

What We Don't Know About What We Can't See: Information and Hidden Infrastructure

Access 2019, Edmonton

Eira Tansey, University of Cincinnati

U.S.-Canada Pipeline To Be Extended

The Interprovincial Pipe Line Co., Ltd., of Canada, through its U. S. subsidiary, the Lakehead Pipe Line Co., plans to extend the line which now runs from Edmonton, Alberta, to Superior, Wis., across northern Wisconsin and Michigan to Sarnia, Ontario, and thus to eliminate the need for transporting crude oil by tanker to that point, according to a recent trade publication.

Although financing arrangements are not yet completed, no difficulties are anticipated in obtaining the necessary backing. The cost of the extension is estimated at \$90,000,000, about the same as that of the Edmonton-Superior line. Construction is planned to begin early in 1953 and to be completed before the end of the year.

The U. S. Petroleum Administration for Defense is reported to have allocated for the first quarter of the year 45,000 tons of the approximately 160,000 tons of pipe required to complete the line.

The new 30-inch line will have an initial throughput of about 83,500 barrels a day, the president of the company states. The pipe will be of sufficient size to permit an increase in capacity to 300,000 barrels a day—an estimate which the president calls "conservative"—by the installation of additional pumping stations if the need for greater capacity arises.

When the extension is completed the capacity of the present Edmonton-Superior line will have been increased from 95,000 barrels a day to about

125,000. Furthermore the line will be operated at close to capacity in all seasons, as it will no longer be necessary to store crude at Superior.

The present annual average throughput is appreciably less than capacity because of the necessity of reducing daily throughput far below capacity during the winter.

Completion of the extension to Sarnia will represent another long step in Canada's progress toward petroleum self-sufficiency. When this line and the Trans-Mountain pipeline are completed in 1953 Quebec and the Maritime Provinces will be the only parts of Canada still dependent on imports of crude oil.

Pakistan's Road Transport May Now Be Nationalized

All Provinces of Pakistan except East Pakistan may now nationalize their road transport systems in "partnership with railways," as provided by the recently amended Motor Vehicle Act.

The Central Government of Pakistan

The Lakehead Pipe Line Company has formally requested a 60-foot easement across certain state-owned lands in the Upper and Lower Peninsulas for one 30-inch pipe line, and also an easement across the bottomlands of the Straits of Mackinac for two 20-inch pipe lines.

A preliminary survey of the upland area involved has been completed and submitted to the Department of Conservation. The Company has requested tentative authorization to proceed with the construction of the upland parts of the pipe line immediately following field approval of the detailed center line survey by the divisions concerned prior to formal approval by the Commission.

During previous conferences, the representatives of the Lakehead Pipe Line Company were notified that the Department of Conservation has no authority to grant an easement across the bottomlands of the Straits of Mackinac. This question was also discussed with and confirmed by the Attorney General. A bill has now been introduced in the State Legislature to grant to the Conservation Commission the right to convey pipe line easements across bottomlands of the Straits of Mackinac.

The construction of this pipe line must be commenced at an early date if the pipe line is to be completed and in operation by October 15, 1953, which is the deadline.

Due to the time limitations involved, the Company has requested that the Department consider their application for an easement across the Straits of Mackinac prior to and contingent upon favorable legislative action.

The plans submitted covering the upland sections of the pipe line and the crossing at the Straits of Mackinac have been studied by the interested divisions of the Department. The Company undoubtedly has taken all known precautions, especially in the design of the underwater crossing, to prevent leakage and breaks.

It is the recommendation of the Lands Division that tentative authorization be granted to cover construction of the upland portions of the pipe line immediately upon approval by the divisions concerned and that an easement across the Straits of Mackinac be approved covering the two 20-inch pipe lines subject to favorable legislative action and according to the following specifications:

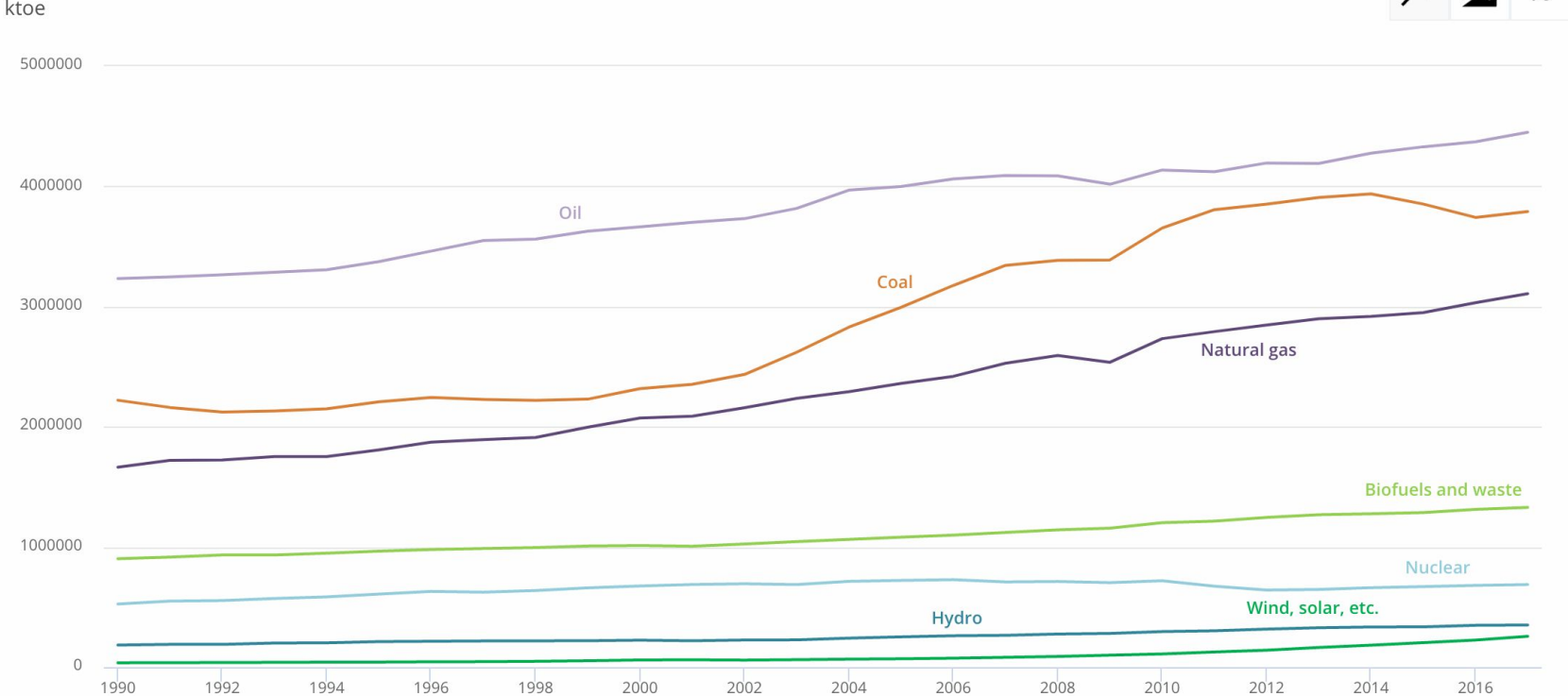
Left: Foreign Commerce Weekly, 1953

Above: Proceedings of Michigan Natural Resources Commission, 1952-1953.

