

Highlights of Provincial Greenhouse Gas Reduction Plans

August 2009



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Note: in this analysis we have focused on the most significant measures in each sector.

	British Columbia	Alberta
Climate change plan	<p>June 2008: <i>British Columbia's Climate Action Plan – Phase One</i> (BC 2008); http://www.livesmartbc.ca/attachments/climateaction_plan_web.pdf</p> <p>BC's climate objectives and commitments have also been outlined in the February 2007 Throne Speech (SFT 2007); http://www.leg.bc.ca/38th3rd/Throne_Speech_2007.pdf</p> <p>and February 2008 Throne Speech (SFT 2008); http://www.leg.bc.ca/38th4th/Throne_Speech_2008.pdf</p> <p>February 2007: <i>BC Energy Plan</i> (Energy Plan); http://www.energyplan.gov.bc.ca/PDF/BC_Energy_Plan.pdf</p> <p>January 2008: Provincial Transit Plan; http://www.th.gov.bc.ca/Transit_Plan/</p>	<p>January 2008: <i>Alberta's 2008 Climate Change Strategy: Responsibility / Leadership / Action</i> (AB 2008); http://environment.gov.ab.ca/info/library/7894.pdf</p> <p>Replaces October 2002 plan: <i>Albertans and Climate Change: Taking Action</i> (AB 2002); http://environment.gov.ab.ca/info/library/6123.pdf</p> <p>December 2008: <i>Provincial Energy Strategy</i> (Energy Strategy); http://www.energy.gov.ab.ca/Org/pdfs/AB_ProvincialEnergyStrategy.pdf</p>
Targets for provincial GHG emissions	<p>BC's targets represent a fair level of ambition and their credibility is enhanced by legislation and interim goals.</p> <ul style="list-style-type: none"> - 33% below the 2007 level (equivalent to 14% below 1990¹) by 2020; - 80% below the 2007 level (equivalent to 74% below 1990) by 2050. <p>The above targets were legislated in the November 2007 <i>Greenhouse Gas Reductions Targets Act</i> (GGRTA).</p> <p>- As mandated by the GGRTA, BC has also announced interim targets of 6% below 2007 levels by 2012 and 18% by 2016. These targets were due to be legally mandated by regulation by the end of 2008, but this has not yet been done.²</p>	<p>Alberta's targets are dangerously weak and out of step with the large majority of jurisdictions in the industrialized world.</p> <ul style="list-style-type: none"> - 20 Mt reduction below business-as-usual by 2010 - 50 Mt reduction below business-as-usual (equivalent to about 58% above 1990) by 2020 (year in which emissions are to stop increasing and start declining) - 200 Mt (or 50%) reduction below business-as-usual by 2050, also stated as 14% below 2005 (equivalent to 16% above 1990)³ <p>(all above: AB 2008, p.7)</p> <p>These targets have not been put into legislation.</p> <p>Note: Canada could not meet a science-based target of 80% below 1990 levels by 2050 under this plan, as Alberta's projected emission levels alone would exceed the national target by 67%.⁴</p>
Do measures add up to target?	<p>Not yet — good progress towards the 2020 target is expected from implemented and announced measures, and the government appears to be serious about closing the remaining gap.</p> <p>"Independent economic modelling estimates that the climate action initiatives announced since 2007 will take us approximately 73 per cent of the way to our 2020 33 per cent greenhouse gas reduction target;" (BC 2008, p.2) however, further implementation will be required. "The government is reviewing additional strategies put forward by the [Climate Action Team, see below] in areas such as emissions pricing, transportation, buildings, agriculture, forestry, and energy, to fill the remaining gap."⁵</p> <p>The 2008 plan includes lists of measures but most measures have no specific emission reduction targets or estimates. Instead the plan reports reductions in emissions for all measures combined.</p> <p>Concerns have been raised that a growing natural gas sector and road and highway expansion could compromise the plan.⁶</p>	<p>No — based on announced measures, Alberta is likely to far overshoot its 2020 target.</p> <p>The 2008 climate strategy provides a graph representing emission reduction wedges but notes that the targets reported above are a result of analysis of the wedges, rather than of specific measures to meet targets. Of the 200Mt reduction targeted by 2050, 24Mt (12%) is attributed to Conservation & Energy Efficiency, 139Mt (70%) to Carbon Capture & Storage, and 37Mt (18%) to Greening Energy Production (AB 2008, p.20). The plan includes lists of measures but none have specific emission reduction targets or estimates.</p> <p>Currently proposed measures fall far short of being able to achieve the 2020 target of 50Mt. CCS is credited with 70% of the reductions, but in the absence of a much higher carbon price or regulated absolute reductions, it is very unlikely to be implemented on this scale. The \$2 billion pledged by the Alberta government for CCS is anticipated to result in a reduction of at most 5Mt starting in 2015, one tenth of the targeted reduction for 2020.⁷</p>

