led the PCA to conclude "that a larger portion of the fish in downstream lakes could exceed health standards."¹⁷¹ The agency also identified molybdenum as a pollution constituent of concern. While it did not apply a threshold to its analysis, it did note that it could be present in such high levels to kill animals as large as moose through molybdenosis.¹⁷² The agency summarized that increasing molybdenum, sulfur, and methylmercury discharge levels from Minntac could have consequences for downstream wildlife,¹⁷³ and that exceedances of other measured pollutant discharges have also grown worse in the past fifteen years, multiplying the potential impacts to the environment and to the health of humans and wildlife.¹⁷⁴

As long as Minntac continues to operate without additional pollution control technology, or even a plan to adopt such technology sometime in the future, these impacts will continue and likely become worse under extended and increased production. While Minntac is a large facility even by taconite mining and processing standards, its water quality impacts are not significantly different from other similar facilities in the state.

¹⁶⁸ MWH, MINN. POLLUTION CONTROL AGENCY, DRAFT MINNTAC WATER INVENTORY REDUCTION ENVIRONMENTAL IMPACT STATEMENT 5-34 (Sept. 2004), <https://www.pca.state.mn.us/sites/default/files/minntac-deis.pdf> [<https://perma.cc/QB6W-3ZZY>].

¹⁶⁹ *Id.* at 5-35. A full list of constituents of concern would include additional toxic metals.

¹⁷⁰ *Id.* (stating that one "normal" sized northern pike from these waters would exceed health limits for mercury).

¹⁷¹ *Id.* at 5-35 to 5-36.

¹⁷² *Id.* at 5-128.

¹⁷³ *Id.* at S-20 ("Potential chemical changes relating to levels of molybdenum, sulfur and methylmercury may have implications for downstream wildlife populations.").

¹⁷⁴ The failure to prohibit these pollutant discharges consistent with the Clean Water Act resulted in two lawsuits against PCA. Marshall Helmberger, *MPCA Sued Over Recent Decision to Issue New Water Discharge Permit*, THE TIMBERJAY (Jan. 17, 2019) <http://www.timberjay.com/stories/mpca-sued-over-recent-decision-to-issue-new-water-discharge-permit,14746> [<https://perma.cc/4NQW-G763>] ("The new Minntac permit, issued Dec. 1, has also been challenged by the environmental group Water Legacy as well as the Fond du Lac Band of Ojibwe, both of which claim the new permit fails to comply with the federal Clean Water Act.").

B. Climate Pollution's Effects on Minnesotans

Along with water quality impacts,¹⁷⁵ Minnesota is also suffering from increasing impacts from climate change. Within 50 years, the effects of warming could change nearly all of Minnesota from a forest-suitable biome to one that only supports prairie habitat.¹⁷⁶ Minnesota winters are also rapidly warming: “[W]inters between 1989 and 2018 were an average of 3 degrees Fahrenheit warmer, compared to a 20th century baseline.”¹⁷⁷ The Northern Great Plains region is warming faster than the rest of the country because of dry winter conditions, higher latitude, and its distance from coasts.¹⁷⁸ Increased precipitation in the state increases the chances of floods, including those that could lead to mining facility disasters and pollution spills.¹⁷⁹

Often thought a generalized issue for later generations to deal with, climate change causes direct health harms that will increasingly disrupt the lives of Minnesotans.¹⁸⁰ These impacts are well documented and have been backed up by a report from the U.S. government’s Global Change Research Program.¹⁸¹ Until recent rollbacks, the U.S. Centers for Disease Control and Prevention actively treated climate change as a public health issue, pursuing initiatives to adapt to greater tick-borne disease and identify populations in

¹⁷⁵ *Impaired Waters Viewer*, MINN. POLLUTION CONTROL AGENCY, <https://www.pca.state.mn.us/water/impaired-waters-viewer-iwav> [https://perma.cc/FUE5-TZTM]; Raymond Grummey, *A Tale of Two States*, STAR TRIB. (Apr. 29, 2015), <http://www.startribune.com/a-tale-of-two-states/301750441/> [https://perma.cc/SST5-4VR2].

¹⁷⁶ Mark Boswell, *Climate Change Threatens our Forests*, STAR TRIB. (Feb. 3, 2019), <http://www.startribune.com/climate-change-threatens-minnesota-s-forests/502090221/> [https://perma.cc/8RJC-6WXX] (“Because trees can be sensitive to average temperatures and rainfall, and because Minnesota contains the edges of several biomes where tree species are especially susceptible to change, Minnesota’s forest cover could change rapidly in coming decades.”).

¹⁷⁷ Nadja Popovich & Blacki Migliozi, *Where Are America’s Winters Warming the Most? In Cold Places*, N.Y. TIMES (Mar. 16, 2018), <https://www.nytimes.com/interactive/2018/03/16/climate/us-winter-warming.html> [https://perma.cc/P3DV-7YTU].

¹⁷⁸ *Id.*

¹⁷⁹ TOM MYERS, DULUTH CLEAN WATER, RISK ANALYSIS OF PROBABLY MAXIMUM FLOOD AND CLIMATE CHANGE AT THE POLYMET FLOTATION TAILINGS BASIN 7-9 (Feb. 27, 2018), <https://static1.squarespace.com/static/587176b720099e63d3423b7a/t/5ac1a0b6575d1f2de66c7d23/1522639047697/Risk+Analysis+of+Probable+Maximum+Flood+and+Climate+Change+at+the+PolyMet+Flotation+Tailings+Basin.pdf> [https://perma.cc/NE5K-3L9Z]; Kirsti Marohn, *Northern Minn. Mine Breach Leaves Messy Cleanup*, MINN. PUB. RADIO NEWS (June 4, 2018), <https://www.mprnews.org/story/2018/06/04/northern-minnesota-mine-breach-leaves-messy-cleanup-damages> [https://perma.cc/95GA-8YNT].

¹⁸⁰ *Climate & Health*, MINN. DEP’T OF HEALTH, <https://www.health.state.mn.us/communities/environment/climate/index.html> [https://perma.cc/LD2R-YJNU].

¹⁸¹ See ALLISON CRIMMINS ET AL., US GLOBAL CHANGE RES. PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT 1 (2016), <http://dx.doi.org/10.7930/J0R49NQX> [https://perma.cc/2P5R-KBBB].

danger of sea level rise.¹⁸² As Gina McCarthy, former head of the EPA, wrote, “climate change is not about some far off challenge in distant countries, or something that will only be felt by people in some far off time. It’s already posing direct and indirect threats to public health in the United States today.”¹⁸³

This includes algal blooms, worsening water quality, and desynchronization of ecosystems, all of which can lead to increased disease in human populations.¹⁸⁴ The most vulnerable, including children, the elderly, and pregnant women, are harmed more by negative health impacts than the general populace.¹⁸⁵ Indirect harms of increased heat include the production of dangerous air pollution, such as ground-level ozone, as well as the potential for degraded water quality leading to the spread of cholera or Legionnaires’ disease.¹⁸⁶

Climate change is also known to impact nutrition and cause food insecurity, particularly among Indigenous populations and those who rely more heavily on fish as a staple food.¹⁸⁷ Shifts in growing patterns can eliminate culturally-appropriate foods¹⁸⁸ and have a larger impact on people who rely on their ecosystem to provide necessary food.¹⁸⁹ Food scarcity from climate change can aggravate other conflicts and cycles of violence that are directly harmful to public health.¹⁹⁰ Climate change has been linked to

¹⁸² Maya Earls, *Climate Expert at CDC Poised to File Whistleblower Complaint Over Treatment*, SCIENCE (Aug. 14, 2019), <https://www.sciencemag.org/news/2019/08/climate-expert-cdc-poised-file-whistleblower-complaint-over-treatment> [https://perma.cc/7Q8V-EGSV].

¹⁸³ JUSTIN GUNDLACH, CLIMATE CHANGE, PUBLIC HEALTH, AND THE LAW, at X (Michael Burger & Justin Grundlach eds., 1st ed. 2018).

¹⁸⁴ *Id.* at 34, 36, 277.

¹⁸⁵ *Id.* at 37.

¹⁸⁶ *Id.* at 175 (discussing a 2013 outbreak of legionellosis in Milwaukee attributable to climate change).

¹⁸⁷ *Id.* at 48; *see also id.* at 49 (“The effects of climate change on food security, nutrition, and related health outcomes are linked predictably to socioeconomic conditions and adaptive capacity of communities; thus, low-income communities will disproportionately suffer from both food insecurity and malnutrition.”).

¹⁸⁸ *Id.* at 280. Addressing systemic problems with our food systems and incorporating agroecology is considered a method to support Indigenous populations in mitigating such damage. *Id.* at 296.

¹⁸⁹ *Id.* at 282.

¹⁹⁰ For example, climate change is fueling food scarcity and violence in parts of Mali that were already experiencing violent conflict. Lyse Doucet, *The Battle on the Frontline of Climate Change in Mali*, BBC NEWS: THE REPORTERS (Jan. 22, 2019), <https://www.bbc.com/news/the-reporters-46921487> [https://perma.cc/7358-AS2S]. (“Mali is now lurching between droughts and floods. They are both lasting longer and inflicting a huge cost on crops and livestock. And that means farmers and nomadic herders, from different ethnic groups, are facing off over shrinking resources.”).

the global “syndemic” of obesity and undernutrition that is spreading throughout the world.¹⁹¹

These public health and environmental problems caused by climate change are driven by emissions, including significant emissions from the largest industrial and powerplant sources in Minnesota. Because the EITE statute cheapens electrical rates for plants that are some of the biggest sources of GHG emissions in the state, the EITE statute directly subsidizes both additional GHG emissions from powerplants serving these customers and from the customers’ operations themselves.¹⁹²

1. *Emissions Attributable to the EITE Statute*

In mid-2017, Minnesota’s then-Governor Dayton joined other states concerned about climate change to affirm they were still “in” the Paris agreement.¹⁹³ During his tenure, however, he furthered no legislation that would address GHG emissions, marking the one-year anniversary of his commitment by noting Minnesota’s partial compliance with the emissions goals of a 2007 law passed by his predecessor.¹⁹⁴ Nonetheless, he did sign at least one climate-change-relevant piece of legislation: the EITE statute.¹⁹⁵ Instead of demonstrating “we’re still in” the Paris Agreement to reduce GHG emissions, in the past few years the state began subsidizing overproduction at Minnesota EITE facilities. This has increased GHG emissions.

¹⁹¹ *The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission Report*, THE LANCET (Jan. 27, 2019), <https://www.thelancet.com/commissions/global-syndemic> [<https://perma.cc/BA3F-YW7V>].

¹⁹² See generally *Sources of Greenhouse Gas Emissions*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> [<https://perma.cc/F99G-4PC7>] (describing both direct and indirect GHG emissions from industry sector emissions).

¹⁹³ Josephine Marcotty, *Minnesota Signs on to States’ Version of Paris Accord*, STAR TRIB. (June 6, 2017), <http://www.startribune.com/minnesota-signs-on-to-states-version-of-paris-accord/426598641/> [<https://perma.cc/YJ3L-VEMD>].

¹⁹⁴ Press Release, U.S. Climate Alliance, Seventeen Governors in U.S. Climate Alliance Mark One-Year Anniversary with New Wave of Climate Actions (June 1, 2018) <https://www.usclimatealliance.org/publications/oneyearanniversary> [<https://perma.cc/78YN-33S3>] (discussing the success of meeting the 25 percent renewable goal set out in the 2007 Next Generation Energy Act); see MINN. STAT. § 216C.05, subdiv. 2(2) (2007); see also MINN. STAT. § 216C.05, subdiv. 2(2) (2018).

¹⁹⁵ tsuperadmin, *Final Legislation Passed in Special Session*, WORKDAY MINN. (June 15, 2015) <https://www.workdayminnesota.org/final-legislation-passed-in-special-session/> [<https://perma.cc/Z96H-FFRX>] (“Minnesota lawmakers avoided a partial government shutdown by passing several spending bills early on Saturday. Governor Mark Dayton promptly signed them The most controversial piece of legislation—the omnibus environment, natural resources and agriculture policy and finance bill—caused the most difficulty but was ultimately passed with the language agreed to by Dayton and the legislative leaders before the session was called.”).

2. *Minnesota Iron's GHG emissions*

The discussion in this section focuses on the emissions from iron mining and processing—some of the biggest direct sources of emissions from the EITE rate.¹⁹⁶ In the iron and steel industry, “[e]nergy use and emissions depend on the production methods employed. Increased coordination in the industry could ensure the application of more efficient technologies and the development of next generation technologies with the greatest [climate change] mitigation potential.”¹⁹⁷ GHG emissions from the industry arise from the electrical generation used (indirect emissions), the burning of fossil fuels on-site (direct), and the use of coal and lime in the chemical processing (direct).¹⁹⁸ Steel and iron manufacturing are responsible for around 7 to 9% of global CO₂ emissions.¹⁹⁹

Minnesota’s policy drags down climate change progress. Since 1990, industrial sources of GHG emissions (including only direct emissions from EITE customers and not their indirect electrical or transportation emissions,²⁰⁰ which are counted separately in statewide figures) have increased by more than five million tons of CO₂ equivalent in Minnesota.²⁰¹ This historic trend of increasing GHG emissions is now economically bolstered by the EITE subsidy. EPA data from 2015–17 shows that GHG

¹⁹⁶ Iron processing plants are likely the largest sources of indirect emissions from powerplants owing to these utility customers’ huge electricity demands. But since these companies are entitled to protect their trade secrets, each facility’s relative electrical demand is not likely to be a public record. *See* MINN. STAT. § 13.37, subdiv. 1(b) (2019).

