

## **The Tar Sands and a Cap and Trade System for Reducing Greenhouse Gas Pollution**

The election of President Barack Obama has significantly changed the political landscape for action on climate change in the U.S. and Canada. Immediately following the U.S. election, the Government of Canada signalled that it intended to pursue a North American climate pact<sup>1</sup>, and has since frequently made reference to the need for a common approach to climate and energy security with the U.S. In its November 19 Speech from the Throne, the Government of Canada committed to “work with the provincial governments and our partners to develop and implement a North America-wide cap and trade system for greenhouse gases.”<sup>2</sup>

Climate change and energy will be on the agenda during President Obama’s upcoming visit to Canada, and all regions of Canada have an important stake in the outcomes of the discussions that will unfold over the next year. Any decision to harmonize climate policies with the U.S. will mean:

1. *The current Canadian federal system will be strengthened:* Under President Bush, American inaction on climate change was frequently cited as a rationale for Canada limiting the scope of its own ambition, as some policymakers feared the consequences of moving more quickly than the U.S. After the U.S. election, the current Government of Canada regulatory framework proposal (known as “Turning the Corner”), is weak in comparison to the agenda outlined by President Obama. Canada will face pressure to take stronger action to avoid falling behind its largest trading partner.
2. *Hard caps will replace current “intensity targets”:* At a minimum, a North American cap and trade system will mean that the Canadian government will need to abandon its flawed “intensity target” approach and adopt a hard target for GHG emissions reduction.
3. *Provinces will need to be included:* In the absence of federal leadership, many provinces moved ahead with their own climate initiatives. A renewed federal approach to cap and trade will clearly have an impact on these initiatives. A North American cap and trade system would either be enforced through federal regulation or at the provincial level through federal-provincial equivalency agreements. Provinces therefore have a clear stake in the design of a federal cap and trade system, particularly those who are already a step ahead of the federal government in designing a “hard cap” system.

If it is well-designed and stringent, a North American approach to cap and trade (or harmonized national systems) could present a significant opportunity to improve Canada’s abysmal track record on climate change, which has resulted in Canada’s greenhouse gas (GHG) emissions growing to 22% above the 1990 level by 2006<sup>3</sup>.

Canada has a long history of designing climate policies that favour the companies operating in Alberta’s oil sands, and the current government has been no exception. If the Government of Canada decides that it’s in our national interest to defend this “dirty oil,” Canada’s role in climate policy negotiations with the U.S. could amount to little more than looking for concessions.

Below we outline the key elements of a credible cap and trade system, and describe the impact of special treatment for the tar sands on other regions and sectors.

*Elements of an Effective Cap and Trade System:*

The effectiveness of a cap and trade system can be evaluated based on environmental effectiveness (i.e. ability to reduce GHG emissions), economic efficiency, administrative simplicity and political acceptability. Based on these criteria, the key elements of an effective cap and trade system for Canada are:

1. **Science-based target:** Canada should set a national emission target that is aligned with climate science, and the cap in a cap and trade system should be proportional to this target. Analysis by the Intergovernmental Panel on Climate Change indicates that industrialized countries like Canada will need to reduce their emissions by 25–40 per cent below 1990 levels by 2020 if we are to have a reasonable chance of avoiding dangerous climate change.<sup>4</sup>
2. **Broad-based:** The cap and trade system should cover all emissions from heavy industry (large final emitters) and fossil fuel use for transportation and buildings. This would mean that over 80% of Canada's total emissions were covered. A broad application of the cap and trade system is consistent with current U.S. proposals. By including more sectors, it opens up more opportunities for low-cost reductions, thus increasing economic efficiency. And by regulating combustion emissions at the level of fuel wholesalers, while excluding emissions that are difficult to cover in a cap and trade framework (mainly those from agriculture and forestry), a broad approach also provides administrative simplicity.
3. **Equitable:** The system must apply equitably across all sectors and regions. No one sector should receive special treatment at the expense of skewing the system for others.
4. **Polluter pays:** All of the allowances to emit greenhouse gases should be auctioned to polluters rather than distributed free of charge. This makes the system simple and quick to implement because it avoids complex negotiations with sectors that would be required if allowances are handed out for free. It also automatically rewards those companies or sectors that have taken early action to cut emissions because they will be required to buy relatively fewer allowances.

