Digging a Big Hole:
How tar sands expansion undermines a Canadian energy strategy that shows climate leadership

Introduction

Canadian provinces are developing an energy strategy together that will be finalized and unveiled this year. The climate summit in Quebec City in April and the premiers' meeting in St. John's in July are two opportunities for progress on the strategy.

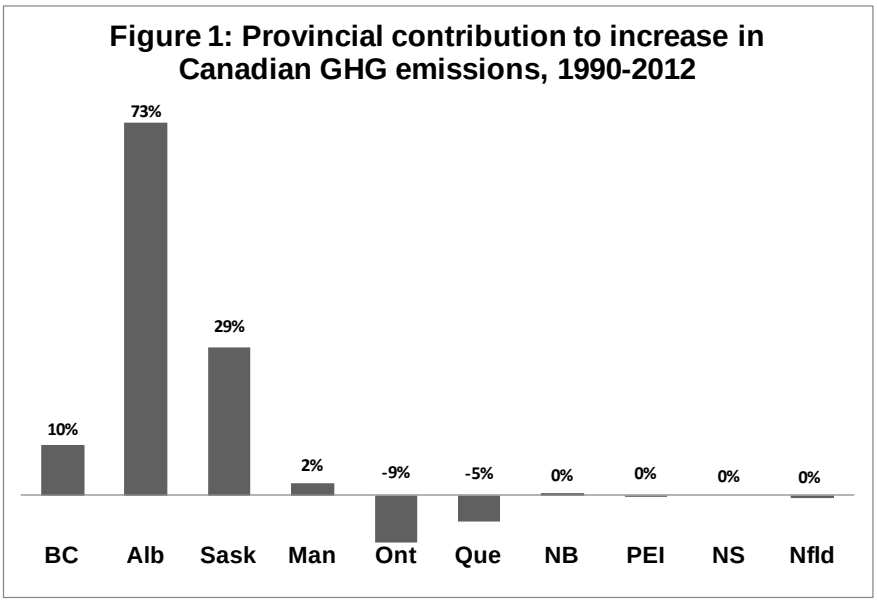
Carbon pollution, because it is so intimately linked to energy development, must be an integral part of any energy strategy. The strategy will need to be cohesive, showing that energy development in Canada is consistent with climate commitments made by the provinces and the federal government, and with our global partners.

As a developed country with abundant energy resources, Canada has a choice about the kind of energy development that we undertake, and whether we choose to develop and adhere to a carbon budget (see description below) that is consistent with avoiding dangerous levels of climate change. **The analysis below will show that continuing to expand tar sands production makes it virtually impossible for Canada to meet even weak carbon reduction targets or show climate leadership.**

> (A carbon budget is a maximum amount of carbon pollution that can be emitted into the atmosphere while keeping atmospheric concentrations of carbon dioxide, and the warming carbon pollution causes, below an agreed to limit. Canada, with other countries, has agreed to limit climate change to 2 degrees Celsius by the end of this century. Already, temperatures have increased by nearly 1 degree Celsius, and Canada is experiencing billion-dollar extreme weather events such as the floods that hit Calgary and Toronto over the last few years. No level of warming is truly safe.)

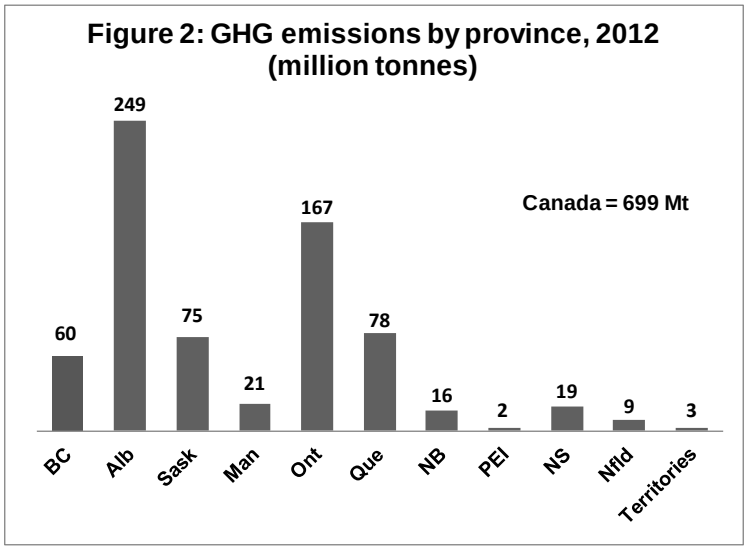
The Current Situation

Canada's carbon or greenhouse gas (GHG) pollution has increased by 18 per cent since 1990, according to the latest data.[1] Alberta is responsible for 73 per cent of the total net increase in carbon pollution (Figure 1).[2]