¹⁹⁷ *See* TURNER *supra* note 28.

¹⁹⁸ *See id.*

¹⁹⁹ WORLD STEEL ASS’N, STEEL’S CONTRIBUTION TO A LOW CARBON FUTURE AND CLIMATE RESILIENT SOCIETIES – WORLD STEEL POSITION PAPER (2019), https://www.worldsteel.org/en/dam/jcr:7ec64bc1-c51c-439b-84b8-94496686b8c6/Position_paper_climate_2019_vfinal.pdf [<https://perma.cc/KW3N-3XB4>]. Estimates regarding the industry’s total emissions vary over time but seem to hover between five and ten percent of global emissions. For example, in 2007 the IEA estimated the iron and steel sector produced 5.2 percent of global GHG emissions. *See* BARON ET AL., *supra* note 13. In 2000, IEA placed it at 7 percent. However, if mining and transportation are included, the industry is likely responsible for 10 percent of global emissions. *See* DE BEER ET AL. *supra* note 32, at 2; *see also* *Why More Buildings Should be Made of Wood*, THE ECONOMIST (Jan. 5, 2019), <https://www.economist.com/leaders/2019/01/05/why-more-buildings-should-be-made-of-wood>, [<https://perma.cc/Z2UL-9S7J>] (“Cement-making alone produces 6% of the world’s carbon emissions. Steel, half of which goes into buildings, accounts for another 8%.”).

²⁰⁰ *See generally* *Sources of Greenhouse Gas Emissions*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> [<https://perma.cc/F99G-4PC7>] (describing direct and indirect GHG emissions by industry sector).

²⁰¹ *Greenhouse Gas Emissions Data*, MINN. POLLUTION CONTROL AGENCY, <https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data> [<https://perma.cc/A7R6-VBM3>] (select “Interactive Sector Details” from the data sets, then select “Industrial” in “Choose a sector”).

emissions from the largest facility getting an EITE subsidy have been growing year-on-year—U.S. Steel’s Minntac facility reportedly emitted 1.071 million metric tons of CO₂ in 2015, growing to 1.181 million metric tons in 2016 and 1.396 million metric tons in 2017,²⁰² when the EITE rate came into effect. Although the facility’s GHG emissions were already increasing prior to the EITE rate subsidy, according to the company’s position before the PUC this rate was a significant boon to their business going forward.²⁰³ Northshore Mining is also among the top ten emitters, another iron processing facility and beneficiary of the EITE rate.²⁰⁴ To put the increasing emissions from these mining and processing plant in context, Minnesota facilities with more GHG emissions than Minntac only include a few large power plants plus the state’s largest oil refinery.²⁰⁵

The Keetac mine, Minntac’s little sibling in the U.S. Steel family, is another illustrative example. According to EPA annual GHG reporting numbers, Keetac had a comparatively meager 188,934 tons of carbon emissions in 2017,²⁰⁶ making it one-seventh the size of Minntac’s emissions that year. As the EPA notes, however, its “data set does not reflect total U.S. GHG emissions.”²⁰⁷ A 2010 environmental review that the Minnesota DNR approved for Keetac (a “Final Environmental Impact Statement” or FEIS) lists the many additional GHG emissions attributable to the project that are

²⁰² 2017 Greenhouse Gas Emissions from Large Facilities, U.S. ENVTL. PROT. AGENCY, [https://perma.cc/M9RJ-ZK7J] (select 2018 for “Data Year,” Minnesota for “Browse to a State,” and View by Facility; facility is US STEEL-Minntac).

²⁰³ See September 2016 PUC Agenda Meeting *supra* note 136, at 48:00 (discussing U.S. Steel’s testimony before the PUC).

²⁰⁴ U.S. ENVTL. PROT. AGENCY, *supra* note 202.

²⁰⁵ U.S. ENVTL. PROT. AGENCY, *supra* note 202. Moreover, of the three power plants with larger emissions than Minntac, the largest coal plant is scheduled for retirement in 2026 and the second largest (which also recently took offline its smallest coal units at the end of 2018) provides carbon-intensive electricity to Minntac. See Aaron Larson, *Xcel to Retire Two Units at Its Largest Coal-Fired Plant*, POWER (Oct. 6, 2015), <https://www.powermag.com/xcel-to-retire-two-units-at-its-largest-coal-fired-plant/> [https://perma.cc/Q9CZ-MM5F]; *Minnesota Power to Retire Boswell’s Smallest Two Coal Units*, BUSINESS NORTH (Oct. 19, 2016), http://www.businessnorth.com/daily_briefing/minnesota-power-to-retire-boswell-s-smallest-two-coal-units/article_26aaae40-962b-11e6-9ce1-cbbff842414f.html [https://perma.cc/YH5E-XBRN]; U.S. ENVTL. PROT. AGENCY, *supra* note 202. Minntac pulls electricity from Minnesota Power’s Boswell powerplant. Boswell Energy Center’s reported 2017 GHG emissions were 7,768,990 metric tons of CO₂. U.S. ENVTL. PROT. AGENCY, *supra* note 202. While the state’s other large GHG sources, namely Xcel’s coal-burning power plants and the state’s refineries, can be projected to decrease their GHG emissions as fossil fuel use decreases in energy and transportation, for the foreseeable future the EITE rate incentivizes Minntac to increase its indirect GHG emissions by subsidizing its use of additional energy production from a coal powerplant with no set retirement date. See BUSINESS NORTH, *supra* note 205 (discussing the continued operations of Units three and four, the larger coal generating units at the plant).

²⁰⁶ U.S. ENVTL. PROT. AGENCY, *supra* note 202.

²⁰⁷ U.S. ENVTL. PROT. AGENCY, *supra* note 202.

not reflected in EPA's yearly total and provides a fuller view of how much total pollution these types of facilities can emit.²⁰⁸ While these estimates are nearly a decade old, they serve to put the direct emissions EPA tracks in the larger context.

Keetac and other Minnesota mines burn a large amount of fuel to bake the materials into their finished product—taconite pellets that can be moved to other states for further processing.²⁰⁹ Keetac's 2010 upgrade allowed for its burner to run on coal, natural gas, fuel oil, or biomass.²¹⁰ The FEIS estimated that Keetac's direct combustion emissions would be 118,000 tons per year burning only coal (which would go down to 33,000 tons per year burning 50 percent biomass and 50 percent natural gas, and that for each fuel scenario other fixed physical or chemical GHG emissions would be 71,000 tons per year).²¹¹ According to the FEIS, if Keetac were at full operation and burning only coal, its total direct emissions would be about 189,000 tons,²¹² almost exactly what the EPA data reported its emissions had been in 2017. Coal, Keetac's apparent fuel choice, produces the highest emissions of any of the possible fuel types, showing that even accounting for other related factors, the most recent data show Keetac is running at the worst possible GHG maximum-production output contemplated by its FEIS.²¹³

Those numbers, however, are just the tip of a carbon iceberg. At full operation, the mine also has significant additional emissions from the following: mobile sources such as the excavating machines and trucks that

²⁰⁸ The FEIS lists the limited number of GHG emissions sources reported to the EPA as: carbon dioxide emissions from the many furnaces and coke combustion used in processing taconite into ore; methane and nitrous oxide emissions from fuel combustion including the same furnaces, additional furnaces, boilers, and other combustion sources; carbon dioxide, methane, and nitrous oxide emissions from flares per EPA standards for petroleum refineries; and default "emissions factors for coke oven gas and blast furnace gas." MINN. DEP'T OF NAT. RES., U.S. STEEL KEETAC TACONITE MINE EXPANSION PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT 5-27 (2010) https://files.dnr.state.mn.us/input/environmentalreview/keetac/final_eis/keetac_mine_expansion_feis.pdf [<https://perma.cc/J2XW-FXGF>] [hereinafter KEETAC FEIS]. The FEIS then went on to present a much more comprehensive estimate of its overall GHG emissions than is available in the EPA yearly reporting data—which adds up to magnitudes-bigger GHG impacts of this "small" taconite processing plant. An environmental review often has a wealth of information on how a facility operates and pollutes, and the Keetac FEIS is no exception.

²⁰⁹ See *supra* text accompanying notes 74–76. Minnesota facilities only produce iron pellets that must be shipped to other states to become higher-value finished products. These pellets may only be used by a few facilities in the country, owned by a select few large steelmaking companies.

²¹⁰ See KEETAC FEIS, *supra* note 208, at 3–32.

²¹¹ See KEETAC FEIS, *supra* note 208, at 3–32.

²¹² KEETAC FEIS, *supra* note 208, at 3–32 (adding totals from "Stationary Combustion" and "Fixed Physical or Chemical Process" rows of Table 3.3.7).

²¹³ KEETAC FEIS, *supra* note 208, at 3–32.

haul ore to the plant (51,000 tons per year); land use changes (33,500 tons per year); electricity purchases (570,000 tons per year); product shipping (412,000 tons per year); and fuel shipping (which varies by fuel type between 9,000 and 1,000 tons per year, 6000 tons for coal).²¹⁴ Therefore, if Keetac runs at full capacity burning coal—as EPA data suggests it did in 2017—its overall emissions from related activities that are required to keep it in operation are likely 1,261,500 tons,²¹⁵ nearly seven times the EPA-reported emissions the plant emits directly.

Keetac is not an outlier among Minnesota iron mining and processing facilities in the way its electrical consumption and taconite pellet shipping dwarfs its already-significant reported emissions of GHG pollution. Both Minntac and Northshore Mining make pellets similar to Keetac's²¹⁶ sending them on the same supply chain to be milled into steel elsewhere.²¹⁷ While supply chain end points and plant specifics are different, Minnesota facilities profiting from the EITE rate likely have emissions many times larger than their reported direct emissions when comparable indirect lifecycle emissions are considered.²¹⁸

3. Other EITE-linked GHG Emissions

This outsized lifecycle GHG impact of the EITE rate is also not limited to the iron mining and processing industry. Another beneficiary of the EITE rate is oil pipeline pump stations. The EPA-reported emissions

²¹⁴ KEETAC FEIS, *supra* note 208, at 3–32; *see also Air Emissions Modeling: Biogenic Emission Sources*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/air-emissions-modeling/biogenic-emission-sources> [<https://perma.cc/L8ZF-VL8U>].

²¹⁵ KEETAC FEIS, *supra* note 208, at 3–32.

²¹⁶ Northshore has recently upgraded part of its facility to produce a different type of iron pellets for steel mills in other states. Kraker, *supra* note 76. The indirect emissions associated with producing these pellets might be different than traditional taconite pellet processing, but the transportation related emissions still likely render total emissions significantly higher than if the plants produced steel onsite or invested in efficient processes.

²¹⁷ *See Northshore Mining*, HEART OF THE NORTHSHORE, <http://heartofthenorthshore.com/business/listings.php?id=108> [<https://perma.cc/8Q94-U993>] (“Northshore has the capacity to produce and ship about six million [tons of] iron ore pellets annually from its harbor on Lake Superior.”).

²¹⁸ Looking further down the GHG lifecycle emissions chain, over 9 million tons of all 73 million tons of GHGs from the industry in 2017 came from one U.S. Steel mill, the Gary Works (which is near Arcelor Mittal's Indiana mill that produced over 10 million tons of GHG emissions in the same year). *See GHGRP*, *supra* note 28 (data available in map). U.S. Steel's Great Lakes Works also emitted four million tons of GHG according to the same data set, providing yet another example of a large emissions source that relies on taconite pellets from Minntac and Keetac. *See GHGRP*, *supra* note 28. These steelmaking emissions using taconite produced in Minnesota are apparently not included in the FEIS estimates that were provided for total project emissions at Keetac. In other words, in addition to Keetac's direct emissions and larger emissions from both electrical usage and transportation of product to faraway steel mills, the linked and necessary next step of converting Keetac's pellets into usable product is itself another additional large source of GHG emissions.

for these stations are an infinitesimal fraction of the total emissions they facilitate. The direct emissions (mostly from leaks at the facilities, also known as “fugitive emissions”) from a new pipeline’s pump stations are around 372.2 tons per year,²¹⁹ but that same pipeline’s deforestation effect (just in the state of Minnesota) is 1,262 tons of carbon sequestration lost,²²⁰ and emissions from electricity used are 497,112 tons of CO₂ equivalent per year.²²¹ But all of those emissions are dwarfed by the potential emissions from the product that is transported, both from its production in Alberta’s tar sands region and when it is used (i.e., made into products or burned as fuel), a yearly emissions increase of 193 million ton CO₂e.²²² Over the life of the project it is forecast to produce enough GHGs to cause 287 billion dollars’ worth of climate change damage globally.²²³

4. Preventable Inefficient GHG Emissions

It is significant here that the EITE beneficiary facilities are exempt from Minnesota’s efficiency-promoting legal standards. In 2008, Minntac upgraded its burners to more efficient natural gas systems, producing a significant decrease in natural gas consumption and a large savings for the company.²²⁴ Despite making economic sense and benefiting the company, while lessening the burden on the environment, U.S. Steel reportedly only made the upgrade because federal regulation came into effect and required the replacement of outdated polluting technology.²²⁵ Therefore, efficiency

²¹⁹ MINN. DEP’T OF COMMERCE, ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS: FINAL ENVIRONMENTAL IMPACT STATEMENT LINE 3 PROJECT 5-459 tbl. 5.2.7-8 (2018), <https://mn.gov/eera/web/project-file?legacyPath=/opt/documents/34079/Line%203%20Revised%20FEIS%20Ch%2005.pdf> [<https://perma.cc/N7Z5-DYMF>].