	British Columbia	Alberta
Extent of funding for measures?	<p>A broad array of programs are fully funded.</p> <p>British Columbia's <i>Balanced Budget 2008</i> allocated in excess of \$1 billion over four years for action on climate change.⁸ BC's <i>Balanced Budget 2009</i> allocated an additional \$75 million over three years to extend the Innovative Clean Energy Fund to advance investments in green technology and \$15m to rebate carbon tax revenues for local governments that commit to achieving carbon neutrality by 2012.⁹</p> <p>Highlights of the 2008 budget include:¹⁰</p> <ul style="list-style-type: none"> - \$370 million for capital and operating expenses for public transportation - \$130 million in capital and operating expenses for a carbon-neutral public sector by 2010, including energy-efficiency retrofits for public buildings, establishing the Pacific Carbon Trust, desktop video-conferencing technology and low-carbon procurement practices - \$111 million (including \$62 million for contingencies to develop additional climate action solutions) to undertake stakeholder consultations, establish and fund the Citizens' Conservation Council, assist the Climate Action Team, & support public outreach - \$98 million for the LiveSmartBC: Efficiency Incentive Program and other initiatives for individuals and communities - \$98 million for climate change research through an endowment to the Pacific Institute for Climate Solutions and the Pacific Climate Impacts Consortium, and to undertake a feasibility analysis on carbon capture and storage technology for natural gas production - \$57 million for bioenergy and alternative energy solutions such as establishing a Bioenergy Network, introducing a biodiesel production incentive, expanding solar thermal energy systems, and supporting the Innovative Clean Energy Fund - \$33 million to provide tax relief for the purchase of conventional fuel-efficient vehicles that meet the fuel efficiency criteria set out in the federal government's ecoAUTO rebate program - \$31 million to support innovation in the pulp and paper industry to further reduce its carbon footprint and enhance the carbon storage potential of B.C. forests. <p>Since 2008, 34 projects have been supported under the Innovative Clean Energy Fund, totalling \$47 million.¹¹</p>	<p>There is significant funding but it is focused on a limited number of measures.</p> <p>Alberta's Budget 2008 allocated \$30 million in annual funding to take action around the three themes of the Climate Change Strategy:</p> <ul style="list-style-type: none"> - Implementing Carbon Capture and Storage; - Conserving and Using Energy Efficiently; and - Greening Energy Production.¹² <p>Subsequently, "Budget 2009 includes \$100 million in 2009–10 and \$800 million over three years for CCS projects," as well as \$520 million over three years for GreenTRIP[™] (public transit). Overall, "the province is committed to provide \$2 billion in support of large-scale CCS projects and \$2 billion for public transit under GreenTRIP."¹³</p> <p>"To complete a three-year, \$60 million commitment from Budget 2008, \$20 million is budgeted in both 2009–10 and 2010–11 for initiatives to encourage conservation and energy efficiency by consumers and businesses."¹⁴</p> <p>To date the Climate Change and Emissions Management Fund, established as a compliance option for regulated emitters (see "Electricity" section), has received \$122.4 million.¹⁵ Potential areas for investment by the Fund include "energy conservation and efficiency, demonstration and use of new technologies that reduce greenhouse gas emissions such as carbon capture and storage, development of carbon offset projects and climate change adaptation programs and measures."¹⁶</p>
Measures		
<i>Cross-sectoral</i>	<p>BC introduced a revenue-neutral carbon tax on all emissions from fossil fuel combustion in July 2008. The Pembina Institute estimates that 76% of BC's emissions will be covered by the tax. The tax was introduced at \$10/tonne CO_{2e} and will rise in annual \$5 increments to \$30/tonne by 2012. By law, all revenues from the tax must be recycled through tax reductions, credits or dividends, with special provisions for low-income individuals and families.</p>	

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<i>Electricity</i>	<p>BC has made significant commitments to energy efficiency and conservation, as well as transitioning to a carbon-neutral grid.</p> <ul style="list-style-type: none"> - Zero-GHG electricity production: "All new electricity generation projects will have net zero greenhouse gas emissions" (BC 2008, p.47), including a full CCS requirement for any new coal-fired generation and "Zero Net Greenhouse Gas Emissions from Existing Thermal Generation Power Plants by 2016" (Energy Plan, p.13). The legislative framework for this was established through the <i>Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act</i>, with regulations expected Fall 2009.¹⁷ - BC Hydro will acquire 50% of its incremental electricity needs through conservation by 2020 (BC 2008, p.48) and pursue all cost-effective and competitive demand-side management (DSM) programs (Energy Plan, p.5). Though recently rejected by the BC Utilities Commission,¹⁸ BC Hydro's 2008 Long-Term Acquisition Plan foresaw meeting 78% of incremental resource needs by 2020 through its DSM plan.¹⁹ - BC is committed to developing a cap and trade system with Manitoba, Ontario, Québec and several U.S. states under the Western Climate Initiative (WCI) (BC 2008, p.20). The final design recommendations of the WCI cap and trade system were released in September 2008.²⁰ The BC government has enacted enabling legislation for a cap and trade system (<i>Greenhouse Gas Reduction (Cap and Trade) Act of 2008</i>). - Amendments to the <i>Utilities Commission Act</i> require BC Hydro to "achieve electricity self-sufficiency" by 2016. - "BC Hydro has been instructed to install Power Smart meters in every home in British Columbia by 2012" (STF 2008). 	<p>Alberta has made significant commitments to carbon capture and storage, but measures for renewable energy and energy efficiency remain underdeveloped.</p> <ul style="list-style-type: none"> - The <i>Specified Gas Emitters Regulation</i>, which took effect in July 2007, sets a 12% emissions intensity reduction target for all existing large industrial facilities emitting over 100,000 tonnes CO₂e per year. "New" facilities beginning operation in 1999 or later) have a three-year grace period before being subject to regulated targets. Companies can meet their targets by making payments of \$15/tonne into a Climate Change and Emissions Management Fund, making on-site reductions, purchasing offset credits from within the province, or purchasing Emissions Performance Credits from an emitter who has exceeded their required reductions. Alberta's Energy Strategy promises the government "will review its emissions targets and carbon charges for large industrial facilities, and ensure that appropriate increases are made to both" (Energy Strategy, p.40). - The 2008 climate strategy announced an Alberta Carbon Capture and Storage Development Council, (AB 2008, p.18) which published its final report in July 2009.²¹ In June 2009, the government announced three CCS projects selected to receive \$2 billion in funding, one of which is an integrated gasification combined-cycle carbon capture power generation facility.²² - To date the Climate Change and Emissions Management Fund has received \$122.4 million.²³ Potential areas for investment by the Fund include "energy conservation and efficiency, demonstration and use of new technologies that reduce greenhouse gas emissions such as carbon capture and storage, development of carbon offset projects and climate change adaptation programs and measures."²⁴ Initial applications for funding will be accepted in the later half of the 2009–10 fiscal year.²⁵ - The Energy Strategy commits to "not only support renewable energy development, but promote a market for its consumption," (Energy Strategy, p.28) although the meaning of this commitment remains to be clarified.
<i>Other industry</i>	<p>BC is actively developing a cap-and-trade system as part of the Western Climate Initiative.</p> <ul style="list-style-type: none"> - BC is committed to developing a cap and trade system with Manitoba, Ontario, Québec and several U.S. states under the Western Climate Initiative (see "Electricity" section above) - While the Speech from the Throne stated that "Under the new energy plan, British Columbia will reduce greenhouse gas emissions from the oil and gas industry to 2000 levels by 2016." (SFT 2007, p.17), the 2007 Energy Plan did not affirm this commitment nor did the Climate Action Plan. - BC has committed to eliminate routine flaring at producing wells and production facilities, with an interim goal of a 50% reduction by 2011 (BC 2008, p.47). In 2008, the Oil and Gas Commission introduced new guidelines which "[incorporate] requirements to move towards this goal."²⁶ These are estimated to reduce routine flaring up to 43% through 2009, "with a goal to eliminating all routine flaring... by 2016."²⁷ - The 2008 budget allocated \$98 million for climate change research through an endowment to the Pacific Institute for Climate Solutions and the Pacific Climate Impacts Consortium, and to undertake a feasibility analysis on carbon capture and storage technology for natural gas production. - The 2008 budget also allocated \$31 million to support innovation in the pulp and paper industry to further reduce its carbon footprint and enhance the carbon storage potential of B.C. forests. 	<p>Regulated emissions intensity targets are in effect for large emitters, combined with an offset system.</p> <ul style="list-style-type: none"> - The <i>Specified Gas Emitters Regulation</i>, which took effect in July 2007, sets a 12% emissions intensity reduction target for all existing large industrial facilities emitting over 100,000 tonnes CO₂e per year. Companies can meet their targets by making payments of \$15/tonne into a Climate Change and Emissions Management Fund.²⁸ Potential areas for investment by the Fund include "energy conservation and efficiency, demonstration and use of new technologies that reduce greenhouse gas emissions such as carbon capture and storage, development of carbon offset projects and climate change adaptation programs and measures" (see "Electricity" section). - The 2008 climate strategy announced an Alberta Carbon Capture and Storage Development Council, (AB 2008, p.18) which published its final report in July 2009.²⁹ In June 2009, the government announced three CCS projects selected to receive \$2 billion in funding, two of which are for oil sands and other industrial facilities.³⁰