Environmental Information: Any records, data, documented knowledge, or other information about the natural and physical environments we inhabit, as well as information about who and what are the sources of pollution in the environment

The Infrastructure of Fossil Fuels

Total primary energy supply (TPES) by source, World 1990-2017



Greenhouse gas emissions

This article is more than 5 years old

Just 90 companies caused two-thirds of man-made global warming emissions

Chevron, Exxon and BP among companies most responsible for climate change since dawn of industrial age, figures show

Interactive - which fossil

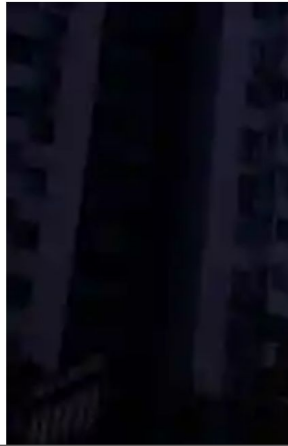
Suzanne Goldenberg *US environment correspondent*

@suzyji

Wed 20 Nov 2013
11.07 EST



26k 839



Guardian sustainable business

This article is more than 2 years old

Just 100 companies responsible for 71% of global emissions, study says

A relatively small number of fossil fuel producers and their investors could hold the key to tackling climate change

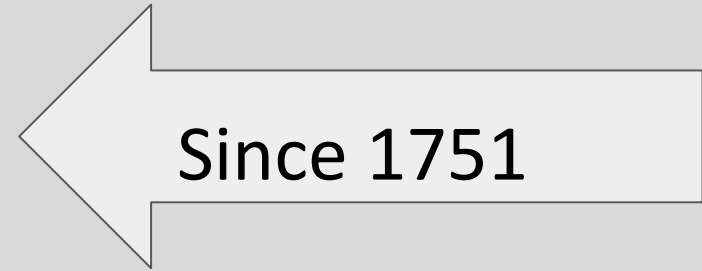
Tess Riley

@tess_riley

Mon 10 Jul 2017
01.26 EDT



52k 510



Hidden Infrastructure: The infrastructure that is all around us that we cannot see because it is far from us, underground, or otherwise not visible

Canada's National Pipeline Map (Landing Page)

CER Interactive Pipeline Map



Length of Pipelines In View

50,000
40,000
30,000
20,000
10,000
0

Gas Liquid Other Substance

Number of Incidents In View

45

Breakdown of Incidents In View

1 Agree

 **Canada Energy Regulator** Régie de l'énergie du Canada

Attention

This map displays incident data for federally regulated pipelines only. It does not include data related to pipelines under provincial or territorial jurisdiction.

The incident data shown represents a single point in time and is subject to change. Incident locations and pipeline locations are approximate.

The Board endeavors to provide the best information possible; however, the information contained in this map is based on information that is sourced from outside parties and may not be accurate. The Board makes no representations, warranties, or guarantees, express or implied, that the data contained in this map may be relied upon for any use whatsoever. The Board accepts no responsibility or liability for inaccuracies, errors or omissions in the data and any loss, damage or costs incurred as a result of using or relying on the map data in any way.

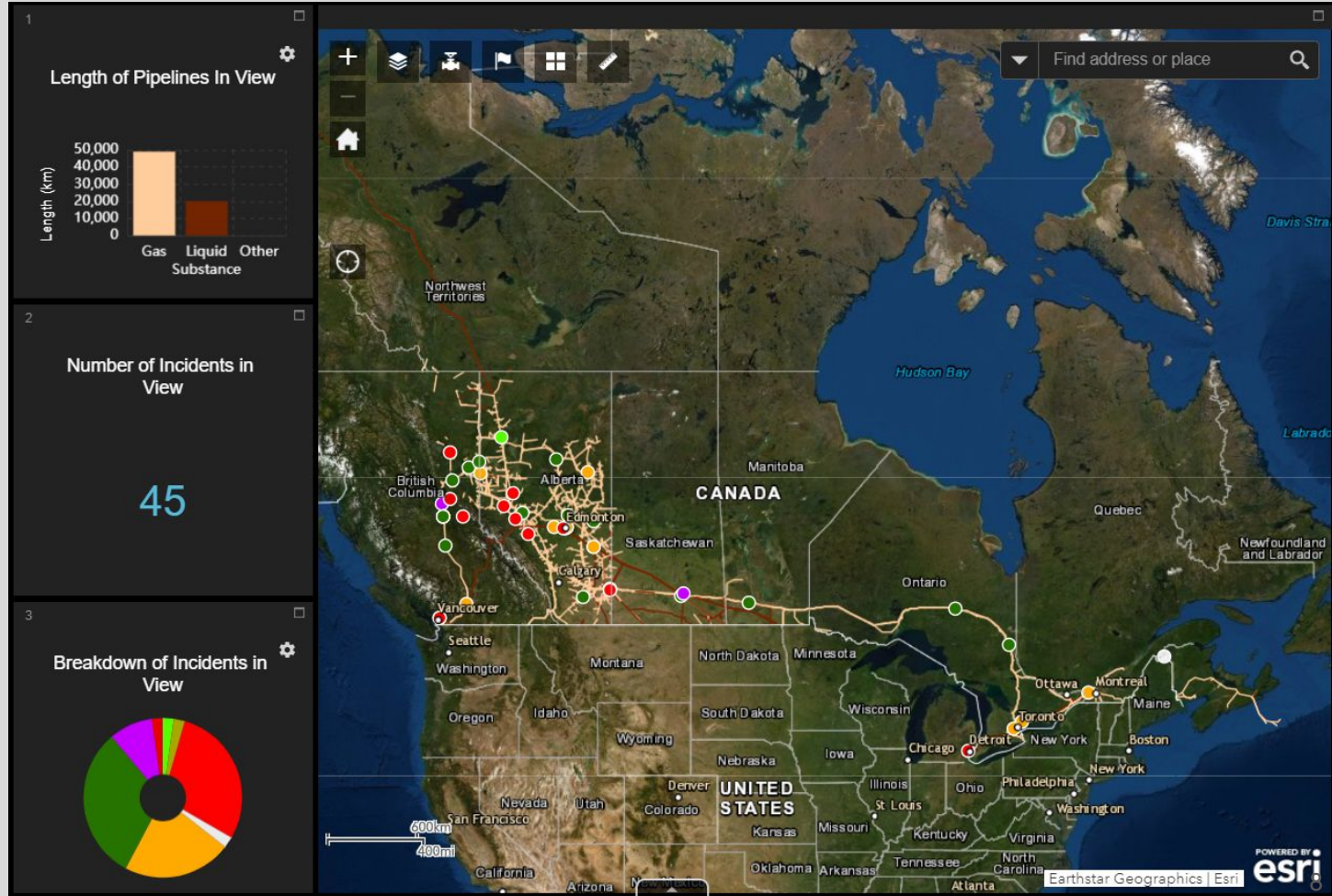
The pipeline data contained in this map is subject to licensing terms and may not be reproduced, published, distributed or transferred in whole or in part. The map also contains information licensed under the [Open Government Licence - Canada](#)