²²⁰ *Id.* at 5-460.

²²¹ *Id.* at 5-461.

²²² *Id.* at 5-465 to 466 tbl. 5.2.7-12.

²²³ *See supra* note 115. The dollar amount provided is only the current value of damage. By the time the project occurs the compounded interest of the damage will most likely exceed a trillion dollars.

²²⁴ U.S. DEP’T OF ENERGY, LARGEST PRODUCER OF STEEL PRODUCTS IN THE UNITED STATES ACHIEVES SIGNIFICANT ENERGY SAVINGS AT ITS MINNTAC PLANT 1 (2008), https://www.energy.gov/sites/prod/files/2014/05/f16/US_steel_case_study.pdf [<https://perma.cc/M49K-CMP7>] (“The new burners are yielding annual cost and energy savings of \$760,000 and 95,000 MMBtu respectively. Additionally, the plant saves \$30,000 in annual maintenance labor costs. With project costs of approximately \$1.2 million, the plant achieved a simple payback of 1.5 years.”).

²²⁵ Federal regulators intervened after the state failed to do so. *See* WOOD MACKENZIE, ASSET REPORT: MINNTAC IRON ORE MINE (2019) <https://www.woodmac.com/reports/metals-minntac-iron-ore-mine-16564337> [<https://perma.cc/DD35-95YV>] (“This came after the Environmental Protection Agency (EPA) published a Federal Implementation Plan (FIP) establishing emission limits and the

was opposed by the company until regulators forced an upgrade that made environmental (and economic) sense, required by law.²²⁶ This failure to act until regulators commanded it suggests that Minntac and its EITE-rate cohort have been insufficiently incentivized by energy prices to implement efficient upgrades, even prior to the EITE subsidy coming into effect.

V. EITE AND INTERNATIONAL TRADE

Since EITE only applies to businesses that are “Trade Exposed,” this article now turns to the larger trade issues surrounding EITE’s largest beneficiaries. While EITE is hardly the only distorting policy that benefits Minnesota’s iron industry, it is a state-sponsored economic boost that is inconsistent with the U.S.’s normal trade position. This might have consequences for Minnesota if foreign nations successfully use the EITE statute as ammunition in a trade war.

A. National Policies Protecting the American Iron and Steel Industry

The iron and steel industry was at the center of the IEA analysis of sectoral approaches and was also at the center of Minnesota’s EITE rate—multinational iron companies are a major beneficiary of EITE. Minnesota’s subsidy of the industry comes at a time when national and international steel imports and exports have been in the news, largely owing to the president’s focus on steel²²⁷ and imposing tariffs on steel and aluminum imports,²²⁸

use of low NO_x reduction technology on indurating furnaces located in Minnesota.”); *Minnesota’s Regional Haze State Implementation Plan*, MINN. POLLUTION CONTROL AGENCY, <https://www.pca.state.mn.us/air/minnesotas-regional-haze-state-implementation-plan> [https://perma.cc/P8SX-YDSU] (“EPA partially disapproved Minnesota’s SIP and these requirements have not yet been finalized. EPA agreed with Minnesota’s determination of which sources were subject to BART and that BART for PM emissions from these sources was satisfied by the requirements of the Taconite MACT. However, EPA disapproved the proposed NO_x and SO₂ limits contained in Minnesota’s SIP, stating that the proposed determinations did not go far enough in controlling NO_x and SO₂ emissions. As a result, EPA developed a federal implementation plan (FIP) to address the deficiencies in the Minnesota SIP.”).

²²⁶ See generally sources cited *supra* note 225.

²²⁷ See Manuela Tobias, *No, U.S. Steel Is Not Opening Six New Mills as Donald Trump Said*, POLITIFACT (Aug. 2, 2018), <https://www.politifact.com/truth-o-meter/statements/2018/aug/02/donald-trump/us-steel-not-opening-six-new-mills-donald-trump/> [https://perma.cc/596X-SXNL]; see also Keith Bradsher, *When Solar Panels Became Job Killers*, N.Y. TIMES (Apr. 8, 2017), <https://www.nytimes.com/2017/04/08/business/china-trade-solar-panels.html> [https://perma.cc/PFY7-VELJ].

²²⁸ This article does not address aluminum industry emissions because there is no aluminum production of note in Minnesota. It also appears that steel is more troublesome for the climate than aluminum, at least within American emissions. EPA’s 2017 data showed the iron and steel industries emitted 82 percent of all measured GHG emissions from the metals sector, 72,609,302 tons of CO₂e, while aluminum production emitted only 3.7 percent of the total emissions from the sector. See *GHGRP*, *supra* note 28 (hover over pie chart for figure).

among other things.²²⁹ Hence, because of the iron industry's centrality to all these forces, this paper focuses on that industry rather than other beneficiaries of the EITE tariff.²³⁰

While Minnesota is subsidizing this industry, it is important to avoid calling the kettle black. National subsidies of iron and steel are not uncommon, and the current state of international trade is a result of many countries' interest in keeping iron and steel production viable domestically. The low prices of steel since 2014 are widely attributed to Chinese production increases that were suddenly let loose on the global market when the country reduced its own steel consumption, instead exporting it.²³¹ Government protectionism has led to global market doldrums, since no country was willing to cut back on its capacity to make steel:

[B]ecause steel is often seen as a strategic industry, providing lots of jobs in areas where there are few other employers, governments are usually keen on propping them up, either through subsidies or nationalisation. China has overproduced steel for so long because regional Communist Party officials, who control local steel plants, prefer to subsidise their local plants to keep them open rather than risk the unemployment and unrest that may follow shuttering them. In Europe, Italy has spent €2 billion to support the Ilva steel mill in Taranto. And even in Britain, where nationalisation has long been out of favour, the Conservative government has expressed a willingness to take a 25% stake in the Port Talbot steelworks.²³²

While some state support for iron and steel is typical, it also causes low prices,²³³ making it harder for companies to invest in more efficient production. By keeping prices low enough to avoid new market innovations, compounded with subsidies for the large existing companies to stay open, the overall incentive is to maintain the status quo rather than accelerate innovation that would likely also reduce pollution externalities.²³⁴ Therefore,

²²⁹ See, e.g., Richard Gonzales, *Trump Slaps Tariffs on Imported Solar Panels and Washing Machines*, NAT'L. PUB. RADIO (Jan. 22, 2018), <https://www.npr.org/sections/thetwo-way/2018/01/22/579848409/trump-slaps-tariffs-on-imported-solar-panels-and-washing-machines> [https://perma.cc/EAPC-F2JZ].

²³⁰ A full analysis of each of the industries receiving EITE subsidies could be interesting, but a more appropriate subject for a book than an article.

²³¹ C.R., *Why the World Has Too Much Steel*, THE ECONOMIST (May 5, 2016), <https://www.economist.com/the-economist-explains/2016/05/05/why-the-world-has-too-much-steel> [https://perma.cc/3QM3-RH7F].

²³² *Id.*

²³³ *Id.*

²³⁴ "But until countries stop subsidizing their plants, or imposing tariffs to artificially raise prices, progress towards ending the steel glut will be slow." *Id.*

it seems likely that Minnesota's EITE statute is a standout example of something going on in more than one country.²³⁵

1. *U.S. Protectionism Against Imports*

In recent years, the Trump Administration has taken new protectionist positions, exposing the U.S. to uncommon reprisal risks. In January 2018, the U.S. Commerce Department delivered an analysis that updated the government's view of steel tariffs in light of the current market.²³⁶ The report suggested "a global tariff of 24 percent on imports of steel articles in order to reduce imports to a level that the Secretary assessed would enable domestic steel producers to use approximately 80 percent of existing domestic production capacity and thereby achieve long-term economic viability through increased production."²³⁷ By March 2018, President Trump opted to set the steel tariff at 25 percent.²³⁸ The President's written decision also noted a "shared concern about global excess capacity, a circumstance that is contributing to the threatened impairment of the national security" and offered to discuss alternative measures with allies.²³⁹ Providing the main legal justification for the action, his official statement said: "It is my judgment that the tariff imposed by this proclamation is necessary and appropriate to adjust imports of steel articles so that such imports will not threaten to impair the national security as defined in section 232 of the Trade Expansion Act of 1962, as amended."²⁴⁰ The United States currently uses national security (measured by domestic industry success) as its stated reason for making steel imports more costly for American buyers.²⁴¹ Tariffs on imports, paid by American businesses and consumers, are meant to prop up domestic production in order to "achieve long-term economic viability,"²⁴² which would ostensibly be good for national security.

The 2018 steel and aluminum tariffs and the resulting trade dispute are different from other disputes between the U.S. and steel exporting countries in the past. Classic trade disputes usually follow a simple formula: "One country would build up an industry to create jobs, and then dump

²³⁵ See *infra* note 255 (The Trump Administration recently accused several trading partners of similar supports of their steel industries).

²³⁶ Proclamation No. 9705, 83 Fed. Reg. 11,625 (Mar. 8, 2018) ("[T]he Secretary considered the previous U.S. Government measures and actions on steel articles imports and excess capacity, including actions taken under Presidents Reagan, George H.W. Bush, Clinton, and George W. Bush.").

²³⁷ *Id.*

²³⁸ *Id.* at 11,626. Importers could apply to the Department of Commerce to have their steel exempted if it could not be obtained from a domestic source.

²³⁹ *Id.*

²⁴⁰ *Id.* at 11,627.

²⁴¹ *Id.* at 11,625.

²⁴² *Id.*

excess products in another country at below-cost prices. Competitors facing unrealistically cheap imports would file ‘anti-dumping’ complaints to seek government-backed protections.”²⁴³ Following that model, in 2016 the U.S. Steel Corporation filed a complaint with the U.S. government—this time against subsidized production regulation in China’s steel industry.²⁴⁴ The U.S. government responded that same year by imposing measures to deal with steel dumping.²⁴⁵ Within that dispute, the Obama administration met with other steel producing countries and attempted to negotiate an agreement to cut global steel production capacity.²⁴⁶ In contrast to the regular playbook—with the normal emphasis on open but fair trade—the Trump administration initiated its campaign by partly closing off the U.S. market to this globally-traded commodity on National Defense grounds.²⁴⁷ The action was unilateral and caused numerous foreseeable responses that likely could have been avoided through more multilateral or targeted measures.

While the effects of the 2018 tariffs on overall trade will take time to assess, there is some indication they are having an economic impact. A U.S. Commerce Department analysis using data from June 2019 shows that the year-to-date imports of steel falling by 14 percent from 2018.²⁴⁸ The United States is the world’s largest steel importer, and steel imports make up 1.2 percent of all U.S. imports.²⁴⁹ But even with the support of tariffs, domestic industry has a lot of catching up to do to meet U.S. demand: “Production in 2018 grew from 81.6 mmt in 2017 to 86.6 in 2018. Production further

²⁴³ Marilyn Geewax, *U.S. Steel Says China Is Using Cyber Stealth to Steal its Secrets*, NAT’L PUB. RADIO: THE TWO-WAY (Apr. 29, 2016), <https://www.npr.org/sections/twotwo-way/2016/04/29/476070445/u-s-steel-says-china-is-using-cyber-stealth-to-steal-its-secrets> [<https://perma.cc/F49C-ERC3>]. The U.S. steel industry pushed for similar protections in 1978 when it convinced the U.S. government to take action against the dumping of Japanese steel pipe. *Id.*

²⁴⁴ *Id.* At that time, U.S. Steel also asserted that the Chinese industry stole trade secrets regarding production of high value “advanced steel products.” *Id.*

²⁴⁵ *Id.* In April 2018, USITC decided to terminate their investigation in its entirety. *Certain Carbon and Alloy Steel Products*, 83 Fed. Reg. 16,127 (Apr. 13, 2018).

²⁴⁶ *Id.*

²⁴⁷ *Adjusting Imports of Steel into the United States*, 83 Fed. Reg. at 11,625–30 (Mar. 15, 2018).

