

Highlights of Provincial Greenhouse Gas Reduction Plans

Version 1, August 8, 2007

	British Columbia	Alberta	Saskatchewan
Climate change plan	<p>- 2004: <i>Weather, Climate and the Future – BC's Plan</i> (BC 2004); http://www.env.gov.bc.ca/air/climate/cc_plan/pdfs/bc_climatechange_plan.pdf</p> <p>- BC's 2004 CC plan has been superseded by commitments made in the February 2007 Throne Speech (SFT); http://www.leg.bc.ca/38th3rd/Throne_Speech_2007.pdf</p> <p>- BC is currently developing a new climate plan, to be released "soon," which will "aspire to meet or beat the best practice in North America" for reducing GHGs (SFT, p.14-15)</p> <p>- BC also released an energy plan on February 27, 2007, entitled <i>The BC Energy Plan: a vision for clean energy leadership</i> (Energy Plan); http://www.energyplan.gov.bc.ca/PDF/BC_Energy_Plan.pdf</p>	<p>- October 2002: <i>Albertans and Climate Change: Taking Action</i> (AB 2002); http://environment.gov.ab.ca/info/library/6123.pdf</p> <p>- Alberta is currently developing a new five year plan. The draft plan is scheduled for release in late summer 2007, with the final version expected by late fall 2007¹.</p>	<p>June 2007: Saskatchewan <i>Energy and Climate Change Plan</i> (Sask 2007); http://www.saskatchewan.ca/green</p>
Targets for provincial GHG emissions	<p>- 10% below 1990 by 2020 (SFT, p.14)</p> <p>- Commitment to develop 2012, 2016 and 2050 targets (SFT, p.14, 16)</p>	<p>- 50% reduction in emissions intensity below 1990 by 2020, equivalent to a 20-35% increase in absolute emissions relative to 1990 levels (AB 2002, p.10)</p> <p>- "Alberta recognizes that more significant emission reductions will be required over the longer term (2050)" (AB 2002, p.12)</p>	<p>- "Stabilize the absolute level of greenhouse gas emissions by 2010" (Sask 2007, p.4; the plan does not specify at what level emissions will be stabilized)</p> <p>- 32% below 2006 by 2020 (Sask 2007, p.4)</p> <p>- 80% below 2006 by 2050 (Sask 2007, p.4)</p>
Do measures add up to target?	<p>No. Although BC has announced a 2020 target and several associated measures, it does not yet have a climate change plan. The Government's Speech From the Throne refers to a "soon-to-be released" climate change plan; in the interim, BC does not have a full list of measures that correspond to its targets.</p>	<p>No. Measures in the plan have no emission reduction targets.</p>	<p>The plan provides a graph representing emission reduction wedges that add up to the government's 2050 target (Sask 2007, p.8), but the wedges represent technologies, not measures. Most measures in the plan have no emission reduction targets or estimates.</p>
Extent of funding for measures?	<p>As noted above, BC has made some notable initial commitments, but does not yet have a full climate change plan nor the allocation of funds to support such a plan. The government has made only modest initial funding commitments, notably:</p> <p>- \$4 million for 2007-08 to support actions to reduce GHGs and improve the assessment of the impacts of climate change on BC (Budget 2007², p.35)</p> <p>- \$10 million over 2006-2010 for the purchase of hybrid vehicles as part of the government's fleet (Budget 2007, p.35)</p> <p>- Commitment to establish \$25 million Innovation Clean Energy Fund "to encourage the commercialization of alternative energy solutions and new solutions for clean remote energy" (SFT, p.18). The government has subsequently announced a plan to raise money for the Fund through a "0.4 per cent levy on sales of electricity, natural gas, grid propane and fuel oil that are non-transportation related," with a cap of \$500,000 per year for high-use energy customers. (For an average home, the government estimates that the levy will cost about \$8 per year.) The levy is expected to be implemented in the summer of 2007.³</p>	<p>Alberta has funded various initiatives under its 2002 climate change plan (see partial list, below) and is operating an intensity-based regulatory system for heavy industry. As noted above, Alberta is in the process of developing a new climate plan; the level of funding that plan receives will be an important test of its credibility.