OK

400km
400mi

POWERED BY esri

Canada's National Pipeline Map (National View)



United States National Pipeline Map (Landing Page)

Welcome to the NPMS Public Viewer

▲ What Can I View?

The National Pipeline Mapping System (NPMS) Public Viewer enables the user to view NPMS pipeline, liquefied natural gas (LNG) plant and breakout tank data one county at a time, including attributes and pipeline operator contact information. The user can also view gas transmission and hazardous liquid pipeline accidents and incidents going back to 2002 for the entire US. NPMS pipeline data consists of gas transmission pipelines and hazardous liquid pipelines jurisdictional to PHMSA. It does not contain gas gathering or distribution pipelines, such as lines which deliver gas to a customer's home. Therefore, not all pipelines in an area will be visible in the Public Viewer. As well, the breakout tank data is not complete as submission of that data is not a requirement. **All NPMS data is for reference purposes only. It should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.**

▲ How Can I View It?

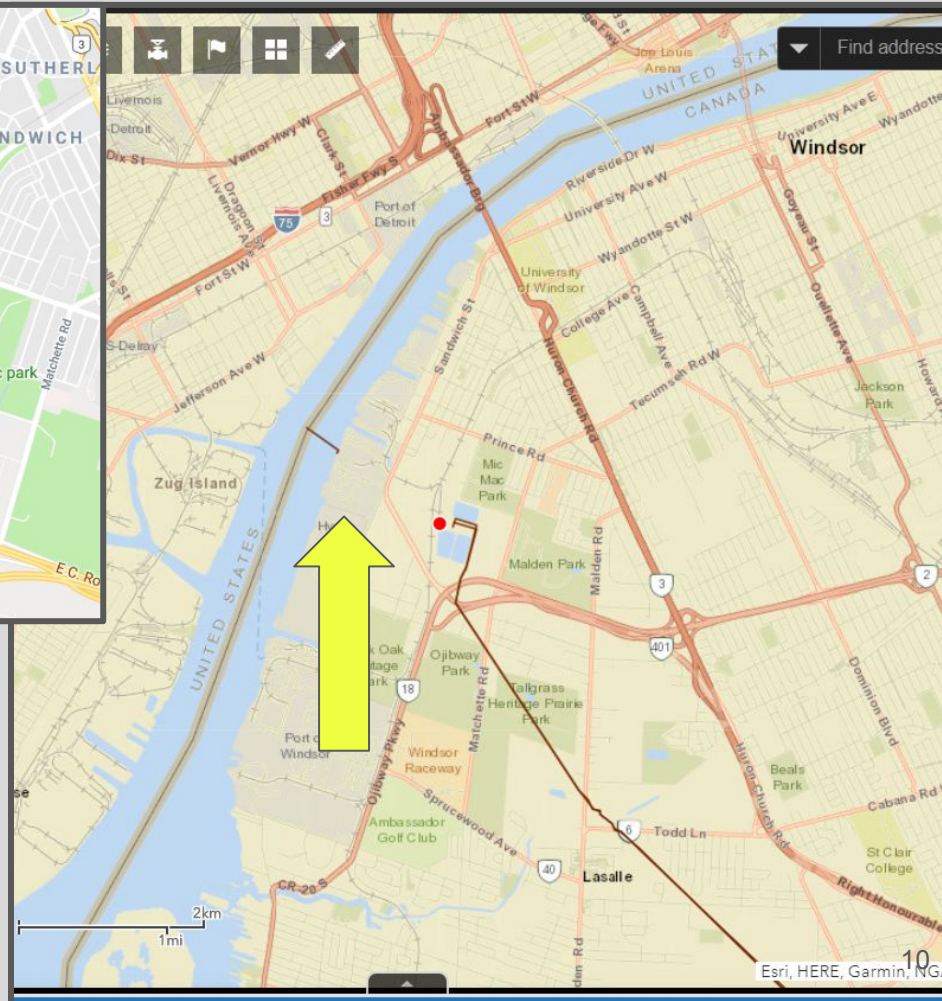
To view the data, select a state and then a county from the drop-down lists below. To view another county, click the Log Out button or close the Public Viewer window, return to the home page of the NPMS website and click the NPMS Public Viewer button again. **Please note that the Public Viewer limits the scale of pipeline maps, in accordance with PHMSA's security policy. When you are zoomed in closer than a 1:24,000 scale (above zoom level 14), you will notice that the pipelines have disappeared from the map. In order to see the pipelines, you must either zoom out to zoom level 14 or lower.** Data cannot be downloaded from the Public Viewer.

Choose State:

[Terms of Use](#)

Choose County:

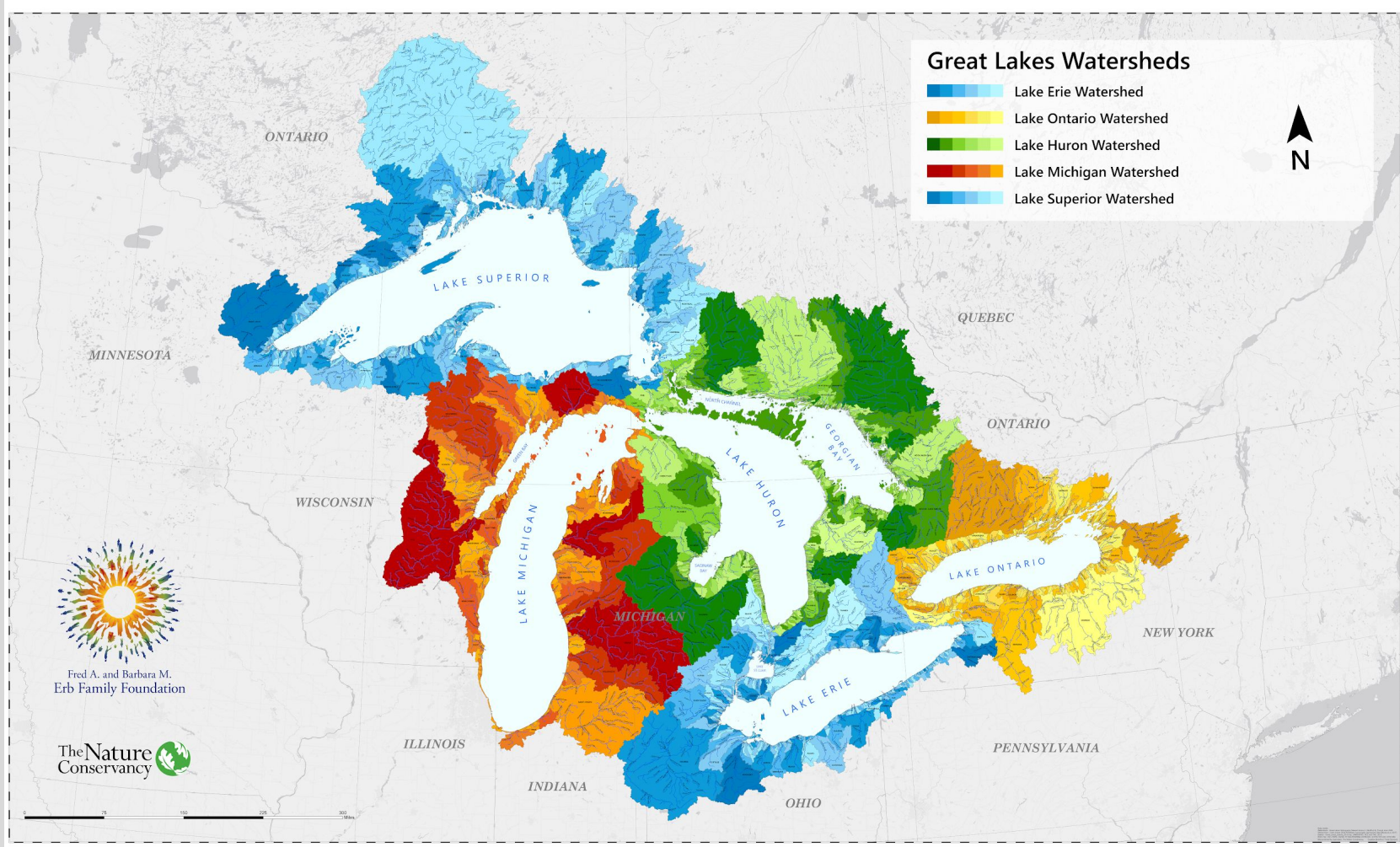
[About Public Viewer](#)



Both national maps depicting Detroit/Windsor

Great Lakes Watersheds

- Lake Erie Watershed
- Lake Ontario Watershed
- Lake Huron Watershed
- Lake Michigan Watershed
- Lake Superior Watershed





Infrastructure Map

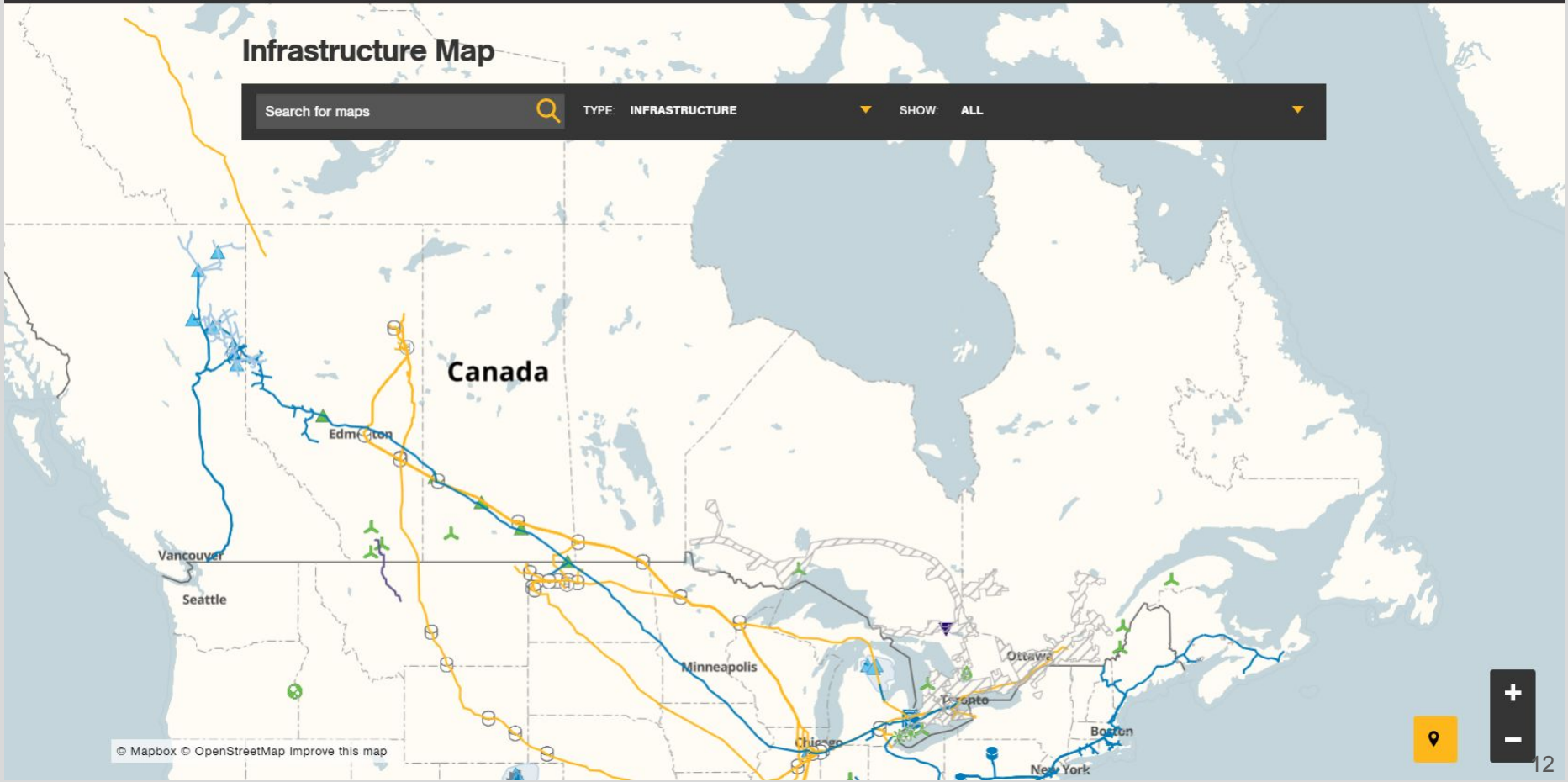
Search for maps



TYPE: INFRASTRUCTURE



SHOW: ALL





< Back



Line 5

Line 5 is a 30-inch-diameter light crude oil, light synthetic crude oil, and natural gas liquids (NGL) pipeline, originating at Enbridge's Superior Terminal in Superior, WI, and terminating at Sarnia, ON.