²⁴⁸ INT’L TRADE ADMIN., U.S. DEPT. COMM., *supra* note 10, at 1. This could be due to fluctuations based on global market forces. *Id.* at 2 (“In 2014, U.S. imports of steel products reached a near-record high of 40.3 million metric tons, only topped by the 41.3 million metric tons imported in 2006. Import levels fell from 2014 by 12 percent in 2015, and then by 15 percent in 2016, before rising 15 percent in 2017 to 34.5 million metric tons.”). This may be due in part to the many antidumping and countervailing measures the U.S. had implemented against steel-exporting countries prior to the president’s across-the-board tariffs. *Id.* at 7 (indicating 30 trade remedies against Chinese steel, 22 against South Korea, 17 against India, 13 against Japan, and 8 against Brazil in effect).

²⁴⁹ INT’L TRADE ADMIN., U.S. DEPT. COMM., *supra* note 10, at 1.

increased 5.2 percent from 42.1 mmt in YTD 2018 to 44.3 mmt in YTD 2019. Since 2009, apparent consumption (a measure of steel demand) has consistently exceeded production.”²⁵⁰

U.S. domestic production is controlled by a small group of domestic and foreign-owned companies, and the largest three companies—Nucor, Arcelor Mittal, and U.S. Steel—“accounted for the majority of U.S. crude steel production in 2018.”²⁵¹

2. *Increasing Trade Conflicts and Repercussions*

In addition to the 2018 tariffs, the U.S. Commerce Department recently announced a new investigation into the iron and steel industries of Canada, Mexico, and China.²⁵² These countries have been accused of supporting their industries with “unfair subsidies,” including:

44 subsidy programs alleged for Canada, including tax programs, grant programs, loan programs, export insurance programs, and equity programs . . . 26 subsidy programs alleged for China, including tax programs, grant programs, debt restructuring programs, export subsidy programs, as well as the provision of goods and services for less than adequate remuneration . . . 19 subsidy programs alleged for Mexico, including grant programs, tax programs, export programs, and loan programs.²⁵³

The announcement paints this action as part of the Trump administration’s emphasis on antidumping and countervailing duties investigations.²⁵⁴ This emphasis has won the United States no friends among countries who have been investigated and retaliated against, prompting the countries to bring claims against the U.S. actions in the World Trade Organization (WTO) dispute resolution system.²⁵⁵

Outside of the WTO’s formal system, countries are responding to the tariffs in various ways. Following the imposition of U.S. tariffs imposed on

²⁵⁰ *Id.* at 6.

²⁵¹ *Id.*

²⁵² Press Release, U.S. Dep’t Commerce, U.S. Department of Commerce Initiates Antidumping Duty and Countervailing Duty Investigations of Imports of Fabricated Structural Steel from Canada, China, and Mexico (Feb. 26, 2019), <https://www.commerce.gov/news/press-releases/2019/02/us-department-commerce-initiates-antidumping-duty-and-countervailing> [<https://perma.cc/5393-3JUA>] [hereinafter Press Release, U.S. D.O.C. Issues Preliminary Antidumping Duty Determinations].

²⁵³ *Id.*

²⁵⁴ Illustrated by 143 new investigations by February 2019, a 249 percent increase over the Obama administration’s number of investigations in the comparable time period. *Id.* This is similar to the press release the agency made when announcing a similar investigation of Spanish olives, indicating the overall push on trade sanctions is neither limited to a small number of countries, nor a short list of goods. Zoe Thomas, *Olives Pitting US Against EU in Global Trade Fight*, BBC NEWS (Feb. 21, 2019), <https://www.bbc.com/news/business-47287036> [<https://perma.cc/BK7D-UB2V>].

²⁵⁵ Press Release, U.S. D.O.C. Issues Preliminary Antidumping Duty Determinations, *supra* note 252.

the bulk of goods imported from China, the Chinese government has responded with retributive tariffs on U.S. cars, soybeans, and whiskey,²⁵⁶ while also reaching out to Iowa voters.²⁵⁷ Both Canada and the EU commenced WTO actions against the United States²⁵⁸ with the EU even imposing countervailing tariffs on U.S. goods.²⁵⁹ Whether responses from trading partners and competitors sound in formal proceedings or outside of them, and as the U.S. likely continues to ratchet up its investigation of imports and impose adverse trade remedies, the reaction by other countries will increase in kind.²⁶⁰

As tensions escalate and other countries try an “all of the above” strategy to deal with U.S. trade measures, it matters whether the U.S. position is legally unsound or indefensible. It is EITE statutes that may give these other countries a tool to undermine the United States’ overall anti-foreign-subsidy free trade arguments at the WTO.

²⁵⁶ Bill Chappell, *China’s \$50 Billion Tariff Threat Targets U.S. Soybeans, Cars, Whiskey*, NAT’L PUB. RADIO: THE TWO-WAY (Apr. 4, 2018, 11:21 AM), <https://www.npr.org/sections/thetwo-way/2018/04/04/599391926/chinas-50-billion-tariff-threat-targets-u-s-soybeans-cars-whiskey> [https://perma.cc/L7KS-2SJY].

²⁵⁷ Mark Niquette & Jennifer Jacobs, *China Looks to Influence Iowa in Trade War Over Trump Tariffs*, BLOOMBERG (Sept. 23, 2018, 4:46 PM), <https://www.bloomberg.com/news/articles/2018-09-23/china-looks-to-influence-iowa-in-trade-war-over-trump-tariffs> [https://perma.cc/U4MU-9MDY]. In the latter half of 2018, the Chinese government started taking out ads in the Des Moines Register, explaining that Donald Trump’s actions cause Chinese consumers to purchase soybeans from other countries. *Id.* Iowa is heavily reliant on agricultural exports and marks the jumping off point for U.S. presidential contests every four years. Thus, this was a signal of how international political pressure might interact with an already politicized trade war.

²⁵⁸ See Panel Communication, *United States—Certain Measures on Steel and Aluminium Products*, WTO Doc. WT/DS548/16 (Sept. 10, 2019), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds548_e.htm [https://perma.cc/S5UX-M3WN] (for EU); Panel Report, *United States—Certain Measures on Steel and Aluminium Products*, WTO Doc. WT/DS550/R (July 11, 2019), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds550_e.htm [https://perma.cc/V5DT-A7E9] (noting on June 1, 2018 Canada requested consultations with the U.S. on certain measures imposed against their steel and aluminum products. This dispute was settled on May 23, 2019).

²⁵⁹ European Commission Press Release IP/18/4220, EU Adopts Rebalancing Measures in Reaction to U.S. Steel and Aluminium Tariffs (June 20, 2018), https://europa.eu/rapid/press-release_IP-18-4220_en.htm [https://perma.cc/4FQF-LLGP].

²⁶⁰ While China and the U.S.’s tit-for-tat tariff skirmish is a clear example, other trade partners have responded similarly to U.S. actions. See, e.g., Avie Schneider, *Trump Announces Higher Tariffs on Goods from China After Dow Plunges 623 Points*, NAT’L PUB. RADIO (Apr. 23, 2019, 9:08 AM), <https://www.npr.org/2019/08/23/753676591/trade-war-heats-up-again-as-china-sets-tariffs-on-75-billion-in-u-s-goods-autos> [https://perma.cc/LR4D-9GDC] (“President Trump on Friday announced higher tariffs on goods from China, hours after Beijing said it will slap tariffs on \$75 billion of autos and other U.S. goods.”).

B. Trade Law and Minnesota's EITE

The U.S. is a party to a large number of trade agreements, many of which are multilateral agreements created under the auspices of the WTO and at the behest of the U.S., a longtime champion of liberalized international trade.²⁶¹ The WTO is a venue where countries negotiate new trade agreements, discuss issues of international trade, foster relationships and cooperation, and arbitrate possible violations of the treaties it oversees.²⁶²

Given recent disputes before the WTO, it seems likely that Minnesota's EITE subsidy is a violation of our international trade commitments. Such a violation, if found by the WTO's dispute resolution panel,²⁶³ would undercut the United States' overall position against China and other trading partners on its steel, and other tariffs. The justifications for the Trump Administration's protectionist tariffs and planned trade remedies (premised on unfair subsidies in other countries) is undercut by the EITE statute's similar subsidy, and other countries might be entitled to enact countervailing measures—essentially large financial penalties against the U.S. that offset the wrong done to them under trade law.²⁶⁴

²⁶¹ The U.S.'s push for peace and security drove the creation of today's global trade system. The agreements that set in motion the current multilateralism at the WTO were a reaction to the Second World War. The Atlantic Charter was agreed upon by Winston Churchill and Franklin D. Roosevelt at a critical moment as the U.S. considered entering the war. Comprised of eight succinct clauses, the Charter sets out "common principles" on which both countries based their "hopes for a better future for the world." Hunter Nottage, *Trade in War's Darkest Hour: Churchill and Roosevelt's Daring 1941 Atlantic Meeting that Linked Global Economic Cooperation to Lasting Peace and Security*, WTO https://www.wto.org/english/thewto_e/history_e/tradewardarkhour41_e.htm [https://perma.cc/24EK-FMYV]. The U.S. has been a member of the GATT, the WTO's predecessor, since January 1, 1948. *United States of America and the WTO*, WTO, https://www.wto.org/english/thewto_e/countries_e/usa_e.htm [https://perma.cc/Q8L7-3L84].

²⁶² *Who We Are*, WTO, https://www.wto.org/english/thewto_e/whatis_e/who_we_are_e.htm [https://perma.cc/935V-6Y2N].

²⁶³ This is the first adjudication level for WTO disputes. Panel decisions can also be appealed to the Appellate Body, the "court" of last resort. *See the Process—Stages in a Typical WTO Dispute Settlement Case*, WTO, https://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c6s1p1_e.htm [https://perma.cc/S2ZX-5XMJ].

²⁶⁴ For a recent example, see the U.S.'s proposed countervailing duties against European wine and cheese in retaliation for the EU's subsidization of Airbus, a WTO-confirmed trade violation. Initiation of Investigation; Notice of Hearing and Request for Public Comments: Enforcement of U.S. WTO Rights in Large Civil Aircraft Dispute, 84 Fed. Reg. 15,028, 15,036, (Apr. 12, 2019), https://ustr.gov/sites/default/files/enforcement/301Investigations/Preliminary_Product_List.pdf [https://perma.cc/M7ZL-NM8V].

Trade dispute outcomes are difficult to predict because there are often valid contrasting views of the standards set out in any trade agreement.²⁶⁵ It is also true that WTO “precedent” is not precedent in the way that common law court cases determine the law for future courts.²⁶⁶ Past decisions by the WTO “create legitimate expectations among WTO Members, and, therefore, should be taken into account where they are relevant to any dispute.”²⁶⁷ However, because the WTO agreements include a requirement that the dispute resolution system provide “security and predictability to the multilateral trading system,”²⁶⁸ WTO panels do follow legal interpretations established by the WTO Appellate Body.²⁶⁹ This is all to say, examples of past WTO decisions discussed below are illustrative of how a violation might be found, but not necessarily controlling in the way a common-law judicial decision would be.

²⁶⁵ “The WTO agreements are lengthy and complex because they are legal texts covering a wide range of activities.” *What We Stand For*, WTO, https://www.wto.org/english/thewto_e/whatis_e/what_stand_for_e.htm [<https://perma.cc/L378-6WXW>]. A cursory reading of any Appellate Body opinion—laying out countries’ diametrically opposed but plausible readings of WTO covered agreements—indicates how hard it can be to predict the legal outcomes of WTO disputes. *See, e.g.*, Appellate Body Report, *China—Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum*, WTO Doc. WT/DS431/14 (adopted Sept. 2, 2014), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=126459&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True [<https://perma.cc/VA7C-ZZNJ>].

²⁶⁶ A WTO panel can follow reasoning it approves of, but not even the parties are bound by the decision of a WTO panel in a subsequent case on different facts. *Legal Effect of Panel and Appellate Body Reports and DSB Recommendations and Rulings*, WTO, https://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c7s2p1_e.htm [<https://perma.cc/9MAB-KDTJ>]. There is considerable scholarly coverage concerning precedent at the WTO and this article does not attempt to address the issue, instead taking the WTO website at its word.

²⁶⁷ *Id.*

²⁶⁸ Understanding on Rules and Procedures Governing the Settlement of Disputes art. 3.2, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1896 U.N.T.S. 401, https://www.wto.org/english/tratop_e/dispu_e/dsu-e.html#3 [<https://perma.cc/2CA7-WWL5>].

²⁶⁹ *WTO Analytical Index, DSU-Article 3 (Jurisprudence)*, WTO, at 5-6, https://www.wto.org/english/res_e/publications_e/ai17_e/dsu_art3_jur.pdf [<https://perma.cc/MFJ4-MW7U>] (quoting Panel Report, *United States - Countervailing Measures on Certain Pipe and Tube Products (Turkey)*, ¶ 7.285, WTO Doc. WT/DS523/R (Dec. 8, 2018)) (rejecting “the United States’ argument that Turkey, the complainant, could not establish a prima facie case on the basis of the Appellate Body’s interpretation in a previous dispute”).