	British Columbia	Alberta
<i>Transportation</i>	<p>BC has a broad range of measures in place to address transportation emissions.</p> <ul style="list-style-type: none"> - The <i>Greenhouse Gas Reduction (Vehicle Emissions Standards) Act</i> enables the government to legislate emission standards equivalent to California standards. The government is developing regulations to implement the standards, but they will be brought into effect only "when (and not before) the equivalent California regulation and standards are implemented."³¹ - BC has adopted enabling legislation to adopt a low-carbon fuel standard through <i>The Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act</i>. B.C. is targeting at least a 10% reduction in the average carbon intensity of transportation fuels by 2020 (BC 2008, p.30). Regulations will be needed to be implement this standard. - The same Act also introduced a 5% renewable fuels content requirement for gasoline and diesel. The implementing regulations have been finalized and will take effect Jan. 1, 2010. - BC's Transit Plan has the goal of significantly expanding transit and doubling transit ridership by 2020, with an estimated cost of \$14 billion. The BC government has committed to investing "up to \$4.75 billion" in new funding through 2020 and is calling on federal and municipal governments to contribute their shares (BC 2008, p.31). Thus far the Provincial government has pledged \$365m (\$151m to transit plan + \$214m in capital outlays) over four years in 2008 and an additional \$59m over four years in 2009. - BC provides a provincial sales tax exemption up to \$2000 on new hybrid vehicles (BC 2008, p.29). - The 2008 budget also provided tax relief for the purchase of conventional fuel-efficient vehicles that meet the fuel efficiency criteria set out in the federal government's ecoAUTO rebate program. - The vehicle scrappage program, Scrap-It, encourages people to trade in older vehicles in exchange for incentives up to \$2250 towards lower emitting vehicles or vehicle alternatives. The program has been expanded province-wide (BC 2008, p.28). - A Bioenergy Network (\$25m in Budget 2008) has been launched under the provincial Bioenergy Strategy, which also includes investments up to \$10m over three years for expanded biodiesel production.³² 	<p>Transportation measures are focused on bioenergy and public transit.</p> <ul style="list-style-type: none"> - The Government has committed \$2 billion for GreenTRIP, a public transit initiative that "will support new public transit alternatives throughout the province that will significantly reduce the number of vehicles on Alberta roads and reduce GHG emissions."³³ The province is currently developing criteria for funding, though the full \$2 billion pledged has not yet been budgeted. - Alberta intends to introduce a Renewable Fuels Standard requiring 5% ethanol in gasoline and 2% renewable content in diesel. The expected implementation date is July 2010, though no regulations have been issued.³⁴ - Alberta's Nine-Point Bioenergy Plan includes a Renewable Energy Producer Credit Program (\$209 million from 2007–2011). The Bioenergy plan also includes six proposed policy initiatives including energy microgeneration standards, regional development plans, taxation and investment incentives for bioenergy, and disposal protocols.³⁵ - Incentives up to \$3000 are available for hybrid taxis.³⁶
<i>Buildings and municipalities</i>	<p>A broad scope of actions are being implemented. Over 90% of local governments have committed to being carbon neutral by 2012.</p> <ul style="list-style-type: none"> - The BC Green Building Code featuring energy and water efficiency revisions took effect in September 2008 (BC 2008, p.76). - Consultation on a series of updates to provincial energy efficiency standards began in December 2008. Revised standards for windows, doors, skylights and commercial glazing entered into effect in March 2009. A decision on proposed amendments for lighting, gas and electric water heaters is expected mid-2009.³⁷ - Incentives are being provided to audit and retrofit existing homes and buildings for improved energy efficiency as part of the province's \$60 million LiveSmart program (BC 2008, p.76). To date the incentives have reduced annual GHG emissions by an average 2.59 tonnes per house and cut household energy use by an average 31%.³⁸ - The <i>Local Government (Green Communities) Statutes Amendment Act, 2008</i> requires that all official community plans and regional growth strategies include greenhouse gas emission reduction targets, policies and actions" (BC 2008, p.37). - The BC Climate Action Charter commits signatory local governments to becoming carbon neutral by 2012 and undertaking a number of other community-wide initiatives. As of March 31, 2009, 174 local governments (over 90% of the total) have signed the Charter, making them eligible for full refunds of carbon tax paid above and beyond program funding.³⁹ - Programs to encourage local governments to produce zero-GHG electricity and to invest in energy efficiency include the Remote Communities Clean Energy Program (\$23.9m total), BC Solar for Schools, and other investments in solar energy (BC 2008, p.48–49). - The Towns for Tomorrow program (\$21m over three years for capital projects), Smart Development Partnership Program (grants up to \$50,000) and BC Local Government Grants program (grants up to \$10,000) provide funding for projects that support sustainable land-use planning, community energy planning and GHG reductions (BC 2008, p.39). 	<p>An incentive program is in place for homes and appliances, but efficiency standards and municipal partnership measures remain in development.</p> <ul style="list-style-type: none"> - The 2008 climate strategy announced an incentive program to promote the use of energy efficient appliances and home improvements (AB 2008, p.16). Incentives can now be claimed up to \$3,150 for various home retrofits and up to \$10,000 for new homes rated EnerGuide80 or higher.⁴⁰ - The 2008 climate strategy also committed to Implement energy efficiency standards in building codes for homes and commercial buildings (AB 2008, p.16), but these standards remain under development. - Alberta has committed to develop an Energy Efficiency Act (AB 2008, p.16), but this has yet to be tabled. - The province has promised capacity building support to municipalities and other climate change partners to identify emission reduction strategies including land use planning and sustainable development initiatives for inclusion in appropriate municipal plans and bylaws (AB 2008, p.16). Programs remain under development.

