



Oil Sands Development and Climate Change: Implications for Canadians

The science of climate change leaves little doubt that greenhouse gas pollution must be reduced to prevent dangerous climate change.

Unless this pollution is reduced, the climate change impacts that Canadians are already experiencing, such as the mountain pine beetle epidemic in British Columbia, will only get worse. Growing climate change impacts on our forests, wildlife and water will also affect our economy and communities. Fortunately, we can take action to reduce the impacts of climate change.

Oil Sands Development Contributes to Climate Change

Oil and gas development is a major source of greenhouse gas pollution. The large-scale development of Alberta's oil sands is the single largest contributor to greenhouse gas pollution growth in Canada.

In 2005, the National Science Academies of all G8 countries, China and Brazil stated:

*"The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now to contribute to substantial and long-term reduction in net global greenhouse gas emissions."*¹



▲ The large-scale development of Alberta's oil sands is the single largest contributor to greenhouse gas pollution growth in Canada. CREDIT: DAVID DODGE, THE PEMBINA INSTITUTE

TOP PHOTO: Oil sands production could almost triple by 2015. CREDIT: DAVID DODGE

Oil Sands Development Contributes to Climate Change

Producing a barrel of oil from the oil sands generates approximately three times more greenhouse gas pollution than a barrel of conventional crude oil (Figure 1).²

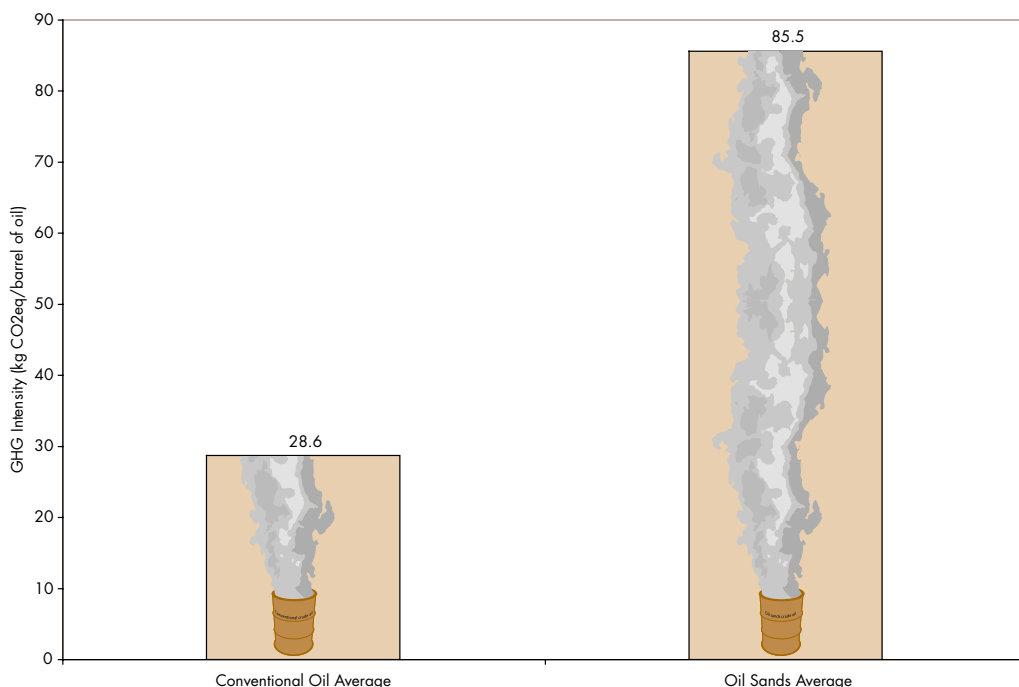
This difference is a result of the large quantities of natural gas that are burned to produce the hot water and steam needed to separate the oil from the tar-like oil sands.

In addition to producing more greenhouse gas pollution per barrel, oil sands production is growing rapidly:

- The oil sands are currently producing about one million barrels per day of oil.
- According to the Canadian Association of Petroleum Producers, oil sands production could reach 2.7 million barrels per day by 2015.³
- By 2030 the Alberta Chamber of Resources anticipates five million barrels per day of oil sands production.⁴
- Consequently, greenhouse gas pollution from oil sands development could increase five-fold within 25 years.

The Enbridge Gateway Pipeline is one of several pipeline proposals that would transport crude oil from the oil sands across northern British Columbia to the coast to gain easier access to markets in the United States and Asia.

The development of the oil sands and supporting infrastructure and the link to climate change is an opportunity to understand how large-scale



▲ Figure 1: Average greenhouse gas pollution from conventional oil production versus oil sands production.

CREDIT: THE PEMBINA INSTITUTE

A complete description of oil sands

development and the major environmental issues can be found in The Pembina Institute's book **Oil Sands Fever: The environmental implications of Canada's oil sands rush** available at www.oilsandswatch.org.

energy development, such as that proposed for northern British Columbia, can lead to climate change. With this understanding, it is possible to determine whether this type of development should occur, and if so, how the oil and gas industry and government can ensure that these impacts are managed.

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2 Woynton, D., C. Severson-Baker and M. Reynolds. 2005. *Oil Sands Fever: The Environmental Implications of Canada's Oil Sands Rush*, p.22. Pembina Institute, www.oilsandswatch.org.

3 Canadian Association of Petroleum Producers. 2005. *Canadian Crude Oil Production and Supply Forecast 2005-2015*. p.2.

4 Alberta Chamber of Resources. 2004. *Oil Sands Technology Roadmap – Unlocking the potential*. p.2.

