OILCHANGE INTERNATIONAL

LOCKDOWN:
THE END OF GROWTH IN THE TAR SANDS

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Oil Change International (OCI) exposes the true costs of fossil fuels and identifies and overcomes barriers to the coming transition towards clean energy. OCI works to achieve its mission by producing strategic research and hard-hitting, campaign-relevant investigations; engaging in domestic and international policy and media spaces; and providing leadership in, and support for, resistance to the political influence of the fossil fuel industry, particularly in North America.

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The Alberta tar sands are among the most carbon intensive sources of oil in the world.

The oil industry has set expansion goals that, if reached, would see production soar from about 2.1 million barrels per day (mbpd) today to 4.7 mbpd by 2030, and to as much as 5.8 mbpd by 2035.[i,ii,1]

The tar sands are the third largest oil reserve in the world, and the vast majority of it cannot be burned if we are to avoid the worst impacts of climate change.[iii] If industry expansion plans are realized, carbon emissions from the tar sands would see Canada's emissions rise, rather than fall at a time when the country has promised to reduce emissions in line with limiting global warming to two degrees Celsius or less.

However, the industry is facing increasingly strong headwinds that show that this rapid expansion is far from inevitable. At the forefront is a groundswell of public opposition to tar sands export infrastructure and expansion due to their incompatibility with addressing the threat of global climate change and addressing local environmental, social and health risks. This is in addition to the recent steep drop in oil prices and the permanent high cost of extracting tar sands oil.

Citizen opposition from across North America has successfully stopped and/or delayed tar sands pipeline infrastructure, benefiting our shared climate. This citizen opposition is growing stronger as evidenced by massive public protests such as last year's People's Climate March in New York and this past summer's Jobs Justice and Climate March in Toronto.

This report illustrates that oil industry expansion plans are no longer inevitable. Public support for climate action, and therefore opposition to export pipelines for the tar sands, has directly impacted the viability of expansion plans in the land-locked tar sands. *The report also shows how building new tar sands pipelines would result in a direct and significant increase in carbon pollution.*

While rail will be used as a high cost backup for existing production, our cash-flow models show that the additional cost of shipping tar sands by rail can turn a typical tar sands project from a money maker to a loser (based on EIA forecasts of oil price.)

In almost all cases, development of new projects is therefore highly unlikely to be considered without secure pipeline capacity. Expanded rail transport cannot be considered a given either given growing public and political opposition.

Growing public opposition has put this high-carbon, high-cost sector in a position in which it could run out of pipeline export capacity once it reaches a production level of 2.5 mbpd, a level likely to be reached as soon as 2017. Currently, the tar sands pipeline system is 89 per cent full.

To conduct this analysis, OCI has constructed an **Integrated North American Pipeline model (INAP)**. The INAP model enables a comprehensive view of how pipeline capacity – or lack thereof – affects the development of the tar sands. It considers the two broad strategies which the industry is using for pipeline expansion: incremental and ongoing additions to existing systems and stand-alone new large pipeline proposals.

The analysis concludes that without new pipelines significant amounts (some 34.6 billion metric tons) of carbon will stay in the ground. ***This would mean a better chance to maintain a safer climate future.***

In other words, tar sands producers have run out of room to grow. And public efforts to slow and stop tar sands expansion by challenging expansion of the North American tar sands pipeline system will continue to have a meaningful impact on keeping carbon in the ground.

The recent crash in global oil prices is a clear reminder of the sector's tight profit margins. The steep decline in prices has driven companies to slash spending, cut jobs and shelve projects. But many projects would have remained commercially viable with lower prices if sufficient pipeline capacity were available. For those projects, it is the market access constraints that have tipped projects into being unviable. Public opposition has and will continue to limit the pace and scale of tar sands expansion and that will mean the carbon stays in the ground, which is in line with what science confirms we need for a safe climate.

1 Views on the impact of the fall in oil prices vary among industry sources. The Canadian Association of Petroleum Producers has revised its 2030 tar sands production forecast to 4 mbpd (CAPP, Crude Oil Forecast, Markets & Transportation, June 2015, p.ii) whereas the Canadian Energy Research Institute forecasts 4.9 mpbd by 2035(Oil sands supply cost update, 2015-2035), August 2015, http://www.ceri.ca/images/stories/Study_152_-_Oil_Sands_Supply_Cost_Update_2015-2035_-_August_2015.pdf

SUMMARY OF KEY FINDINGS

Thanks to growing public opposition, tar sands expansion projects have been delayed or stopped, keeping carbon in the ground and benefiting our climate.

Currently, tar sands pipelines are nearly full, and leave no room for further growth in production:

- Current tar sands production is on the brink of running out of export capacity. If public opposition continues to block pipelines, the tar sands will lose the ability to expand, benefiting our shared climate.
- Without new pipelines and expansions, the tar sands will run out of pipeline capacity as soon as 2017, when tar sands production is projected to hit 2.5 mbpd (current production is 2.1 mbpd).
- The pipeline system is currently 89% full. This is because while the refinery and pipeline system have 4.5 mbpd of capacity, this is shared between 2.1 mbpd of tar sands, 0.4 mbpd of diluent and 1.5 mbpd of conventional production - totalling 4.0 mbpd.[2]
- In order to develop new projects, the tar sands sector will need to overcome massive public opposition to at least one of the following new major pipelines: Keystone XL, Energy East, Northern Gateway, or Trans Mountain Expansion, in the near-term. Without them, there is simply no spare export capacity. **But public opposition for each of these projects continues to grow**.
- In parallel with the fight for those mega-projects, Enbridge Inc. is driving a creeping expansion of existing lines, trying to keep up with production by a less-visible process. However, the stealth approach is not working: these expansions are also facing growing public and legal opposition.
- Recent expansions of the pipeline system on the U.S. side of the border mean that (after Line 61 expansion) bottlenecks in the Enbridge system would be at the border, where they are likely to require a Presidential permit - the hurdle that has delayed the Keystone XL pipeline for over six years.[3]
- If these incremental Enbridge system expansions overcome growing opposition, the tar sands would then run out of pipeline capacity in 2019 at 2.8 mbpd.