</p> <p>- \$3.6 million for climate change for 2006-07; \$3.688 million estimate for 2007-08; \$3.744 million budgeted for 2008-09; \$3.804 million budgeted for 2009-10⁴</p> <p>- Budget 2007⁵: \$18 million in Energy Innovation Fund Initiatives to be invested in R&D focused on energy supply and protection of the environment</p> <p>- Budget 2007: \$41 million for the Bio-Fuel Initiative in 2007-08 (see "Transportation" section below)</p> <p>- \$25 million monitoring and evaluation project on the long-term reliability of storing CO₂ in geological formations (AB 2002, p.27)⁶</p> <p>- Up to \$200 million in royalty relief for enhanced oil recovery-type initiatives from 2007-2011 (AB 2002, p.26)⁷</p> <p>- \$30 million in interest-free loans to 60 municipalities for energy-efficiency projects between 2003 and 2006⁸</p>	<p>The majority of initiatives in Saskatchewan's plan are not tied to specific funding; the plan's action items consist mainly of targets, announcements of processes, and initiatives or commitments without specific dollar figures attached. The plan does not lay out funding requirements.</p> <p>When the plan was released, the news release noted that: "The 2007-08 Budget contains \$48 million to support various climate change initiatives. Crown Corporations will spend an additional \$49 million. The premier announced today an additional \$44.4 million over three years to fund emission reduction initiatives similar to projects that will receive support under the federal trust fund for clean air and energy efficiency projects."⁹</p> <p>Some of the climate change funding contained in Budget 2007-08¹⁰ includes:</p> <p>- "\$7.5 million will be spent on green and climate change initiatives" (Budget 2007, p.78)</p> <p>- "In 2007-08, the budget for the ethanol fuel tax rebate will increase by \$3.3 million to \$21 million as industry production expands." (Budget 2007, p.79)</p>

Measures			
<i>Electricity</i>	<ul style="list-style-type: none"> - BC to be "electricity self-sufficient by 2016" (SFT, p.16) - Zero-GHG electricity production: "All new and existing electricity produced in BC will be required to have net zero greenhouse gas emissions by 2016." (SFT, p.17) - "Ensure that clean or renewable energy generation continues to account for at least 90 per cent of total generation" (Energy Plan, p.13) - Requirement for 100% carbon sequestration for any coal-fired power project (SFT, p.17) - Commitment to develop a cap-and-trade system with US states under the Western Regional Climate Action Initiative, to be in force by 2012 (SFT, p.18-19 and^{11,12}) 	<ul style="list-style-type: none"> - As of July 1, 2007, Alberta has regulations in effect that set a 12% intensity reduction target for all existing large industrial facilities emitting over 100,000 tonnes CO₂e. New facilities (those in operation after 2000) have a three-year grace period before being subject regulated targets. The government expects about 12Mt of annual industrial emissions to be subject to the new regulations,¹³ but companies can meet their targets by making payments of \$15/tonne into a Climate Change and Emissions Management Fund as well as through on-site reductions or purchasing offset credits from within the province. 	<ul style="list-style-type: none"> - All SaskPower's new and replacement electricity generation facilities to be carbon neutral (Sask 2007, p.4) - Develop demand-side management (DSM) practices to reduce consumer demand for SaskPower's electricity by 300MW by 2017, relative to business-as-usual levels. The plan states that Saskatchewan will use DSM "as an alternative to the construction of new facilities" (Sask 2007, p.10). - Expand the eligibility for Saskatchewan's Investment Tax Credit for Manufacturing and Processing to certain types of renewable energy and energy conservation equipment used to generate electricity (Sask 2007, p.10)
<i>Other industry</i>	<ul style="list-style-type: none"> - Commitment to develop a cap-and-trade system with US states under the Western Regional Climate Action Initiative (see "Electricity" section above) - Commitment to reduce emissions from the oil and gas sector to 2000 levels by 2016 (SFT, p.17) - Proposed requirement for zero flaring at producing wells and production facilities (SFT, p.17) - Beehive burners to be eliminated (SFT, p.18; no timeline) 	<ul style="list-style-type: none"> - Same as "Electricity" section above 	<ul style="list-style-type: none"> - Before the end of 2008, work with the oil and gas industry to prepare recommendations on reducing emissions from venting and flaring along with fugitive emissions (Sask 2007, p.14) - Invest up to \$20 million in "pipeline expansions," and up to \$12 million with industry "to participate in the development of flare gas processing opportunities" (Sask 2007, p.14) - Establish a Saskatchewan Technology Fund to "receive voluntary payments from Saskatchewan industry as a method of complying" with the federal GHG regulations (Sask 2007, p.18)
