CONTENTS

Introduction

Canada's Premiers are committed to taking the steps necessary to both protect Canadians from the risks associated with climate change and help them benefit from the opportunities it provides.

The thirteen provincial and territorial Premiers gathered in Toronto on May 1, 2007 to discuss issues of Energy and Climate Change. At this working meeting of the Council of the Federation, Premiers discussed leading practices in the field of climate change. Moreover, Premiers committed to further information-sharing and cooperation. This document is a reflection of that commitment.

This document is intended to facilitate future cooperation among provinces and territories, and enable Canadians to better understand the complexity of climate change policy.

All of Canada's provinces and territories are acting to combat climate change. It is hoped that this document will encourage Canadians to participate in programs they may not have known about previously.

Climate Change: Leading Practices by Provincial and Territorial Governments in Canada catalogues the action of provinces and territories in the fight against climate change. It lists the agencies, plans, activities, programs, and other initiatives being undertaken by provincial and territorial governments. It is neither an exhaustive list, nor is it intended to provide detailed descriptions. Please note that new actions are being taken on a regular basis. This document is an overview of activity underway at the provincial and territorial level.

The leading practices submitted by each jurisdiction are presented in a series of tables which are grouped by theme:

1. ***Leading by Example*** shows the actions taken by provincial and territorial governments in the areas of government operations, climate change and energy plans, greenhouse gas emissions targets, and reporting.
2. ***Citizen Involvement*** outlines leading practices in the areas of public education and outreach.
3. ***Targeted Action by Sectors*** contains leading practices in the fields of agriculture/rural, forestry, transportation, primary energy, electricity, non-energy industry, construction, waste management, and land use and local government.
4. ***Adaptation*** is comprised of a variety of measures related specifically to adaptation, including agencies, planning, risk assessment, project implementation, support tools, and monitoring and reporting of climate change impacts.
5. ***Innovation and Economic Opportunity*** outlines the research, innovation and economic development opportunities that climate change may present.

Recently announced government commitments on climate change are also included. These are provincial and territorial initiatives that will be implemented in the near future.

It is hoped that this compilation will be useful to Canadians wishing to know more about the actions being taken in provinces and territories on climate change.

Canadians are encouraged to contact their provincial or territorial government if they require more detailed information about any of the agencies, documents or programs referenced.

Leading By Example

Government Operations	
AB	Provision of 90% of electricity used in government-owned facilities by certified green sources (wind and biomass), as of 2005 Requirement that all new government construction be built to LEED Silver standards, as of 2006; audit and retrofitting of all government-owned buildings to ensure energy efficiency Installation of demonstration solar photovoltaic system at the Alberta Legislature (2003)
BC	Government to be carbon neutral by 2010 All new cars leased or purchased by government to have hybrid engines New energy efficiency standards included in Parliament Buildings' seismic upgrades Highest standards for GHG reductions for new provincial public buildings and work in progress to strengthen current voluntary LEED Silver Standards
MB	GHG emissions reduced by 8% from 1990 levels by 2002, largely by reducing the use of fuel oil in favour of natural gas for building heating (based on a 2002 study of a significant number of government buildings) Green Building Policy: all new buildings and major renovation projects by government or other organizations receiving provincial funding must be at least 33% better than the Model National Energy Code for Buildings and be certified LEED Silver or better Alternative fuels: promotion and support for purchase of flex fuel and alternative fuel vehicles for the provincial government fleets; biodiesel procurement policy for B5 use in the provincial heavy equipment fleet; E85 fuelling station in the Winnipeg region; E10 procurement directive Sustainable Development Act addressing procurement policies
NB	Environmental procurement guidelines; Energy Star® for electronic products; green fleet policy; sustainable building practices such as LEED; retrofitting of public buildings; tracking of energy use in departments (work in progress) Promotion of climate change activities by community groups and universities through the Environmental Trust Fund
NL	High environmental standards for infrastructure projects receiving public funds House-in-order strategy: includes retrofitting of government buildings, Energy Star® and further energy reduction targets (work in progress) Lead by Example strategy (work in progress)
NT	House-in-order target of 10% GHG reduction below current levels by 2011 Green procurement policy "Good Building Practice for Northern Facilities" (Department of Public Works and Services, first published 2000): design protocol applying to all government buildings (2007 revisions reflect higher building standards)
NS	"Government House-in-Order Action Plan" (Government of Nova Scotia, 2005) Sustainable procurement policies in the areas of transportation, buildings, IT and communications equipment, and food catering and vending "Rethink - greener choices at work": pilot behaviour change program to reduce government employees' energy use, GHGs and office waste