Nature of asset: Crude oil and liquids pipeline

Status: Operational

Length: 645 miles (1,038 km)

Average annual capacity: 540,000 barrels per day

Products transported: Light crude and natural gas liquids (NGLs)

Emergency contact: 1-800-858-5253 in the U.S., 1-877-420-8800 in Canada

Landowner contact: 1-866-331-3493 in the U.S., 1-800-668-2951 in Canada

Infrastructure Map

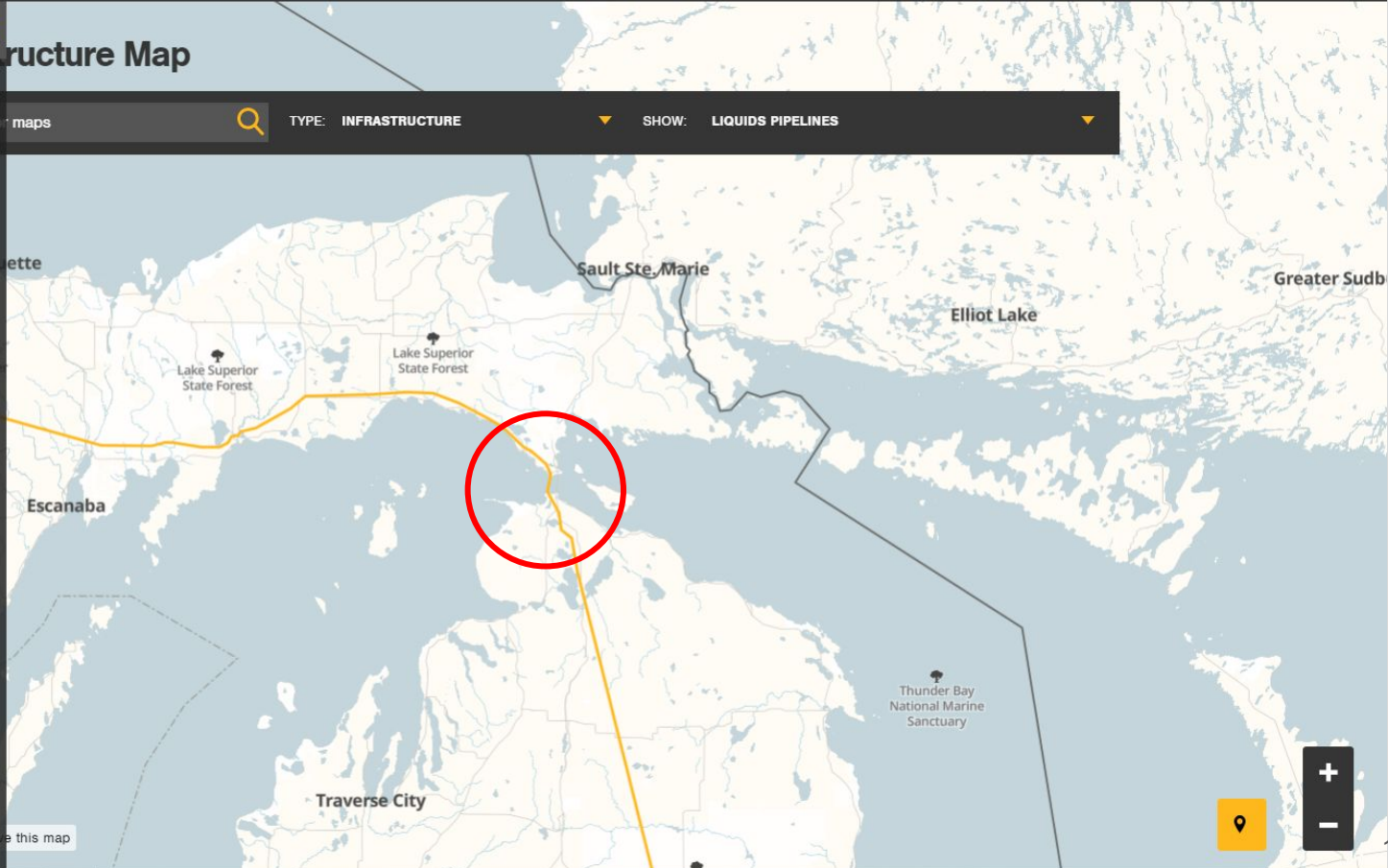
Search for maps



TYPE: INFRASTRUCTURE



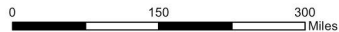
SHOW: LIQUIDS PIPELINES





- Enbridge Pipeline System
- Enbridge Lakehead System
- Regional Boundaries
- Enbridge Equipment Locations