<i>Transportation</i>	<ul style="list-style-type: none"> - Commitment to phase in California's vehicle emission standards between 2009 and 2016; this is expected to reduce CO₂ emissions from automobiles "by some 30%" (SFT p.21; the government does not provide the year by which 30% reduction will occur, nor the baseline level it is using for the 30% comparison) - Commitment to establish a low-carbon fuel standard which is expected to "reduce the carbon intensity of all passenger vehicles by at least 10% by 2020" (SFT p.21; the government does not provide the baseline level it is using for the 10% comparison) - \$2000 sales tax exemption on new hybrid vehicles to be extended (SFT, p.21) - \$1.9 billion public-private partnership in building the rapid-transit Canada Line (linking downtown Vancouver, Richmond, and the Vancouver airport) by 2010; the government estimates that the project will reduce "net GHG emissions by up to 14,000 tonnes by 2021" (SFT, p.20) - Federal-provincial partnership to invest \$89 million in fuelling stations and "the world's first fleet of 20 fuel cell buses" (SFT, p.19) - \$40 million LocalMotion Fund to help local governments build walkways, cycling paths and disability access 	<ul style="list-style-type: none"> - In Budget 2007, the Government of Alberta increased its funding for biofuel initiatives to \$41 million in 2007-08, up from \$5 million in the 2006-07 forecast. This funding will be invested in "bio-energy development projects and initiatives, including biofuel commercialization and marketing, infrastructure development and producer credits."¹⁴ Alberta does not have its own biofuel requirement, choosing to rely on a national regulatory approach.¹⁵ 	<ul style="list-style-type: none"> - Saskatchewan already mandates ethanol blending in gasoline; their climate plan calls for an increase by 2010 (the level of the increase is not specified) from the existing average blend of 7.5% ethanol (Sask 2007, p.12-13) - Develop a 1.4 billion litre biofuel industry (Sask 2007, p.13; the plan does not give a timeline for reaching the 1.4 billion litre level, this presumably represents an annual production target) - Work with other governments on a nation-wide E85 corridor and with industry on the development of E85 corridors in Saskatchewan (Sask 2007, p.13).
<i>Buildings</i>	<ul style="list-style-type: none"> - New BC Green Building Code to be developed "over the next year" (SFT, p.22) - Commitment to update minimum energy efficiency standards for equipment (BC 2004, p.19-20) - Commitment to review energy performance standards for houses in the BC Building Code (BC 2004, p.20) 	<ul style="list-style-type: none"> - Commitment to incorporate an energy efficiency requirement into Alberta's Building Code (AB 2002, p.32) 	<ul style="list-style-type: none"> - Over the next two years, implement new province-wide energy efficiency building standards in consultation with industry (Sask 2007, p.11) - Invest \$28 million to extend Sask EnerGuide for Houses program to 2011 (Sask 2007, p.20) - Extend Home Energy Improvement Program, whose mandate is to reduce energy use in low and moderate income households, to 2011 (Sask 2007, p.20) - Train specialized trades people for energy efficiency retrofits, solar and wind installation and biomass applications (SK 2007, p.19)

<p><i>Other sectors (agriculture, forest management, landfills, government operations etc.)</i></p>	<ul style="list-style-type: none"> - Provide support to the BC Agriculture Council to implement best management practices on farms and ranches (BC 2004 p.27) - BC has made a bilateral agricultural agreement with the federal government to reduce GHG emissions from agricultural operations "to a target of 2.4 Mt by 2008," using a range of management activities. (BC 2004, p.27) - Commitment to develop a policy framework to support the creation of incremental forestry sinks (BC 2004, p.25) - Commitment to develop legislation "over the next year" to "phase in new requirements for methane capture" from landfills; the speech suggests using the landfill gas for clean energy (SFT, p.18) - Commitment to making the Government of BC carbon neutral by 2010 (SFT, p.15) - Beginning in Feb. 2007, all new cars leased or purchased by the BC government to be hybrids (SFT, p.21) 	<ul style="list-style-type: none"> - Commitment to reduce GHGs from government operations by 26% below 1990 levels by 2005 (AB 2002, p.21) - As of 2005, more than 90 per cent of the electricity used in government-owned facilities in Alberta comes from green power sources. Alberta Infrastructure signed purchase agreements in 2003 for approximately 210,000 MWh annually, split equally between ENMAX and Canadian Hydro. The power comes from a wind farm at McBride Lake and from biomass combustion at a new facility in Grande Prairie.