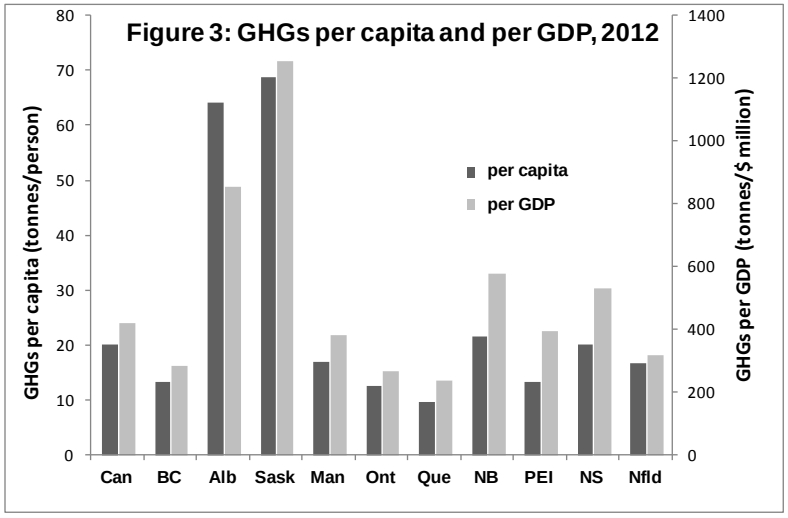
The fact that Canada has made little progress on climate change is directly related to tar sands production. The oil and gas sector was responsible for 67 per cent of Canada's increased pollution since 1990, and every other oil and gas sub-sector (natural gas production, conventional oil production, refining, oil and gas transmission, natural gas distribution) has had steady or declining emissions since 2000 – leaving the tar sands largely responsible for the increase.[3]

Alberta's carbon pollution is the highest of any province and now exceeds that of Ontario and Quebec combined (Figure 2).[4]



Alberta is also a high carbon polluter on a per capita basis and in terms of the size of its economy (Figure 3).[5] Saskatchewan's emissions, though much lower in absolute terms, are actually higher in both these categories. The greatest source of carbon pollution in Saskatchewan, and the biggest reason for the increase in emissions, is also the oil and gas sector.[6] New Brunswick's and Nova Scotia's

polluting power plants contribute to above-average emissions compared to the size of their populations or economies. A Canadian energy and climate strategy needs to address all major sources of carbon pollution, especially those that are highest and growing fastest, and the issue of fairness between the provinces.



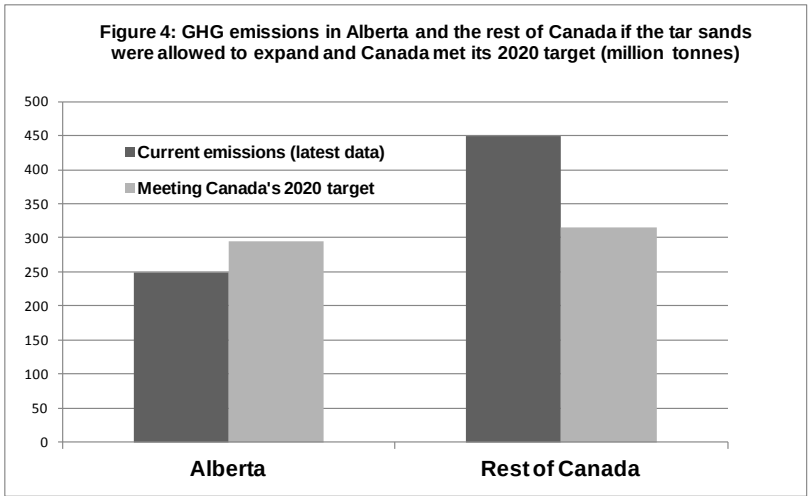
Looking Forward

Expanded tar sands production has not just prevented Canada from moving forward on climate change in the past. If left unchecked, it will block future progress too. Environment Canada's projections for carbon pollution show that just the *increase* in pollution from the tar sands over this decade will equal the *total* pollution from all the Maritime Provinces combined.[7] **This data shows that the greatest action that Canada could take to address climate change is stopping tar sands expansion.**