Government Operations	
NU	Retrofitting of government buildings Government of Nunavut Interdepartmental Committee on Climate Change Energy Efficiency
ON	Commitment to reduce electricity consumption (10% by 2007) using Deep Lake Water Cooling, energy retrofits and conservation initiatives Ministry of the Environment's Head Office has switched to Bullfrog Power – 100% clean, renewable energy as means of reducing GHG emissions (Bullfrog Power is first 100% green electricity retailer in Ontario) Increased use of alternative fuels and hybrid electric vehicles within the government fleet Municipal Eco Challenge Fund: grants to municipalities for GHG emission reductions (announced 2007)
PE	Extensive use of renewable energy in government buildings, including 40% of electricity requirements for public works facilities supplied by certified green power (wind) and space heating needs at many government facilities from biomass-fired hot water district heating system Complete retrofit of all provincially maintained traffic signals to LEDs Transportation Efficiency Standard: any leased or purchased fleet vehicle, 1 ton or less, must be more fuel efficient than at least 70% of vehicles in its class Greening Government Initiative: government-wide use of processes, materials and energy to minimize creation of pollutants and waste, and reduce overall risk to human health and the environment
QC	Average GHG emission reduction (1990-2003): All provincial public buildings (14.5%); *Société immobilière du Québec*-controlled buildings (27%) Energy efficiency targets (by 2012): 10-14% below 2003 levels (public buildings); 20% below 2003 levels (fuel consumption by departments and public agencies) Programs to reduce emissions by government employees during their daily commute
SK	Green electric power purchase representing 15% of executive government electricity use (beginning 2002); proportion to be increased to 36% by 2008; 50% by 2009; 90% by 2010 Government vehicle purchase policy: must be hybrid electric, alternative or flex fuel, or within the top 20% efficiency in class Program to reduce energy use in core government facilities by 20% and cut associated greenhouse gas emissions by 17% (beginning 2002) Municipal programs: Solar Pool Heating; Efficient Lighting Purchase Program
YK	Improvement of fuel efficiency of vehicle fleet through purchase of smaller vehicles New government building construction achieves high energy performance standards by meeting or exceeding LEED certified standards

Climate Change and/or Energy Plan	
AB	"Alberta's Integrated Energy Vision" (Alberta Department of Energy, 2006) "Albertans and Climate Change: Taking Action" (Alberta Environment, 2002) Process involving public consultations, stakeholder input and internal expectations to inform development of a renewed Alberta Climate Change Action Plan by fall 2007 (work in progress)
BC	"The BC Energy Plan: A Vision for Clean Energy Leadership" (Ministry of Energy, Mines and Petroleum Resources, 2007) "Weather, Climate and the Future: B.C.'s Plan" (Ministry of Environment, 2004) New plan to reflect commitments in the 2007 Throne Speech (work in progress)
MB	Climate Change Plans: "Kyoto and Beyond. Manitoba's Climate Change Action Plan" (Manitoba Science, Technology, Energy and Mines, 2002; update expected 2007); "Manitoba and Climate Change: Investing in Our Future" (Manitoba Climate Change Task Force, 2001); "Realizing Opportunities: Emissions Trading in Manitoba" (Task Force on Emissions Trading and the Manitoba Economy, 2004) Energy Plans: "Energy in Manitoba" (Manitoba Science, Technology, Energy and Mines 2006); "2006 Power Smart Plan" (Manitoba Hydro) "Green and Growing" (Manitoba Science, Technology, Energy and Mines, 2006) "Provincial Sustainability Report for Manitoba" (Manitoba Conservation, 2005)
NB	"Climate Change Action Plan" (Department of Environment, 2007) "Climate Change Action Plan 2001" (New England Governors and Eastern Canadian Premiers) New Brunswick Energy Policy (2001)
NL	Sustainable Development Act "Climate Change Action Plan 2005" (Department of Environment and Conservation) "Climate Change Action Plan 2001" (New England Governors and Eastern Canadian Premiers) Energy Plan (work in progress)
NT	"NWT Greenhouse Gas Strategy 2007" (Department of Environment and Natural Resources, updated from 2001 Strategy) "Energy for the Future: An Energy Plan for the Northwest Territories" (Government of the Northwest Territories, 2007)
NS	"Environmental Goals and Sustainable Prosperity Act" (Government of Nova Scotia, 2007): sets out 21 goals representing provincial commitments on renewable energy, greenhouse gas emissions; mercury, sulphur dioxide and nitrogen oxide reductions; emission standards for new vehicles and for "greening" our building code; and for developing strategies for key areas like mining, parks, forestry and biodiversity Nova Scotia Economic Growth Strategy: "Opportunities for Sustainable Prosperity 2006" (Office of Economic Development) "Smart Choices for Cleaner Energy: The Green Energy Framework" (Department of Energy, 2005) *Halifax:* Greenhouse Gas Reduction Plan; Community Energy Plan
NU	"A Discussion Paper for Ikummatiit: an Energy Strategy for Nunavut" (Energy Secretariat, 2007) "Nunavut Climate Change Strategy 2003" (Government of Nunavut) Ikuma I & II (2002) Nunavut Energy Strategy (work in progress)

