

THE FRONTIER PROJECT

Building a leader in
responsible energy production

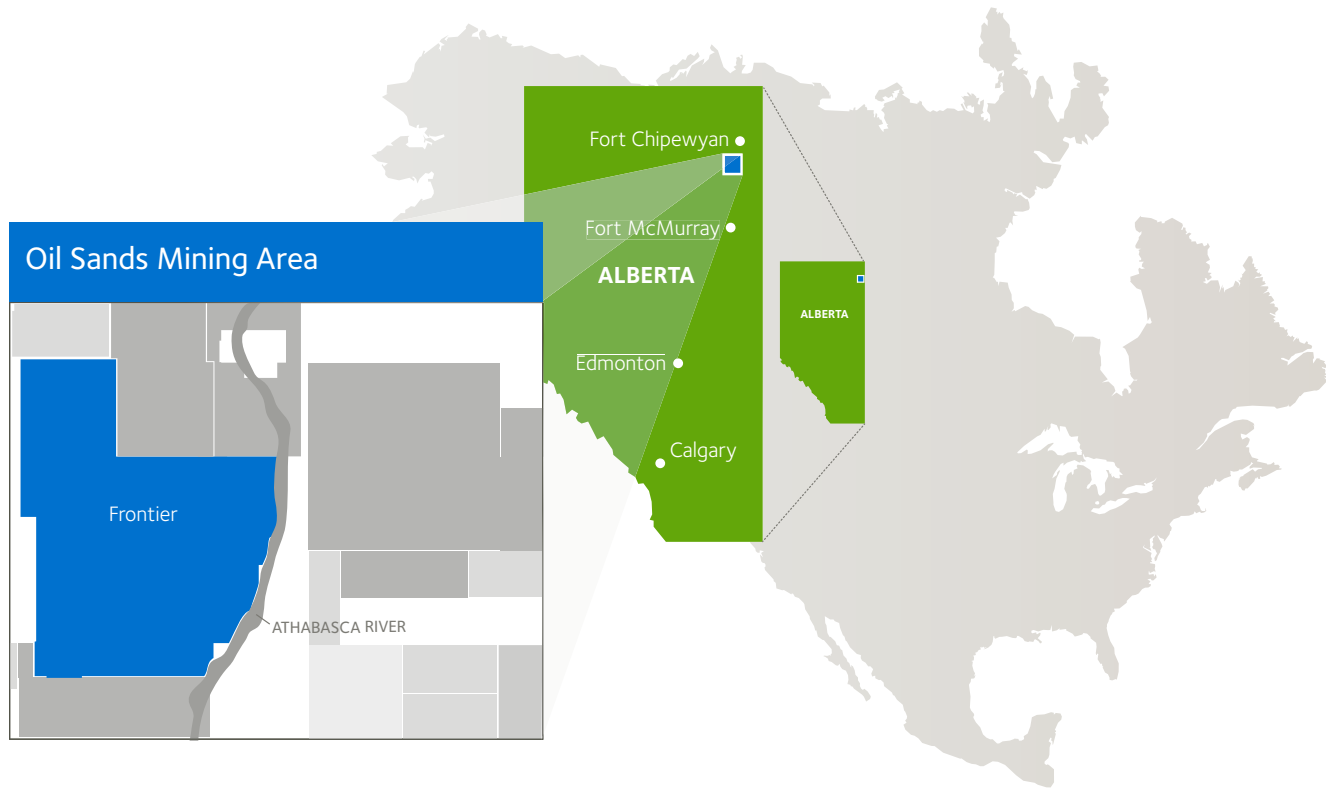




We are committed to developing the Frontier Project responsibly, by incorporating best practices for environmental protection, tailings management, water use, reclamation and management of greenhouse gases.

Working with Indigenous Peoples, local communities, stakeholders and government to meet the highest standards for sustainable and responsible oil sands development.

Incorporating leading-edge technology and best practices.



Frontier is a proposed truck-and-shovel oil sands mine located between Fort McMurray and Fort Chipewyan in northeast Alberta. The project is advancing through a joint provincial-federal regulatory review process.

260,000

Barrels per day at full production

Frontier will consist of surface mining operations, a processing plant, tailings management facilities, water management facilities, and associated infrastructure and support facilities.

