

# **ALL RISK,** NO REWARD

THE ALBERTA CLIPPER TAR SANDS PIPELINE EXPANSION



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HUNDREDS MARCH FOR A HEALING WALK ORGANIZED BY ABORIGINAL COMMUNITIES LIVING NEAR THE ALBERTA OILSANDS MINES  
CREDIT: JULIA KILPATRICK, THE PEMBINA INSTITUTE

Canadian pipeline company Enbridge Inc. plans to pump 800,000 barrels per day (bpd) of one of the planet's dirtiest sources of oil through North Dakota, Minnesota, and Wisconsin, endangering our water, health, and climate. Expanding the Alberta Clipper tar sands pipeline would put federal, state, and tribal lands and waters at risk of devastating oil spills, including the Great Lakes and Anishinaabe/Ojibwe ceded territories. Communities and Native Nations across the Great Lakes region and beyond are fighting this unnecessary and dangerous pipeline expansion, calling instead for clean, renewable energy solutions and a 100% clean energy future.

The Alberta Clipper, also known as Line 67, currently pumps up to 450,000 bpd of tar sands crude from Hardisty, Alberta, to Superior, Wisconsin. From the Canadian border, the pipeline traverses 327 miles across North Dakota and Minnesota to Wisconsin and the shores of Lake Superior, passing through state, tribal, federal, and private lands, including prairie, forests, farms, rivers, and lakes. Enbridge seeks to almost double the pipeline's capacity to 800,000 bpd, nearly the same as TransCanada's controversial Keystone XL pipeline, and to construct two new tar sands storage tanks on the shores of Lake Superior.<sup>1</sup> Capacity

in an existing pipeline is increased by ratcheting up the pressure inside the pipeline, forcing more tar sands through and increasing the physical stress on the pipeline. Expanding Alberta Clipper's capacity would expose our communities and tribes to tar sands' full complement of disturbing climate, safety, and environmental implications; potentially devastate cultural and historical resources; give the landlocked tar sands industry access to ports and enormous new overseas markets; and enable the massive, environmentally devastating tar sands growth planned by the industry.

## PIPELINE RISKS TO COMMUNITIES AND THE ENVIRONMENT

Communities near the pipeline and anyone with a stake in a clean and healthy environment have cause to be concerned about plans to double the Alberta Clipper's capacity.

**Enbridge has a disgraceful history of spills.** From 1999 to 2010, Enbridge was responsible for more than 800 spills that released 6.8 million gallons of hydrocarbons into the land, water, and atmosphere.<sup>14</sup> Enbridge is responsible for three of the fifteen largest onshore oil spills in U.S. history.<sup>15</sup> In January 2014, the company had to shut down the Alberta Clipper after a 5,250-gallon spill at a pumping station.<sup>16</sup> Canada's National Energy Board found that at 93% of the company's pumping stations, Enbridge is not complying with emergency shutdown safety standards that have been in place since the 1990s.<sup>17</sup> The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) has fined Enbridge repeatedly for safety violations, including a record \$2.4 million fine<sup>18</sup> in connection with an explosion that killed two workers near the Enbridge terminal and tank farm in Clearbrook, Minnesota. Citing the company's pattern of failures and accidents, PHMSA has issued a rare, system-wide Corrective Action Order for Enbridge's Lakehead System,<sup>19</sup> which remains active even as Enbridge seeks to double its tar sands volume.

Enbridge is responsible for the worst onshore oil spill in U.S. history, the 2010 Kalamazoo River disaster. A ruptured Enbridge pipeline poured 843,000 gallons of tar sands crude into Michigan's Talmadge Creek and Kalamazoo River, depositing the crude as far as 35 miles downstream.<sup>20</sup> Despite multiple alarms and reports, Enbridge allowed an astounding seventeen hours to elapse before shutting down the line. The U.S. National Transportation Safety Board found "pervasive organizational failures" and determined that the company overlooked multiple warning signs of corrosion, cracks, and thinning metals that were evident as early as 2004.<sup>21</sup> Two years after the spill, cleanup costs had reached a staggering \$29,000 per barrel, versus the U.S. average of \$2,000 per barrel. More than three years after the spill, those costs had reached a billion dollars<sup>22</sup> and oil is still being found — as much of 20% of the spill may still be there.<sup>23</sup> More than 58% of people in nearby communities reported adverse health effects<sup>24</sup> and 150 families permanently evacuated their poisoned homes and communities.<sup>25</sup> More than 4,000 animals were treated and the final tally of dead and injured wildlife may reach 12,000 or higher.