¹⁶ 	<ul style="list-style-type: none"> - Encourage farmers to establish agricultural soil sinks to remove 25Mt CO₂/year by 2012, 37 Mt CO₂/year by 2050 (Sask 2007, p.13) - Develop the management practices and technology to make a 20% reduction in agricultural emissions intensity, per animal of livestock production and per acre of crop production, by 2030 (Sask 2007, p.14) - Reforest 20,000 hectares of "not sufficiently regenerated land" by 2017. The government estimates that this will sequester about 4.9 Mt of CO₂ "over the life of the plantation" (Sask 2007, p.13) - Use green power to meet 36% of total electricity requirements for government buildings by 2008; 50% by 2009; and 90% by 2010 (Sask 2007, p.20) - Reduce energy consumption of the government's core building by 20% through the replacement of building components (Sask 2007, p.10) - Implement a "Government and Crown vehicle purchase policy" that requires all vehicles to be either hybrid-electric, alternative/flex-fuel or within top 20% efficiency in their class (Sask 2007, p.10) - Establish a voluntary, provincially certified Emission Offset Fund to allow organisations or the public to offset their emissions by supporting emission reduction initiatives in Saskatchewan (Sask, p.18)
<p>Further information</p>			
<p><i>Legislation</i></p>	<p><i>Energy Efficiency Act:</i> http://www.em.gov.bc.ca/AlternativeEnergy/EnergyEfficiency/EnergyEfficiency_Act.htm</p>	<ul style="list-style-type: none"> - <i>Climate Change and Emissions Management Act:</i> http://www.qp.gov.ab.ca/documents/Acts/C16P7.cfm?frm_isbn=9780779723386 - <i>Specified Gas Emitters Regulation:</i> http://www3.gov.ab.ca/env/air/pubs/Specified_Gas_Emitters_Regulation.pdf 	
<p><i>Other</i></p>		<p>Accomplishments to date according to Alberta Environment: http://www3.gov.ab.ca/env/climate/accomplishments.html</p>	
<p><i>Contact</i></p>	<p>Karen Campbell, Pembina Institute, 604-874-8558, ext. 225 Ian Bruce, David Suzuki Foundation, 604-306-5095</p>	<p>Jaisel Vadgama, Pembina Institute, 403-807-6566 Nashina Shariff, Toxics Watch Society of Alberta, 780-915-8946</p>	<p>Ann Coxworth, Saskatchewan Environmental Society, 306-665-1915</p>

	<p style="text-align: center;">Ontario</p>	<p style="text-align: center;">Québec</p>	<p style="text-align: center;">New Brunswick</p>
<p>Climate change plan</p>	<p>- Yet to be released. However, the government has made a series of climate change announcements (all of which are available on the Premier of Ontario's website, http://www.premier.gov.on.ca/home/default.asp?lang=EN).</p>	<ul style="list-style-type: none"> - June 2006: <i>Quebec and Climate Change - A Challenge for the Future, 2006-2012 Action Plan</i> (QC 2006); http://www.mddep.gouv.qc.ca/changements/plan_action/2006-2012_en.pdf - June 2007: <i>Quebec and Climate Change - A Challenge for the Future, 2006-2012 Action Plan - First Year Results</i>; http://www.mddep.gouv.qc.ca/changements/plan_action/bilan1-en.pdf 	<p>June 2007: <i>New Brunswick Climate Change Action Plan - 2007-2012</i>; http://www.gnb.ca/0009/0369/0015/0001-e.asp (NB 2007)</p>

<p>Targets for provincial GHG emissions</p>	<ul style="list-style-type: none"> - 6% below 1990 by 2014¹⁷ - 15% below 1990 by 2020¹⁸ - 80% below 1990 by 2050¹⁹ 	<ul style="list-style-type: none"> - 6% below 1990 by 2012 (QC 2006, p.14) - There is a growing scientific and government consensus that global warming of more than 2°C constitutes “dangerous” climate change which must be prevented. Québec “welcomes the idea of limiting warming to under the 2°C threshold,” noting that “the threshold is already likely too high” for northern latitudes (QC 2006, p.9). <p>The measures in Québec’s plan are estimated to produce a reduction in annual emissions of 10 Mt CO₂e below business as usual in 2012, which would get the province to 1.5% below the 1990 level in that year. To reach the “Kyoto level” of 6% below 1990²⁰ (13.8 Mt below business as usual), Québec says it will need funding from the Government of Canada for the final 3.8 Mt (QC 2006, p.3).</p>	<ul style="list-style-type: none"> - 1990 levels by 2012 (5.5 Mt reduction in annual emissions below business-as-usual in 2012) (NB 2007, p.1) - 10% below 1990 by 2020 (NB 2007, p.1)