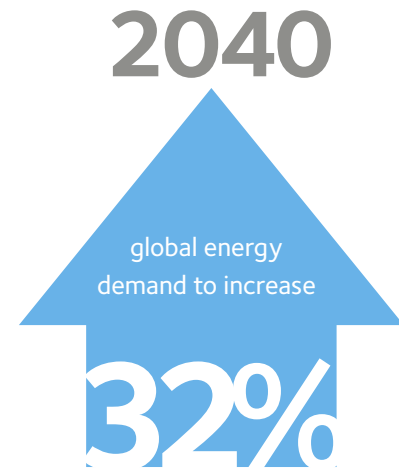
At full production, Frontier will produce 260,000 barrels per day of bitumen, which will be transported via pipeline.

Frontier would have an anticipated 41-year mine life, generating long-term employment and economic activity.



Meeting long-term global energy demand while creating thousands of new jobs

Global Energy Demand



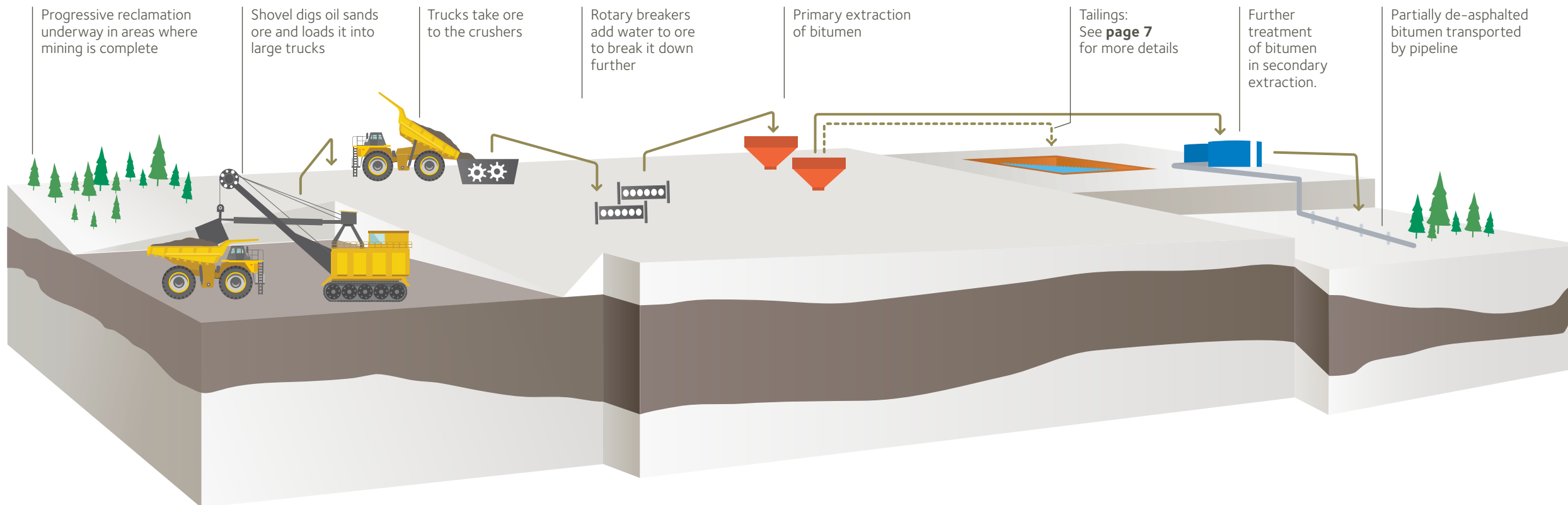
Teck is focused on sustainably developing new sources of energy to meet long-term global demand

Oil is expected to remain an important source of energy into the foreseeable future, along with growth in renewable energy options such as solar and wind. Global energy demand is projected to grow by 32 per cent by 2040 (source: *International Energy Agency*).

Responsible development of Canadian oil sands projects such as Frontier will play a key role in meeting this growing demand.



Frontier Mining Process



A major economic driver for Northern Alberta

Frontier will employ 6,000-7,000 people during peak construction, and 2,500 people throughout operations, over a mine life of 41 years.