As the Kalamazoo spill demonstrates, tar sands crude can be far more dangerous than conventional crude, especially in water. Conventional crude floats on the surface. Tar sands' light diluents evaporate, carrying carcinogens like benzene, heavy metals, and other toxins into the air<sup>26</sup> and

## TAR SANDS: AN EXTREME SOURCE OF PETROLEUM



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Tar sands are an extreme source of fuel, responsible for extreme environmental degradation and extreme carbon pollution. Tar sands are an almost solid mixture of sand, water, clay, and tar-like hydrocarbon, found in deposits under one of the largest intact forest ecosystems left on Earth, Alberta's boreal forest. The hydrocarbon, called bitumen, is extracted through open-pit mining in one of the largest industrial developments on the planet, or through in-situ drilling. Mining for tar sands scrapes clear centuries-old trees, peat, and topsoil, destroying habitat for millions of migratory birds and iconic species such as woodland caribou, and ravaging one of our strongest remaining defenses against climate disruption — boreal forest captures and stores almost twice as much carbon as tropical forest. Shovels and trucks the size of two-story buildings strip-mine the earth,<sup>2</sup> extracting an average of two tons of tar sands to produce each barrel of usable crude.<sup>3</sup> A single open pit mine and its associated upgrading facility release as much carbon pollution in one day as 1.35 million cars.<sup>4</sup> In-situ drilling is used where deposits are too deep to be strip-mined. In a process even more energy- and emissions-intensive than mining, high-pressure steam is injected deep below ground, melting the bitumen so it can be pumped to the surface.<sup>5</sup>

When extracted, bitumen is as solid as a hockey puck at 50 degrees Fahrenheit.<sup>6</sup> For transport, it is diluted with blends of natural gas liquids — light diluents which contain known carcinogens such as benzene.<sup>7</sup> Even then, the diluted bitumen is 40 to 70 times more viscous than conventional crude.<sup>8</sup> Pipelines pumping tar sands crude can run as high as 1,440 pounds per square inch (psi) and 158 degrees F.<sup>9</sup> By comparison, an automobile tire's pressure is around 30 psi<sup>10</sup> and conventional crude pipelines operate at around 800 psi.<sup>11</sup> The combination of tar sands' extreme pressure requirements and its chemical and physical characteristics can compromise pipeline integrity.<sup>12</sup> **between 2010 and 2012, northern Midwestern pipelines transporting the greatest volumes of tar sands crude spilled 3.6 times as much crude per mile as the national average.**<sup>13</sup>





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leaving the bitumen to sink to the bottom, where standard crude cleanup techniques do not work. **The Alberta Clipper route crosses many special places, threatening critical drinking water sources and important places of cultural and ecological significance, including:**

- The **Northern Divide**, where waters flow north to Hudson Bay, south to the Mississippi, and east to the Great Lakes
- The **Mississippi River**, water source for 15 million people,<sup>27</sup> which the pipeline crosses five times<sup>28</sup>
- Minnesota's and the Great Lakes' **Wild Rice region**, which historically has been a vital part of Indigenous communities' physical and spiritual sustenance and cultural heritage<sup>29</sup>
- **Fond du Lac, Red Lake Nation, and Leech Lake Indian Reservations**, home to Minnesota Anishinaabe/Ojibwe who have lived in the Great Lakes region since before 800 A.D.<sup>30</sup> and who today are committed to the preservation and protection of vast watersheds and ecosystems rich in biological diversity
- **Chippewa National Forest**, home to two of Minnesota's five largest lakes; much of the region's remaining wetlands and their unique plant and animal life; and the highest breeding population of bald eagles in the continental U.S.<sup>31</sup>
- **Leech Lake**, the third largest lake in Minnesota, famous for its fishing and ice fishing
- **Minnesota's hunting lands**, many of which have been privately owned by families for generations
- **Grand Rapids and Resort Country**, the heart of Minnesota's finest recreation and year-round vacationing, renowned for clear lakes and sandy beaches; fishing and swimming; fall foliage; and skiing