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<p><i>Other sectors (agriculture, forest management, landfills, government operations etc.)</i></p>	<p>A broad range of measures are in place, including a binding commitment to a carbon neutral public sector by 2010.</p> <ul style="list-style-type: none"> - A regulation was adopted in 2008 mandating the collection of landfill gas emissions. BC is developing a regime for recovery, sale and use of methane gas from landfills (BC 2008, p.42). - BC requires all public sector organizations to be "carbon neutral for the 2010 calendar year and for each subsequent calendar year" through the <i>Greenhouse Gas Reduction Targets Act</i>. - A regulation on the emission offsets system has been finalized and the Pacific Carbon Trust established as a BC Crown Corporation to manage offsets for government. The system is currently intended for meeting the carbon neutrality requirement for public sector organizations, though other buyers are welcome. - All new provincially owned or leased facilities must be built to a minimum of Leadership in Energy and Environmental Design (LEED) Gold or equivalent criteria (BC 2008, p.40). - Beginning in February 2007, all new cars leased or purchased by the BC government are hybrids (SFT, p.21). - The "Province has decided to include greenhouse gas emissions related to net deforestation in its provincial greenhouse gas inventory." It estimates that deforestation from land-use development releases about 4 million tonnes of greenhouse gas emissions each year. To counter these losses, BC introduced a goal of net-zero deforestation and committed to putting the goal into law by 2010 (BC 2008, p.53). - The BC government is exploring options for reducing emissions from the agriculture sector such as constructing anaerobic digesters to capture methane from manure, improving fertilizer application, supporting biogas digestion, and encouraging local production and purchasing of food (BC 2008, p.43-44). The BC Climate Action Team has made recommendations on further policies in its July 2008 report (see "Other" section below, p.43). 	<p>There has been progress with government operations and public engagement programs, but a lack of action in areas such as landfills.</p> <ul style="list-style-type: none"> - As of 2005, more than 90% of the electricity used in government-owned facilities in Alberta comes from green power sources. The power comes from a wind farm at McBride Lake and from biomass combustion at a new facility in Grande Prairie.⁴¹ - New provincial buildings are constructed under Leadership in Energy and Environmental Design (LEED) silver standards and existing buildings are being certified under the BOMA BEST program.⁴² - The government is in the process of developing a Green Procurement Policy.⁴³ - The 2008 climate strategy committed to "implement strategies to enable reductions of greenhouse gas emissions in the agriculture and forestry sectors and facilitate development of offset and sequestration opportunities" (AB 2008, p.16). The Alberta Offset System is in now operation and provides firms in the industrial and electricity sectors with an option for compliance with the <i>Specified Gas Emitters Regulation</i>. This means that credits awarded for GHG reductions in agriculture and forestry are used by regulated firms to emit more. - The 2008 climate strategy also committed to "Establish a team to raise public awareness of energy efficiency and conservation across the province" (AB 2008, p.16). The government has launched One Simple Act, a public education program,⁴⁴ and various other public outreach initiatives are being implemented through Climate Change Central.⁴⁵