Climate Change and/or Energy Plan	
ON	Ontario's Climate Change Strategy (announced at the 2007 Shared Air Summit) Ministry of Energy Directive to Ontario Power Authority (2006) on development of Integrated Power System Plan Discussion paper addressing preliminary elements of the Integrated Power System Plan (2006)
PE	"A Climate Change Strategy for Prince Edward Island" (PE Special Legislative Committee on Climate Change, 2005) "Energy Framework and Renewable Energy Strategy" (PE Department of Environment and Energy, 2004) "Curbing Climate Change: Prince Edward Island Climate Change First Business Plan" (PE Department of Fisheries, Aquaculture and Environment and PE Department of Development and Technology, 2001) "Climate Change Action Plan 2001" (New England Governors and Eastern Canadian Premiers)
QC	Action Plan 2006-2012: "Québec and Climate Change: a Challenge for the Future" (*Ministère du Développement durable, de l'Environnement et des Parcs*, 2006) "Using Energy to Build the Québec of Tomorrow": Québec Energy Strategy 2006-2015 (*Ministère des Ressources naturelles et de la Faune*, 2006): includes outline for the development of a Comprehensive Energy Efficiency Plan "Better Choices for Citizens: Québec Policy Respecting Public Transit" (Government of Québec, 2006) "An Innovative, Prosperous Québec: Québec Research and Innovation Strategy" (*Ministère du Développement économique, de l'Innovation et de l'Exportation*, 2006)
SK	"Saskatchewan Energy and Climate Change Plan" (Saskatchewan Environment and Saskatchewan Industry and Resources, 2007) "Saskatchewan's Green Strategy: For a Green and Prosperous Economy" (Government of Saskatchewan, 2007) "Renewable Energy Development and Conservation in Saskatchewan" (Legislative Secretary for Energy Conservation and Renewable Energy Development, 2006)
YK	"Government of Yukon Climate Change Strategy" (2006) "Yukon Climate Change Action Plan" (work in progress, expected 2008) "Yukon Energy Strategy" (work in progress, expected 2008)

Greenhouse Gas Emission Targets	
AB	50% GHG emissions intensity reduction from 1990 levels by 2020 (mandated in the Climate Change and Emissions Management Act) Companies that emit more than 100 000 tonnes of GHGs per year must reduce emissions intensity by 12%, effective July 1, 2007 (Bill 3, Climate Change and Emissions Management Amendment Act and the Specified Gas Emitters Regulation)
BC	At least 33% below 2007 levels by 2020 (10% below 1990 levels) Interim targets to be set for 2012 and 2016; long-term target to be set for 2050
MB	To work with individuals, businesses, communities and sectors of the Manitoba economy to bring emissions below 1990 levels by 2012
NB	1990 levels by 2012 (NB Climate Change Action Plan 2007-2012); 10% below 1990 levels by 2020 (New England Governors and Eastern Canadian Premiers (NEG/ECP) "Climate Change Action Plan 2001") *City of Fredericton:* Pledged to be 'First to Kyoto' by reducing corporate and community emissions by 20% and 6% below 1990 levels by 2010 respectively
NL	1990 levels by 2010; 10% below 1990 levels by 2020 (NEG/ECP "Climate Change Action Plan 2001")
NT	10% reduction of current GHG emissions for Government of the NWT operations by 2011
NS	10% below 1990 levels by 2020 (Environmental Goals and Sustainable Prosperity Act) *Halifax:* 20% below 2002 levels by 2012 (municipal government operations)
NU	Improved efficiency of diesel plants Heat capturing
ON	6% below 1990 levels by 2014; 15% below 1990 levels by 2020; 80% below 1990 levels by 2050
PE	1990 levels by 2010; 10% below 1990 levels by 2020 (NEG/ECP "Climate Change Action Plan 2001") Sufficient long-term reductions to eliminate any dangerous threat to climate: 75-85% below 2001 levels by 2050 (Resolution 31-1, NEG/ECP)
QC	6% below 1990 levels by 2012 8% increase in use of public transportation by means of a 16% increase in available services by 2012
SK	Emissions stabilized by 2010 32% below 2004 levels by 2020; 80% below 2004 levels by 2050
YK	n/a