The question is not if there will be tar sands pipeline spills, but where, how often, and how much — and there is no need to tolerate this risk. U.S. demand for oil has declined by 2.25 million bpd since 2005 and Americans are driving about 9% fewer miles annually.<sup>32</sup> **With continued declines in driving rates, continued increases in fuel efficiency and public transit ridership, and continued growth in electric vehicles and renewable energy sources, demand for oil will continue to decline.**

Enbridge states that the purpose of the proposed expansion is to accommodate “continued growth of heavy crude oil, such as production from Canada’s oil sands region.”<sup>33</sup> Asking our communities to risk suffering the consequences of near-inevitable spills that could easily equal or exceed the Kalamazoo River disaster, so that tar sands companies can send their dangerous, polluting product to the Gulf Coast, the East Coast, and overseas, is an all-risk, no-reward proposition.

### LINCHPIN TO DANGEROUS AND UNNECESSARY TAR SANDS PROJECTS

The Alberta Clipper connects to an immense domestic infrastructure of oil pipelines, including the 4,700 miles comprising Enbridge’s main Lakehead System.<sup>34</sup> If the Clipper expansion is approved, it is far more likely that tar sands crude will be the primary product moving through much of this pipeline infrastructure for decades to come.

In fact, Enbridge is already engaged in multiple pipeline expansion projects that connect with the Alberta Clipper.<sup>35</sup> Three of these projects expand pipelines in the heart of the Great Lakes Basin, imperiling lands and watersheds vital to millions of people. Line 61 runs through the heart of Wisconsin and its farmland; in 2011, this pipeline spilled 50,000 gallons of oil, contaminating 17,000 tons of soil. Line 6B, running through the Lake Michigan watershed, is the notorious pipeline responsible for the Kalamazoo disaster. Line 5 is an aging, 60-year old pipe that runs along the bottom of the Great Lakes and through the Straits of Mackinac, where water moves between Lakes Michigan and Huron at an extraordinary rate of three feet per second. A rupture under the Straits could be unimaginably devastating: in as little as eight minutes, Enbridge’s self-defined fastest possible response time, this pipeline could pump as much as 1.5 million gallons of tar sands crude into the Straits and the lakes it connects.<sup>36</sup> It took Enbridge *seventeen hours* to respond to the Kalamazoo leak.

A rupture anywhere in the Great Lakes region could be devastating. The Great Lakes are the backbone of one of the largest regional economies in the world and contain 84% of North America’s fresh water supply.<sup>37</sup> They provide drinking water for over 40 million people and support tourism, recreation, a \$7 billion fishing industry, and a \$16

billion boating industry.<sup>38</sup> The region encompasses precious resources such as the Bois Brule, Wisconsin’s “River of Presidents,” one of the most iconic and renowned rivers anywhere; the Au Sable River with its world-class fishing; and the St. Clair River, which provides drinking water for many communities in Michigan. The Great Lakes provide incalculably valuable ecosystem services while tar sands pipelines present incalculable risks, without reward to the people and ecosystems of the Great Lakes.

The threat of tar sands is not limited to the Alberta Clipper expansion or the Great Lakes region. Line 3 is a major pipeline paralleling the Clipper route from Canada to Superior, Wisconsin; Enbridge is planning to nearly double its capacity to 760,000 bpd. Enbridge is working on Flanagan South, another major pipeline running nearly 600 miles through Illinois, Missouri, and Oklahoma. Together with the Alberta Clipper expansion, this explosion of pipeline infrastructure would allow tar sands crude to reach a wide swath of U.S. refineries as well as seaports on the East and Gulf Coasts; open up overseas markets to landlocked tar sands; and propel disastrous increases in tar sands production and transportation.