Lakehead System Map Equipment Locations



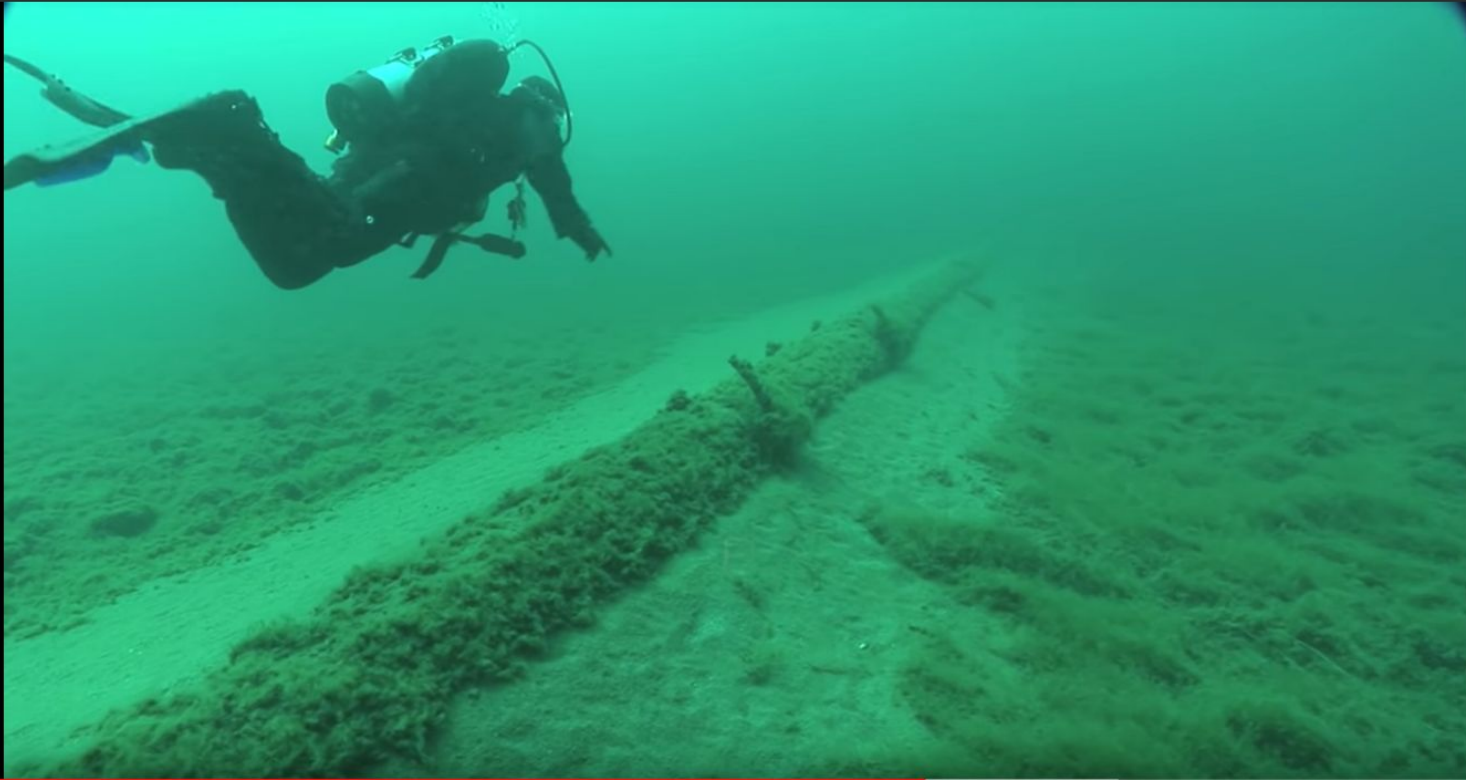
Date Issued: 03/07/17

Date Revised: 06/07/17

Drawn By: NMS

Scale: 1:6,000,000





3:14 / 5:22

CC HD Full Screen

Sunken Hazard - NWF Dives underwater Mackinac Pipelines

77,261 views • Oct 9, 2013

190 Likes 7 Comments SHARE SAVE ...

Up next

AUTOPLAY



Programming in Visual Basic .Net How to Connect Access...

Public Sector Information

- Enters the information commons via libraries, archives, and open government laws
- Barriers to public sector information access include business information exemptions in freedom of information laws, and political actions that erode the provision of public sector information

Private Sector Information

- Trade secrets, confidential business information, exemptions from disclosure
- Except for what is required by law to be shared with public sector regulators and shareholders, no further requirements to regularly share information with the public
- This has the effect of turning private sector information into a commodity

Enbridge knew about Line 5 coating damage in 2014

Updated Jan 19, 2019; Posted Oct 27, 2017

Comment



0
shares

By [Garret Ellison | gellison@mlive.com](#)

LANSING, MI -- Michigan officials are demanding an apology from Enbridge Inc., saying the company knew about damage to the protective coating on its Line 5 pipeline under the Straits of Mackinac in 2014 but did not disclose the problems until this summer.

In May 2018, Bay Mills hosted representatives from Enbridge to discuss its willingness to share information with the Tribe that would enable the Tribe (and public) to review the data regarding pipeline usage, repair and maintenance records, emergency response plans, incident reports, and similar technical information. In response, Enbridge engaged in a master class of delay and obfuscation – going so far as to invite tribal leadership on a fishing trip with executives from Enbridge. (Despite the invitation, Bay Mills officials do not consider a fishing trip with Enbridge executives as a viable alternative to the provision by Enbridge of accurate, verifiable data and information about the operations of a major oil pipeline in the 1836 cession area.)

Bay Mills proposed an information sharing agreement with Enbridge, but efforts to finalize it are so far unavailing, as Enbridge insists on restricting what information could be shared and in what format. Bay Mills finds this patronizing position unhelpful, especially when the health of Lakes Michigan and Huron is at issue and the holder of the necessary information has demonstrated on many occasions that it does not know, or will not disclose, the exact risk its pipeline business presents to the surrounding environment.

The “Just add technology” theory of transparency

Welcome

Welcome to the Michigan Petroleum Pipelines Information website. One of the recommendations of the [2015 Michigan Petroleum Pipeline Task Force Report](#) was to create a [continuing informational website](#) regarding petroleum pipelines. This site will [adapt over time to](#) provide a variety of information, resources, and opportunities for public participation.

[About The Board >>](#)

Spotlight

Pipeline Safety Advisory Board Report to Governor, December 20, 2018

The Michigan Pipeline Safety Advisory Board's [Final Report](#) to the Governor details the Board's accomplishments at fulfilling its charges as well as the actions to fulfill recommendations made by the Michigan Petroleum Pipeline Task Force.

Proposed Straits Utility Corridor



The State of Michigan has posted documents related to the agreements for a planned multi-use utility corridor under the Straits of Mackinac between the Mackinac Straits Corridor Authority and Enbridge Energy. The documents also include a third agreement between the State of Michigan and Enbridge Energy.

[View Documents](#)

Upcoming Events



August 13, 2018 -
Presentation of the

🕒 08/13/2018 - 6:00pm to 9:00pm



October 15, 2018 -
Quarterly Board Meeting,

🕒 10/15/2018 - 1:00pm to 4:00pm



December 10, 2018 -
Quarterly Board Meeting,

🕒 12/10/2018 - 1:00pm to 3:30pm



Michigan Straits Corridor
Authority meeting

🕒 12/19/2018 - 1:00pm to 3:00pm

[Home](#)

News Releases

Posted by admin on **Fri, 12/21/2018** - 11:02am

Mackinac Straits Corridor Authority approves agreement to build multi-use tunnel, remove pipelines from bottom of Straits

Contact: Ed Golder (DNR), goldere@michigan.gov, 517-284-5815

December 19, 2018

[read more](#)

Posted by admin on Thu, 12/13/2018 - 9:27am

Gov. Snyder signs legislation to protect the Great Lakes, provide energy security, create jobs

Contact: Ari Alder, Governor's Office, Adlera@michigan.gov, 517-335-6397

Contact: Dean Scott, DEQ Public Information Officer, DeanS4@michigan.gov, 517-284-6700

December 12, 2018

[read more](#)

Posted by admin on Mon, 12/03/2018 - 3:02pm

Final PSAB meeting scheduled for Dec. 10 in Lansing

Contact: Nick Assendelft, MAE Public Information Officer, AssendelftN@michigan.gov, 517-284-8300

Contact: Dean Scott, DEQ Public Information Officer, DeanS4@michigan.gov, 517-284-6700

December 3, 2018

[read more](#)



Mon 9/16/2019 12:48 PM

Tansey, Eira (tanseyem)

RE: Question about Michigan Petroleum Pipelines website

To

Cc

Hi

Thanks for connecting me with [REDACTED]. I have been reviewing the recommendations of the Pipeline Safety Advisory Board. One of these recommendations was to maintain the <https://mipetroleumpipelines.com/> as a site for ongoing information about Michigan's pipelines, however it seems like there have not been any updates to the site since the filing of the final PSAB report in 2018.