Rail can't solve the market access problem:

- Rail provides a stopgap solution for existing production that does not have access to pipelines; however, our analysis shows that the additional cost of shipping tar sands by rail can turn a typical tar sands project from commercial to uncommercial. In most cases, investment in new projects based on rail as the only transport option is therefore unlikely to go ahead.

Few, if any, new tar sands projects are viable, leading to significant carbon savings:

- Public opposition and market access constraints have created a *de facto* '**no new growth**' scenario in the tar sands where most new projects are unlikely to be greenlighted by producers without major new pipeline infrastructure. This is relative to industry expansion projections that aim at more than doubling production between 2012 and 2030.
- Our analysis shows that up to 46.6 billion barrels of proposed tar sands crude could be stranded if the four major new proposed pipelines do not get built. The emissions from producing and consuming the tar sands bitumen that could be left in the ground are 34.6 billion metric tons of CO_2 equivalent. This is equivalent to the emissions of 227 coal plants over 40 years.

2 While the capacities we have used are operating rather than peak capacities (ie taking into account the time required for maintenance or batching etc), it is still not possible to achieve 100% usage, as this would imply a perfectly efficient system; the likely maximum is 90-95%.

3 Proposals "for the construction, connection, operation, or maintenance," of pipelines that cross into the United States from a neighboring country require a Presidential permit under Executive Order 13337's. Modifications or expansions of existing pipeline systems must be approved through E.O. 13337's National Interest Determination process and subject to NEPA review. An expansion of Enbridge's existing cross border pipeline network will be subject to this process, providing the public with an opportunity to raise environmental concerns associated with tar sands infrastructure. Enbridge's initial proposal to expand its Line 65 is in the preliminary stages of the Presidential permit process and NEPA environmental review, while the company's attempt to modify its Line 3 are currently the subject of pending litigation (see White Earth Band of Chippewa Indians et al v. Kerry et.

Proposed expansions of the North American tar sands pipeline system: an overview

	Pipeline	Role in North American system	Status
Enbridge Expansions	Line 61 expansion phase 2	Expansion of Line 61 from Superior, WI, to Flanagan IL from 800 kbpd to 1,200 kbpd.	Tied up in a permitting dispute with a local authority relating to Enbridge's refusal to sufficiently insure spill risks. Facing growing public opposition along with all mid-west pipeline expansions.
	Alberta Clipper (Line 67)	Expansion of the Hardisty-Superior line from 450 to 800 kbpd. In the absence of a presidential permit, the cross-border section is being rerouted through Line 3, the permit for which is vague on volume restrictions.	Currently awaiting a cross-border Presidential permit for expansion. First Nations and environmental organizations are challenging Enbridge's move to use Line 3 as an interim solution to skirt the Presidential Permit hurdle in court.
	Line 3 replacement	Built in the 1960s, Line 3 is unsafe and inefficient. Enbridge's intention is to exploit the vagueness of the decades-old permit to replace the 390 kbpd pipeline with a 760 kbpd one.	Currently facing opposition given Enbridge's intention to use a 50 year old permit to rebuild. Also facing legal and public opposition for its use in skirting the cross border permit required for Line 67.
TransCanada Keystone XL		Proposed 830 kbpd new pipeline to Cushing OK for access to the Gulf Coast and international markets.	Delayed for over 6 years by a failure to obtain the necessary cross-border presidential permit. Opposition driven by grassroots organizing across North America. The pipeline is now widely seen as an indicator of President Obama's commitment on climate change.
Enbridge Northern Gateway		Proposed 525 kbpd new pipeline from tar sands to Kitimat B.C. for access to the Pacific coast and subsequent tankers for international markets.	Granted approval from the Canadian government with 209 conditions, but widely considered 'unbuildable'. Facing unprecedented legal challenges from First Nations across British Columbia. Further concerns related to terminal construction and tanker traffic in high-risk waters.
Kinder Morgan TransMountain twinning		A twin pipeline that would add 590 kbpd between the tar sands and the Southern BC coast for Pacific access to international markets.	Facing increasing opposition and legal challenges from First Nations, the public and large municipalities. Additional opposition driven by concerns related to tanker traffic.
TransCanada Energy East		A proposed 1.1 mbpd new eastward pipeline from the tar sands to refineries in Eastern Canada and an export terminal in St John, NB for Atlantic access to international markets.	Delayed for two years due to environmental concerns over beluga whale habitat. Facing mounting opposition from the public, 125 municipal resolutions along the route, 75 in opposition and 55 with serious concerns, as well as growing political hesitancy in support from provincial governments.

Figure 1: Main Pipeline and Proposed Pipeline Routes Leading Out of the Alberta Tar Sands Source: Oil Change International