Auctioning allowances can also generate substantial government revenues. For example, a broad cap and trade system covering 80% of Canada's emissions with an allowance price of \$50/tonne would initially raise about \$29 billion annually.

5. **Reinvest:** The money raised through the auction of allowances should be reinvested to provide targeted protection of industrial competitiveness in sectors that are demonstrably vulnerable to "carbon leakage," ensure regional fairness, protect low income Canadians from price increases and support green technology.

6. **Avoid the potential for “emissions fraud”:** The use of offsets (whether domestic and international) to meet the targets needs to be limited. In a broad-based cap and trade system, the opportunities to create domestic offsets (Canadian emission reductions outside of the capped sectors) are limited, because the majority of emissions fall under the cap. Experience has shown that it is difficult to ensure that offsets are “additional” or incremental, i.e., that the reduction in emissions would not have occurred without the incentive provided by the offset system and the funding it provides. Such credits can be said to constitute “emissions fraud,” because they do not result in new reductions in GHG emissions. If companies buy offset credits that are *not* additional, they use those credits to emit more — but no-one has reduced their emissions to compensate. A strict limit on the use of offsets is required to minimize this risk. Emission trading systems or proposals in peer jurisdictions, such as the Western Climate Initiative, the EU Emissions Trading Scheme and Australia’s Carbon Pollution Reduction Scheme, all have some form of limit on the use of offset credits.

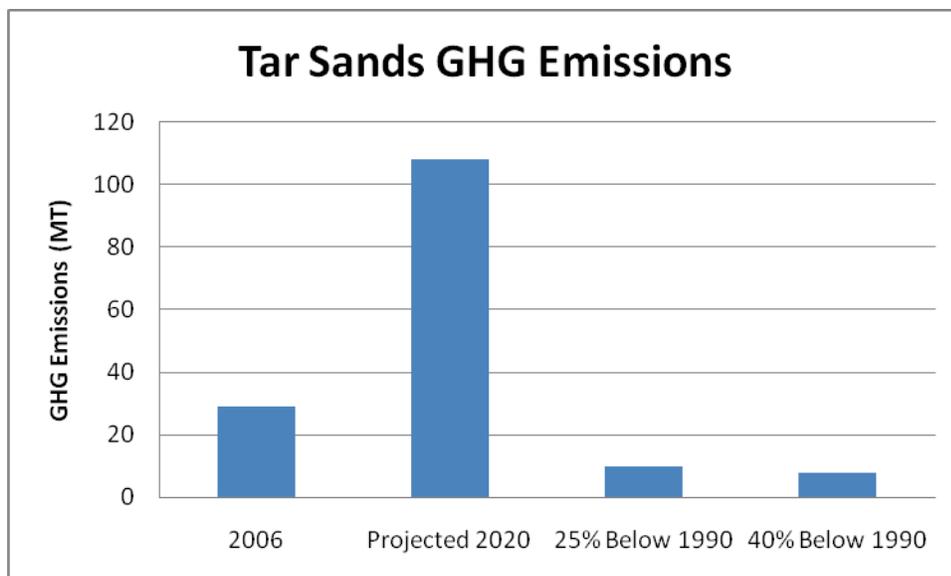
#### *Special treatment for the tar sands?*

The tar sands present a unique challenge to a Canadian cap and trade system. The tar sands are the fastest growing source of greenhouse gas emissions in Canada: the federal government has estimated that under “business-as-usual,” emissions would rise from 29 megatonnes (Mt) in 2006 to 108 Mt by 2020<sup>5</sup>. The “Turning the Corner” regulatory framework proposal treats the oil and gas sector more leniently than others in several ways, including through the use of “intensity targets” that accommodate tar sands expansion. In fact, the Government of Canada’s own estimates show that their proposal would allow GHG emissions from the tar sands to increase from 29 Mt (2006) to 80 Mt (2017) before dropping to 49 Mt (2020) — an increase of 69 per cent from 2006 to 2020<sup>6</sup>.