Reporting	
AB	Annual reports of progress towards achieving provincial emissions intensity reductions posted on the State of the Environment web site Annual reports of emissions of greenhouse gas by industrial emitters required by law since 2003
BC	Annual reports included in Ministry of Environment Service Plan reports; Voluntary reports of Government emissions to the Canadian Standards Association Cross-border, multi-jurisdictional collaboration: Western Climate Initiative (states and provinces working together to identify, evaluate and implement ways to collectively reduce GHG emissions in the region and to achieve related co-benefits); Climate Registry (mechanism for measuring, tracking, verifying and publicly reporting GHG emissions accurately, transparently and consistently across borders and industry sectors)
MB	"Provincial Sustainability Report" (Manitoba Bureau of Statistics, 2005) "Climate Change Action Plan" (Manitoba Science, Technology, Energy and Mines, 2002) includes reports on actions taken and reductions achieved Climate change legislation to include regular reporting on GHG emissions and emission reduction actions (announced April 2007) Cross-border, multi-jurisdictional collaboration: Western Climate Initiative (states and provinces working together to identify, evaluate and implement ways to collectively reduce GHG emissions in the region and to achieve related co-benefits); Climate Registry (mechanism for measuring, tracking, verifying and publicly reporting GHG emissions accurately, transparently and consistently across borders and industry sectors)
NB	Annual report to the UNFCCC: "National Inventory Report – Greenhouse Gas Sources and Sinks in Canada" (Environment Canada)
NL	Annual report on NEG/ECP Action Plan, 2001 Annual report on Climate Change Action Plan, 2005 Department of Environment and Conservation review of industry emissions of 2004 GHG equivalents for comparison to Canadian statistics (work in progress) Review of Newfoundland and Labrador trends in GHG equivalents since 1990 for comparison to GDP (work in progress)
NT	Inventory prepared every 5 years; 2006 inventory in progress
NS	Federal reporting mechanism: "Greenhouse Gas Emissions Report" (Statistics Canada)
NU	"Nunavut GHG Emissions Forecast"
ON	Report back to Ontarians every year in the legislature and an independent review by the Environment Commissioner on the government's progress in reducing GHG emissions
PE	State of the Environment Report Annual report on the NEG / ECP "Climate Change Action Plan 2001" Annual report to the UNFCCC: "National Inventory Report – Greenhouse Gas Sources and Sinks in Canada" (Environment Canada)
QC	Annual GHG Inventory Annual report on implementation of the Climate Change Action Plan Annual report on implementation of the Québec Public Transit Policy, 2006

Reporting	
SK	Annual report to the UNFCCC: “National Inventory Report – Greenhouse Gas Sources and Sinks in Canada” (Environment Canada) contains GHG inventory for Saskatchewan by sector “Saskatchewan State of the Environment” Report
YK	Greenhouse Gas Inventory for the Yukon (1999)