It is estimated that Frontier will contribute approximately \$54 billion in provincial royalties and taxes, and an estimated \$12 billion in federal income and capital taxes.

\$55
BILLION

Total provincial royalties & taxes

\$12
BILLION

Total federal corporate income & capital taxes

\$3.6
BILLION

Municipal property taxes

UP TO
7,000

Direct construction jobs at peak

75,000 person years







Construction employment generated by Frontier






2,500

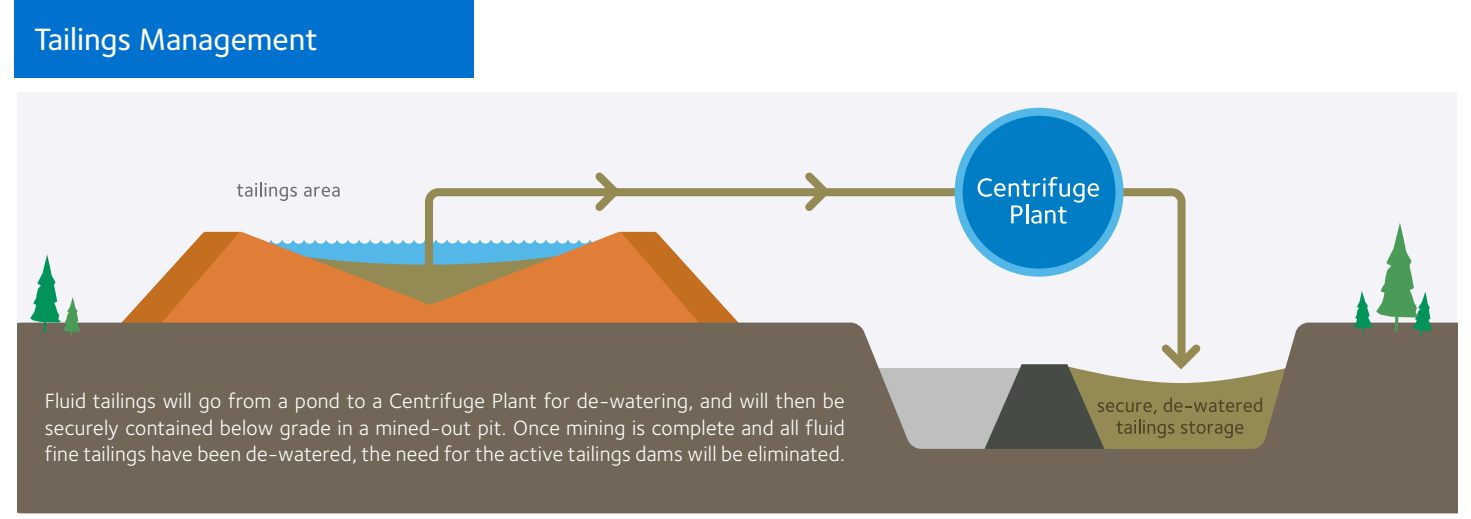
Direct operational jobs



Frontier: An innovative and environmentally responsible oil sands development

 <p>Minimize water use and protect water quality</p>	 <p>Reduce emissions through new technology and best practices</p>	 <p>Reclaim land as soon as mining begins</p>
		
<p>Water</p>	<p>Greenhouse gases</p>	<p>Reclamation</p>
<p>Frontier will have one of the lowest water use intensities in the oil sands. 90 per cent of water used in processing will be recycled to minimize water withdrawals from the Athabasca River, and off-stream water storage will allow water withdrawals to be stopped during low river flow periods. Safeguards will ensure regional water quality is protected.</p>	<p>The greenhouse gas emissions intensity of Frontier will be approximately one half of the oil sands industry average and will have a lower carbon intensity than about half of the oil currently refined in the United States.¹ Cogeneration and energy efficient mining and processing are among the technologies and best practices that will help minimize emissions.</p> <p><small>1: Based on Government of Alberta 2015 total oil sands production and greenhouse gas emissions; and data from IHS Energy for US production.</small></p>	<p>We will reclaim land as mining progresses, in order to return it to a productive state faster. As a result, and as mining advances over the years, the actual footprint of active mining will be much smaller than the total project area.</p>

