

# Enbridge Line 5 tunnel

## What every Michigander *needs* to know.

Canadian pipeline company Enbridge wants to bore a massive fossil fuels tunnel through the publicly held bottomlands of the Mackinac Straits.

The State of Michigan is the legal trustee of the Straits, and has the **power** and **duty** to protect them for the benefit of Michiganders and future generations. Let's take a look at why **the tunnel is a dead end**.



## We cannot *trust* Enbridge with our Great Lakes.

### 1. Line 6B disaster.

Enbridge was responsible for the devastating 2010 Line 6B oil spill in Marshall, Michigan — one of the **worst inland oil spills in U.S. history**. In its investigation of the 1.2 million gallon disaster, the NTSB cited “**pervasive organizational failures**” at Enbridge.<sup>1</sup>

### 2. Bad track record.

There have been **34** documented Line 5 oil spills<sup>2</sup> in Michigan and Wisconsin, totaling over **1.3 million gallons**. The pattern continued as recently as **November 2024**, when 70,000 gallons<sup>3</sup> spilled in Jefferson, Wisconsin.

### 3. Irresponsible.

In 2024, the federal government had to **order** Enbridge to repair cracks<sup>4</sup> in Line 5, and assess cracks using more comprehensive methods that account for *all* pipeline stresses.<sup>5</sup> **Enbridge should have taken these measures without being told.**

### 4. Unaccountable.

In 2020, an Enbridge internal investigation revealed that an Enbridge-contracted ship likely dragged a cable and damaged Line 5 in the Mackinac Straits. Enbridge later admitted it **failed to notify** the state as was required.<sup>6</sup>

“[I]n Canada pipelines are a **challenge**, and building a brand new pipeline across Canada would be as big a challenge as keeping this existing [Line 5] pipeline operating...We've seen multiple occasions where **as a country we [Canada] can't get behind building pipelines**, so it's important to keep the existing ones up and running.”<sup>10</sup>

Vern Yu, Enbridge Executive Vice-President and President, Liquids Pipelines (fmr.),

## The Line 5 tunnel would primarily serve Canada, *not* Michigan.

According to Enbridge, **Line 5 supplies half** of the oil used in Ontario and Quebec,<sup>7</sup> or approximately 396 thousand barrels per day.<sup>8</sup>

Line 5 carries 400-450 thousand barrels of crude oil per day<sup>9</sup> from northwestern Canada, eastward. Upwards of **80-90%** of Line 5 crude oil flows **from Canada, to Canada**, using the Great Lakes and Michigan as a convenient but **risky short-cut**.

*\*Line 5 also carries 80 thousand barrels of Natural Gas Liquids per day.<sup>9</sup>*





PHOTO: Water discharge through a shielded Tunnel Boring Machine's open pressure bulkhead, preventing maintenance and repair work. McMillen Jacobs Associates for the State of Michigan<sup>11</sup>.

## Unstudied and unstable

### What we know about the poor rock quality *under* the Straits.

A **technical review** of the proposed tunnel by the Michigan Department of Transportation raised **numerous red flags** and factors that could result in tunnel collapse, environmental damage, or **even an explosion**.

The combination of poor geology, length, depth, potential for **methane gas pockets**, and extremely high hydrostatic pressure<sup>12</sup> all add up to an **unprecedented, untested** design unlike any other tunnel in the world.

## Enbridge *hasn't* done its homework.

### 1. Lack of diligence.

Understanding the bedrock and geology of the tunnel's path is **critical** for its safe construction and operation. But Enbridge only sampled the rock an average of once every 950 feet, **far below the industry standard** of once every 50 to 250 feet.<sup>13</sup>

### 2. Insufficient sampling.

Enbridge **only took one rock sample** over a span of about 11,000 feet<sup>14</sup> — the deepest, most critical section of the proposed tunnel route. There is a span of **1.5 miles** that has **not been sampled at all** (thousands of feet longer than the un-sampled sections of similar tunnel projects).<sup>15</sup>

### 3. Wrong depth.

Enbridge didn't take enough rock samples, and some of the samples it did take were **not deep enough**.<sup>16</sup> The percentage of samples laying within the zone of the tunnel path was **less than the typical amount** of samples studied during comparable projects.<sup>17</sup>

### 4. Unprecedented.

A hazardous liquids pipeline tunnel of this length, depth, and in geologic and hydrostatic pressure conditions like those found in the Mackinac Straits has **never before been attempted**.<sup>18</sup> We cannot allow the Great Lakes to be Enbridge's guinea pig.

## The unacceptable *risk* of collapse and explosion.

Instead of solid, uniform bedrock, this tunnel would bore through fractured geologic formations that are **"poor" and "very poor"** quality, and contain voids.<sup>19</sup> This type of rock with large, open seams, has high *hydraulic conductivity*, which means water can easily flow through it. Studies have also found high *hydrostatic pressure* at tunnel depth.<sup>20</sup>

This all adds up to a **sponge-like** environment that is vulnerable to uncontrollable inflows of water —

water that is **connected to Lake Michigan**.