If this is not done, if tar sands production is allowed to expand as forecast by the industry and the Canadian government, then in 2020 pollution levels in Alberta—with 11 per cent of Canada's population—will be approaching pollution levels in the three biggest provinces combined: Ontario, Quebec, and British Columbia—which together have 75 per cent of the population.[8] (It's important to note that the projected increase in emissions is just from **tar sands production**. Not from the use of the oil.)

It is difficult or impossible to believe that the Canadian government could meet its carbon reduction target (17 per cent below 2005 levels by 2020) while giving tar sands companies as much of the carbon budget as the government wants. The scale of carbon reductions needed in other provinces and other sectors to make up for that increase is formidable. For example, 30 per cent reductions would be needed in the rest of Canada by 2020 to allow the atmospheric space for the continued growth from Alberta's tar sands (Figure 4).[9] **Essentially, one province with 11 per cent of the population, driven by an industry representing just 2 per cent of Canada's GDP, would have levels of carbon pollution that are**

93 per cent of emissions in the rest of the country. That's not a scenario that reflects any notion of fairness.



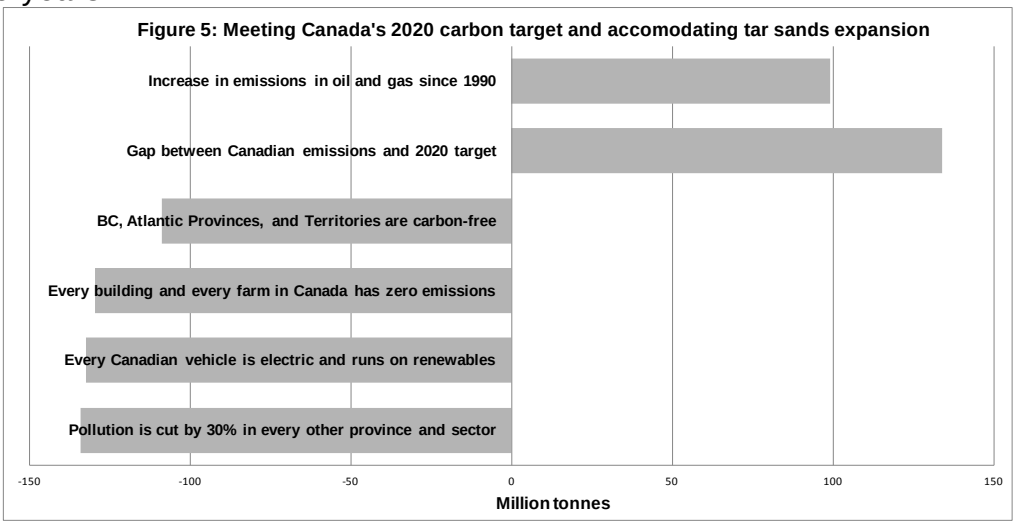
Staying on Budget

Keeping Canada's total emissions within a carbon budget that is consistent with our commitments while allowing tar sands production to grow as projected would require extraordinary efforts by the rest of the Canadian economy. We have provided a few examples to illustrate this difficulty (Figure 5).[10]

The tar sands could expand and Canada could still meet its carbon reduction target if, by 2020:

- Every Canadian vehicle is electrified and runs on renewable energy, or
- Every building and every farm in Canada has zero emissions, or
- British Columbia, the Atlantic Provinces, and the territories are all carbon-free.

As laudable as all these goals are, they are big projects that require significant transition time, so it's unrealistic to imagine any of them will be achieved in the next five years.



The above figures and analysis illustrate some critical points. **If the energy strategy actually takes climate change seriously, the single most important thing the strategy should do is plan for the curtailment of tar sands production.** An energy strategy that allows for the continued growth in the tar sands would require heroic efforts from the rest of Canada. Indeed, a strategy that allows for the unrestrained growth of the tar sands would be patently unfair to the rest of Canada, which begs the question, why would any province aside from Alberta sign on to such a strategy?