Citizen Involvement

Public Education and Outreach	
AB	Climate Change Central (C3): public-private partnership promoting effective ways for individuals to reduce GHG emissions and become more energy efficient
BC	BC Climate Exchange agency; Citizen's Conservation Council (work in progress) Conferences and workshops on climate change impacts and adaptation Incorporation of environmental and climate change adaptation into school curricula and classroom materials
MB	Climate Change Connection: Public Awareness and Outreach hub Projects and community actions: Manitoba Climate Change Action Fund, Green Manitoba; Manitoba Climate Change Community Challenge; Commuter Challenge Publications aimed at community leaders and business Incorporation of climate change into school curricula
NB	Partnerships between Efficiency NB and communities to launch comprehensive community energy efficiency campaigns Partnerships with Efficiency NB (New Brunswick Energy Efficiency and Conservation Agency), New Brunswick Climate Change Hub, and New Brunswick Conservation Council Shared Atlantic Vision for Energy Efficiency (SAVE): a collaborative energy efficiency public awareness campaign by the Council of Atlantic Premiers Environmental Trust Fund (support for community based projects related to climate change)
NL	Funding provided for NGO outreach programs such as NL Climate Change Education Centre and Ocean Net Exhibit and scientific discussion panel (The Rooms museum) Government employee awareness program Incorporation of climate change and sustainable development issues into high school science curriculum
NT	Arctic Energy Alliance: joint government-NGO project to support public conservation measures and best practices Incorporation of climate change into the primary and secondary school curricula
NS	Climate Change Centre (division of Clean Nova Scotia, an NGO funded by the Nova Scotia Department of Energy); Conserve Nova Scotia
NU	Nunavut Energy Centre (work in progress) Nunavut Climate Change Centre (work in progress) Grades 1-3 Climate Change Educational Package Environment Week events Nunavut Glossary of Climate Change Nunavut Climate Change Schools Program School workshops on climate change science and impacts

Public Education and Outreach	
ON	Incorporation of environmental issues in the curriculum: greening Ontario schools (funding to the Toronto District School Board for renewable energy pilot projects and an energy efficiency study) and support for EcoSchools program Educational climate change website, “Go Green Ontario”, launched in 2007 (www.gogreenontario.ca) Sector-specific conferences in agriculture and transboundary air pollution (e.g. Shared Air Summit bringing together leaders from the United States, Canada and the world to discuss and address the concerns of regional and global air pollution) “Every Kilowatt Counts”: public education campaign about energy conservation
PE	Shared Atlantic Vision for Energy Efficiency (SAVE): a collaborative energy efficiency public awareness campaign by the Council of Atlantic Premiers Fact sheets, pamphlets and presentations delivered at local trade shows and workshops Potential incorporation of climate change information into public education system
QC	Québec Action Centre on Climate Change (*Centre québécois d’action sur les changements climatiques*) Public awareness campaign on concrete solutions to reduce GHG emissions (beginning 2007) Funding program for public outreach projects designed to seek citizen-oriented solutions to the problem of climate change (beginning 2007)
SK	Climate Change Saskatchewan Green Initiatives Fund (Saskatchewan Environment): Sustainable Communities grants to support sustainable development projects Integration of concepts and principles of sustainable development into all appropriate Pre-kindergarten to Grade 12 curricula
YK	Energy Solutions Centre: storefront providing public education programs; technical support, trades training programs; capacity building; and market development and transformation Northern Climate ExChange: Clearing house for multidisciplinary and circumpolar climate change research and information

Targeted Action by Sectors

Agriculture/Rural	
AB	Climate Change Central: Cooperation between government and industry partners to encourage on-farm energy efficiency and conservation Bioenergy Plan (Department of Energy, 2006): Promotion of biofuels and the Alberta biofuel industry Inclusion of agriculture-based reduction activities in Alberta's offset system under the *Specific Gas Emitters Regulation* (protocols to support agriculture-based offsets)
BC	Supporting anaerobic digester pilot projects
MB	Project support: support for projects including anaerobic digesters and ecological goods and services; biofuels, soil GHG mitigation Planning and Outreach: nutrient management plans and buffer zones (limits on fertilizer application); Soil Testing Awareness Program; Manitoba Zero Tillage Research Association Loans and Incentives: Riparian Tax credit; Livestock Manure and Mortalities Management Regulation; carbon trading/offset systems opportunities for Manitoba agricultural producers; Retail Sales Tax Exemption for manure treatment equipment; BMP enhancement loans; environmental farm planning and associated Canada-Manitoba Farm Stewardship Program; controlled stubble burning
NB	Support for research and development of biofuels Promotion of beneficial management practices in agriculture
NL	Canada-Newfoundland and Labrador Agricultural Policy Framework Implementation Agreement (2003): Environmental Farm Planning Initiative; Northern Agrifoods Initiative; Soil, Air and Water Quality Conservation and Enhancement Program; Technology Adoption Program; New Directions Research Program
NT	n/a
NS	Reduced nitrogen fertilizer use; improved manure utilization; reduced tillage; energy-shelter belt planning (Soil & Crop Improvement Association of Nova Scotia)
NU	n/a
ON	Technical support to Environmental Farm Planning Initiative Support for research and technology transfer (e.g. nutrient management, soil conservation, mitigation of climate change impacts, biogas systems at farm level); pilot projects concerning biomass conversion and anaerobic digestion Energy programs: greenhouse energy audits; support for alternative sources of energy for greenhouse heating (biofuel and biomass/agriculture residues); support for Lakewind Community Power project; Renewable Energy Standard Offer Program (for on-farm generation from sources such as biodigesters and wind)
PE	Canada-Prince Edward Island Agriculture Stewardship Program: technical support and financial incentives to encourage beneficial management practices that reduce environmental risk and enhance soil, water, air and biodiversity resources Environmental Farm Plans and Nutrient Management Plans

