

Oil Sands

FACTS

For more information, visit:

www.oilsandsdevelopers.ca

www.capp.ca

www.centreforenergy.ca

www.canadasoilsands.ca

www.acr-alberta.com

www.wbea.org

www.ramp-alberta.org

www.oilsands.alberta.ca

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THE OIL SANDS
DEVELOPERS GROUP

Energy From Athabasca



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OVERVIEW

- ▶ **Canada's oil reserves are the second largest 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

- Across Canada, more than 456,000 jobs are directly or indirectly linked to the construction and operation of oil sands facilities.
- Oil sands investment will generate \$1.7 trillion in economic activity across Canada over the next 25 years.
- Oil sands development will generate at least \$483.5 billion in royalty and tax revenues for Canada's federal and provincial governments.
- For each permanent oil sands-related job, nine additional direct, indirect and induced jobs are created in Canada.

ISSUE: AIR

COMMUNITY INVESTMENT IN 2009

- More than 1,600 Aboriginal people were employed by the oil sands industry in permanent operations jobs.
- 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 community organizations in the Regional Municipality of Wood Buffalo.

▶ 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 its emissions intensity (a measure of greenhouse gas emissions per barrel of oil produced) by more than 39 per cent since 1990.
- Alberta was the first jurisdiction in North America to legislate industrial GHG emission reductions.
- So far, companies have made 2.6 million tonnes of reductions – the equivalent of taking 550,000 cars off the road.
- 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 the largest CCS investment 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 modelled 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 4,802 square kilometres, 0.1 per cent of Canada's total boreal forest.
- While disturbance is occurring daily, in more than 40 years oil sands mining has disturbed about 0.019 per cent of Canada's boreal forest – some 602 square kilometres.

ISSUE: LAND

► RECLAMATION

- As required by law, and included in all project approvals, all lands disturbed by oil sands operations must be, and will be, reclaimed.
- Reclamation work is ongoing and continuous in the oil sands – to date, some 67 square kilometres of land has been reclaimed.

► EXTRACTION

- Mining is only an option 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 5 per cent of an in-situ lease area is disturbed.

ISSUE: WATER

► WATER USE

- In Alberta, Alberta Environment regulates 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 some 85 per cent of the water that is used is recycled.
- That figure is projected to grow to just more than two per cent of the river's flow if all the oil sands mining projects that are currently planned go ahead.
- Water allocations are strictly controlled by Alberta Environment and capped 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.
- RAMP, a multi-stakeholder body, conducts annual monitoring of the river's fish species, fish habitat and water quality. The monitoring has not detected significant changes to the Athabasca River associated with oil sands development. www.ramp-alberta.org
- Bitumen from exposed oil sands along the river banks seeps naturally into the Athabasca River as it cuts its way through the landscape.

▶ TAILINGS PONDS

- Tailings contain the water, residual bitumen, sand and clay that is left over when the bitumen is separated from the sand.
- In the ponds, the solids separate from the water so the water may be recycled into the process again. Of the total water used by oil sands mines, more than 85 per cent is recycled.
- No tailings water is released into the Athabasca River or any other watercourse.
- The first tailings pond has been taken out of service and will be reclaimed by the end of 2010.
- Eighty per cent of the oil sands resource will be developed using in-situ technology which does not require mines or tailings ponds.