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Further information		
Legislation	<p>Carbon Tax Act; http://www.leg.bc.ca/38th4th/3rd_read/gov37-3.htm</p> <p>Greenhouse Gas Reduction (Cap and Trade) Act; http://leg.bc.ca/38th4th/3rd_read/gov18-3.htm</p> <p>Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act, 2008; http://www.leg.bc.ca/38th4th/3rd_read/gov31-3.htm</p> <p>Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act; http://www.leg.bc.ca/38th4th/3rd_read/gov16-3.htm</p> <p>Greenhouse Gas Reduction (Vehicle Emissions Standards) Act; http://www.leg.bc.ca/38th4th/3rd_read/gov39-3.htm</p> <p>Greenhouse Gas Reduction Targets Act; http://www.leg.bc.ca/38th3rd/3rd_read/gov44-3.htm</p> <p>Local Government (Green Communities) Statutes Amendment Act, 2008; http://www.leg.bc.ca/38th4th/3rd_read/gov27-3.htm</p> <p>Oil and Gas Activities Act; http://www.leg.bc.ca/38th4th/3rd_read/gov20-3.htm</p> <p>Energy Efficiency Act; http://www.em.gov.bc.ca/AlternativeEnergy/EnergyEfficiency/Energy_Efficiency_Act.htm</p> <p>Utilities Commission Amendment Act; http://www.leg.bc.ca/38th4th/3rd_read/gov15-3.htm</p> <p>BC Building Code, changes effective September 2008; http://www.housing.gov.bc.ca/building/green/TextofCodechanges.pdf</p> <p>Landfill Gas Management Regulation; http://www.env.gov.bc.ca/epd/codes/landfill_gas/index.htm</p> <p>Emission Offsets Regulation; http://www.env.gov.bc.ca/epd/codes/ggrrta/pdf/offsets-reg.pdf</p>	<p>- Climate Change and Emissions Management Act; http://www.qp.alberta.ca/574.cfm?page=C16P7.cfm&leg_type=Acts&isbncin=9780779740956</p> <p>- Specified Gas Emitters Regulation; http://www.qp.alberta.ca/574.cfm?page=2007_139.cfm&leg_type=Regs&isbncin=9780779738151</p> <p>- Climate Change and Emissions Management Fund Administration Regulation; http://www.qp.alberta.ca/574.cfm?page=2009_120.cfm&leg_type=Regs&isbncin=9780779740437</p> <p>- Specified Gas Reporting Regulation; http://www.qp.alberta.ca/574.cfm?page=2004_251.cfm&leg_type=Regs&isbncin=077973419X</p> <p>- Administrative Penalty Regulation; http://www.qp.alberta.ca/574.cfm?page=2007_140.cfm&leg_type=Regs&isbncin=9780779724918</p>
Other	<p>Meeting British Columbia's Targets: A Report from the B.C. Climate Action Team; http://www.climateactionsecretariat.gov.bc.ca/cat/report.html</p>	
Contact	<p>Matt Horne, Pembina Institute, 778-235-1476 Ian Bruce, David Suzuki Foundation, 604-306-5095</p>	<p>Dan Woynillowicz, Pembina Institute, 403-888-6272 (away until August 17) Nashina Shariff, Toxics Watch Society of Alberta, 780-915-8946</p>

	Ontario	Québec
Climate change plan	<p>August 2007: Go Green — Ontario's Action Plan on Climate Change (ON 2007); http://www.gogreenontario.ca/docs/actionplanonclimatechange.pdf</p> <p>December 2008: Ontario's Climate Change Action Plan — Annual Report 2007–2008 (ON 2008); http://www.ene.gov.on.ca/en/air/climatechange/annualreport.php</p> <p>November 2008: The Big Move (GTA/Hamilton Regional Transit Plan); http://www.metrolinx.com/Docs/big_move/TheBigMove_020109.pdf</p>	<p>June 2006: Québec and Climate Change — A Challenge for the Future, 2006–2012 Action Plan (QC 2006); http://www.mddep.gouv.qc.ca/changements/plan_action/2006-2012_en.pdf</p> <p>June 2009: Troisième bilan de la mise en oeuvre du plan d'action 2006–2012 sur les changements climatiques (QC 2009); http://www.mddep.gouv.qc.ca/changements/plan_action/bilan3.pdf; the report includes a synthesis table (QC ST 2009); http://www.mddep.gouv.qc.ca/changements/plan_action/bilan3-tableausynthese.pdf</p> <p>May 2006: Québec Energy Plan 2006–2015; http://www.mrnf.gouv.qc.ca/english/publications/energy/strategy/energy-strategy-2006-2015.pdf</p> <p>June 2006: Québec Public Transit Policy; http://www.mtg.gouv.qc.ca/portal/page/portal/grand_public_en/transport_collectif/politique_quebecoise_transport_collectif</p>