1. *WTO Prohibition on Subsidies of Goods for Export*

Broadly speaking, the U.S.’ WTO-covered trade agreements prohibit export subsidies other than for agricultural goods.²⁷⁰ This is confirmed U.S. policy even today under the Trump Administration, which is pushing back on other countries’ export subsidies²⁷¹ in self-reportedly record-breaking fashion.²⁷²

Among the WTO-covered agreements to which the U.S. is party is the Agreement on Subsidies and Countervailing Measures (the “SCM Agreement”).²⁷³ The SCM Agreement restricts what government subsidies are allowed—prohibiting government subsidies of goods that are exported to other countries—and describes how countries that are experiencing such subsidized imports can unilaterally impose “countervailing measures” to offset the violation.²⁷⁴ To be prohibited by the SCM Agreement, subsidies must be offered to an industry or group of industries²⁷⁵ and can include instances when the “government . . . directs a private body to carry out” a subsidy, which can include the transfer of funds, foregone collection of revenue, or provision of goods or services.²⁷⁶ Hence, a “subsidy” can be the gift of land from a local government or a favorable loan from a private bank in the right circumstances.²⁷⁷

Article 3.1 of the SCM Agreement defines two types of subsidies that are prohibited on all goods (other than agricultural goods).²⁷⁸ In Article 3.1(a) the SCM Agreement prohibits all subsidies “contingent, in law or in

²⁷⁰ *Export Subsidies and Competition*, WTO, https://www.wto.org/english/tratop_e/agric_e/negs_bkgmd08_export_e.htm [<https://perma.cc/6TT3-9EXC>] (“25 WTO members can subsidize exports, but only for products on which they have commitments to reduce the subsidies. Those without commitments cannot subsidize agricultural exports at all.”); *What We Stand For*, *supra* note 265.

²⁷¹ See Kirtika Suneja, *US Challenges India’s Export Subsidy Program at WTO*, *ECON. TIMES* (Mar. 15, 2018), <https://economictimes.indiatimes.com/news/economy/foreign-trade/us-challenges-indias-export-subsidy-program-at-wto/articleshow/63306805.cms> [<https://perma.cc/8SF3-6DPY>].

²⁷² See Press Release, U.S. D.O.C. Issues Preliminary Antidumping Duty Determinations, *supra* note 252.

²⁷³ *Agreement on Subsidies and Countervailing Measures (“SCM Agreement”)*, WTO, https://www.wto.org/english/tratop_e/scm_e/subs_e.htm [<https://perma.cc/23FS-BHYY>].

²⁷⁴ *Id.* (“Countervailing duties are a unilateral instrument, which may be applied by a Member after an investigation by that Member and a determination that the criteria set forth in the SCM Agreement are satisfied.”).

²⁷⁵ *Id.*

²⁷⁶ Agreement on Subsidies and Countervailing Measures, art. 1.1(a)(1), Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, 1896 U.N.T.S. 229, https://www.wto.org/english/docs_e/legal_e/24-scm.pdf [<https://perma.cc/2V5V-LP4T>].

²⁷⁷ Keith Bradsher, *On Clean Energy, China Skirts Rules*, *N.Y. TIMES* (Sept. 8, 2010), <https://www.nytimes.com/2010/09/09/business/global/09trade.html> [<https://perma.cc/JE7G-VXNE>].

²⁷⁸ Agreement on Subsidies and Countervailing Measures, *supra* note 276, art. 3 at 231.

fact, whether solely or as one of several other conditions, upon export performance”²⁷⁹ To qualify, a subsidy does not explicitly have to be on exports, but at least must be “tied to actual or anticipated exportation or export earnings.”²⁸⁰ China has been challenged by the EU for its alleged violation regarding exports of certain metals,²⁸¹ a charge related to the export controls and other measures that the EU claimed China established.²⁸² In contrast, the SCM Agreement’s Article 3.1(b) prohibits subsidies that are contingent on using domestic over imported goods.²⁸³ Such subsidies are “*de lege* specific and thus easy to prosecute.”²⁸⁴ The EU and Japan have used this provision to fight a requirement by the Canadian province of Ontario that required utilities to purchase green energy produced from goods and services that were at least partly made or supplied in Ontario.²⁸⁵ As will be seen below, a similar argument was also made against Minnesota’s solar incentive program “Made In Minnesota.”²⁸⁶

Under the SCM Agreement, there has been a large amount of countervailing-duties action in recent years, with members of the agreement accusing other countries of illegal export or domestic-content subsidies. The EU brought WTO anti-dumping actions against Chinese subsidies of solar

²⁷⁹ *Id.*

²⁸⁰ Agreement on Subsidies and Countervailing Measures, *supra* note 276, art. 4, n.4 at 231.

(“The mere fact that a subsidy is granted to enterprises which export shall not for that reason alone be considered to be an export subsidy within the meaning of this provision.”).

²⁸¹ Request for the Establishment of a Panel by the European Union, *China—Duties and Other Measures Concerning the Exportation of Certain Raw Materials*, WTO Doc. WT/DS509/6 (Oct. 27, 2016),

https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds509_e.htm

[<https://perma.cc/2QSG-VA3U>].

²⁸² *Id.*

²⁸³ Agreement on Subsidies and Countervailing Measures, *supra* note 276, art. 3.1(b) at 231.

²⁸⁴ Colares, *supra* note 48, at 442 (citing SCM Agreement, art 2.3). Different types of subsidies are held to different evidentiary standards. To fall within the highest prohibition (called simply “prohibited subsidies”), a subsidy must be specific—i.e. only available to an industry within a state—and distort trade by requiring domestic goods to be processed. *Anti-Dumping, Subsidies, Safeguards: Contingencies, etc.*, WTO, https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm8_e.htm [<https://perma.cc/2H9H-AR99>]. In a WTO dispute, such a prohibited subsidy is subject to accelerated procedure and, if found to exist must be “withdrawn immediately,” and is subject to the WTO’s harshest penalties—countervailing duties that allow the harmed country to take retributive action against the offending country’s exports. *Id.* The next disallowed subsidy is called an “actionable subsidy” and requires the complaining country to show certain types of damages in order to invalidate the subsidy. *Id.* Minnesota’s EITE statute and EITE rate seem to qualify as either a prohibited or actionable subsidy based on the available facts.

²⁸⁵ Colares, *supra* note 48, at 442.

²⁸⁶ See Mike Hughlett, *Minnesota Solar Incentive Program Part of WTO Dispute with India*, STAR TRIB. (Sep. 14, 2016), <http://www.startribune.com/minnesota-solar-incentive-program-part-of-wto-dispute-with-india/393436411/> [<https://perma.cc/RRK6-GUWV>].

panels for export.²⁸⁷ The U.S. has imposed countervailing duties on both Chinese solar panels and wind turbines after determining that these imports were being subsidized and dumped upon the U.S. market.²⁸⁸ Allies have now brought these trade measures against the U.S.' recent steel and aluminum tariffs. The most salient example of this is the EU's planned tariffs on American iconic brands such as Kentucky bourbon, Levi's jeans, and Harley Davidson.²⁸⁹ As described above, the U.S. Commerce Department also announced it might impose such duties on steel imports to offset subsidies by Canada, Mexico, and China. In that announcement the agency confirms:

Foreign companies that price their products in the U.S. market below the cost of production or below prices in their home markets are subject to antidumping duties. Companies that receive unfair subsidies from their governments, such as grants, loans, equity infusions, tax breaks, or production inputs, are subject to countervailing duties aimed at directly countering those subsidies.²⁹⁰

The Trump Administration is not arguing that these trade rules and penalties do not apply to the domestic steel industry. Indeed, it relies on these tools for the bulk of its trade actions under the President's focus on trade enforcement.²⁹¹

Regarding SCM Agreement Article 3.1(a), a recent WTO case initiated by the Trump Administration's trade representative could contextualize what now counts as an export-performance subsidy.²⁹² In

²⁸⁷ Colares, *supra* note 48, at 443 (internal citation omitted); *see also* *EU Launches Anti-Dumping Investigation into Solar Panel Imports from China*, THE TELEGRAPH (Sept. 6, 2012, 11:04 AM), <https://www.telegraph.co.uk/finance/economics/9524933/EU-launches-anti-dumping-investigation-into-solar-panel-imports-from-China.html> [<https://perma.cc/PS5F-RCQJ>].

²⁸⁸ Keith Bradsher & Diane Cardwell, *U.S. Slaps High Tariffs on Chinese Solar Panels*, N.Y. TIMES (May 17, 2012), <https://www.nytimes.com/2012/05/18/business/energy-environment/us-slaps-tariffs-on-chinese-solar-panels.html> [<https://perma.cc/A9RS-DPGW>].

²⁸⁹ Richard Bravo, *EU to Strike Back Against Trump with Levies on Harleys, Bourbon*, BLOOMBERG (May 31, 2018), <https://www.bloomberg.com/news/articles/2018-05-31/eu-to-strike-back-against-trump-with-levies-on-harley-s-bourbon> [<https://perma.cc/FA7F-YL3A>].

²⁹⁰ Press Release, U.S. D.O.C. Issues Preliminary Antidumping Duty Determinations, *supra* note 252.

²⁹¹ *See, e.g., id.*; Press Release, U.S. Dep't Commerce, The Department of Commerce Amends Countervailing Duty Process (May 23, 2019), <https://www.commerce.gov/news/press-releases/2019/05/departement-commerce-amends-countervailing-duty-process> [<https://perma.cc/B34C-QHER>].

²⁹² Request for Consultations by the United States, *India -Export Related Measures*, WTO Doc. WT/DS541/1 (Mar. 14, 2018), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=250170,247026,245291,244047,244048,243854&CurrentCatalogueIdIndex=5&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord

March 2018, the United States challenged a host of Indian export programs at the WTO.²⁹³ The complained-of measures are export promotion programs, special economic zones,²⁹⁴ and policies allowing exporters to import duty-free.²⁹⁵ Although India had special dispensation at the WTO level for the programs through 2015, the U.S. Trade Representative (USTR) complained that India had continued and expanded its export subsidies since then, saying the “apparent export subsidies provide financial benefits to Indian exporters that allow them to sell their goods more cheaply to the detriment of American workers and manufacturers.”²⁹⁶ USTR also explained, “India provides exemptions from certain duties, taxes, and fees . . . and benefits numerous Indian exporters, including producers of steel”²⁹⁷ The legal basis for the United States’ complaint was the SCM Agreement Article 3.1(a).²⁹⁸

2. *Minnesota’s EITE Subsidy Under the WTO Regime*

The EITE statute appears to be a straightforward violation of the above standards. It is either a violation of SCM Agreement Article 3.1(a) or (b) because: under Article 3.1(a), it is offered to increase production at trade-exposed (i.e., capable of exporting and competing against imported commodities) industries, to displace imports and promote export; or, under

=True&HasSpanishRecord=True [https://perma.cc/3JN9-BAAP] [hereinafter Request for Consultations by the United States – India].

²⁹³ Press Release, Off. U.S. Trade Representative, United States Launches WTO Challenge to Indian Export Subsidy Programs (Mar. 14, 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/march/united-states-launches-wto-challenge> [https://perma.cc/H48A-X9PN].

²⁹⁴ “Many developing countries operate geographically delineated economic areas They experiment in these special economic zones (SEZs) with infrastructure, regulatory, and fiscal policies that are different from those implemented in the rest of the domestic economy with the aim of attracting foreign investment, creating employment opportunities, and boosting exports.” STEPHEN CRESKOFF & PETER WALKENHORST, *THE WORLD BANK, ACHIEVING WTO COMPLIANCE FOR SPECIAL ECONOMIC ZONES IN DEVELOPING COUNTRIES 1* (Apr. 2009), <http://documents.worldbank.org/curated/en/155141468337481040/Achieving-WTO-compliance-for-special-economic-zones-in-developing-countries> [https://perma.cc/V59M-3V8Z].

²⁹⁵ *Panels Established to Rule on Indian Export Measures, US Duties*, WTO (May 28, 2018), https://www.wto.org/english/news_e/news18_e/dsb_28may18_e.htm [https://perma.cc/U7N4-LVQL].

²⁹⁶ Off. U.S. Trade Representative, *supra* note 293.

²⁹⁷ *Id.*

²⁹⁸ Request for Consultations by the United States – India, *supra* note 292.

Article 3.1(b), it subsidizes using domestic content²⁹⁹ from Minnesota mines and forests.³⁰⁰

Under SCM Agreement Article 3.1(a), a main issue is whether the EITE statute, designed to protect “trade-exposed” industries, explicitly subsidizes exports by subsidizing electricity to boost production. Some recipients of the EITE rate would likely argue that their exports are negligible or that they used the money garnered to enrich their shareholders and executives, not to increase exports. Iron and steel companies, however, likely would have a hard time making that case. This is especially true of U.S. Steel, which testified it might be able to export steel because of the EITE subsidy.³⁰¹ It also has tied the EITE subsidy to the reopening of the Keetac mine and iron processing facility. In March 2017, U.S. Steel’s general manager of mining asserted that, “Quite frankly, measures such as the September 2016 Commission approval of the EITE Customer Rider were crucial ingredients in our ability to realize the startup of Keetac this month.”³⁰² Minnesota Power argued that Keetac’s operation increased statewide taconite production.³⁰³ The PUC acknowledged and accepted that these parties asserted that the EITE rate contributed to the opening of Keetac.³⁰⁴ This is in turn consistent with the Commission’s finding that the EITE rate would benefit the utility by assuring increased production by

²⁹⁹ Request for Consultations by the United States, *China – Measures Concerning Wind Power Equipment*, WTO Doc. WT/DS419/1 (Jan. 6, 2011), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=101977&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True [<https://perma.cc/2K6C-CB3S>].

