

The March 2008 Federal Regulatory Framework for Industrial Greenhouse Gas Emissions

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In April 2007, the Government of Canada announced a regulatory framework for industrial greenhouse gas (GHG) emissions and air pollution that it called “Turning the Corner.” This proposal is the central plank of the government’s approach to climate change. The April 2007 framework provided a sketch of future regulations but no legal specifics; the government committed to publish those specifics in the form of draft regulations by spring 2008.¹

In March 2008, Environment Canada updated the GHG portion of the regulatory framework and published new details about its implementation. However, the March 2008 update still contains no legal specifics, and pushes back the deadline for producing the draft regulations to fall 2008.²

This backgrounder provides an initial analysis of the key features of the updated “Turning the Corner” proposal.

1. The fundamental weaknesses of the regulatory framework are unchanged

The March 2008 update of “Turning the Corner” represented a significant opportunity for the federal government to strengthen an approach that has come under heavy criticism since being announced. However, the aspects of the April 2007 framework that generated the most critical commentary remain in place. These include:

- The use of “intensity” targets that allow GHG emissions to grow if industrial production rises rapidly. Canada is the only jurisdiction to choose intensity-based targets for regulating heavy industry; all existing regulatory systems and the proposed U.S. regional systems instead put absolute caps on industrial GHG pollution.
- The lengthy delay before the system takes effect: heavy industry will not face any regulatory constraint until January 2010. (And now the government’s commitment to this timeline may be called into question by its decision to push back the publication date for the draft regulations.)
- The use of a Technology Fund, which allows emitters to meet their targets “on paper” by making payments to the government rather than by reducing their emissions. The dollars received by the government through the fund are to be invested “in qualifying greenhouse gas emission reduction technology projects,”³ but the timing and amount of

¹ Environment Canada, *Regulatory Framework for Air Emissions* (Ottawa, ON: Government of Canada, 2007), 28. Also available online at <http://www.ecoaction.gc.ca/news-nouvelles/pdf/20070426-1-eng.pdf>.

² Environment Canada, *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions* (Ottawa, ON: Government of Canada, 2008), 24. Also available online at http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/541_eng.pdf.

³ Environment Canada, *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions*, 14–15.

these reductions is unknown. Emitters can initially meet 70% of their targets through contributions to the Technology Fund at the rate of \$15/tonne CO₂e;⁴ the price rises to a maximum of about \$23/tonne in 2017, and the fund is to be phased out by 2018. These prices are too low to encourage industry to make significant immediate investments in green technology.⁵

- The use of 2006 as a base year for calculating targets instead of the internationally-recognized base year of 1990.

2. There are some stronger targets, but not for a decade

The government's updated regulatory proposal sets new targets for oil sands operations and coal-fired electricity plants: any facilities that start up in 2012 or later will face emissions intensity targets based on carbon capture and storage (CCS) — but only from 2018 onwards. The treatment of oil sands is the litmus test of any industry regulations because, in Environment Canada's words, oil sands are "the largest single contributor to Canada's medium-term emissions growth." Under business-as-usual conditions, the government projects an increase in oil sands emissions from 29 million tonnes (megatonnes, or Mt) in 2006 to 108 Mt in 2020, even with an assumed oil price of \$50/barrel.⁶

CCS is a technological process for trapping CO₂ emissions from large industrial facilities, compressing the gas, and then transporting it in a pipeline to a location where it can be stored underground. In theory, the CO₂ storage is permanent. The Pembina Institute considers CCS to be one available option among others for achieving the necessary deep reductions in Canada's GHG emissions. However, the government's own projections show that its timeline for CCS-based targets will allow oil sands companies to nearly triple their emissions between 2006 and 2017 before dropping suddenly in 2018–20. (With its regulations, the government expects oil sands emissions to rise from 29 Mt in 2006 to about 80 Mt in 2017,⁷ before dropping to 49 Mt in 2020.⁸)

Industry's own projections for implementing CCS show greater urgency than the government's leisurely timeline. According to the December 2007 study by the ICO₂N group of companies, implementation of CCS "as early as possible" would result in close to 10 Mt of CO₂ being captured in Alberta in 2012 and about 18 Mt in 2015. In comparison, Environment Canada's approach "backloads" the majority of oil sands emission reductions until 2018 or later — a highly risky approach if the government is serious about reaching a national emissions target in 2020.