 <p>Ensure safe, secure tailings storage with leading-edge technology</p>	 <p>Prevent or mitigate possible impacts to wildlife</p>	 <p>Biodiversity and wildlife</p> <p>Teck's vision is to achieve a net positive impact on biodiversity in the areas where we operate through mitigation, reclamation, conservation, and additional measures.</p>
		
<p>Tailings management</p>	<p>Wildlife</p>	
<p>Frontier will incorporate leading-edge practices to manage tailings and create a safe and secure placement for tailings that remain. Centrifuges will de-water fine fluid tailings for placement in mined-out pits. This will eliminate the need for tailings dams post-closure and provide an additional level of security for tailings containment.</p>	<p>Frontier has extensively assessed potential effects on fish, wildlife and their habitats to ensure the right steps are taken to prevent or mitigate possible effects during operation and post-closure. Affected habitat will be reclaimed to generate a sustainable landscape designed to promote biological diversity.</p>	



Engaging with Indigenous communities and other stakeholders

“Teck has been listening to our concerns and has committed to continue to work with us as they progress through all stages of their development.”

– Fort Chipewyan Métis President Fred (Jumbo) Fraser.



Since 2008, we have engaged extensively with regional Indigenous communities about their priorities and concerns, including:

- Community-level engagement
- Technical reviews of regulatory submissions
- Indigenous-led traditional land use studies and cultural impact assessments
- Environmental stewardship
- Employment, contracting and training opportunities

Input from this process has played a key role in shaping the project. This includes provisions for a fly-in/fly-out camp to facilitate employment from local communities, revised tailings placement, and a proposed Access Management Plan to maintain access to areas of traditional land use such as hunting and trapping.

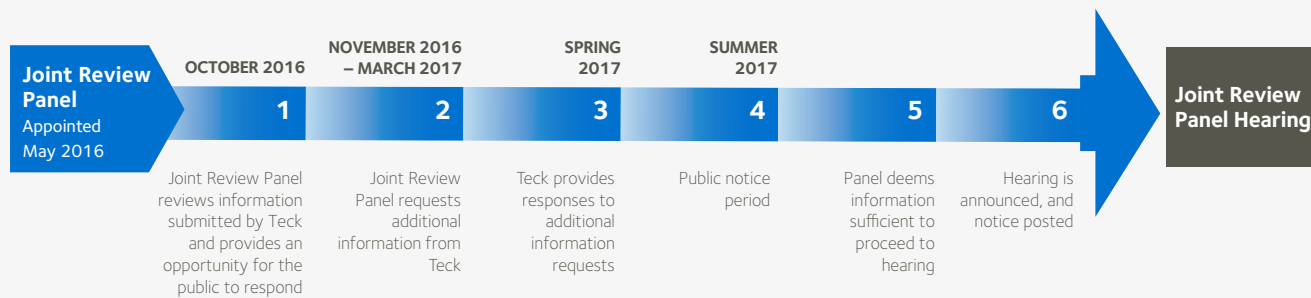
Participation Agreements to share project benefits

We have signed formal Participation Agreements with several local Indigenous communities and are working to conclude similar agreements with others. These agreements identify economic and social benefits and opportunities – including employment, training and contracting – and set out a framework for long-term cooperation and communication.



Joint Federal-Provincial Review Panel Process Steps

The Frontier Project has undergone extensive review by provincial and federal regulators, stakeholders and Indigenous communities, and is now being reviewed by a joint provincial-federal review panel.



Teck: a leader in responsible mining

The Frontier project is owned by Teck, Canada's largest diversified resource company with operations and projects in Canada, the United States, Chile and Peru. Teck has more than a century of experience in responsible resource development, sustainable mining practices, and meaningful engagement with indigenous communities and stakeholders.

Teck has been at the forefront of sustainable mining in a number of areas, such as setting quantifiable targets for GHG reduction, pioneering best practices in reclamation, and working to achieve a net positive impact on biodiversity in all the regions where we operate.

Teck is also a founding member of Canada's Oil Sands Innovation Alliance (COSIA), an alliance of oil sands producers focused on accelerating the pace of improvement in environmental performance in Canada's oil sands through collaborative action and innovation.

FOR MORE INFORMATION ABOUT THE **FRONTIER PROJECT**

please visit our website at www.frontieroilsands.com