Agriculture/Rural	
QC	Support for research (e.g. innovation in agricultural practices that have a positive effect on GHG reduction; market and feasibility study for the culture of various agricultural products suitable for energy production; fertilizer management and soil conservation through the *Institut de recherche et développement en agroenvironnement*) Promotion of both agricultural practices with good GHG reduction potential and use of agricultural biomass for energy production Financial support for installation of manure treatment systems, low ramp liquid manure spreaders, various soil conservation measures, tree planting in agricultural zones (*Prime-Vert* program) and collective initiatives for conversion of biomass destined to biofuel production Help for greenhouse operators switching to non-traditional energy sources
SK	Support for R&D programs to develop new seeding practices and producer education through the Saskatchewan Soil Conservation Association: in recent years has lead to 50% decline in summer fallow and a switch to low disturbance seeding in recent years by more than half of farmers; this in turn has lead to soil carbon sequestration, removing millions of tonnes of CO_2/year from the atmosphere while improving soil quality and productivity Farm Energy Audit Program: provides farmers and ranchers with assistance in reviewing how they use energy and how they can reduce costs, improve efficiency and reduce their impacts on the environment Green Initiatives Fund (Saskatchewan Environment): grants for “green agriculture” projects through the Sustainable Communities program
YK	Canola test plots to test the feasibility of local canola harvest for biofuel production

Forestry	
AB	Inclusion of forestry-based reduction activities in Alberta's offset system under the *Specific Gas Emitters Regulation* (offset protocols developed for afforestation projects and biomass to energy from biomass projects)
BC	Substantial increase in forest re-planting efforts BC Bioenergy Strategy (forthcoming): building on British Columbia's natural bioenergy advantages, including woodwaste and pine beetle killed timber
MB	Efforts to increase scientific and traditional knowledge (carbon storage, calculating credits) Increasing of co-management, employment and economic development opportunities for Aboriginal communities Forest Renewal Standards (to promote a sustainable forest economy)
NB	Integrated forestry management plans in partnership with the forestry industry
NL	Western Newfoundland Model Forest pilot project to develop a forest carbon accounting model Horizontal initiative with Memorial University of Newfoundland, government and private sector to study carbon sequestration potential of NL forests and peatlands
NT	Assessment of carbon balance status of forests in conjunction with the Canadian Council of Forest Ministers (ongoing)
NS	Sustainable Forestry Fund (to encourage sustainable use of privately owned forest land) "Toward Sustainable Forestry: A Position Paper" (Department of Natural Resources, 1997) Government/Industry silviculture program is an important mechanism for carbon sequestration
NU	n/a
ON	Understanding the impacts of climate change on Ontario's forests (e.g. forest fires, severe weather events) Afforestation and urban tree planting Understanding the flow of carbon in Ontario's forested ecosystems Forest Bioeconomy and alternative fuel/energy sources
PE	"Prince Edward Island Forest Policy: Restoring a Balance in Island Forests" (PE Department of Environment, Energy and Forestry, 2006) Research into potential effects of climate change on the Acadian Forest Exploration of ways to increase the resiliency of forests and wildlife to climate change Identification of additional problems and possible responses to climate change
QC	Forestry management adaptation study (work in progress)
SK	Carbon sequestration by means of reforestation of 3,300 hectares of insufficiently regenerated land and establishment of 206,000 hectares of land reserved from harvest (SaskPower) Saskatchewan Forest Centre: support for the development of agroforestry to increase land in forests and sequester carbon
YK	Establishment of adaptive management frameworks to support the implementation of Strategic Forest Management Plans including a response to climate change impacts

