

Oil Sands

FACTS

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THE OIL SANDS
DEVELOPERS GROUP

Energy From Athabasca



OVERVIEW

- ▶ **Canada's oil reserves are second in the world behind Saudi Arabia.**
- ▶ **At 170 billion barrels, oil sands represent 97 per cent of Canada's total oil reserves.**

Economic Contribution

INVESTMENTS AND JOBS OVER 25 YEARS

- Across Canada, more than 456,000 jobs will be directly or indirectly linked to the construction and operation of oil sands facilities.
- Oil sands investment will generate \$1.7 trillion in economic activity.
- Oil sands development has the potential to generate at least \$483.5 billion in royalty and tax revenues for Canada's federal and provincial governments.

COMMUNITY INVESTMENT

- More than 1,600 Aboriginal people are directly employed by the oil sands industry in permanent operations jobs.
- In 2009, oil sands companies contracted more than \$810 million for goods and services from Aboriginal owned businesses.
- Oil sands organizations demonstrated their commitment to the community by donating more than \$23 million to organizations in the Regional Municipality of Wood Buffalo in 2009.

ISSUE: AIR

► EMISSIONS

- The oil sands currently account for less than five per cent of Canada's greenhouse gas (GHG) emissions. This is less than 0.1 per cent of total global emissions.
- The oil sands industry has reduced emissions intensity (a measure of greenhouse gas emissions per barrel of oil produced) by an average of 39 per cent since 1990, with some operations achieving reductions as high as 45 per cent.
- Alberta was the first jurisdiction in North America to legislate industrial GHG emission reductions.
- The province of Alberta has committed \$4 billion toward climate change initiatives, including \$2 billion for public transit and \$2 billion for carbon capture and storage (CCS). This is one of the largest CCS investments in the world.

ISSUE: AIR

► AIR QUALITY

- Air quality around oil sands operations is better than all North American cities reviewed by the Alberta Clean Air Strategic Alliance.
- A 10-year study by the University of Alberta's Department of Public Health Services found that there has been little to no change in the concentrations of various air pollutants in the oil sands region. From a health point of view, these communities are breathing better quality air than those in many major cities.
- Alberta air quality standards are the most stringent in Canada.
- Air quality in Fort McMurray is monitored around the clock. Results are available at www.wbea.org/content/view/56/1111.
- Air quality has been extensively modeled and demonstrated to remain within Alberta's strict air quality guidelines even with all projected oil sands development in place.

ISSUE: LAND

▶ SURFACE DISTURBANCE

- Oil sands are located below the surface of 140,200 square kilometres of land, 4.5 per cent of Canada's total boreal forest. Mineable oil sands only exist under 0.1 per cent of the total boreal forest.
- While disturbance is occurring daily, in more than 40 years oil sands mining has disturbed about .02 per cent of Canada's boreal forest – some 662 square kilometres.

▶ RECLAMATION

- As required by law, and included in all project approvals, all lands disturbed by oil sands operations must and will be reclaimed.
- Reclamation work is ongoing and continuous in the oil sands - to date, some 73 square kilometres of land has been reclaimed.
- Industry has planted more than 7.5 million tree seedlings towards reclamation efforts.

ISSUE: LAND

► EXTRACTION

- Mining is an option only for oil sands that sit less than 75 metres under the surface.
- More than 80 per cent of the oil sands will be developed using in-situ (drillable) technologies.
- In-situ projects resemble conventional heavy oil development and do not require mine pits or tailings ponds.
- In-situ operations use low-impact seismic and directional drilling to reduce surface disturbance. Typically, less than five per cent of an in-situ lease area is disturbed.

ISSUE: WATER

► WATER USE

- In Alberta, Alberta Environment regulates oil and gas industry water use under the Water Act. Oil and gas companies are subject to the same conditions for use as any other licensed water user in Alberta.
- Today, oil sands mining projects use less than one per cent of the water that flows in the Athabasca River and more than 85 per cent of this water is recycled.
- Water use is projected to grow to two per cent of the river's flow if all the oil sands mining projects that are currently planned go ahead.
- Water withdrawals are strictly controlled by Alberta Environment during low flow periods.
- In-situ production primarily uses non-potable or saline water which is unsuitable for drinking, livestock or irrigation. Up to 95 per cent of this water is recycled.

ISSUE: WATER

▶ WATER QUALITY

- Alberta Environment prohibits the release of any water to the Athabasca River that does not meet water quality requirements.
- Bitumen from exposed oil sands along the river banks seeps naturally into the Athabasca River as it cuts its way through the landscape.
- Water monitoring in the region is ongoing. The reports and complete dataset are available online at www.ramp-alberta.org.

► TAILINGS PONDS

- Tailings contain the water, residual bitumen, sand and clay that is left over when the bitumen is separated from the sand.
- During and after mining, the tailings ponds are reclaimed. No tailings water is released to the Athabasca River or any other watercourse.
- The first tailings pond was declared reclaimed in September 2010.
- The Alberta Energy Resource and Conservation Board's (ERCB) Directive 74 sets aggressive criteria for managing tailings, which will see all mining operations put into practice plans that eliminate growth in tailings ponds between 2012 and 2016. Companies will reduce tailings and provide target dates for pond closure and reclamation.

For more information, visit:

www.oilsandsdevelopers.ca

www.centreforenergy.com

www.canadasoilsands.ca

www.acr-alberta.com

www.wbea.org

www.ramp-alberta.org

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