Since the contract for the website according to the report is through 2020, is anyone currently responsible for maintaining the website? Is there any plan to add more content?

Thanks,

Eira Tansey

Digital Archivist/Records Manager

Archives and Rare Books Library
University of Cincinnati Libraries
PO Box 210113
Cincinnati, OH 45221-0113

Web: www.libraries.uc.edu/libraries/arb/

Library Tel: 513-556-1959

Direct Tel: 513-556-1958

Email: eira.tansey@uc.edu

ORCID: [0000-0002-7672-8423](https://orcid.org/0000-0002-7672-8423)

♥ Add To Favorites



Contact Enbridge in Michigan


Communication is a two-way street. We want to hear from you, and address any concerns you may have about our pipeline operations. You can contact us in the following ways:


Call us, toll free, at 1-855-869-8209; or


E-mail us at line5info@enbridge.com.

We will respond promptly to calls and e-mails.

Email from Enbridge representative

 Thu 9/5/2019 2:06 PM
[Redacted]@enbridge.com>
FW: Question about Line 5 pipeline records management

To  Tansey, Eira (tanseyem)

 You replied to this message on 9/17/2019 2:17 PM.

Eira,

Thank you for reaching out to Enbridge.

Based on the short timeline from your request to visit us during your travels to northern Michigan, unfortunately we will be unable to accommodate the request for an in-person visit.

I also need a little more information to see how and if we can accommodate your request and whom at Enbridge would be the best person to connect you with. As a federally regulated pipeline operator, our operations have considerable requirements for records management, employee training and record keeping. Naturally some of this information is confidential.

As you know records management can be very broad and include amongst other things initial permitting, design, construction, employee training programs, inspection, and maintenance. In order to put your request into further context, could you be more specific on what you are looking for, the nature of your research, and its intended purposes? This should help me in moving forward with your request.

Thank You,

[Redacted]
Manager, Community Engagement, Great Lakes Region

ENBRIDGE
26 E. Superior Street, Suite 309, Duluth, MN 55802

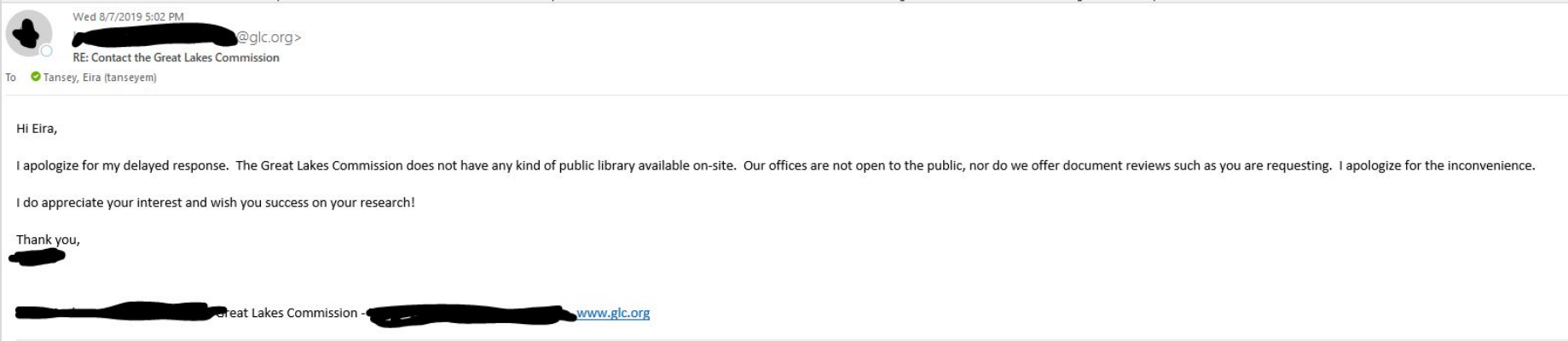
enbridge.com

Safety. Integrity. Respect.

Excerpt from the Great Lake Commission compact

- J. No tax levied or imposed by any party state or any political subdivision thereof shall be deemed to apply to property, transactions, or income of the Commission.
- K. The Commission may adopt, amend and rescind by-laws, rules and regulations for the conduct of its business.
- L. The organization meeting of the Commission shall be held within six months from the effective date of the compact.
- M. The Commission and its Executive Director shall make available to the party states any information within its possession and shall always provide free access to its records by duly authorized representatives of such party states.
- N. The Commission shall keep a written record of its meetings and proceedings and shall annually make a report thereof to be submitted to the duly designated official of each party state.
- O. The Commission shall make and transmit annually to the legislature and Governor of each party state a report covering the activities of the Commission for the preceding year and embodying such recommendations as may have been adopted by the Commission. The Commission may issue such additional reports as it may deem desirable.

Email from Great Lakes Commission representative



Michigan State Library Law

LIBRARY OF MICHIGAN ACT (EXCERPT) Act 540 of 1982

397.20 Duties of library; maintenance and ownership of website by legislative council.

Sec. 10.

(1) The library shall maintain a complete collection of the public documents deposited under section 9 as a permanent reference file. The library is charged primarily with providing reference services to the legislative branch of state government and, in addition, shall provide those services to the executive and judicial branches of state government and the general public. The law library branch is charged primarily with providing reference services to the legislative, executive, and judicial branches of state government. Upon request of a member of the legislature, the library shall provide in a timely manner to that individual copies of any information, documents, or other data, including the Michigan compiled laws, that are generated or produced by the legislature or legislative council agencies and all other information, documents, or other data that are in the possession of the library.

U.S.-CANADA ENERGY TRADE *Map*

CROSS-BORDER PIPELINE TYPES

NATURAL GAS

PETROLEUM AND OTHER LIQUIDS

ELECTRICITY TRADE IN TERA-WATT HRS IN 2017

↓ TWH to U.S.

