

## Strong Policies Needed to Cut Global Warming Emissions

The British Columbia government has made a bold commitment to fight global warming. In 2007, the government passed a law requiring the province to cut greenhouse gas emissions by 33% or more below current levels by 2020.

The Pembina Institute found that the province can meet – or even beat – this target, but it will require major changes across all sectors of the economy. Important steps have already been taken, but success demands further action from government and from British Columbians. British Columbia generated an estimated 71 million tonnes of greenhouse gas (GHG) emissions in 2007, and emissions are projected to grow. Halting this projected growth in emissions and instead reducing emissions by 33% or more will be a challenge. However, it is a challenge that cannot be avoided: climate science indicates that even greater emissions reductions will be needed in the future to prevent dangerous climate change.

What will it take for British Columbia to meet or beat its emissions reduction goal? In late 2007, the Pembina Institute released *Mind the Gap*, which identified more than 30 ways to significantly reduce British Columbia's GHG emissions.

Opportunities identified in *Mind the Gap* for reducing emissions include: improving the energy efficiency of homes, vehicles and industrial equipment; using more wind, hydro, biomass and solar resources to produce energy; and capturing emissions from industry, agriculture and landfills. Most of these technologies are already available and proven, but not yet widely used. Moving them into the mainstream will require strong government policies and a commitment from citizens and businesses to do their part.

This fact sheet presents a summary of the findings and recommendations from *Mind the Gap*. It focuses on the oil and gas and personal transportation sectors, which are two of the largest sources of emissions in British Columbia and offer some of the best opportunities for reductions.

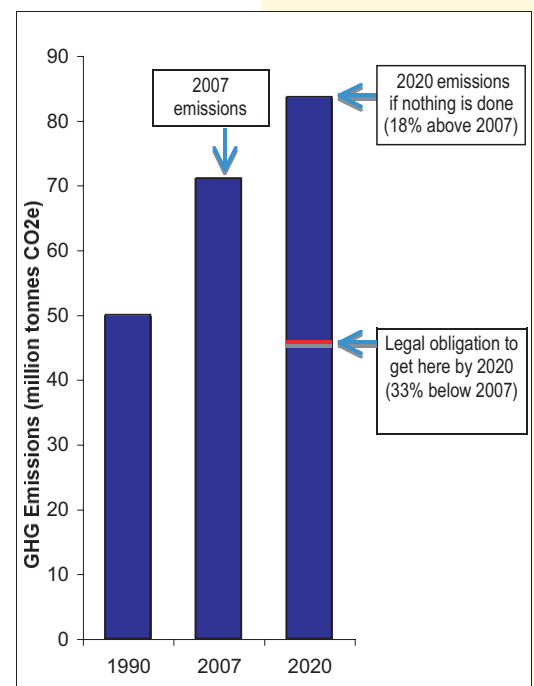


Figure 1: British Columbia needs to cut greenhouse gas emissions by at least 36 million tonnes to meet its legislated target for 2020. Oil and gas production and personal vehicles offer some of the best opportunities for reducing emissions.

## Strategies for Success

British Columbia needs to cut annual GHG emissions by at least 36 million tonnes to meet its legislated target for 2020. *Mind the Gap* identified 30 strategies with the potential to reduce emissions by 39 million tonnes.

- **Business and industry** could reduce emissions by 10 to 12 million tonnes by improving energy efficiency and changing the way manufacturing sites operate and the way goods are transported.
- Companies producing **oil and gas** could reduce emissions by 8 to 10 million tonnes by reducing leaks and venting, increasing energy efficiency, and capturing carbon.
- Emissions from **personal transportation** could be reduced by 7 to 9 million tonnes by tightening fuel economy regulations for new vehicles, increasing the use of sustainable low-carbon fuels, and improving community design to reduce personal vehicle use.
- Emissions from **homes and buildings** could be reduced by 4 to 5 million tonnes, primarily by improving energy efficiency and community design and by increasing the use of renewable energy.
- **Waste and agriculture** emissions could be reduced by 3 to 4 million tonnes by capturing methane from landfills and agricultural operations, and by reducing the production of waste.
- The **electricity** sector's emissions could be reduced to zero (a reduction of over 3 million tonnes) by increasing the use of renewable sources and by offsetting emissions from natural gas sources.