³⁰⁰ Whether 3(b) would apply to the EITE statute as it applies to industries such as oil and natural gas is a complicated question regarding whether the transport of Canadian oil and gas moots the argument, or if the benefit that other pipelines provide to North Dakota production suffices to show the domestic content subsidy. As this would require a long digression into the world of oil markets and significant conjecture, it is probably best left for another day.

³⁰¹ In the Matter of Revised Petition by Minnesota Power for a Competitive Rate for Energy-Intensive Trade-Exposed (EITE) and an EITE Cost Recovery Rider, Order Denying Reconsideration at 6–7, E-015/M-16-564 (Minn. P.U.C. Feb. 7, 2018) [hereinafter *Minn. P.U.C. Order Denying Reconsideration for Minnesota Power Revised Petition*].

³⁰² Memorandum from Lawrence W. Sutherland to Daniel Wolf (Mar. 10, 2017), <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPop&documentId=%7B18F84871-F067-4C0B-801B-2D0E3E057592%7D&documentTitle=20173-129799-01> [<https://perma.cc/Q882-YNNV>].

³⁰³ JENNIFER J. PETERSON, MINNESOTA POWER COMPLIANCE FILING 8 (Feb. 1, 2018), <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPop&documentId=%7B30EC5661-0000-CA11-9A68-5BE168F51C90%7D&documentTitle=20182-139690-01> [<https://perma.cc/QUL7-Y8KX>] (“Taconite production partially rebounded after the fall 2016 restart of United Taconite and the winter 2017 restart of Keetac.”).

³⁰⁴ Minn. P.U.C. Order Denying Reconsideration for Minnesota Power Revised Petition MINN. PUB. UTILS. COMM’N, *supra* note 301.

customers.³⁰⁵ In January 2019, the shipments of taconite from 2018 were estimated to be 25% larger than the average of the five previous years, indicating a banner year for taconite shipping and increases in production.³⁰⁶ While it is not clear that American iron and steel is yet being exported in larger amounts, the above-discussed U.S. Commerce Department trade reports show that domestic production is growing and displacing imported product in the domestic market.³⁰⁷

Similarly, under SCM Agreement Article 3.1(b), the EITE rate appears to violate the prohibition on domestic-content subsidies. This is mainly because the few customers who benefit from the EITE rate produce commodity products from domestic raw materials. A Minnesota taconite processing facility is often built at the mine, and it is not economical to bring ore from faraway places to have it processed in remote northern Minnesota. The same is true of the paper mills benefitting from the rate—while their raw material is spread over a larger and changing area of the state than the mines', it is unlikely that these companies would continue to be profitable overall if they sourced timber inputs from distant states and countries. Even if the paper milling or pipeline industry were able to show that their business was sufficiently dependent on Canadian inputs to rebut a subsidy for domestic content theory, Minnesota mines cannot argue that they use anything but the ore they mine.³⁰⁸ This would be true of proposed mining projects that would also fall under the EITE rate.³⁰⁹

The fact that the EITE subsidy comes from a private party—here an electric utility company—instead of directly from the government, should be immaterial to whether it violates WTO obligations. Like Chinese state-owned banks giving solar companies a glut of credit to spur production,³¹⁰ Minnesota Power's EITE subsidy for trade-exposed businesses was directed and approved by the Legislature and Commission, making the company's

³⁰⁵ *Id.*

³⁰⁶ Press Release, Iron Mining Ass'n of Minn., Outlook Good for 2018 Minnesota Iron Shipments, (Jan. 14, 2019), <https://www.taconite.org/news/latest/?273> [<https://perma.cc/Z9LQ-6CUY>].

³⁰⁷ See INT'L TRADE ADMIN., *supra* note 10.

³⁰⁸ It is not obvious whether the EITE rate could provide sufficient benefits to the state or Minnesota utilities if it was nondiscriminatory towards inputs from other states and countries.

³⁰⁹ Even the next generation of proposed mines (those meant to mine copper and nickel from sulfide-bearing rock) are envisioned to have processing plants onsite. See *generally* DAVID DREISINGER ET AL., METALLURGICAL PROCESSING OF POLYMET MINING'S NORTHMET DEPOSIT FOR RECOVERY OF CU-NI-CO-ZN-PD-PT-AU 1 (2006), <https://www.sgs.com/-/media/global/documents/technical-documents/sgs-technical-papers/sgs-min-tp2006-06-recovery-of-cu-ni-co-zn-pd-pt-au-at-northmet-deposit.pdf> [<https://perma.cc/MJX3-5WXA>]. These mines, though not yet in existence, would certainly be able to benefit from the EITE rate—legislators who introduced the EITE statute explicitly mentioned these facilities in an earlier version of the bill, and the catch-all provision in the enacted statute seemingly covers them. See S.F. 1312, 89th Leg. (Minn. 2015).

³¹⁰ Bradsher & Cardwell, *supra* note 288.

foregoing of income from large customers for electrical costs the same as a state subsidy.

3. *WTO “Precedent” of India Solar Cells and Made in Minnesota*

In light of U.S. trade actions against other countries’ steel overproduction and dumping, the U.S.’ aggressive stance may be vulnerable to counterattacks because of Minnesota’s EITE subsidy of trade-exposed industries. When looking at the big picture, the question naturally arises: Does it really matter if the only U.S. state where iron is mined and processed is subsidizing production by lowering energy costs? Can this sort of state-level, Minnesota-specific policy even rise to the level of a WTO dispute?

If the EITE statute came before the WTO it would not be the first time that one of Minnesota’s state supports for industry was presented as a prohibited subsidy violation in an ongoing trade dispute. One such policy came up in an ongoing case between the U.S. and India, where Minnesota’s support of locally-made solar panels was offered as a defense to a trade action brought by the U.S. against India’s local-content supports.³¹¹ These cases usually take years to resolve.³¹² In early 2013, the United States requested consultation with India regarding its Jawaharlal Nehru National Solar Mission (NSM) for solar cells and solar modules.³¹³ Unfortunately for the NSM, its explicit goal of “attract[ing] industry and project developers to invest in research, domestic manufacturing and development of solar power generation and thus create the critical mass for a domestic solar industry”³¹⁴ was seen as discriminating against foreign solar manufacturers.

Like many other green programs to increase the adoption of renewable energy, the NSM required a certain amount of new solar to be installed by certain dates.³¹⁵ The main trade-distorting feature of the Indian NSM was

³¹¹ Hughlett, *supra* note 286.

³¹² For example, a case between the U.S. and Mexico over dolphin-safe tuna took over a decade to resolve. *DS381: United States - Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products*, WTO (Jan. 31, 2019), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds381_e.htm [<https://perma.cc/692E-RT9L>].

³¹³ Request for Consultations by the United States, *India - Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/1 (May 1, 2018), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm [<https://perma.cc/8UA3-ADUT>] [hereinafter Request for Consultations]. India’s program, meant to promote the adoption of technology and develop an industry supporting domestic clean energy production, was a win-win-win for domestic industry, Indians without power, and the fight against climate change. See MINISTRY OF NEW AND RENEWABLE ENERGY, JAWAHARLAL NEHRU NATIONAL SOLAR MISSION: TOWARDS BUILDING SOLAR INDIA 1-2 (2009) https://nmre.gov.in/file-manager/UserFiles/mission_document_JNNSM.pdf [<https://perma.cc/6SEL-2PQA>] [hereinafter Jawaharlal].

³¹⁴ Request for Consultations, *supra* note 313.

³¹⁵ *Id.* at 8.

the domestic content requirements imposed under the regime.³¹⁶ Ultimately, when the NSM was implemented, the government's policy required the development of solar power and then required the solar power developers installing solar cells and modules of certain types to use products made in India.³¹⁷ As discussed above, these provisions likely run afoul of the SCM Agreement as domestic-content requirements and potentially prohibited subsidies of exports. The U.S. complained that the NSM's domestic content requirement was "inconsistent with WTO non-discrimination obligations."³¹⁸ The WTO determined that the NSM violated its trade agreements regarding the treatment of foreign producers and treating similar goods from other jurisdictions the same under favorable policies.³¹⁹

Notably, in the dispute India pointed out that Minnesota and seven other states also had domestic-content requirements that supported their own solar panel manufacturing industries.³²⁰ It specifically faulted the "Made In Minnesota" program that subsidized purchases of panels that

³¹⁶ As the government explained at the outset:

Transforming India into a solar energy hub would include a leadership role in low-cost, high quality solar manufacturing, including balance of system components. Proactive implementation of Special Incentive Package (SIPs) policy, to promote PV manufacturing plants, including domestic manufacture of silicon material, would be necessary It should be ensured that transfer of technology is built into Government and private procurement from foreign sources.

Jawaharlal, *supra* note 313, at 5. Transfer of technology from foreign companies is a major flashpoint in the U.S.-China trade war as well. Karishma Vaswani, *Trade War: Three Things the US and China Will Never Agree on*, BBC NEWS (Jan. 10, 2019), <https://www.bbc.com/news/business-46819099> [<https://perma.cc/4CWQ-GYCC>]. After noting that the Indian capacity to make solar cells is still very low, the NSM explicitly made the case for preferential treatment for local production to "take a global leadership role in solar manufacturing . . . including setting up of dedicated manufacturing capabilities for poly silicon material to annually make about 2 GW capacity of solar cells." Jawaharlal, *supra* note 313, at 9; Vaswani, *supra* note 316. After noting that Indian solar cell construction capacity remains low, the NSM explicitly made the case for preferential treatment for local production in order to "take a global leadership role in solar manufacturing . . . including setting up of dedicated manufacturing capabilities for poly silicon material to annually make about 2 GW capacity of solar cells." Jawaharlal, *supra* note 313, at 9.

³¹⁷ Request for the Establishment of a Panel, *India - Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/20 (Jan. 29, 2018), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=241819,241280,241135,241035,237038,233141,232582,232015,231936,231246&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True [<https://perma.cc/7YL2-CRYY>] [hereinafter Request for Consultations by the United States].

³¹⁸ *Id.*

³¹⁹ Hughlett, *supra* note 286.

³²⁰ *Id.*

were assembled in Minnesota.³²¹ This program “invit[ed] retaliation from India” in the form of its own domestic content requirement.³²² Similar to the EITE subsidy, the “Made In Minnesota” program also required producers to be certified by the state in order to benefit from the program, and only five producers were certified.³²³ Though the program was funded at merely \$15 million annually,³²⁴ it was nevertheless relevant to the overall dispute and provided India with a viable defense for its larger program.

India and the United States are still contesting this solar industry case.³²⁵ While the United States seems to have won the overall dispute at the WTO level,³²⁶ the existence of the now-repealed “Made In Minnesota” program weakened the position of the United States because it was the pot calling the kettle black.³²⁷

More generally, trade issues have been a major sore point between the Trump administration and India’s current leadership.³²⁸ With these

³²¹ *Id.*

³²² *Id.* (quoting Ben Lilliston).

³²³ *Id.*

³²⁴ *Id.*

³²⁵ The dispute between the United States and India has continued despite the WTO’s legal resolution and the imposition of tariffs to offset the DSM. In 2018, India asked for a new WTO dispute settlement panel to resolve the continuing dispute while the United States requested authorization to retaliate based on India’s failure to comply. Request for the Establishment of a Panel by India, *supra* note 317.

³²⁶ The U.S.’s stronger economy allows it to negotiate outside the WTO and realize optimal outcomes even when its position does not comply with the letter of a trade law. James Kanter & Gary Rivlin, *In Trade Ruling, Antigua Wins a Right to Piracy*, N.Y. TIMES (Dec. 22, 2007), <https://www.nytimes.com/2007/12/22/business/worldbusiness/22gambling.html> [<https://perma.cc/ZPG3-LD65>]. *But see DS285: United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WTO (Apr. 25, 2013), https://www.wto.org/english/Tratop_e/dispu_e/cases_e/ds285_e.htm [<https://perma.cc/G9TW-GMFT>] (noting that despite Antigua’s victory and the imposition of significant penalties, “the United States was not in compliance with the ruling of the panel.” Ultimately, “Antigua requested the DSB suspend concessions and obligations to the United States with respect to intellectual property rights,” settling the dispute years after their outright win before the WTO).