<p>Do measures add up to target?</p>	<p>The government has broken down the emission reductions that each relevant sector is expected to contribute to the achievement of its 2014 and 2020 targets.²¹ However, the policies that will lead to the targeted reductions in each sector have yet to be identified in most cases.</p> <p>Although the Government of Ontario has made a series of announcements about climate change policy measures, it has yet to tie these together into a cohesive plan that demonstrates how the province can achieve its targets.</p>	<p>In its 2006 plan, Québec provides a table that shows the cost of each measure and the anticipated GHG reductions from each (QC 2006, Appendix 1). Québec estimates that the 24 measures in its 2006 climate plan will lead to reductions to 1.5% below 1990 emission levels by 2012. To reach its target of 6% below 1990 levels by 2012, Québec asked the federal government for additional funding.</p> <p>In February 2007, the federal government committed \$349.9 million to climate change action in Québec through a federal-provincial trust fund. According to the federal press release, as a result of this funding, “the Government of Quebec has indicated that it will be able to reduce greenhouse gas emissions by 13.8 million tonnes of carbon dioxide or equivalent below its anticipated 2012 level.”²²</p> <p>Some of the provincial projects which may receive funding from the federal initiative include (among others):</p> <ul style="list-style-type: none"> - investments to improve access to new technologies for the trucking sector; - a program to develop renewable energy sources in rural regions; - a pilot plant for production of cellulosic ethanol; and - the promotion of geothermal heat pumps in the residential sector.²³ 	<ul style="list-style-type: none"> - New Brunswick’s climate plan breaks down the emission reductions that each sector is expected to contribute to the achievement of its 2012 target. In addition, the plan proposes to create a Climate Change Secretariat in the Department of the Environment to track and report on the implementation of the plan (NB 2007, p.32). <p>Sectoral targets are as follows (all for reductions in annual emissions below business-as-usual in 2012) (NB 2007, p.11):</p> <ul style="list-style-type: none"> - 2.2 Mt from energy efficiency and renewable energy measures - 1.2 Mt from transportation measures - 1.2 Mt from waste management measures - 0.7 Mt from Industrial sources (this reduction depends on the implementation of federal policy, as New Brunswick does not plan an independent regulatory policy for GHG emissions from industry) - 0.2 Mt from “other” actions, including “Government leading by example” and “Partnerships and Communications”

<p>Extent of funding for measures</p>	<p>Ontario has dedicated funding to renewable energy, energy efficiency, green R&D (tied to the auto sector), ethanol production and public transit capital spending. However, as the province has yet to produce a comprehensive climate change plan (see above), the extent of funding to support that plan remains to be seen.</p> <p>Examples of Ontario climate-related funding to date:</p> <ul style="list-style-type: none"> - Ontario received \$338 million for climate change through the 2005 Canada-Ontario Agreement (funds are allocated for the years 2006-07 to 2008-09)²⁴ - \$650 million Next Generation Jobs Fund over five years, starting from 2007²⁵ - \$150 million Home Retrofit Program And Solar Initiatives over five years, starting from 2007²⁶ - \$220 million Municipal Eco Challenge Fund for investments in GHG-reduction projects and infrastructure (\$20 million devoted to grants, and \$200 million to loans)²⁷ - \$17.5 billion rapid transit action plan for the Greater Toronto Area and Hamilton for a 12-year new transit capital building program starting in 2008. 52 transit projects have been identified as recipients for the funding. The project depends on about \$6 billion in federal funding (35% of project costs).²⁸ - \$520 million, 12-year Ethanol Growth Fund to help Ontario producers meet the province's Renewable Fuels Standard, which requires "an average of five per cent ethanol in all gasoline sold in Ontario by January 1, 2007."²⁹ 	<ul style="list-style-type: none"> - Québec plans to allocate \$200 million/year to a Green Fund to implement its climate change plan, for a total of \$1.2 billion (QC 2006, p.3). The money for the Green Fund will come from a modest levy on hydrocarbons, "which will be calculated on the basis of CO₂ equivalents for each form of energy." (QC 2006, p.28). - Additional funding of \$350 million (one-time allocation) from the federal trust fund (see above) 	<p>New Brunswick's Climate Change Action Plan does not state how much funding will be needed to implement it. The Plan itself contains very few spending commitments (most of the actions described are targets, strategies, programs and commitments).</p> <p>In the 2007-2008 Budget, the main new spending related to climate change was a commitment to provide "additional funding of \$15.3 million... to the New Brunswick Energy Efficiency and Conservation Agency for comprehensive home energy conservation initiatives, along with new programs for the commercial and industrial sectors."³⁰</p> <p>New Brunswick's plan was released after the 2007-2008 budget. A key test of the plan's credibility will be whether sufficient funding is allocated to fulfilling its commitments by Budget 2008.</p>