### INTRODUCING THE DANGER OF TAR SANDS SHIPPING TO LAKE SUPERIOR

With the prospect of increased supply from Alberta Clipper, Calumet, a petroleum products company, is working with Elkhorn Industries to build a crude oil loading dock on Lake Superior that would allow as much as 35,000 bpd — or 13 million barrels per year — of tar sands crude to be shipped across the lake.<sup>39</sup> The Great Lakes already average twelve oil spills a year,<sup>40</sup> even without tar sands shipping.<sup>41</sup> Lake Superior is the largest body of freshwater on Earth,<sup>42</sup> the most remote and pristine of the Great Lakes with waters clear to an astounding 27 feet. It hosts 80 species of fish, including trout and salmon; extensive populations of birds, including varieties of hawks, loons, owls and woodpeckers; and a small population of endangered whooping cranes, one of only two crane species in North America.<sup>43</sup> To ship tar sands across this lake is to introduce the terrible risk of devastating, unnecessary, potentially irremediable spills to the region’s spiritual homeland.

### PUBLIC HEALTH CONCERNS FROM TAR SANDS

Tar sands extraction and refining both create major public health concerns. Tar sands crude contains eleven times more sulfur and nickel, six times more nitrogen, and five times more lead than conventional crude.<sup>44</sup> Communities and First Nations in the industrial tar sands development zone in Alberta are exposed to harmful pollutants in both their air and water. Studies have found elevated concentrations of carcinogens, including benzene and styrene, surrounding tar sands facilities in Edmonton,

Alberta, and unusually high rates of leukemia and other cancers have been observed in communities near tar sands upgrading and petrochemical manufacturing facilities.<sup>45</sup> A 2009 study found that between 1995 and 2006, cancer rates were 30% higher than expected in Fort Chipewyan, a small community 124 miles downstream from tar sands development in Fort McMurray, Alberta. Lung, biliary tract, soft tissue, blood, and lymphatic cancer rates were all abnormally high in this community, and included three cases of cholangiocarcinoma, a very rare cancer.<sup>46</sup> Fish in Lake Athabasca, downstream of the toxic wastewater storage ponds in the Fort Mackay region, have been found to contain high levels of mercury and arsenic — a serious health and cultural issue given the traditional, economic, and nutritional importance of fish to Fort Chipewyan residents.<sup>47</sup>

The refining process releases higher levels of pollutants such as sulfur dioxide, hydrogen sulfide, sulfuric acid mist, and nitrogen oxides, as well as toxic metals such as lead and nickel compounds, that are damaging to human health and lead to more smog, haze, and acid rain.<sup>48</sup> Refinery pollution disproportionately harms the often low-income and minority communities living nearby.<sup>49</sup> In anticipation of increased tar sands crude supply, refineries throughout the Midwest, Great Lakes, and Gulf Coast regions are increasing their capacity to process the heavy crude. Minnesota already hosts the facility that refines more tar sands crude than any other U.S. refinery: the Koch brothers’ Flint Hills in Pine Bend.<sup>50</sup> Flint Hills is the state’s third-largest emitter of greenhouse gases, and in 2012 an expansion of the facility was announced that will increase those emissions.<sup>51</sup> Minnesota is at risk of not meeting its greenhouse gas reduction goals, set in 2007,<sup>52</sup> and our communities don’t need to live with the risk of more pollution through tar sands spills, nor the guarantee of more pollution from tar sands refining.