Under a credible cap and trade system, the tar sands would be responsible for their fair share of the emissions reductions required to reach Canada’s national target. If the tar sands were given special treatment (through softer targets, exemptions for some emissions, or other policy design choices) the result would be that other sectors and regions would have to do more to reach the national target.

As noted above, climate science shows that industrialized countries like Canada need to reduce their emissions by 25–40% below 1990 levels by 2020 to have a chance of avoiding dangerous climate change. Tar sands emissions were 13 Mt in 1990<sup>7</sup>. If tar sands companies took responsibility for reducing their emissions by 25% below the 1990 level, the sector’s net emissions would be just 10 Mt in 2020.<sup>8</sup> In contrast, under business as usual projections from the Government of Canada, tar sands emissions are projected to grow to 108 Mt by 2020. There’s a 98 Mt difference between a “science-based” reduction in the tar sands and the potential emissions growth from the tar sands sector.

Special treatment for the tar sands risks creating a large “target gap” that other sectors or regions would have to fill.



To put the potential business-as-usual tar sands growth into perspective:

- By 2020, emissions in the tar sands could be triple British Columbia's target of cutting emissions by 36 Mt<sup>9</sup>
- Ontario's goal is to reduce emissions by 99 Mt by 2020<sup>10</sup>
- Closing Ontario's four remaining coal plants will reduce emissions by 30 Mt<sup>11</sup>
- The business-as-usual growth projected in the tar sands is greater than the total emissions from Quebec<sup>12</sup>
- In 2006, generating all of Canada's electricity produced 118 Mt<sup>13</sup>
- In 2006, all passenger transport in Canada produced 97.3 Mt<sup>14</sup>

Other regions and industrial sectors could be burdened with picking up the slack resulting from a system designed to favour the tar sands.

*Solutions for tar sands under cap and trade:*

It is clearly not in the interest of other provinces and sectors to allow the tar sands to be responsible for less than their fair share of GHG reduction under a national cap and trade system. However, the rapid growth of tar sands emissions does present a unique challenge among sectors of the Canadian economy.

The Governments of Canada and Alberta have been promoting carbon capture and storage (CCS) as the way to clean up the tar sands. Both have subsidized development of the technology, and may push for further subsidies as the solution to carbon emissions from the tar sands within a federal cap and trade system.

While CCS can play a role, it is far from the silver bullet to the tar sands problem for several reasons:

- According to a government task force on CCS "only a small portion of the CO<sub>2</sub> streams are currently amenable for CCS due to both the size of emissions streams and the

concentrations... lower concentration or smaller emission streams are more costly to capture”<sup>15</sup>.

- CCS is an energy intensive process, which would further increase the already significant energy input requirements for extracting and upgrading tar sands.
- The ability to deploy CCS on a large scale in the tar sands has not yet been demonstrated, nor has the permanence of the geological storage.
- The Alberta Government’s advisory group on CCS has suggested the price of carbon needed to spur the adoption of CCS may be as high as \$200/tonne<sup>16</sup>.

Investment in technology alone will not solve the problem if tar sands companies are not responsible for their share of emissions reductions. However, to address the impact of an emissions cap on Alberta, the revenue from auctioning emissions allowances can be reinvested in the region to support affected individuals and communities. This would mean that money from Alberta spent on purchasing allowances would return to Alberta.

It must be noted, though, that CCS fails to address the other serious environmental impacts of the tar sands, many of which cross provincial/territorial boundaries – toxic tailings waste, air emissions responsible for acid rain, destruction of wildlife habitat, and depletion and contamination of fresh water (groundwater and surface water).

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<sup>1</sup> Shawn McCarthy and Campbell Clark. *Globe and Mail*. November 5, 2008. "Ottawa swoops in with climate change offer".

<sup>2</sup> Government of Canada. November 19, 2008. Speech from the Throne: Protecting Canada's Future. <http://www.sft-ddt.gc.ca/eng/media.asp?id=1383>.