*New regulations on flaring and venting will help reduce greenhouse gas emissions. However, more wide-reaching regulations that cover emissions from fuel pipelines and other production activities are needed.*

PHOTO: DOLORES BASWICK

# Oil and Gas Production

## British Columbia's Largest Source of Emissions

Oil and gas production is the single largest source of greenhouse gas emissions in British Columbia. Drilling, extracting, processing, refining and delivering fossil fuels to the market currently produces about 15 million tonnes of emissions every year (21% of British Columbia's total emissions).<sup>1</sup> With industry and government pushing for more production, these emissions will continue to grow unless significant changes are made.

British Columbia's government has already taken important steps to reduce emissions from oil and gas production. New regulations on some flaring and venting will reduce the release of greenhouse gases. In addition, the new carbon tax provides a financial incentive for oil and gas producers to increase the efficiency of their operations.

However, additional government action will be needed to meet British Columbia's 2020 emissions target.

The new rules for flaring and venting focus on only a portion of oil and gas operations. Requirements are needed to cover emissions from fuel pipelines and other production activities.

The carbon tax also needs to be expanded to cover all industry emissions that can be accurately measured. The tax currently includes fossil fuel combustion from all facilities but excludes release of methane from pipelines and other oil and gas operations.

In the future, the cap and trade policy currently under development could complement or replace the carbon tax, but it must be stringent enough to meet British Columbia's emissions reduction targets.

Through both the carbon tax and the cap and trade system, the price on carbon will need to continue increasing above \$30 per tonne after 2012.

## A Climate Contradiction?

Despite its commitment to reduce GHG emissions, in its February 2007 Energy Plan the British Columbia government announced plans to expand oil and gas development. Basins found in and around Prince George, Northwest British Columbia, the East Kootenays and Vancouver Island are possible areas of

expansion. The Energy Plan also confirmed the government's commitment to develop oil and gas off the British Columbia coast. If new oil and gas basins are explored and developed between now and 2020, the resulting growth in emissions would make it much more difficult to meet the province's 2020 target.

<sup>1</sup> Calculated from Canada's Greenhouse Gas Inventory, Environment Canada 2006.

# Personal Vehicles

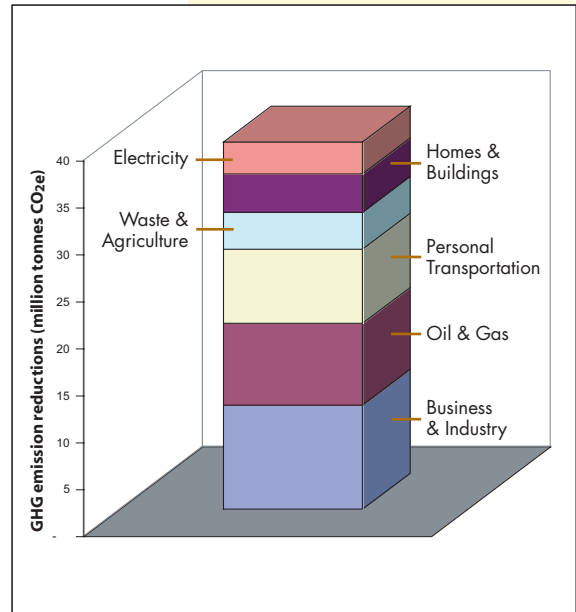
## Increased Energy Efficiency Could Reduce Emissions by Four Million Tonnes

Personal cars and trucks will produce over 12 million tonnes of GHG emissions annually (15% of total emissions) by 2020 unless we improve vehicle efficiency, change our driving patterns, and use alternative fuels. Increasing the energy efficiency of new personal vehicles could reduce emissions by four million tonnes each year.

More energy efficient cars use less fuel, which reduces GHG emissions and saves consumers money at the pump. In February 2007, the British Columbia government announced its intention to implement energy efficiency standards for new vehicles, equivalent to those proposed in California. California-level standards would reduce provincial emissions by an estimated 1.3 million tonnes, while stricter standards, such as those proposed in Europe, could reduce emissions by as much as 3.9 million tonnes annually.