<p>Measures</p>			
<p><i>Electricity</i></p>	<ul style="list-style-type: none"> - 44% of the reductions in annual emissions below business-as-usual needed to reach the provincial 2014 target are projected to come from the electricity sector, notably through the phase-out of coal-fired electricity, the use of renewable energy and other electricity policies³¹ - Intention to ban sale of inefficient light bulbs beginning in 2012³² - Suite of initiatives to encourage homeowners to increase energy efficiency via retrofits and to invest in renewable energy. The policy package includes incentives for home retrofits, retail sales tax exemptions for Energy Star products and renewable energy equipment, and several consumer information programs.³³ - Commitment to develop new renewable energy projects to meet 5% of Ontario's electricity capacity by 2007 (1350 MW) and 10% (2,700 MW) by 2010. Approved projects have included "waterpower", landfill gas, biogas and wind.³⁴ - Standard offer contracts in place for renewable energy (including wind energy, small hydro, and small solar photovoltaic installation); standard offer under development for cogeneration. This program provides a favourable pricing regime and a streamlined qualifying process to help get small renewable energy electricity projects onto the grid in Ontario.³⁵ - Commitment to reduce peak electricity demand in Ontario by 5% by 2007. The government estimates that this measure will reduce annual emissions by 1 Mt.³⁶ 	<ul style="list-style-type: none"> - Commitment to negotiate voluntary agreements for GHG reductions in industrial sectors; expected reduction in annual emissions of 0.94 Mt below business-as-usual in 2012 (QC 2006, p.24,40) - 2004 regulation banning CFCs and halons; expected reduction in annual emissions of 0.7 Mt in 2012 (QC 2006, p.24,40) 	<ul style="list-style-type: none"> - Use of demand-side management programs and the province's Renewable Portfolio Standard (see below) are expected to achieve a reduction of 2 Mt below 2003 emission levels by 2020 (NB 2007, p.20) - Energy efficiency grants and loans available for residential, commercial and industrial sectors through Efficiency NB, an agency whose mandate is to "promote energy efficiency measures in the residential, community and business sectors of New Brunswick."³⁷ - Targets for the thermal electricity sector: an absolute reduction of 25% from 2003 levels by 2020, and an anticipated 65% reduction in emissions (baseline not given) by 2050 (NB 2007, p.20). - Under the <i>Renewable Resources Regulation of the Electricity Act</i>, "10% of electricity sales must come from new renewable sources by 2016." Under this standard, NB Power "announced an expression of interest to provide 400 megawatts (MW) of renewable electricity generation", and 96 MW for 2008 are already contracted for (NB 2007, p.14). - The province plans to refurbish the Point Lepreau nuclear power station (NB 2007, p.20) - Commitment to implement a forest biomass policy, and to study the feasibility of new small hydro, tidal, and other renewable opportunities (NB 2007, p.15)

<p><i>Other industry</i></p>	<ul style="list-style-type: none"> - Amendments to Ontario's Refrigerants Regulations "will phase-out the use of chlorofluorocarbons (CFCs) in large refrigeration equipment and chillers, and ensure surplus stocks are properly handled." CFCs are greenhouse gases that deplete the ozone layer.³⁸ - \$14.4 million over four years to encourage facilities in the industrial/commercial sector to convert solar thermal heat. Under the program, facilities would receive 25% of the cost of the installation of a solar thermal heating system from the province, to a maximum of \$80,000. The government estimates that this program will generate 500 installations over four years³⁹ - \$650 million, five-year Next Generation Jobs Fund provides support to companies that build "green cars and auto parts", produce clean fuels or work on the development of clean technologies and products.⁴⁰ 	<p>As noted above, Québec is in the process of imposing a modest levy on hydrocarbons, "which will be calculated on the basis of CO₂ equivalents for each form of energy." (QC 2006, p.28).</p> <p>Although the levies will help Québec to raise money for its GHG-reduction activities, the charge is likely too small to encourage consumers to cut their fuel use. (Notably, Québec does not attribute any direct GHG reductions to its carbon tax measure.)