Tunneling through a slurry of rock and soil, or *mixed-face tunneling*, is "the most dangerous type of tunneling"<sup>21</sup> and there is a **risk of collapse** around the tunnel boring machine (TBM).

Experts also warn that vapors within the tunnel and dissolved methane in the groundwater could ignite and cause an **explosion**.<sup>22, 23</sup>



## A tunnel to the past

Investing in a new fossil fuels tunnel *doesn't* add up.

The world is changing, and so are energy markets. Increasing fuel efficiency, electric vehicle sales, and decarbonization across industries make this new fossil fuels tunnel a **bad bet**.

With global oil demand predicted to peak this decade,<sup>24</sup> we should not invest in a massive piece of fossil fuel infrastructure that will start to become **obsolete almost as soon as it opens**.



## A *bad investment* for Enbridge and Michigan.

### 1. Skyrocketing costs.

A 2025 report by the non-partisan Institute for Energy Economics and Financial Analysis (IEEFA) found that the tunnel may **cost up to three times more** than initial estimates.<sup>25</sup> Meanwhile, Enbridge also faces an expensive 41-mile reroute in Wisconsin.

### 2. Depressed market.

During this critical time for climate action, projects like the Line 5 tunnel are a bad bet — **and Wall Street knows it**. The fossil fuels sector underperformed the S&P 500 for 7 of the last 10 years, delivering the **lowest performance** of all S&P 500 sectors.<sup>26</sup>

### 3. Declining demand.

According to Goldman Sachs, global **oil demand will peak in 2035** and then begin to **decline**<sup>27</sup> — just six years after the tunnel is scheduled to open.<sup>28</sup> U.S. gasoline consumption peaked in 2018 and has **fallen more than 4%** despite population growth.<sup>29</sup>

### 4. You're on the hook.

Ownership of the tunnel would transfer to the Mackinac Straits Corridor Authority — or in other words, **Michigan taxpayers**. Enbridge may lease the tunnel rent-free<sup>30</sup> for up to 99 years. **It's unclear who will be liable** for its upkeep if the lease is terminated early.<sup>31</sup>

## The tunnel *isn't* the answer.

There's no question: Line 5 as it exists today, resting exposed on the lake bed floor, buffeted by strong currents and **vulnerable to anchor strikes**,<sup>32</sup> is an **unacceptable threat** to our Great Lakes.

That's why Michigan Gov. Gretchen Whitmer **revoked the Line 5 easement** in 2020 and ordered that it be shut down. (Enbridge continues to operate Line 5 in defiance of the State of Michigan.)

Due to the poor rock quality and volatile gasses, the tunnel would **not eliminate** the threat of an oil spill.

The multi-year construction phase would be especially risky, as Enbridge plans to operate the existing Line 5 **during** the boring underneath.

The good news is, **there are other ways**<sup>33</sup> to supply fossil fuels to eastern Canada and replace the much smaller amounts supplied by Line 5 to Michigan and the U.S. — alternatives that **don't endanger the Great Lakes**.

**Here's the big picture:** building the tunnel would feed climate change, lock Michigan into fossil fuels, and deincestivize the development of healthier regional energy networks and solutions. We can do better.

Our future after Line 5 ►►►





# Michigan after Line 5

We *can* get oil out of the Great Lakes and make a *better future*.

Facing competition from other pipeline companies and declining demand, Enbridge is working overtime to protect its profits and convince Michiganders that we're dependent on Line 5, **but that's not true**.

We have a range of viable alternatives to Line 5, including excess **capacity in existing pipelines**<sup>34</sup> that go around, and not through, the Great Lakes.

## What happens when we *decommission* Line 5:

### 1. Stable prices.

Enbridge's own expert found that gas prices in Michigan would only increase **half a cent per gallon**,<sup>36</sup> well within normal fluctuations. And a report from supply chain analyst PLG Consulting says that a planned and orderly shut down of Line 5 will **not result in price spikes**.<sup>37</sup>

### 2. A smooth transition.

PLG Consulting has also calculated that 87% of Line 5's crude oil supply could be **replaced within three months** by fully utilizing Enbridge Line 78 through southern Michigan. Any shortfalls could be supplemented by other transport methods and regions.<sup>38</sup>

### 3. Independent Canada.

Since early 2025, Canadian leaders have expressed new interest in investing in their energy security.<sup>39</sup> This could include reviving the **proposed Energy East pipeline**, which would run entirely north of the U.S. border and Great Lakes, supplying Canada's eastern provinces.<sup>40</sup>

### 4. Protected waters.

Michigan has the power to deny the tunnel permit, and protect the Great Lakes from **years of construction upheaval**, wetlands damage, and other risks. Michigan can assert its sovereignty, stop the exploitation of our resources, and protect the waters today and **for generations to come**.

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