	Ontario	Québec
Targets for provincial GHG emissions	<p><i>Ontario's targets represent a fair level of ambition and include a near-term target.</i></p> <ul style="list-style-type: none"> - 6% below the 1990 level by 2014 - 15% below the 1990 level by 2020 - 80% below the 1990 level by 2050 <p>(ON 2007, p.6)</p> <p>These targets have not been put into legislation.</p>	<p><i>Québec's 2012 target represents a fair level of ambition; post-2012 targets are still in development.</i></p> <ul style="list-style-type: none"> - 6% below the 1990 level by 2012 (QC 2006, p.14) <p>This target has not been put into legislation.</p> <p>- 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> <p>- Québec is also part of the 2001 commitment by the Conference of New England Governors and Eastern Canadian Premiers to targets of 10% below the 1990 level by 2020 and 75–85% below the 2001 level by 2050.⁴⁶ Québec is currently developing provincial targets for the post-2012 period, as required by Bill 42 (see below), and an announcement is expected before December 2009.</p>
Do measures add up to target?	<p><i>No — the government has not stated the reductions expected from announced measures, and there is likely a considerable gap remaining to reach the 2020 target.</i></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.⁴⁷ Though many of the specific policies that will lead to the targeted reductions in each sector as a whole are identified (see ON 2007, 2008), most individual measures are not tied to specific reduction estimates. A Premier's Climate Change Advisory Panel has been established to identify further opportunities in each sector (ON 2008, p.4).</p>	<p><i>Yes — the 2012 target will be achieved based on the emission reductions attributed to each measure in the government's plan.</i></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). Now fully funded to a total of \$1.55 billion, the 26 measures are expected to achieve the target set for 2012.</p> <p>Of the 26 measures identified (many including sub-measures), only 3 have yet to be fully initiated (QC ST 2009). A key measure yet to be implemented is the reform of building code (overdue 2008).</p>
Extent of funding for measures	<p><i>A broad array of programs are fully funded.</i></p> <p>Major commitments prior to Budget 2009 included:</p> <ul style="list-style-type: none"> - \$11.5 billion committed to the MoveOntario 2020 rapid transit action plan for the Greater Toronto Area and Hamilton (ON 2008, p.20) - \$1.15 billion over five years for the Next Generation of Jobs Fund to support strategic economic opportunities and investment; "one of [the Fund's] key aims is to support the province's action plan on climate change" (ON 2008, p.27) - a 2007 commitment to \$200 million in loans and \$20 million in grants over three years "to help municipalities reduce greenhouse gas (GHG) emissions" (ON 2007, p.28) - a \$520 million, 12-year Ethanol Growth Fund to help Ontario producers meet the province's Renewable Fuels Standard.⁴⁸ <p>Budget 2009 added the following major commitments:</p> <ul style="list-style-type: none"> - \$250 million over five years to a new Emerging Technologies Fund to support, inter alia, green technology companies - \$390 million (matching the funding from the federal Green Infrastructure Fund) to "develop initiatives that assist in the implementation of the proposed <i>Green Energy and Green Economy Act, 2009</i>, including expediting the growth, transmission and distribution of clean, green renewable energy across Ontario" - \$50 million over five years "to enable the research, capital and demonstration projects necessary for the development of a smart grid in Ontario" - \$30 million annually for initial purchase and showcase of products from Ontario's emerging green technology firms. 	<p><i>The 2006–2012 climate plan, which includes a broad array of programs, is fully funded through its Green Fund and significant additional investments.</i></p> <p>\$1.55 billion is dedicated to the implementation of the 2006–2012 plan. The funds are maintained in a Green Fund, with contributions from the following two sources (QC 2009, p.5):</p> <ul style="list-style-type: none"> - \$200 million/year (for a total of \$1.2 billion) from a modest carbon tax — the first in Canada — which took effect in 2007 (see carbon tax regulation below) - additional funding of \$350 million (one-time allocation) from the federal Trust Fund for Clean Air and Climate Change. <p>The Cap and trade bill (Bill 42) prescribes that any auction revenue from a future cap and trade system (see "other industry" section) be also directed to the Green Fund.</p> <p>In addition to the 2006–2012 climate plan, Quebec's energy strategy, transit policy, and environmental and green technology industry development strategy are also expected to contribute to achieving the targeted reductions:</p> <ul style="list-style-type: none"> - the transit policy will receive \$4.5 billion in government support over the next five years (QC 2009, p.8) - the environmental and green technology industry development strategy was launched in May 2008 with a budget of \$280 million (QC ST 2009, p.6). <p>The government has also invested in the creation of the Cycle capital funds 1, expected to reach \$100 million, which will support manufacturers in undertaking renewable energy and clean technology projects to reduce GHGs (QC 2009, p.22).</p>

	Ontario	Québec
Measures		
<i>Electricity</i>	<p>The 2014 coal phase-out and the significant potential for renewable energy and efficiency through the Green Energy Act are notable.</p> <ul style="list-style-type: none"> - A regulation mandates the phase-out of all coal-fired power generation by the end of 2014. The government estimates that the phase-out of coal "will reduce greenhouse gas emissions by up to 30 million tonnes" (ON 2007, p.22). - Ontario's landmark <i>Green Energy Act</i> received royal assent in May 2009. The Act consolidates new initiatives and existing legislation to create a streamlined enabling environment for renewable power – including a feed-in-tariff system – as well as measures supporting energy conservation and efficiency and the creation of a smart grid in Ontario. - Ontario has committed \$112 million over five years for home energy audit and retrofit programs, including incentives of up to \$5000 per household for improvements and equipment (ON 2008, p.14). - Ontario's 2009 budget allocated \$50 million over five years "to enable the research, capital and demonstration projects necessary for the development of a smart grid in Ontario." - Ontario's Integrated Power System Plan (IPSP) is under review to "enhance the emphasis on conservation and renewable power" (ON 2008, p.15), though the review is currently on hold.⁴⁹ As it stands, new renewable energy will comprise only 8% of the IPSP over the next 20 years. The <i>Green Energy Act</i> creates the necessary conditions to expand renewable energy in the Province, but the extent to which it goes above and beyond current targets for renewable energy in the IPSP has yet to be determined. - Ontario and Québec signed a memorandum of understanding on energy in June 2008, to facilitate sharing of information, joint technological and policy development, and to explore the increased interconnection of electricity systems.⁵⁰ - To help meet the target of 100,000 solar roof systems, the Ontario Solar Task Force issued recommendations in October 2008.⁵¹ Go Solar Ontario has been established as a public information program for solar systems (ON 2008, p.44). - Ontario provides a retail sales tax rebate for renewable energy technologies installed in residential buildings (ON 2008, p.14) 	<p>Québec has significant measures to support energy efficiency and bioenergy.</p> <ul style="list-style-type: none"> - Québec's climate change plan allocates \$185 million to energy efficiency programs, the largest of which (\$150 million) is targeted at reducing heavy fuel oil use. Other programs address light fuel oil use in the manufacturing sector; refrigerants systems in the recreational, commercial and industrial sectors; and heat for buildings (QC 2009, pp.6-7). - Québec has allocated \$124 million to the development of bioenergy in the forestry, agriculture and municipal sectors, including new financing support for bioenergy firms in Budget 2009 (QC 2009, p.17). - The Québec Energy Plan targets 4000MW of wind generation by 2015, including dedicated calls for power of 500MW (combined) for regions and First Nations.⁵² - The \$38 million Biogas program, launched in 2007, supports the commercial use of landfill gas captured from sites not covered under the landfill gas capture regulation (QC 2009, p.16). - Quebec and Ontario have signed an MOU on energy, with the goal of sharing information and interconnecting electricity systems (see Ontario section).
<i>Other industry</i>	<p>Ontario is developing a cap-and-trade system as part of the Western Climate Initiative and has significant programs supporting the development of green industries.</p> <ul style="list-style-type: none"> - In June 2008, Ontario and Quebec signed a Memorandum of Understanding on Cap and Trade, agreeing to establish a system with hard caps on a 1990 baseline beginning as early as Jan. 1, 2010,⁵³ though both provinces have since abandoned this start date in favour of 2012. - Ontario is committed to developing a cap and trade system with BC, Manitoba, Québec and several U.S. states under the Western Climate Initiative (ON 2008, p. 24). In May 2009, Ontario introduced Bill 185, enabling the implementation of a cap and trade system. - Ontario's Next Generation of Jobs Fund, launched March 2008, will invest \$1.15 billion over five years to "support research, development and commercialization in innovative industries" and support the province's action plan on climate change (ON 2008, p.27). - The Ontario Research Fund will spend \$625 million over four years to support research aimed at commercializing innovative goods and clean technologies (ON 2008, p.28–29). - Ontario's 2009 budget committed \$30 million annually for the initial purchase and showcasing of products from Ontario's emerging green technology firms under the Innovation Demonstration Fund. 	<p>Québec is developing a cap-and-trade system as part of the Western Climate Initiative and has Programs supporting the development of green industries</p> <ul style="list-style-type: none"> - Quebec joined the Western Climate Initiative in April 2008. Quebec has also signed a Memorandum of Understanding with Ontario on Cap and Trade (see Ontario section). Enabling legislation for a cap and trade system (Bill 42) was passed in June 2009. - A voluntary agreement was concluded with the Aluminum industry in 2007, covering the period 2008–2012. Under the agreement the sector will reduce its emissions a further 0.15Mt (QC 2009, p.14). - Québec's environmental and green technology industries development strategy was launched in May 2008 with a budget of \$280 million (QC ST 2009, p.6). This includes the Techoclimat program (c. \$110 million) which finances demonstration projects of emerging technologies with high potential to reduce greenhouse gases. \$20 million in additional funding is available for applied research (QC 2009, p.22). - Québec's 2008–2009 budget broadened the definition of assets used to produce clean energy eligible for an accelerated capital cost allowance of 50% "to include, in particular, geosource heat pump systems and systems for converting waste into energy."⁵⁴