↑ TWH to CANADA

ELECTRICITY TRANSMISSION POINTS



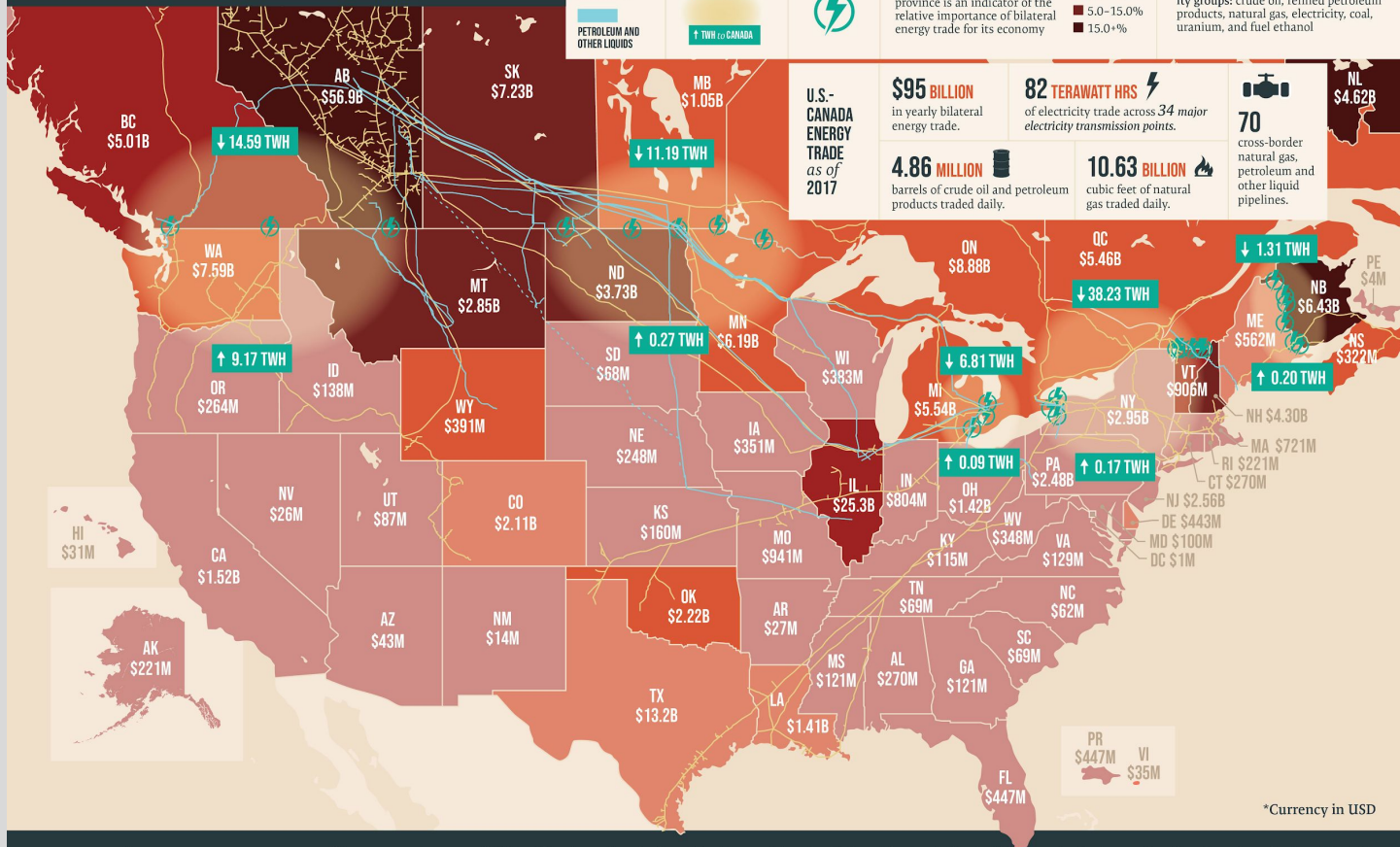
STATE/PROVINCE ENERGY TRADE with CANADA/U.S. as a RATIO OF GDP IN 2017

the color coding of each state/province is an indicator of the relative importance of bilateral energy trade for its economy

- 0-0.5%
- 0.5-1.0%
- 1.0-2.5%
- 2.5-5.0%
- 5.0-15.0%
- 15.0+%

DOLLAR VALUES ON EACH STATE/PROVINCE

represents the gross value of energy imports and exports with Canada/U.S. in 2017 across the following commodity groups: crude oil, refined petroleum products, natural gas, electricity, coal, uranium, and fuel ethanol



U.S.-CANADA ENERGY TRADE as of 2017

\$95 BILLION

in yearly bilateral energy trade.

82 TERA-WATT HRS

of electricity trade across 34 major electricity transmission points.

70

cross-border natural gas, petroleum and other liquid pipelines.

4.86 MILLION

barrels of crude oil and petroleum products traded daily.

10.63 BILLION

cubic feet of natural gas traded daily.

*Currency in USD

Obama and Trudeau

“...the natural gas boom has led to cleaner power and greater energy independence. We need to encourage that. And that’s why my administration will keep cutting red tape and speeding up new oil and gas permits. ...That’s got to be part of an all-of-the-above plan. But I also want to work with this Congress to encourage the research and technology that helps natural gas burn even cleaner and protects our air and our water. In fact, much of our new-found energy is drawn from lands and waters that we, the public, own together. So tonight, I propose we use some of our oil and gas revenues to fund an Energy Security Trust that will drive new research and technology to shift our cars and trucks off oil for good.” (Barack Obama, 2013)

“These ambitious projects will go a long way towards ensuring North American energy security for years to come. ... As I said on the very first trip to the oil patch back in 2012, no country would find 173 billion barrels of oil in the ground and just leave them there. The resource will be developed. Our job is to ensure that this is done responsibly, safely, and sustainably. Which brings me to the second piece, equally critical. While developing our resources for the economic benefit of Canadians, we must also look to the future... There will come a day, far off, but inevitable at some point, when traditional energy sources will no longer be needed.” (Justin Trudeau, 2017)

Information Workers of the World (Unite!)



Closest Zoom for Pipelines | 45.796517, -84.809749 |







Acknowledgements

Thank you: Sean Benjamin, John Fink, Ben Goldman, Amanda Wakaruk, and Sam Winn for their feedback and encouragement in the preparation of this talk.

Carbon Footprint Disclosure: Using extremely imprecise and back of the envelope math, the transportation involved with the research and delivery of this keynote consisted of an estimated 347.49 kilograms of CO₂ from passenger vehicle gasoline and an estimated 603.4 kilograms of CO₂ from flying (CVG>YYZ>YEG*2)

Contact me: eira.tansey@uc.edu