Canada’s oil and natural gas industry is committed to reducing its footprint, reclaiming all land affected by operations and maintaining biodiversity.

**LAND IMPACTS**

Canada’s oil and natural gas industry minimizes impacts on the land by avoiding sensitive habitat, using narrow seismic lines, low-impact pipeline methods, and other measures. The oil sands lie under 142,000 km² of land. Only about 3%, or 4,800 km², of that land could ever be impacted by the mining method of extracting oil sands. The remaining reserves that underlie 97% of the oil sands surface area are recoverable by drilling (in situ) methods which require very little surface land disturbance.

Advances in horizontal drilling and the use of multi-well drilling pads have greatly reduced the amount of land disturbed for drilling operations. Several horizontal wells drilled from a single pad can access a greater area of the reservoir from a smaller piece of land than vertical wells drilled from single-well pads.

**HORIZONTAL VS. SINGLE-WELL DRILLING PADS**

Source: Encana

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**0.03% OF CANADA’S BOREAL FOREST HAS BEEN DISTURBED BY OIL SANDS MINING OPERATIONS OVER THE PAST 50 YEARS.**

Source: Alberta Energy Regulator and Natural Resources Canada, 2018

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**A 20-WELL DRILLING PAD DISTURBS ABOUT 5% OF THE LAND REQUIRED FOR AN EQUAL NUMBER OF VERTICAL DRILLING PADS.**

Source: Encana
RECLAMATION

All lands disturbed by oil and natural gas development are required to be returned to a self-sustaining landscape, equivalent to the pre-development state. Reclamation planning starts at the beginning of the project and physical reclamation proceeds when resources have been depleted. Companies apply for government reclamation certification when the vegetation is mature, the landscape is self-sustaining and the land can be returned to the Crown for public use.

The reclamation process involves monitoring, seeding, fertilizing, tree planting, seed collecting, topsoil salvaging and replacing. It also involves significant landform creation and contouring.

INDUSTRY IN ACTION

• **NIKANOTEE FEN**: In 2013, with the help of joint industry project partners Imperial Oil Limited and Shell Canada and based on research undertaken at the University of Waterloo, Suncor Energy completed construction of a three-hectare fen, named the Nikanotee Fen (pronounced Nee-ga-no-tee; the Cree word for “future”). Research being conducted in the Nikanotee Fen will enhance understanding of how to re-establish wetlands on reclaimed land. Wetlands form a large part of the local ecosystem, and they naturally capture and store carbon. These peat-forming plant communities also provide a very specific habitat for wildlife and plant species, many of which are of cultural significance to Indigenous communities.

• **REGIONAL INDUSTRY CARIBOU COLLECTIVE (RICC)**: RICC was formed in 2014 when a group of like-minded energy, forestry and pipeline companies operating in the Cold Lake and East Side Athabasca River (ESAR) caribou ranges joined together to work collaboratively across company tenures and lease boundaries to deliver cooperative, range-level efforts aimed at recovering boreal caribou and their habitat. RICC is focused on science-based research and monitoring as well as the implementation of landscape-level projects aimed primarily on habitat restoration to ultimately support boreal woodland caribou recovery. The RICC study area covers approximately 85,000 km² in the Cold Lake and East Side Athabasca River (ESAR) boreal woodland caribou ranges, and parts of the boreal forest in the Saskatchewan Boreal Plain caribou range to the east as a reference environment.

• **FLYING DRILLING RIG**: Picture a drilling rig. Now, picture a flying drilling rig. In collaboration with Hy-Tech Drilling Ltd., headquartered in Smithers B.C., along with numerous other contractors, Cenovus developed the SkyStrat™ drilling rig to improve the drilling of stratigraphic wells in the oil sands. It is approximately two-thirds the size of a conventional rig and can be transported by helicopter, allowing the company to access remote drilling locations year-round. Cenovus is sharing aspects of the SkyStrat™ drilling rig through COSIA’s Land Environmental Priority Area (EPA). Transporting the SkyStrat™ drilling rig and crew by helicopter eliminates the need for temporary roads, which significantly reduces the surface footprint.

FOR MORE INFORMATION:
COSIA [cosia.ca](http://cosia.ca)  CRIN [cleanresourceinnovation.com](http://cleanresourceinnovation.com)  PTAC [ptac.org](http://ptac.org)