This point can be taken one step further. **Embedding climate change into a Canadian energy strategy means that the primary goal of that strategy must be to transition Canada away from fossil fuel production and use.** Canada, like every other country in the world, is working with a finite and shrinking carbon budget. Developing more tar sands projects, building more pipelines, or expanding fossil fuel production creates high-carbon infrastructure that will be in place for decades, locking in high pollution levels at a time when we need to be cutting back. This transition away from tar sands production and use will take time but it has to start now and be completed by mid-century in order for Canada to do its fair share and meet our international commitments to tackle climate change.

Federal role

While the provinces are thinking about an energy strategy that integrates climate change, let's not forget that the federal government has a vital leadership role to play, one that it has steadfastly refused to accept.

The Canadian government needs to be involved in three main ways:

- **Show leadership and ensure climate action is adequate:** The Canadian government is the entity that enters into international discussions and negotiations, signs on to global agreements, and makes commitments on behalf of the country. The Canadian government therefore needs to take leadership to tackle climate change by making significant commitments to global partners and ensuring that we meet these commitments.

- **Set a level playing field:** Ensuring equity between provinces and between economic sectors means everyone playing by common rules, such as a carbon price that is roughly equal across the country. Provinces and sectors with higher levels of pollution — and therefore greater options for reducing that pollution — will need to make greater efforts to rein in those emissions. In short, a Canadian strategy on energy and climate change needs to be cohesive. But it also needs to be ambitious, raising the floor above the lowest-common denominator such that progress is measured by real reductions in carbon pollution in every part of the country. This is essential if we are to meet goals that match the level of urgency required to tackle climate change.

- **Take action in areas where it has jurisdiction:** The federal government has jurisdiction in important areas of action on climate change, including regulating greenhouse gases under the *Canadian Environmental Protection Act*. The federal government can set fuel efficiency standards for vehicles and energy efficiency standards for equipment and appliances, and should use those powers to quickly ramp up the efficiency of those products. The Canadian government can also show leadership by undertaking a national public transit strategy with the provinces and delivering funding for public transportation and other green infrastructure. Phasing out federal subsidies for oil production—support of at least $700 million per year[11]—should also be a no-brainer.

Conclusion

Canada needs a nationwide energy strategy that reduces carbon emissions to reach our global commitments, restore our international reputation on climate change, and transition Canada to a clean energy economy. Canada can use energy much more efficiently and be powered by safe, clean, and modern renewable energy. And doing this would bring multiple benefits: more jobs, cleaner air, and better communities. A Canadian energy strategy, preferably one with federal government engagement, should not be about any single emitting source such as the tar sands, transportation, buildings or coal plants. It must, however, count the emissions from all of these sources and implement policies at the federal and provincial level that mean, in total, that emissions decline meaningfully towards targets. To stay within Canada's carbon budget, we should aim for complete decarbonisation by mid-century, a trajectory that means taking strong action now and moving away from long-lived, high-carbon infrastructure.

Endnotes

[1] Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 1: p. 47.
[2] Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 3: p. 15-41.
[3] Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 1: p. 29.
[4] Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 3. p. 15-41.
[5] Per capita calculated using population data from Statistics Canada. (2015a). "Population by year, by province and territory." Retrieved from: http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo02a-eng.htm. Per GDP calculated using GDP data from Statistics Canada. (2015b). "Real gross domestic product, expenditure-based, by province and territory." Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ50-eng.htm.
[6] Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 3: p. 29.
[7] Government of Canada. (2014). *Canada's Sixth National Report on Climate Change 2014*. p. 8. and Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 3. p. 17-22.
[8] Environment Canada. (2013). *Canada's Emissions Trends.* p. 36.
[9] Calculated using Environment Canada. (2013). *Canada's Emissions Trends.* p. 36, and Environment Canada. (2014). Part 3: p. 15-41.
[10] Calculated using Environment Canada. (2014). *National Inventory Report 1990-2012.* Part 3: p. 15-44.
[11] Asadollahi, A. and Dobson, S. (2014). "Fossil Fuel Subsidies: An analysis of federal financial support to Canada's oil sector." Pembina Institute. p. 34.