⁴ The abbreviation "CO₂e" refers to "carbon dioxide equivalent," a standard measure which incorporates all six of the greenhouse gases covered by the Kyoto Protocol.

⁵ Our current analysis is that Canada needs price levels of at least \$30/tonne carbon dioxide equivalent by 2008–10, at least \$50/tonne by 2015 and at least \$75/tonne by 2020. See Clare Demerse, "Carbon Pricing: Efficiently Stimulating Greenhouse Gas Emission Reductions," in *Big Steps Forward, Recommendations for Budget 2008* (Ottawa, ON: Green Budget Coalition, 2007), 7–15. Also available online at <http://climate.pembina.org/pub/1549>.

⁶ Environment Canada, *Turning the Corner: Detailed Emissions and Economic Modelling* (Ottawa, ON: Government of Canada, 2008), 40–42. Also available online at http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/571_eng.pdf.

⁷ Ibid., 8.

⁸ Environment Canada, *Turning the Corner: Taking Action to Fight Climate Change* (Ottawa, ON: Environment Canada, 2008), 32. Also available online at http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/pres_eng.pdf.

Because it kicks in only for new facilities starting up in 2012 or later, the government's timeline actually creates a perverse incentive for companies to bring new facilities on stream more quickly to "beat the deadline." It also allows many planned oil sands facilities to avoid the CCS-based targets altogether: according to Environment Canada, all oil sands facilities currently under construction or at a late planning stage will come on stream before the 2012 cut-off date.⁹

To be clear, the government's approach does not "require" companies to capture and store carbon; it merely sets targets for coal-fired electricity plants and some types of future oil sands operations that will be "based on" CCS. However, the government has not yet explained how these targets will be set, the emissions they will apply to and the options industry will have to meet them.¹⁰ In the absence of these crucial details, it is difficult to assess whether the new targets will effectively curtail GHG pollution from the oil sands in 2018.

3. Meanwhile, oil sands companies face minimal obligations until 2018

The government's updated regulatory framework has opened up a major new loophole in its treatment of what it calls "pre-certified investment credits." These credits are available to companies "for investing directly in large-scale and transformative projects...selected by the firm from a menu set out by the federal government."¹¹ In other words, companies can meet a target simply by setting aside funding for future emission reductions in their own operations. These credits are an alternative to the Technology Fund loophole noted above.

The new loophole arises from the updated framework's more generous treatment of pre-certified investments in CCS. Under the government's previous approach, pre-certified investments would have been subject to the same restrictions as payments into the Technology Fund.¹² This would have meant that a company could use pre-certified investments to meet at most 70% of its target in 2010, with this limit declining each year to reach zero by 2018. But the updated proposal states that for CCS projects, "contributions of up to 100% of a firm's regulatory obligation in these pre-certified projects will qualify for credits up to 2018."¹³

To understand what this means, consider a new oil sands facility starting up in 2012. The facility first benefits from a three year grace period, which means it has no target until 2015. Then, in 2015–17, the company can meet 100% of its regulatory obligation simply by promising to start capturing CO₂ in 2018 and by setting some funding aside to do this. The net effect is that new oil sands facilities that qualify for the pre-certified credits program will face absolutely no constraint or real price on their GHG pollution until 2018. (Also, the government has not explained what will happen in the event that a company breaks its promise to implement CCS in 2018.)

The government has calculated that its framework will result in a price on most industrial GHG emissions of over \$50/tonne by 2016.¹⁴ But pre-certified investment credits allow the oil sands — the fastest-growing source of emissions in Canada — to be completely sheltered from this price signal.

⁹ Ibid., 19.

¹⁰ The framework states that "The exact specifications of these targets will be determined during the development of the proposed regulation," which it expects to publish in fall 2008. See Environment Canada, *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions*, 11.

¹¹ Ibid., 16.

¹² Matthew Bramley, *Analysis of the Government of Canada's April 2007 Greenhouse Gas Policy Announcement* (Drayton Valley, AB: Pembina Institute, 2007), 13. Also available online at <http://climate.pembina.org/pub/1464>.

¹³ Environment Canada, *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions*, 16.

¹⁴ Environment Canada, *Turning the Corner: Detailed Emissions and Economic Modelling*, 7.

