



Innovation for Environmental Sustainability

Frontier will be among the most environmentally responsible oil sands developments ever built.

As the newest Alberta oil sands mine, Frontier will incorporate industry-leading technologies and best practices to minimize environmental impact and ensure environmentally-responsible operations.

Our approach to environmental management for Frontier will be comprehensive, including:



Water management

Frontier will have one of the lowest water use intensities in the industry. Approximately 90 per cent of all water used in processing at Frontier will be recycled, minimizing the needs for water withdrawals. Off-stream water storage will have the capacity to meet requirements for up to 120 days, meaning water withdrawals from the Athabasca River can be halted entirely during periods of seasonal low river flow.



Greenhouse Gases

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 As part of this, a cogeneration plant will provide 100% of the project's power needs, with the ability to capture and re-use waste heat, reducing overall GHG emissions.



Progressive Reclamation

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.



Tailings management

Frontier will incorporate leading-edge practices to manage tailings and create a safe and secure placement for tailings that remain. Centrifuges will de-water fluid fine 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.



cosia®

CANADA'S OIL SANDS
INNOVATION ALLIANCE

With 100 years of building and operating mines around the world, Teck brings considerable experience and expertise in responsible resource development to the Frontier project. We are also a founding member of Canada's Oil Sands Innovation Alliance, which allows us to tap into \$1.3 billion of shared research and practices from across the industry for use with Frontier.

¹: Based on Government of Alberta 2015 total oil sands production and greenhouse gas emissions.