An unprecedented oil sands rush is underway in Canada. Between 1995 and 2004 Canadian oil sands production more than doubled to 1.1 million barrels per day – 16 years ahead of the anticipated schedule. As a result, the magnitude of the risks and opportunities for Canadian oil producers is also unprecedented.

One serious risk of oil sands production is greenhouse gas (GHG) production. The science of climate change leaves little doubt that GHG pollution must be reduced in order to avoid dangerous climate change and the impacts that will result. Greenhouse gas emissions from oil sands operations contributed 108 megatonnes of GHG pollution in 2015, making it the single largest contributor to GHG pollution growth.

If measures are not taken to curb emissions growth, the oil sands industry may have the lion’s share of the responsibility for undermining Canada’s international obligation to reduce its GHG pollution. Current development is taking Canada in the opposite direction it needs to be headed, increasing societal risks by letting emissions soar unchecked.

Given the world class scale of the oil sands resource, Canada’s international reputation will depend on how we manage the environmental impacts, especially GHG pollution, associated with oil sands development.

CARBON NEUTRAL OIL SANDS BY 2020

On the path to carbon neutral, oil sands companies need to:

- Establish a leadership role in the oil sands sector and set a target of becoming carbon neutral by 2020
- Evaluate and apply the best approaches to becoming carbon neutral for their type of operations
- Evaluate all possible GHG pollution reduction options through on-site energy efficiency and fuel switching measures
- Support immediate action on developing a domestic carbon offset trading system
- Implement carbon capture and storage technology and invest in GHG pollution offsets that go beyond business-as-usual practices.

For more information including the detailed analysis for the costs to become carbon neutral, download our full report Carbon Neutral 2020: A Leadership Opportunity in Canada’s Oil Sands. It is available from www.oilsandswatch.org. At our website you will also find photos, videos and other information on oil sands.

Oil sands companies have an opportunity to lead a legacy of carbon neutral development. Development Canadians can be proud of.

C A N A D A ’ S O I L S A N D S I N D U S T R Y :  
Environmental Laggard or Innovative Leader?

For a few dollars per barrel, using existing technology, oil sands operations can become carbon neutral by 2020.

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One serious risk of oil sands production is greenhouse gas (GHG) production. The science of climate change leaves little doubt that GHG pollution must be reduced immediately if we are to avoid drastic worldwide climate change impacts. Oil sands development could contribute up to 47% of the projected business-as-usual growth in Canada’s total emissions between 2005 and 2010, making it the single largest contributor to GHG pollution growth.

If measures are not taken to curb emissions growth, the oil sands industry may have the lion’s share of the responsibility for undermining Canada’s international obligation to reduce its GHG pollution. Current development is taking Canada in the opposite direction it needs to be headed, increasing societal risks by letting emissions soar unchecked.

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While it is imperative that other sectors and individuals do their part to reduce GHG pollution, there is good reason for oil sands companies to be taking a leadership role:

- Oil sands operations are the single fastest growing contributor of GHG pollution in Canada
- Oil sands development is growing at a rapid pace and production is expected to reach five million barrels of oil per day by 2030, up from 1.1 million per day in 2004.
- Companies operating in the oil sands had an average annual increase in income of 42% between 1999 and mid-2006, for a total increase of 440%. They can afford to invest in innovative solutions to reduce environmental impacts.
- Given the relative proximity of operations, there is opportunity for industry collaboration.
- The technology to achieve carbon neutrality already exists and costs could be as low as a few dollars per barrel of oil.

For projected emissions (low and high projections) associated with each oil sands project, and the associated assumptions and caveats for the projections, see “The Climate Implications of Canada’s Oil Sands Development: Backgrounder” at http://www.pembina.org/publications_item.asp?id=213.
Accomplishing such a target would demonstrate to the world that Canada’s oil sands industry is responsibly managing its GHG pollution.

The technology to achieve carbon neutrality already exists and the costs to oil sands companies could potentially be as little as $2.50 US per barrel (bbl). Comparatively, it costs up to $1.75 US per bbl to remove lead from gasoline, and a little less than this to reduce sulphur in diesel to current levels. Further, some oil sands projects are estimated to be economic with oil prices at $30-$35 US per bbl (the average price at the beginning of September 2006 was $70 US per bbl).

The Path to Carbon Neutral

The costs for an average oil sands operation to become carbon neutral will ultimately depend on how that neutrality is achieved. Although there are numerous options for becoming carbon neutral, for example fuel switching and energy efficiency, only a combination of carbon capture and storage, and acquiring pollution offsets (carbon credits) is considered here. Mining operations, in-situ operations, and operations that use both types of resource extraction are also examined. All examples include initial refining of the bitumen, or “upgrading”. Carbon neutral costs under low and high emissions scenarios and low and high offset markets are presented.

The following example is summarized from the Pembina Institute report, *Carbon Neutral 2020: A Leadership Opportunity in Canada’s Oil Sands*, which includes detailed assumptions, references and calculations. The detailed report can be downloaded from www.oilsandswatch.org.