Even new oil sands facilities that do not opt for pre-certified investment credits will face a minimal regulatory obligation at least until 2018. All new facilities that start up in 2004 or later will benefit from the standard three year grace period. After that, their targets will be based on a 2% annual improvement from the emissions intensity of the industry-standard fuel, natural gas. An exception will be made for facilities using higher-emitting coke: their targets will be based on a 2% annual improvement from the emissions intensity of coke, as long as they are capable of capturing their emissions in the future. In 2018, the targets for facilities using coke that started up pre-2012 will switch to the natural gas level, but only facilities that started up in 2012 or later will then face targets based on CCS.

Overall, this means that no new oil sands facility is expected to face a target different from its *actual planned emissions* — apart from the 2% annual improvement starting in the fourth year of operation — before 2018.

Together, the new loophole allowing 100% use of pre-certified investment credits and the astonishingly lax targets for new facilities align the updated federal framework, pre-2018, closely with Alberta's GHG regulation.

4. New “double counting” in the electricity sector takes Canada further from its national targets

“Intensity-based” targets measure emissions relative to production, which means emissions per barrel in the oil sector, for example, or emissions relative to GDP at the national level. This approach to target-setting doesn't work well for existing coal- or gas-fired electricity generation facilities, which have little scope to change their emissions intensity (instead, it would be easier for them to meet an absolute target simply by operating less). The government announced an approach to compensate for this in its updated regulatory framework by setting “corporate-specific” intensity targets in the electricity sector. This means that companies are responsible for lowering the emissions intensity of their “entire fleet of facilities”¹⁵ instead of lowering the intensity of individual coal- and gas-fired plants. This approach allows electricity generators to invest in low-emission technologies such as renewable energy and count the resulting emission reductions towards their targets.

While new investments in low-impact renewable energy are welcome, the 2007 regulatory framework had already created an avenue for making those investments through an “offset” system. This system will allow facilities that are not subject to regulations — including renewable energy facilities such as wind farms — to generate emission reductions and sell them to companies that have to meet regulatory targets. The government has specified that offset credits must be “incremental,” meaning that they represent reductions that would not have occurred as part of “business as usual” and are not already required by any legal obligation or expected as a result of a government incentive program.¹⁶ A rigorous test for incrementality (also sometimes described as “additionality”) is the foundation of any credible offset system.

However, by allowing companies to invest directly in low-emission technologies to meet a “corporate” target, the government exempts them from the incrementality requirement. This has two possible consequences: first, it opens the door to companies receiving subsidies to meet their

¹⁵ Environment Canada, *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions*, 8.

¹⁶ Environment Canada, *Turning the Corner: Canada's Offset System for Greenhouse Gases* (Ottawa, ON: Government of Canada, 2008), 13–15. Also available online at http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/526_eng.pdf.

regulated targets; second, it takes Canada further from meeting its national emissions targets. This is because emission reductions from government incentive programs and provincial regulations in the electricity sector will no longer add to (go beyond) the reductions from the regulatory framework; instead, the two sets of reductions will now overlap. The result of this “double counting” will be fewer emission reductions from the electricity sector as a whole.

The case of coal-fired electricity in Ontario gives an idea of just how much “double counting” there could be. The provincial government has made a regulation requiring Ontario’s remaining coal-fired plants to stop burning coal by the end of 2014.¹⁷ These plants, operated by Ontario Power Generation, emitted 25 Mt of CO₂ in 2006.¹⁸ If coal is replaced by some combination of conservation, renewable energy and nuclear power, annual emissions will therefore be reduced by up to 25 Mt. The majority of these reductions would not have been counted under the 2007 regulatory framework, because they do not result from reductions in facility-level emissions intensity and they would not qualify for offset credits, being required by a provincial regulation. But a substantial portion of these reductions will now be counted under the updated framework.¹⁹

The updated regulatory framework also confirms that the electricity sector will have access to pre-certified investment credits, as an alternative to payments into the Technology Fund. This means that before the coal phase-out, Ontario Power Generation will have the option of meeting its target in large part simply by setting dollars aside for investments in nuclear energy. At the same time, the requirement that pre-certified investment dollars be spent on “large-scale” projects may disqualify low-impact renewable energy projects (which tend to be small), despite their far superior environmental attributes relative to nuclear energy.