³²⁷ Much like India’s complaint about “Made In Minnesota,” China and the EU have initiated WTO proceedings against the U.S. for state and local incentives that favor buying locally-sourced solar hardware. Request to Join Consultations by the European Union, *United States – Certain Measures Related to Renewable Energy*, WTO Doc. WT/DS563/3 (Oct. 23, 2018), https://www.wto.org/english/tratop_e/dispu_e/cases_e/DS563_e.htm [<https://perma.cc/Y6JM-ZD4B>]; *China Initiates Dispute Complaints Against US Solar Cell Duties, Renewable Energy Measures*, WTO (Aug. 16, 2018), https://www.wto.org/english/news_e/news18_e/ds562_563rfc_16aug18_e.htm [<https://perma.cc/Y9LM-LGK8>]. This conflict presently remains in the pre-trial stage of “consultation” but could break into a full-fledged dispute.

³²⁸ *Are Trade Issues Spoiling the Trump-Modi Bromance?*, BBC NEWS (June 28, 2018), <https://www.bbc.com/news/world-asia-india-44639927> [<https://perma.cc/798C-RKNT>]. Like China and the EU, India retaliated against tariffs on aluminum and steel by raising tariffs on

widening divides between the U.S. and its historic partners, the U.S. position could again be weakened if states like Minnesota implement export subsidies or domestic content subsidies that could be exploited in disputes with India, Canada and Mexico, the EU, or even China—a trade war that shows no sign of slowing.³²⁹ The U.S. has lost disputes of this sort with China in the past.³³⁰ Similarly, it could come up in a dispute brought by the U.S.—the two countries are currently in consultations regarding China’s possible violation of the SCM Agreement regarding production of primary aluminum.³³¹ Opportunities for the EITE statute to complicate larger disputes are replete.

VI. EITE STUNTING MINNESOTA IRON INNOVATION

As discussed above, Minnesota has a long history of resource extraction industries, and chief among them is the iron industry. Those who faithfully support any and every kind of Minnesotan mining often say we have the best facilities overseen by the best regulators implementing the best

U.S. goods such as walnuts, almonds, and shrimp. *Id.* The trade tensions recently escalated again, as the U.S. removed India from its preferential trading status reserved for developing countries. *Trump Targets India and Turkey in Trade Crackdown*, BBC NEWS (Mar. 5, 2019), <https://www.bbc.com/news/business-47450224> [<https://perma.cc/35GQ-X7CF>].

³²⁹ China, joined by twenty-nine other WTO members, has formally challenged the U.S. global steel and aluminum tariffs. Constitution of the Panel Established at the Request of China, *United States—Certain Measures on Steel and Aluminium Products*, WTO Doc. WT/DS544/9 (Aug. 1, 2019), https://www.wto.org/english/tratop_e/dispu_e/cases_e/DS544_e.htm [<https://perma.cc/9F9D-KARA>]. It is possible that in an active and complex dispute like this, policies like “Made In Minnesota” and the EITE statute will be raised and vetted to determine whether the U.S. has clean hands regarding free trade.

³³⁰ While the current dispute over the U.S.’s most recent tariffs is still in its very early stages, the last time the U.S. attempted to put up large-scale trade safeguards against foreign steel, China and a group of WTO members beat the U.S. Panel Report, *United States—Definitive Safeguard Measures on Imports of Certain Steel Products*, WTO Doc. WT/DS248/20 (Dec. 6, 2003), https://www.wto.org/english/tratop_e/dispu_e/cases_e/DS252_e.htm [<https://perma.cc/73DU-3K8N>]. China has beaten the U.S. in interpreting countervailing duty requirements at the WTO’s highest tribunal. Appellate Body Report, *United States—Countervailing Duty Measures on Certain Products from China*, WTO Doc. WT/DS437/29 (Aug. 16, 2019), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm [<https://perma.cc/R4E2-Q66A>]. That said, China also has lost regarding its restrictions on exports of rare earth metals. Appellate Body Reports, *China—Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*, WTO Doc. WT/DS431/14 (Sept. 2, 2014), https://www.wto.org/english/tratop_e/dispu_e/cases_e/DS431_e.htm [<https://perma.cc/C4X7-J7AL>]. These complex, slow-moving, disputes add uncertainty to international trade, and it seems that even small programs affecting only parts of the puzzle can affect the validity of tariffs and countervailing duties, affecting billions of dollars in trade.

³³¹ *China—Subsidies to Producers of Primary Aluminium*, WTO Summary DS519 (Feb. 13, 2017), https://www.wto.org/english/tratop_e/dispu_e/cases_e/DS519_e.htm [<https://perma.cc/JHY8-DYBW>].

laws in the world³³²—but the history of mining in Minnesota falls short of this rosy gloss. Understanding the history of iron in Minnesota and beyond helps to explain the industry’s long relationship with powerbrokers.

A. *Minnesota’s Iron History*

Iron smelting began in the American colonies when the British Isles started running out of trees due to overconsumption in the Industrial Revolution.³³³ This problem led to the innovation of burning coal instead of wood in the production of iron and steel—the dawn of rapid human-induced climate change.³³⁴ In 1889, U.S. industrialist Andrew Carnegie consolidated his business holdings into the Carnegie Steel Company, which made half as much steel as all of England at the time.³³⁵ His Homestead Steel Works facility was based in Pittsburgh at a time when the city’s industries produced enough pollution to block out the sun.³³⁶

At that time, large amounts of iron ore were discovered in Minnesota. Businesspeople from Duluth discovered the first deposits of what they dubbed “Mountain Iron” in what is now called the Iron Range.³³⁷ Then, in the late 1890s, John D. Rockefeller took ownership of these large mineral deposits.³³⁸

In 1901, Carnegie sold his steel company to a businessman who merged it with additional steel mills to form the U.S. Steel Corporation.³³⁹ “The new United States Steel Corporation was the largest company in the world, manufacturing two-thirds of the nation’s steel.”³⁴⁰ As the local

³³² This argument is popular among politicians seeking statewide office and is often used to justify new forms of mining in Minnesota, though it is frequently associated with the existing mining industry. See, e.g., Tom Olsen, *Smith, Housley on Mining*, DULUTH NEWS TRIB. (Oct. 27, 2018, 3:00 PM), <https://www.duluthnewstribune.com/news/government-and-politics/4520395-smith-housley-mining-environment> [https://perma.cc/U6W6-GF4T] (quoting a political candidate asserting: “With a strong and workable regulatory process in place, Minnesota has some of the strictest environmental standards in the world—which mining companies are required to meet or exceed during the environmental review and permitting process.”).

³³³ Jonathan Schifman, *The Entire History of Steel*, POPULAR MECHANICS (July 9, 2018), <https://www.popularmechanics.com/technology/infrastructure/a20722505/history-of-steel/> [https://perma.cc/R3B7-2JCF].

³³⁴ *Id.*

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ GRANT J. MERRITT, IRON AND WATER: MY LIFE PROTECTING MINNESOTA’S ENVIRONMENT 3 (2018).

³³⁸ *Id.* at 7–8.

³³⁹ Schifman, *supra* note 333.

³⁴⁰ *Id.*

Virginia, Minnesota, newspaper explains: “U.S. Steel has been around *almost* as long as the Range has.”³⁴¹

Following WWII, the U.S. boasted over half of the world’s steel production.³⁴² Other countries’ technological advances and investment in innovations, however, left the U.S. steelmakers behind the curve.³⁴³ Starting in the 1950s, European and Asian steel became cheaper than U.S. products due to lower labor costs and improved production methods—the “basic oxygen process.”³⁴⁴ Instead of keeping up with these competitors, the U.S. industry continued to use an outdated, inefficient technology for several more decades.³⁴⁵ This failure to adapt eventually caught up with them:

In 1970, U.S. Steel’s run as the world’s largest steel company ended after seven decades, supplanted by Japan’s Nippon Steel. China became the world’s top steelmaker in the 1990s, and Bethlehem Steel closed its plant in Bethlehem in 1995. It wasn’t until the late 20th century that most American steel mills finally adopted the basic oxygen process. As of 2016, the United States ranked fourth in steel production according to the World Steel Association.³⁴⁶

The basic oxygen process is still in use in the United States today, using coal to make steel and emitting four times the emissions of more recent and efficient “mini mills” that use electric furnaces and recycle scrap steel.³⁴⁷ It

³⁴¹ Charles Ramsay, *U.S. Steel/Minntac: Company’s Footprint on Range Big, and Passes the Test of Time*, MESABI DAILY NEWS (Mar. 7, 2013), https://www.virginiamn.com/news/business/u-s-steel-minntac-company-s-footprint-on-range-big/article_dbaa999e-878f-11e2-a733-001a4bcf887a.html [https://perma.cc/6NX2-MVYA] (emphasis added).

³⁴² Schiffman, *supra* note 333.

³⁴³ *See id.* (“But overseas, a dire need to rebuild, and the introduction of new steelmaking technology, was about to help foreign steel companies flourish While nations in Europe and Asia immediately adopted the basic oxygen process, American mills, still at the top of the industry, soldiered on using the Siemens-Martin process in confident contentment—unwittingly opening the door for foreign competition.”).

³⁴⁴ *Id.*

³⁴⁵ *Id.*; Stephen Milm, *How the U.S. Squandered its Steel Superiority*, BLOOMBERG (Mar. 5, 2018, 12:15 PM), <https://www.bloomberg.com/opinion/articles/2018-03-05/steel-history-shows-how-america-lost-ground-to-europe> [https://perma.cc/5W99-59GF] (“The cost of building steel mills using the basic-oxygen furnaces was 40 to 50 percent lower than conventional open-hearth factories; operating costs were 25 percent lower, though some studies suggested even greater cost savings One factory that made the shift [to the new process] could produce 40 tons of steel per hour using the open-hearth process, but after installing basic-oxygen equipment, it managed to quadruple that figure.”).

³⁴⁶ Schiffman, *supra* note 333.

³⁴⁷ *Id.*; *see* TURNER, *supra* note 28. Nonetheless, as of the early 2000s, two-thirds of global steel production was generated from the basic-oxygen process, while 24 percent came from mini mills. TURNER, *supra* note 28. (citing CLINTON WATSON, ET AL., OECD, CAN TRANSNATIONAL SECTORAL AGREEMENTS HELP REDUCE GREENHOUSE GAS EMISSIONS?)

seems that U.S. industry is again behind its innovative competitors, contributing to the technological deficit that has continued to lower the country's standing in global steel production.³⁴⁸

B. *Minnesota Iron's Future*

Over the years Minnesota's industry has eagerly guarded its existing rights to pollute rather than adopting and implementing efficiency or pollution-control upgrades. For example, even though the global steel industry began making itself more efficient by building "giant integrated plants for the continuous casting of steel" in the 1960s,³⁴⁹ Minnesota has yet to have one such facility and is still operating on the old model where it ships low-value iron out of state instead.

Three-fourths of the emissions from steelmaking come from the iron-making stage during the basic-oxygen process.³⁵⁰ These emissions could be cut in half if plants were upgraded to a "direct reduced iron" system that used natural gas instead of coal,³⁵¹ an idea that has been suggested and tested in Minnesota.³⁵²

Benefitting from the strong tailwinds of current national trade policies, including high tariffs on imported steel of all types, the industry in Minnesota is seemingly ignoring the opportunity to seriously invest in

(June 2, 2005)). By 2012, 57 percent of U.S. steel production came from mini mills, TURNER, *supra* note 28, meaning the national industry was generally more efficient than its most-polluting facilities in the upper Midwest.

³⁴⁸ While U.S. industry doubles down on old methods, China—whose steel industry had been outmoded much like in the U.S.—imposed limits on steel production in 2017, reportedly, to emit less GHGs. Schifman, *supra* note 333. China's steel industry has also been inefficient relative to Europe, Japan, and South Korea, due to its small inefficient plants, reliance on the basic-oxygen processes, and production overcapacity. See TURNER, *supra* note 28, at 2.

³⁴⁹ *New Technologies Could Slash the Cost of Steel Production*, THE ECONOMIST (Mar. 9, 2017), <https://www.economist.com/business/2017/03/09/new-technologies-could-slash-the-cost-of-steel-production> [<https://perma.cc/BM4L-YFXX>] [hereinafter THE ECONOMIST: New Technologies].

³⁵⁰ See TURNER, *supra* note 28.

³⁵¹ *Id.*

³⁵² See Kraker, *supra* note 76. By contrast, the EU is funding an "Ultra Low CO₂ Steelmaking (ULCOS) initiative," which is testing new technologies and will share innovations to reduce emissions among ULCOS member-companies. See TURNER, *supra* note 28, at 2. Two technologies are being tested that could eliminate steps in the steelmaking process and cut energy consumption by 80 percent. THE ECONOMIST: New Technologies, *supra* note 349. These technologies may ultimately cut transportation costs by allowing production to be located closer to manufacturers' customers. THE ECONOMIST: New Technologies, *supra* note 349 (noting that an expert on one of the new technologies "thinks it is not inconceivable for such a plant to be integrated within a car factory").

modernizing.³⁵³ Instead of investing in updated technology, U.S. Steel is expending legal resources fighting U.S. manufacturers' requests to be exempt from the Trump administration's tariffs on imported steel.³⁵⁴ At the same time, U.S. Steel's spokesperson described "expansion plans . . . to meet US demand" as restarting old, idled furnaces without investing in any new facilities or technology.³⁵⁵ Indeed, when the President claimed his steel tariffs had induced U.S. Steel to build new mills, he was proven wrong.³⁵⁶

Minnesota policymakers have an opportunity to change course and implement policies that would strengthen the economy while also reducing GHG emissions and supporting a key heavy industry.³⁵⁷ If conditions changed and the EITE-eligible entities were incentivized to modernize (something akin to the CIP statute without its exception), rapid advances seem possible—especially with a suite of available technologies that have yet to be used anywhere in Minnesota's aging facilities.³⁵⁸

"The iron and steel industry is the largest energy consuming manufacturing sector and the second-largest industrial consumer of energy[.]"³⁵⁹ It follows that Minnesota's artificially low EITE-rate-supported energy prices send a signal to this industry to stay the course while high

³⁵³ This appears consistent with the industry's history over the past few decades. As a steel executive (one whose fortune was tied to efficient mini mills rather than mining and basic-oxygen furnaces) said in 1986: "As soon as prices began to rise so that the steel companies began to be profitable, they stopped modernizing," and only stiff competition causes them to upgrade their facilities. Mihm, *supra* note 345.