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## CLIMATE CATASTROPHE

Alberta Clipper opens the door to explosive development of the nearly 175 billion barrels of tar sands reserves,<sup>53</sup> which if fully exploited would spell “game over” for the climate, as NASA’s Dr. James Hansen noted in 2012.<sup>54</sup> Analysts have said that to have a chance of limiting global warming to no more than two degrees Celsius, we must leave 66% to 80% of proven fossil fuel reserves in the ground. In stark contrast, over the next fifteen years, the tar sands industry expects to almost triple production of tar sands, the world’s most carbon-intensive crude. Tar sands extraction and upgrading produce a staggering 220% to 350% more greenhouse gases than conventional U.S. crude,<sup>55</sup> and new pipelines are key to this headlong rush to climate catastrophe:

- “In order for crude oil production to grow, the North American pipeline network must be expanded through initiative, such as the Keystone XL Pipeline project.”<sup>56</sup> *Joe Oliver, Canadian Natural Resources Minister*
- [Tar sands expansion] “is contingent on the construction of major new pipelines to enable the crude to be exported to Asia and the United States.”<sup>57</sup> *International Energy Agency*
- “In the event that either Keystone XL new build or Alberta Clipper extension... encounter further delays, we believe risk would grow that Canadian... oil sands supply would remain trapped in the province of Alberta...”<sup>58</sup> *Goldman Sachs*

**Tar sands pipelines can be stopped.** Keystone XL’s once-inevitable approval has been delayed five years and is now anything but inevitable. First Nations and other communities in Canada continue to delay proposed projects such as Northern Gateway in western Canada. The CEOs of tar sands heavyweights TransCanada and Cenovus argue that, as the *Toronto Star* writes, “If Canada fails to develop its oil sands now — and fails to build the pipelines to move it to market — the opportunity could vanish for decades.”<sup>59</sup> The time to make the tar sands “opportunity” vanish is now, by delaying and stopping the pipelines that transport it.

## THE PATH TO PROTECTING PUBLIC SAFETY AND THE ENVIRONMENT

The Alberta Clipper capacity expansion requires a range of state and federal government permits, granted or denied through a process in which the voices of affected communities will make the difference.

- The project requires a **Certificate of Need** from the **Minnesota Public Utilities Commission**. The decision will turn in part on whether the project will “increase reliability of energy supply in Minnesota and the region,”

including “its uses to protect or enhance environmental quality.”<sup>60</sup> Enbridge’s filing states that the project’s priority is to allow Enbridge to “meet its shippers’ transportation requirements,”<sup>61</sup> which may not align with state and regional interests.

- The project requires an amended **Presidential Permit**, which requires draft and final Environmental Impact Statements and a National Interest Determination. President Obama is on record saying that he will not allow Keystone XL to be built if it would “significantly exacerbate” carbon pollution, a criterion equally applicable to Alberta Clipper.
  - As part of the **National Environmental Policy Act (NEPA)** process, Alberta Clipper’s expansion must comply with **Executive Order 12898** (February 11, 1994), which requires that the State Department “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations,”<sup>62</sup> including Native American tribes and communities.
- Alberta Clipper could be subject to **federal regulations** creating stricter rules for transporting tar sands by pipeline. The Sierra Club and 55 other groups and individuals have petitioned the **U.S. Environmental Protection Agency** and **Department of Transportation Pipeline and Hazardous Materials Safety Administration** to fully account for the differences between tar sands crude and conventional crude and to place a moratorium on expansions of tar sands crude volumes while rulemaking takes place.<sup>63</sup>
- Alberta Clipper’s storage tank construction requires approval from the **U.S. Army Corps of Engineers** and the **Wisconsin Department of Natural Resources (WDNR)**.
- Calumet’s crude oil loading dock on Lake Superior requires approval from **WDNR**. WDNR rejected the initial permit application in January 2014, influenced by community demands for a more comprehensive Environmental Assessment.<sup>64</sup>

Tar sands investors are paying close attention to what they recognize as an eroding social license to operate. Indigenous tribal governments and communities, environmental organizations, ranchers, farmers, and people across Canada and the United States are standing up in determined opposition to tar sands and to the transport infrastructure that would expand the industry. **The stage is set to reject dirty, dangerous tar sands infrastructure and move toward a 100% clean energy future.**

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