</p>	<p>"The federal government has indicated its intent to take a leadership role in regulating greenhouse gas emissions from industrial facilities." (NB 2007, p.5) Thus, New Brunswick plans to leave the field of industrial GHG emission regulation to the federal government, citing the advantages of "Canada-wide" regulations that "result in fair treatment of industry sectors." (NB 2007, p.19) New Brunswick has opted to "work with the federal government to address industrial facilities and focus on emission reductions from operations through energy efficiency and fuel-switching actions" (NB 2007, p.5) and also to "work with the federal government to ensure that forest management carbon offset credit opportunities" are "fully recognized" under the federal system (NB 2007, p.19).</p>
<p><i>Transportation</i></p>	<ul style="list-style-type: none"> - Ontario will "push for the development of a harmonized, continental approach to vehicle fuel-efficiency standards"⁴¹ but has ruled out adopting California's tailpipe emissions standard⁴² - Signed a Memorandum of Understanding with California that will require producers to "reduce carbon emissions from transportation fuels by 10 per cent by 2020" through a low-carbon fuel standard; the government estimates that this policy will spur emission reductions equivalent to "removing 700,000 cars from the roads"⁴³ - Funding for capital investments in public transit (see above) - Next Generation Jobs Fund (see above) will invest in green cars and clean fuels - Ethanol Growth Fund to support the production of ethanol fuel in Ontario.⁴⁴ This fund supports producers in reaching Ontario's Renewable Fuels Standard, which set a target of 5% ethanol blending in sales of gasoline by Jan 1, 2007.⁴⁵ 	<ul style="list-style-type: none"> - Commitment to adopt California vehicle emission standards by 2010: expected reduction in annual emissions of 1.7 Mt in 2012 (QC 2006, p.21, 40) - Québec "aims to have gas distributors include a minimum 5% of ethanol in their total fuel sales by 2012". Québec hopes to "encourage local production of ethanol from biomass, agriculture and municipal waste" through a \$30 million incentive. Expected reduction in annual emissions of 0.78 Mt in 2012. (QC 2006, p.22,40) - Support program for the marketing of technological innovations in energy efficiency in the transportation sector. Expected reduction in annual emissions of 0.9 Mt in 2012 (QC 2006, p.40) - \$120 million of the \$200 million/year Green Fund will be allocated to public transit initiatives. This amount will be additional to Québec's average annual investment of \$350 million/year in public transit: expected reduction in annual emissions of 0.1 Mt in 2012 (QC 2006 p.21,40) - Québec plans to adopt legislation requiring the mandatory use of a speed-limiting device on all registered heavy-duty trucks that sets the maximum speed for these vehicles at 105 km/h. Expected reduction in annual emissions of 0.33 Mt in 2012 (QC 2006, p.23,40) 	<ul style="list-style-type: none"> - In partnership with other provinces - QC, NS, and BC - and US states, set vehicle standards in New Brunswick that are "stringent with respect to energy consumption and consistent with California's low emission vehicle standards." (NB 2007, p.16-17) - Commitment to develop a public transit strategy for the province (NB 2007, p.15) - Commitment to provide plug-in electrical rest stations for truckers, so that they can run essential equipment without operating their engines (NB 2007, p.16) - In partnership with Québec, "implement a strategy of limiting truck speeds to 105 km/hour." (NB 2007, p.17) - Supporting the federal commitment for ethanol-blended gasoline and conduct R&D with a view to a future 5% biodiesel requirement (NB 2007, p.17)
<p><i>Buildings</i></p>	<ul style="list-style-type: none"> - Ontario's 2006 Building Code contains new energy efficiency standards that will be phased in between 2006 and 2012. The Code will require builders to meet the EnerGuide for Homes 80 standard for new homes by December 2011.⁴⁶ 	<ul style="list-style-type: none"> - Amend Québec's Building Code with new efficiency standards by 2008; expected reduction in annual emissions of 0.05 Mt in 2012 (QC 2006, p.40,20) 	<ul style="list-style-type: none"> - Expand the retrofit incentives offered through Efficiency NB for all types of buildings (no detail provided; NB 2007, p.14) - "Adopt an energy performance standard that goes beyond the federal Canadian model building code, for both new and renovated building in the residential and commercial markets, to be implemented in increments beginning in 2009" (NB 2007, p.14) - Phase-in of energy efficiency standards at Energy Star levels for appliances and equipment (NB 2007, p.14; no dates provided for the phase-in period)