³⁵⁴ Natalie Sherman, *The Manufacturers Fighting Trump's Tariffs*, BBC News (Oct. 11, 2018), <https://www.bbc.com/news/business-45594143> [<https://perma.cc/A33K-EXND>].

³⁵⁵ *Id.*; see also Tobias, *supra* note 227 (noting that U.S. Steel's investments at the time "include[d] plans . . . to restart two blast furnaces that will create 800 new jobs at an integrated steel-making plant in Granite City").

³⁵⁶ See Tobias, *supra* note 227.

³⁵⁷ Even under current trade protection by the U.S. and subsidization by the state, the industry appears to be at the mercy of production decisions made in other countries with lower production costs. See Kelly Busche, *Cleveland Cliffs Reports Revenue in Third Quarter*, DULUTH NEWS TRIBUNE (Oct. 23, 2019, 2:00 PM), <https://www.duluthnewtribune.com/business/energy-and-mining/4735632-Cleveland-Cliffs-reports-revenue-in-third-quarter> [<https://perma.cc/QKA8-JTRD>] ("China and its surrogates overproduced steel, and then moved the excess steel to the European market."); see also *Layoffs Announced at two U.S. Steel Mines on Iron Range*, MINN. PUB. RADIO NEWS, Nov. 9, 2019, <https://www.mprnews.org/story/2019/11/09/layoffs-announced-at-two-us-steel-mines-on-iron-range> [<https://perma.cc/2T52-FA8M>].

³⁵⁸ Ironically, China is instrumental in bailing out and modernizing British Steel after that company went into liquidation. Dominic O'Connell, *Jingye to Invest £1bn and Save Thousands of British Steel Jobs*, BBC NEWS (Nov. 11, 2019) <https://www.bbc.com/news/business-50369413> [<https://perma.cc/R7Y9-4YC7>] ("Group chairman Li Ganpo said it would spend £1.2bn over the next decade in upgrading plant and machinery, 'improving the company's environmental performance . . . and boosting energy efficiency to place the operations on a more competitive and sustainable footing'.")

³⁵⁹ See TURNER *supra* note 28 (footnote omitted).

energy prices and other market-based signals (or even direct regulation mandating minimum standards as a cost of staying in business) could instead foster a rapid shift toward efficiency among the biggest players and emitters in the state. If Minnesota is “still in” for Paris-Agreement-like environmental protection, something should be attempted to prove it.³⁶⁰ If world leaders do not act to reduce GHG emissions soon and in coordination, human-caused warming might soon be out of control for good.³⁶¹ Internationally, the G20 nations have been asked to totally phase out “market distorting fossil fuel production subsidies.”³⁶² Minnesota can do its part as regards its own EITE subsidy.

VII. CONCLUSION

In response to the U.S. aluminum and steel tariffs, other countries have acted. Along with its countervailing duties and formal WTO reaction, the President of the EU Commission made a surprisingly frank statement about how tit-for-tat trade remedies work in the real world:

³⁶⁰ Within this discussion, it is also useful to remember that the situation with the U.S. trade war(s) and the scientific understanding behind climate change are both actively evolving. Currently, U.S. trade policy vacillates from more convivial to less functional, depending on the week and the countries it is dealing with. *US and Canada Reach New Trade Deal to Replace Nafta*, BBC News (Oct. 1, 2018), <https://www.bbc.com/news/business-45702609> [<https://perma.cc/4XPW-ASLJ>]; *China Accuses U.S. of Trade Bullying as New Tariffs Imposed*, BBC NEWS (Sept. 24, 2018), <https://www.bbc.com/news/business-45622075> [<https://perma.cc/K7EM-8A67>]. At the same time, the news on climate change is becoming more dire and immediate. Matt McGrath, *IPCC: Climate Scientists Consider “Life Changing” Report*, BBC NEWS (Oct. 1, 2018), <https://www.bbc.com/news/science-environment-45653099> [<https://perma.cc/XJ23-A48S>].

³⁶¹ VALÉRIE MASSON-DELMOTTE ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT—GLOBAL WARMING OF 1.5°C 1 (2018), <http://www.ipcc.ch/report/sr15/> [<https://perma.cc/EH87-R546>]. Recent studies also show that previous assumptions about the speed of warming and ability of environments to absorb the damage could have been overly optimistic. Matt McGrath, *Climate Change: Concerns Over Report on Ocean Heating*, BBC NEWS (Nov. 20, 2018), <https://www.bbc.com/news/science-environment-46046067> [<https://perma.cc/K7ZA-QUVX>]. Concurrently, the international legal community is recognizing that there should be a solution to the suite of problems caused by contemporary kinds of pollution. The “human right to a healthy environment” includes a right to live with healthy and clean air. Michelle Bachelet, UN High Commissioner for Human Rights, Statement made to UNHCR, “No Such Thing as an Unimportant Child”—Bachelet on Harm to Children by Air Pollution (Nov. 1, 2018), <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=23810&LangID=E> [<https://perma.cc/LD8F-ZDYU>].

³⁶² Karl Mathiesen, *Vulnerable Nations Call on G20 to End Fossil Fuel Subsidies By 2020*, CLIMATE DIPLOMACY (Apr. 26, 2017), <https://www.climate-diplomacy.org/news/vulnerable-nations-call-g20-end-fossil-fuel-subsidies-2020> [<https://perma.cc/QGF6-Y8ZL>] (“The CVF meeting, which was chaired by Ethiopia, said subsidies for fossil fuels could only be justified when they provided real benefits to the poor.”).

So now we will also impose import tariffs. This is basically a stupid process, the fact that we have to do this. But we have to do it. We will now impose tariffs on motorcycles, Harley Davidson, on blue jeans, Levis, on Bourbon. We can also do stupid. We also have to be this stupid.³⁶³

The system is designed so that rational nations ordinarily would not be motivated to do stupid things.³⁶⁴ Nevertheless, U.S. sanctions that set off the EU's admittedly stupid reaction remain in place.³⁶⁵

Trade policy does not have to be this way. This year the EU and Japan entered into a trade deal of their own, the first ever to explicitly refer to the Paris Agreement to reduce GHG emissions.³⁶⁶ Many in favor of multilateral trade regimes would say trade law is meant to foster relationships that lead to fewer wars, more wealth, and a world order where nations can all do better when they all do better.³⁶⁷ International trade has often not risen to these aspirations, but it purports to be part of the eventual solution to global issues such as poverty and war. It has yet to be seen if trade will help, or just harm, attempts to regulate GHG emissions worldwide.³⁶⁸

In that context, Minnesota is not securing a better world for all. At the global climate change policy level, Minnesota's EITE statute is a

³⁶³ Euronews, *Juncker Responds to Trump's Trade Tariffs: "We Can Also Do Stupid"*, EURONEWS, (Mar. 3, 2018), <https://www.euronews.com/2018/03/03/juncker-responds-to-trump-s-trade-tariffs-we-can-also-do-stupid-> [<https://perma.cc/5TGP-KS6Z>] (quote from European Commission Chief Jean-Claude Juncker on Mar. 2, 2018 in Hamburg).

³⁶⁴ Despite some bluster and legal arguments, even the most dramatic disputes can end with settlements that change the status quo only minimally. For example, after beating the U.S. on online gambling at the WTO the governments of Antigua and Bermuda settled and requested that the WTO remove the concessions it had authorized against the U.S. instead of reaping \$21 million a year in IP-violative countermeasures. See Isaac Wohl, *The Antigua-United States Online Gambling Dispute*, J. OF INT'L COM. & ECON. (July 2009), https://www.usitc.gov/publications/332/journals/online_gambling_dispute.pdf [<https://perma.cc/L5N3-UJZ8>]; WTO, *supra* note 331.

³⁶⁵ *US Ends Diplomatic Protocol Tiff With EU*, BBC NEWS (Mar. 4, 2019), <https://www.bbc.com/news/world-europe-47439302> [<https://perma.cc/WA3Z-T8TN>].

³⁶⁶ Press Release, European Commission, EU-Japan Trade Agreement on Track to Enter into Force in February 2019 (Dec. 12, 2018), <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1954> [<https://perma.cc/JC5R-BXP3>].

³⁶⁷ See generally Gary Cunningham, *We All Do Better When We All Do Better*, STAR TRIB. (Sept. 22, 2010), <http://www.startribune.com/we-all-do-better-when-we-all-do-better/103588254/> [<https://perma.cc/9A94-YBKJ>] ("The title of this article is a phrase coined by the late, great senator from Minnesota, Paul Wellstone.").

³⁶⁸ The WTO claims to favor protecting the environment and public health, but that same statement indicates it opposes protections that do not conform with its other values. *What We Stand For*, *supra* note 265. Meanwhile, environmental organizations in the international sphere view the WTO as a threat to overall environmental protection. See, e.g., *Why Is the WTO a Problem?*, GREENPEACE, <https://www.greenpeace.org/archive-international/en/campaigns/trade-and-the-environment/why-is-the-wto-a-problem/> [<https://perma.cc/7DWM-NMAB>].

subsidization of leakage, a policy that draws additional pollution to the state by keeping out-of-date facilities operating at maximum output instead of allowing them to idle or fail under market forces (a natural result of a prolonged lack of investment in efficient new technology). At the multilateral or bilateral trade level, Minnesota's EITE statute is likely a "thumb on the scale" that violates the U.S.'s commitments to open and fair trade in goods, especially commodities that are being subsidized so they can be dumped into global markets. At the state level, Minnesota's EITE statute is the subsidization of warmer winters, public health risks from climate change impacts, and polluted water. It is paid for by tens of thousands of rural Minnesotans, many of whom are low income, rely on local natural resources for survival, and have no choice in where to obtain electricity. At the moral level, Minnesota's EITE statute avoids normal ratemaking standards and therefore (unlike other rates the Commission oversees) can be discriminatory, unreasonable, and without regard for state values encouraging renewable energy or avoiding the needless waste of energy resources. With a view to history, Minnesota's EITE statute subsidizes industries that provide less and less employment to citizens of the state, while taking the profits of their labor and the natural resources elsewhere.

In the 2017 legislative session, the Minnesota Legislature phased out the "Made In Minnesota" subsidy program that supported the state's fledgling solar energy program,³⁶⁹ at the same time as two Minnesota utilities started to give away millions of dollars in EITE subsidies to Minnesota's declining heavy industries. This is the balance that Minnesota has set for now—clean energy must succeed with less protection from market forces, but the industries that do the most harm to our water and climate have assurances of ongoing support. The state's government has picked winners and losers, and the winners are largely companies and stockholders based outside of the state. What employment benefits arise from this subsidy are continually undercut by advances in mechanization and the ability of these businesses to use fewer and fewer workers to produce more and more exports.³⁷⁰ A state that is "still in" the global effort to control GHG pollution would do well to look into policies like EITE, and enact policies that promote innovation over a destructive status quo.

³⁶⁹ *Made in Minnesota Solar Incentive Program*, MINN. DEP'T OF COMMERCE, <https://mn.gov/commerce/industries/energy/solar/mim/> [https://perma.cc/CLA9-DSF7].

³⁷⁰ This is not an issue affecting the state's solar installation industry, which grows along with technological innovation. *Solar Industry*, MINN. DEP'T OF COM., <https://mn.gov/commerce/industries/energy/solar/> [https://perma.cc/WPV5-B8EY] ("Solar jobs more than doubled in the last four years in Minnesota, from 1,995 in 2015 to 4,602 in 2018. Minnesota solar jobs increased 8% in 2018, even as solar jobs nationwide declined 3.2%.").

Mitchell Hamline Law Review

The Mitchell Hamline Law Review is a student-edited journal. Founded in 1974, the Law Review publishes timely articles of regional, national and international interest for legal practitioners, scholars, and lawmakers. Judges throughout the United States regularly cite the Law Review in their opinions. Academic journals, textbooks, and treatises frequently cite the Law Review as well. It can be found in nearly all U.S. law school libraries and online.

mitchellhamline.edu/lawreview

MH

MITCHELL | HAMLINE

School of Law

© Mitchell Hamline School of Law
875 Summit Avenue, Saint Paul, MN 55105
mitchellhamline.edu