	Ontario	Québec
<i>Transportation</i>	<p>Significant initiatives are in place, though further measures will likely be required to meet the GHG reduction goal for the sector.</p> <ul style="list-style-type: none"> - Ontario has pledged \$11.5 billion to MoveOntario 2020, a \$17.5bn rapid transit initiative. A new regional body, Metrolinx, has been mandated to implement the plan.⁵⁵ Initial modelling cautions that, while reducing relative emissions, Metrolinx's detailed November 2008 plan, <i>The Big Move</i>, "would not be sufficient to meet the Province of Ontario's GHG reduction targets by 2020" and will require many complimentary actions in the transportation sector.^{56,57} - Ontario's <i>Ethanol in Gasoline</i> regulation requires an average 5% ethanol in gasoline, effective 2007, and provides incentives for cellulosic ethanol. Ontario's 12-year Ethanol Growth Fund (2005) is designed to support producers in reaching this standard.⁵⁸ - A regulation issued in November 2008 requires the use of a speed-limiting device set at 105 km/h in all registered heavy-duty trucks, effective January 1, 2009. - In July 2009, Premier McGuinty announced a target for 1 in 20 vehicles in Ontario to be electric by 2020, supported by initial consumer rebates of up to \$10,000 from Jan 1, 2010 and a range of other initiatives.⁵⁹ - Ontario has pledged to develop of a low carbon fuel standard that will require "a reduction of 10% in carbon emissions from transportation fuels by 2020." Consultations are ongoing (ON 2008, p.47). - The Next Generation of Jobs Fund (see "Other Industry") will invest in green cars and clean fuels (ON 2008, p.27-28). - Ontario provides rebates of up to \$2,000 for purchases of qualified low emission vehicles such as hybrid cars and trucks (ON 2007, p.11) - The <i>Transit Projects and Greater Toronto Transit Authority Undertakings</i> regulation limits duration of Environment Assessments for public transit projects to six months. 	<p>A broad range of measures in place to address transportation emissions, although the province is also aggressively expanding highway infrastructure.</p> <ul style="list-style-type: none"> - Québec has committed a total of \$4.5 billion in government support for transit over the next five years (QC 2009, p.8). This expands on a total of \$780 million dedicated to various transportation initiatives under the 2006-2012 climate plan, including programs for public transit and alternative transport, energy efficiency in freight, new technologies and the integration of intermodal commercial transportation (QC 2009, pp.8-11). - Québec has committed to adopt California vehicle emission standards by 2010 (QC 2006, p.21). Enabling legislation was adopted in January 2008 (QC ST 2009, p.1), though implementation of regulations will proceed in line with California. - A regulation issued in January 2009 requires the use of a speed-limiting device set at 105 km/h on all registered heavy-duty trucks (QC 2009, p.11). - Québec "aims to have gas distributors include a minimum 5% of ethanol in their total fuel sales by 2012" (QC 2006, p.22). Regulations have not yet been introduced, however research into cellulosic ethanol is being pursued (QC ST 2009, p.1) - As noted above, Québec has imposed a modest carbon tax. It is important to note that the primary function of this measure is not to reduce emissions, but to raise funds for the full implementation of the climate change plan. Québec does not attribute any direct GHG reductions to its carbon tax measure.
<i>Buildings and municipalities</i>	<p>A broad range of measures is in place.</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 2011.⁶⁰ - The <i>Energy Efficiency Act</i> (now incorporated in the <i>Green Energy Act</i>) "established minimum efficiency levels for more than 50 product categories that consume 80 percent of the energy used in the residential sector in Ontario and 50 percent of the energy used in the commercial/institutional sector."⁶¹ - The <i>Green Energy Act</i> requires an energy audit prior to all home sales, unless waived by the buyer. - Ontario's Municipal Eco-Challenge Fund, launched in May 2008, offers municipalities grants up to \$500,000 for showcase projects and up to 25% of retrofit costs (up to \$100,000). \$200 million in loans are also available to municipalities reducing GHGs through retrofitting buildings. (ON 2008, p.48) - Ontario has committed to a goal of 100,000 solar roofs (see "Electricity" section). - Ontario is supporting conservation and more sustainable land-use planning through the reformed Planning Act, the Places to Grow Act and the Greenbelt Act (ON 2008, p.16). 	<p>Implementation of the new building code has been delayed. There is a broad scope of municipal partnership programs.</p> <ul style="list-style-type: none"> - Amendments to Québec's Building Code with new efficiency standards, long overdue, are now expected in fall 2009 (QC 2009, p.7). - The Climate Municipalities program, launched in April 2009, provides \$10 million in support for municipalities to develop GHG inventories and GHG reduction or Adaptation strategies (QC 2009, p.13). - Financial assistance is available to municipalities under the Biogas program for biomethanisation (see "Electricity" above). - The <i>Coupez le moteur!</i> program supports municipalities in implementing anti-idling bylaws (QC 2009, p.13). - An energy efficiency program for heating in buildings is under development (QC 2009, p.7).