<p><i>Other sectors (agriculture, forest management, landfills, government operations etc.)</i></p>	<p>- \$9 million Biogas Systems Financial Assistance program will help farmers/rural businesses conduct feasibility studies for biogas systems, and will also cover up to 40% of construction costs for biogas digesters (up to a maximum of \$400,000 in total funding). Biogas systems use renewable materials like manure and crops to produce electricity or heat.⁴⁷</p> <p>- Reduce the Ontario government's own electricity use by at least 10% by 2007 (the government does not provide a baseline for this target)⁴⁸</p>	<p>- 2005 regulatory requirement for the capture and incineration of biogas from landfills; expected reduction in annual emissions of 0.5 Mt in 2012 (QC 2006, p.24,40)</p> <p>- Implement \$18 million/year financial support for the capture of biogas from landfills not covered by the regulation; expected reduction in annual emissions of 2.5Mt in 2012 (QC 2006, p.24)</p> <p>- Implement incentive for waste treatment and energy recovery of biomass; expected reduction in annual emissions of 0.3 Mt in 2012 (QC 2006, p.25,40)</p> <p>- Improve energy efficiency of public buildings by 10-14% over 2003 level and fuel consumption of government departments and public organizations by 20% relative to 2003 levels by 2010; expected reduction in annual emissions of 0.15 Mt in 2012 (QC 2006, p.25,40)</p>	<p>- "Encourage projects that capture methane gases from landfills and produce energy, where it is feasible to do so" (NB 2007, p.18)</p> <p>- The target for reducing emissions from government operations is a 25% reduction below 2001 emission levels by 2012. Expected measures include Energy Star procurement policies, use of low-emission vehicles and biofuels, and the use of LEED or other green building standards in construction (NB 2007, p.21-22).</p>
<p>Further information</p>			
<p><i>Legislation</i></p>	<p>- Bill 104 of the <i>Greater Toronto Transportation Act</i> creating the greater Toronto Transportation Authority specifically references reduction of GHGs as a goal</p> <p>- <i>Renewable Fuels Standard</i> (Ontario Regulation 535/05)</p>	<p>- <i>Règlement relatif à la redevance annuelle au Fonds Vert, Loi sur la Régie de l'énergie</i> (L.R.Q., c. R-6.01, a. 85.36 et 114, 1er al., par. 9°; 2006, c. 46, a. 48 et 51)</p> <p>- <i>Règlement sur l'enfouissement et l'incinération de matières résiduelles</i></p> <p>- <i>Loi sur la qualité de l'environnement</i> (L.R.Q., c. Q-2, a 32-33)</p>	<p>- <i>New Brunswick Conservation and Energy Efficiency Agency Act</i></p> <p>- <i>Renewable Energy Regulation – Electricity Act</i></p> <p>- <i>Energy Efficiency Act</i></p> <p>- <i>Coastal Area Protection Regulation – New Brunswick Community Planning Act.</i></p>
<p><i>Other</i></p>	<p>Ministry of the Environment backgrounder (2005); http://www.ene.gov.on.ca/en/news/2005/120601mb.pdf</p>		<p>Efficiency NB website: http://www.energycnb.ca/about-e.asp</p>
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- 5 Alberta Budget 2007; <http://www.gov.ab.ca/budget2007/index.cfm?page=1651>
- 6 See <http://www3.gov.ab.ca/env/climate/accomplishments.html>
- 7 This is intended primarily to boost royalty revenues through increased production. See <http://www.energy.gov.ab.ca/2858.asp>
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- 13 According to the Government of Alberta's backgrounder *Climate Change: Strategy for Reduced Emissions* (available at http://www3.gov.ab.ca/env/Climate/docs/Strategy_for_Reduced_Emissions.pdf), the estimated annual cost of compliance with Alberta's regulations is \$177 million. At \$15/tonne, that means the government expects about 12 Mt of annual emissions to be covered by the system.
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- 15 See [http://www1.agric.gov.ab.ca/\\$department/newslett.nsf/all/gm10921](http://www1.agric.gov.ab.ca/$department/newslett.nsf/all/gm10921)
- 16 Government of Alberta. 2003. *Alberta leads country in purchase of green power*. Press release, March 12; <http://www.gov.ab.ca/acn/200303/14035.html>
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- 18 Ibid. p.7
- 19 Ibid. p.7
- 20 Strictly speaking, 6% below 1990 by 2012 is not the Kyoto level. Canada's Kyoto Protocol target is more demanding: to reduce annual emissions to 6% below 1990 levels *on average between 2008 and 2012*.
- 21 Ibid. p.8-9
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