5. 30% or more of upstream oil and gas emissions are exempted

The updated regulatory framework also sets “minimum thresholds” in five sectors, including the upstream oil and gas sector (this covers the extraction and initial processing of oil and gas, excluding oil sands). Thresholds exempt small-scale operations in these sectors from any regulatory requirements. In the upstream oil and gas sector, the threshold is set high enough that 30% of the sector’s total emissions will escape any regulatory obligations.²⁰

The government had already decided to exempt “unintentional fugitive emissions” — making up more than 50% of the upstream oil and gas sector’s emissions²¹ — from the main regulatory framework. Instead, the updated framework now states that “regulated codes of conduct will be developed to ensure the use of best practices for the capture of unintentional fugitive emissions,”²² and assumes that these emissions will thereby fall by 50% by 2020.²³ But the

¹⁷ See <http://www.canlii.org/on/laws/regu/2007r.496/index.html>.

¹⁸ Ontario Power Generation, *Sustainable Development 2006 Report* (Toronto, ON: Ontario Power Generation, undated), 12. Also available online at <http://www.opg.com/pdf/sustainable%20development%20reports/sustainable%20development%20Report%202006.pdf>.

¹⁹ The exact amount of these reductions that will be counted under the updated regulatory framework will depend on the extent to which replacement renewable energy and/or nuclear power generation counts towards Ontario Power Generation’s total production.

²⁰ Communication from Environment Canada officials at a technical briefing on March 14, 2008.

²¹ Environment Canada, *Clean Air Regulatory Agenda — Regulatory Framework for Industrial Air Emissions* (Ottawa, ON: Government of Canada, 2007), 28. Also available online at http://www.ec.gc.ca/Content/4/F/2/4F2292E9-3EFF-48D3-A7E4-CEFA05D70C21/techbrief_e.pdf.

²² Environment Canada, *Turning the Corner: Detailed Emissions and Economic Modelling*, 3.

²³ *Ibid.*, 21.

government has provided no further details, leaving a question mark over whether and how this reduction will be achieved.

6. The government's policies are still far from adding up to its 2020 target

Environment Canada has now published economic modelling results showing the emission reductions it expects to achieve from its regulatory and other efforts. However, even with some questionable assumptions,²⁴ the policies that the government has unveiled to date don't add up to its target level. Instead, to construct a scenario in which it reaches its 2020 target for national emissions, the government has to include emission reductions from a yet-to-be-defined "clean electricity" initiative and a list of "opportunities for further reductions" that would primarily rely on provincial government action. To reach the 2020 national target, these vague categories need to generate 60 Mt of the 330 Mt of required reductions in annual emissions (relative to business-as-usual emissions).²⁵ Clearly, the federal government has yet to outline a credible set of policies that are capable of reaching its target.

7. The government's targets come up short against climate science

To avoid dangerous climate change, widely defined as a global average temperature increase of 2°C relative to the pre-industrial level, industrialized countries including Canada need to make deep reductions in their GHG emissions — 25–40% below the 1990 level by 2020 and 80–95% below 1990 by 2050.^{26,27} At the December 2007 United Nations climate conference in Bali, Canada agreed to negotiations on a post-2012 global climate agreement guided by the science-based target range of 25–40% reductions by industrialized countries below the 1990 level by 2020.²⁸

The updated regulatory framework failed to strengthen the government's national emissions target for 2020, which is to reduce Canada's GHG emissions to 20% below the 2006 emission level. Converted to the internationally-recognized base year of 1990, this is equivalent to about 2% *above* Canada's 1990 emission level.²⁹ This target leaves Canada far short of doing its fair share in the global effort to prevent dangerous climate change.

²⁴ For example, the modelling assumed an oil price of only \$50/barrel from 2010 onwards. The government has asserted without explanation that investments by the Technology Fund will generate 20 Mt of reductions in annual emissions. The government has also reached conclusions about the incrementality of provincial measures (relative to federal ones) that require further scrutiny. See Environment Canada, *Turning the Corner: Detailed Emissions and Economic Modelling*, 40, 6, 3 respectively.

²⁵ Ibid., 11–12.

²⁶ Gupta et al., "Policies, Instruments and Co-operative Arrangements," in 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.mnp.nl/ipcc/pages_media/AR4-chapters.html.

²⁷ These emission reductions are based on stabilizing the atmospheric GHG concentration at 450 parts per million CO₂e, which corresponds to only about a 50% probability of respecting the 2°C limit.

²⁸ See the "Conclusions adopted by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its resumed fourth session held in Bali, 3–11 December 2007." Available online at http://unfccc.int/files/meetings/cop_13/application/pdf/awg_work_p.pdf.

²⁹ Matthew Bramley. *Analysis of the Government of Canada's April 2007 Greenhouse Gas Policy Announcement*, 1.