	Ontario	Québec
Other sectors (agriculture, forest management, landfills, government operations etc.)	<p>A broad range of measures is in place, including a significant commitment to forest conservation.</p> <ul style="list-style-type: none"> - In July 2008 the Ontario government announced its intention to conserve at least 225,000km² of the Far North Boreal region, an important carbon sink, under the Far North Planning Initiative (ON 2009, p.19). - The <i>Landfilling Sites and Waste Management</i> regulations, finalised in June 2008, will require the capture of landfill gas at major sites. \$10 million over three years is available to municipalities to assist with compliance. (ON 2008, p.45) - A \$9 million Biogas Systems Financial Assistance program was introduced in 2007 to help farmers and rural businesses design and construct biogas digesters. An additional \$2 million was added to the program in 2008 (ON 2008, p.5). - Ontario has committed \$56 million over four years to Pick Ontario Freshness, a campaign to promote locally grown food (ON 2008, p.46). - Ontario is developing offset protocols for forestry and agriculture sectors, with an agriculture pilot project currently underway (ON 2008, p.48). - The Ontario government aims to reduce electricity consumption in government buildings 20% from 2006 levels by 2010 (ON 2008, p.48). - Ontario has committed to LEED standard certification for "all new government-owned buildings and major renovation projects, where appropriate." Certification is ongoing (ON 2008, p.48). 	<p>A broad range of measures is in place.</p> <ul style="list-style-type: none"> - A regulation on the incineration and landfilling of waste introduced in 2005 (amended 2009) requires the capture and elimination or use of landfill gas for major sites. - Québec has allocated \$124 million to the development of bioenergy in the forestry, agriculture and municipal sectors, including new financing support for bioenergy firms in Budget 2009 (QC 2009, p.17). - Québec has set a goal to improve the energy efficiency of public buildings by 10-14% relative to 2003 levels and to reduce the fuel consumption of government departments and public organizations by 20% relative to 2003 levels by 2010 (QC 2006, p.25,40). Each ministry will also develop plans in 2009 to address emissions from employee commuting (QC ST 2009, p.3).
Further information		
Legislation	<p><i>Green Energy Act</i>; http://www.ontra.on.ca/web/bills/bills_detail.do?locale=en&BillID=2145</p> <p>Cap and trade bill (<i>Bill 185</i>); http://www.ene.gov.on.ca/envision/env_reg/er/documents/2009/010-6467%202.pdf</p> <p><i>Building Code</i> (2006 updates — O. Reg. 350/06); http://www.e-laws.gov.on.ca/html/regis/english/elaws_reqs_060350_e.htm</p> <p><i>Cessation of Coal Use</i> (O. Reg. 496/07); http://www.e-laws.gov.on.ca/html/regis/english/elaws_reqs_070496_e.htm</p> <p><i>Ethanol in Gasoline</i> (O. Reg. 76/07); http://www.e-laws.gov.on.ca/html/source/regis/english/2007/elaws_src_reqs_r07076_e.htm</p> <p><i>Transit Projects and Greater Toronto Transit Authority Undertakings</i> (O. Reg. 231/08); http://www.e-laws.gov.on.ca/html/regis/english/elaws_reqs_080231_e.htm</p> <p><i>Landfilling Sites</i> (O. Reg. 216/08); http://www.e-laws.gov.on.ca/html/source/regis/english/2008/elaws_src_reqs_r08216_e.htm</p> <p><i>Waste Management</i> (O. Reg. 217/08); http://www.e-laws.gov.on.ca/html/source/regis/english/2008/elaws_src_reqs_r08217_e.htm</p> <p>Speed-limiting device regulation (O. Reg. 396/08); http://www.e-laws.gov.on.ca/html/source/regis/english/2008/elaws_src_reqs_r08396_e.htm</p>	<p>Carbon tax regulation; http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/R_6_01/R6_01R6.HTM</p> <p>Cap and trade bill (Bill 42, passed by the Assemblée nationale in June 2009); http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2009C33F.PDF</p> <p>Regulation on the incineration and landfilling of waste; http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q_2/Q2R6_02.htm</p> <p>Ministerial order on speed-limiting devices; http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/C_24_2/C24_2R5_001.HTM</p>
Contact	<p>Cherise Burda, Pembina Institute, 416-824-0256</p> <p>Keith Stewart, WWF-Canada, 416-489-4567 ext 7257</p>	<p>Hugo Séguin, Équiterre, 514-247-1006</p>

¹ All conversions of targets relative to 1990 levels have been calculated using Canada's 2009 National Inventory Report submission to the UNFCCC.

² Government of British Columbia. 2008. *Government Sets GHG Targets for 2012 and 2016*. News Release, November 25; http://www2.news.gov.bc.ca/news_releases_2005-2009/2008OTP0280-001803.htm

³ As there is some uncertainty about the figures to be used for Alberta's 2005 emissions level, a 200Mt reduction from business-as-usual by 2050 is seen by Alberta Environment officials as the most accurate expression of the target.

⁴ With a 14% reduction from 2005 levels, Alberta's emissions in 2050 would be 197.8Mt compared to 118.4Mt (all of Canada) for a national reduction of 80% below 1990 levels (592Mt). All figures are based on Canada's 2009 National Inventory Report submission to the UNFCCC. Calculation of the overshoot assumes emissions of all other provinces and territories are zero in 2050.

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