Meeting British Columbia's target will also require changing our driving patterns. We need better designed communities and improved transit systems so that we are not as reliant on cars. The British Columbia government has already committed to provide up to \$4.75 billion towards improved public transportation, and revised the Local Government Act to encourage compact communities. However, more still needs to be done. Further actions to significantly decrease vehicle use could eliminate more than two million tonnes of emissions each year.

Alternative fuels, which produce less GHG emissions per litre of fuel burned in a vehicle, also provide opportunities for emissions reductions. British Columbia's government has passed legislation that will allow it to regulate a low-carbon fuel standard in 2008. Depending on the requirements that the government sets, this regulation could reduce emissions from light duty vehicles by 0.3 million tonnes annually. To be effective, the standard must consider the emissions produced over the "life cycle" of the fuel's production and use.



Mind the Gap identified 30 strategies in six different sectors with the potential to reduce British Columbia's annual emissions by 39 million tonnes.



Personal transportation accounted for 14% of British Columbia's greenhouse gas emissions in 2006, and almost all of those emissions came from personal vehicles.

PHOTO: FALLSVIEW/DREAMSTIME.COM

## Moving to a Green Economy

Communities, workers and families throughout the province will be affected by British Columbia's efforts to reduce emissions. The changes will lead to both challenges and opportunities.

The government needs to ensure that the transition to a new economy benefits all British Columbians and does not place an unfair financial burden on low-income households. By designing its policies wisely, the government can protect those most vulnerable to increased energy costs while also reducing emissions.

Key elements of a just transition to a low-emissions future in British Columbia must include:

- Training and support for workers transitioning to new jobs in energy efficiency, transportation systems, and other opportunities.
- A carbon pricing system that does not disadvantage low-income people as prices increase after 2012.

## Want More Information?

For more information and a complete list of the Pembina Institute's recommendations, download our full report, *Mind the Gap: A Blueprint for Climate Action in British Columbia* from:

<http://bc.pembina.org>

This is part of a series of fact sheets exploring global warming solutions for British Columbia. The series is intended to facilitate informed discussion on climate-related choices facing British Columbians today. Check our website for new additions to the series.

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[www.pembina.org](http://www.pembina.org)



## Next Steps for the Government

Since 2007, the British Columbia government has announced a number of policies and initiatives to help reach its target of reducing emissions 33% below 2007 levels by 2020. It has implemented several key policies, including a carbon tax that covers 70% of the province's emissions, energy efficiency requirements in the building code, and the LiveSmart program to encourage retrofits in homes. Other initiatives are under development, including a cap and trade policy, green community initiatives, and regulations for vehicles, transportation fuels, and landfill gases.

The Pembina Institute's recommendations

for high priority actions that go beyond existing policy to help meet or exceed the 2020 GHG reduction target include:

- **Strengthen carbon pricing policy:** British Columbia's carbon tax doesn't apply to industrial fugitive and process emissions (one third of industry's emissions). The carbon tax should be broadened to include these sources where they can be accurately measured. In the future, a strong cap and trade policy could replace the carbon tax for these emissions. The government also needs to commit to increasing the price on carbon above \$30 per tonne after 2012.
- **Regulate oil and gas production activities:** The British Columbia government should implement and enforce additional regulations to reduce emissions from oil and gas operations as a complement to emissions pricing.
- **Improve energy standards for new cars and trucks:** The British Columbia government needs to enact energy performance standards for light duty vehicles that will take the province beyond the California vehicle standards.



British Columbia's transition to a "green" economy must include training and support for workers entering fields such as renewable energy, energy efficiency and transportation systems.

PHOTO: THE PEMBINA INSTITUTE

## Climate Action Team Recommendations

The government has acknowledged that the steps it has taken thus far are not sufficient to meet its 2020 reduction target, and it is currently exploring other initiatives. In August, the Climate Action Team, a multi-stakeholder group established by the government, released a report with 31 recommendations on strategies, initiatives and interim targets for reducing emissions. These recommendations, along with British Columbia's Climate Action Plan and further information on the government's climate initiatives, can be found at [www.climateactionsecretariat.gov.bc.ca](http://www.climateactionsecretariat.gov.bc.ca)