<sup>3</sup> Environment Canada. Canada's Greenhouse Gas Emissions: Understanding the Trends, 1990-2006. [http://www.ec.gc.ca/pdb/ghg/inventory\\_report/2008\\_trends/trends\\_eng.cfm#toc\\_annex\\_1](http://www.ec.gc.ca/pdb/ghg/inventory_report/2008_trends/trends_eng.cfm#toc_annex_1)

<sup>4</sup> Sujata Gupta et al., "Policies, Instruments and Co-operative Arrangements," in B. Metz et al., eds., *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK and New York, NY: Cambridge University Press, 2007), 776. Also available online at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter13.pdf>. The IPCC's analysis applied to stabilization of the atmospheric GHG concentration at 450 parts per million of CO<sub>2</sub>e. This corresponds to about a 50% chance of limiting average global warming to 2°C relative to the pre-industrial level.

<sup>5</sup> Government of Canada. 2008. Turning the Corner: Detailed Emissions and Economic Modeling. [http://www.ec.gc.ca/doc/virage-corner/2008-03/571/Annex4\\_eng.htm](http://www.ec.gc.ca/doc/virage-corner/2008-03/571/Annex4_eng.htm)

<sup>6</sup> Government of Canada. 2008. Turning the Corner: Detailed Emissions and Economic Modeling.

<sup>7</sup> See [http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/nat\\_eng.pdf](http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/nat_eng.pdf), p.19.

<sup>8</sup> Environment Canada. Canada's Greenhouse Gas Emissions: Understanding the Trends, 1990-2006. [http://www.ec.gc.ca/pdb/ghg/inventory\\_report/2008\\_trends/trends\\_eng.cfm#toc\\_annex\\_1](http://www.ec.gc.ca/pdb/ghg/inventory_report/2008_trends/trends_eng.cfm#toc_annex_1).

<sup>9</sup> The Pembina Institute. 2007. Mind the Gap: A Blueprint for Climate Action in British Columbia.

<sup>10</sup> Government of Ontario. 2007. Go Green: Ontario's Action Plan on Climate Change.

<sup>11</sup> Government of Ontario. 2008. Ontario's Climate Change Action Plan: Creating our Sustainable Future. <http://www.ene.gov.on.ca/publications/6874e.pdf>.

<sup>12</sup> Government of Quebec. 2006. Quebec and Climate Change: A Challenge for the Future. 2006-2012 Action Plan. [http://regserver.unfccc.int/seors/attachments/file\\_storage/b78ozdxt40ocdr.pdf](http://regserver.unfccc.int/seors/attachments/file_storage/b78ozdxt40ocdr.pdf).

<sup>13</sup> Environment Canada. Canada's Greenhouse Gas Emissions: Understanding the Trends, 1990-2006. [http://www.ec.gc.ca/pdb/ghg/inventory\\_report/2008\\_trends/trends\\_eng.cfm#toc\\_annex\\_1](http://www.ec.gc.ca/pdb/ghg/inventory_report/2008_trends/trends_eng.cfm#toc_annex_1).

<sup>14</sup> Environment Canada. Canada's Greenhouse Gas Emissions: Understanding the Trends, 1990-2006. [http://www.ec.gc.ca/pdb/ghg/inventory\\_report/2008\\_trends/trends\\_eng.cfm#toc\\_annex\\_1](http://www.ec.gc.ca/pdb/ghg/inventory_report/2008_trends/trends_eng.cfm#toc_annex_1).

<sup>15</sup> The EcoEnergy Carbon Capture and Storage Task Force. 2008. *Canada's Fossil Energy Future: The Way Forward on Carbon Capture and Storage*. p. 9.

[http://www.energy.gov.ab.ca/Org/pdfs/Fossil\\_energy\\_e.pdf](http://www.energy.gov.ab.ca/Org/pdfs/Fossil_energy_e.pdf)

<sup>16</sup> Alberta Carbon Capture and Storage Development Council. 2008. *Accelerating Carbon Capture and Storage in Alberta: Interim Report*.