Transportation	
AB	MOU with the Alberta Motor Transport Association to work together on reducing GHG emissions associated with the commercial transportation industry in Alberta
BC	Tailpipe emission standards for all new light duty vehicles sold in BC to be phased-in between 2009 and 2016 Agricultural Land Reserve, growth management tools and legislation to contain urban sprawl; Green Cities Initiative, including LocalMotion fund, to reduce transportation related GHGs Partial sales tax exemption on new hybrid vehicles; motor Fuel Tax exemption for biofuels Low-carbon fuel standard to be established to reduce carbon intensity of all passenger vehicles
MB	Biofuels: Biofuel legislation mandating 10% ethanol in 85% of gasoline products; biodiesel tax incentive; RFP support package to biodiesel producers Increased investments in public transit, biking and walking trails including: transit improvements including real-time electronic bus departure system; demonstration of hydrogen bus and refueling technology; demonstration of hybrid diesel-electric buses; urban freight practices; community-based travel marketing program pilot; Navigo on-line; and biodiesel French Fry bus Emissions reduction programs including: Hybrid Car Rebate; Idle Free Zone program; electrified truck stop pilot project; 5% biodiesel in trucking fleet pilot project; and construction of a biodiesel fuelling station to provide B10 fuel to municipal fleet vehicles University of Winnipeg hosts Centre for Sustainable Transportation
NB	Intelligent Transportation Strategy (work in progress) and operation of three weigh-in-motion facilities along the Trans-Canada highway for the trucking industry to report weight without idling and/or stopping Implementation of government green fleet policy Anti-idling policy for government fleet vehicles implemented
NL	Partnership with federal government to promote professional training for private and public sector operators of diesel equipment (NRCan Fuel Management 101 and Smart Driver programs) Provincial fleet management policy follows AutoSmart guidelines; new evaluation policy for purchase and long-term lease of vehicles to include the vehicles' energy efficiency ratings Idle Free Zones for government buildings; work ongoing to extend program to schools and the private sector New provincial ferry vessel to use best available technologies to reduce fuel consumption and GHG emissions
NT	Environmental Strategy, includes measures to conserve energy and reduce emissions within the department and in the transportation industry as a whole (Department of Transportation, work in progress) Testing of hybrid vehicles for northern climates for determination of future government vehicle purchases Modification of practices to maintain the 1 400 Km of winter ice roads
NS	Transit Pass Subsidy Programs: Upass (university students) and Epass (employees) "The Genuine Progress Index Transportation Accounts: Sustainable Transportation in NS" (2006): reviews the sustainability of Nova Scotia's transportation system and offers recommendations to the Nova Scotia Government *Halifax:* Bus Rapid Transit Showcase
NU	Block heating systems on timers

Transportation	
ON	Major investment in public transit since 2003; additional commitment towards the Move Ontario 2020 plan (expected to reduce GHG emissions by 10 MT) MOU with California (2007): commitment to develop a low carbon fuel standard requiring carbon emissions from transportation fuels to decrease 10% by 2020 2007 regulation requiring annual average of 5% ethanol content in gasoline Sales tax rebates for hybrid electric, natural gas, and propane powered vehicles; 100% sales tax rebate for alternative fuel powered transit buses; partial fuel tax exemption for biodiesel
PE	Provincial sales tax rebate on capital purchases made by the City of Charlottetown to develop a public transit system Provincial sales tax rebate on hybrid vehicles
QC	Reduction of GHG emissions by increasing funding for use of public and alternative transportation Adoption of GHG emission standards for manufacturers of light vehicles sold in Québec Financial support for inter-modal projects for the transportation of goods Programs for integration of technological innovation in energy efficiency for goods transportation
SK	Fuel mandate of 7.5 percent average ethanol content on gasoline sold in Saskatchewan with grant equivalent to tax rebate on use of Saskatchewan ethanol Grant to support Saskatchewan Transportation Company to ensure extensive interregional bus service to smaller rural and northern communities Grants to support city bus transit in larger and smaller urban centres including: Saskatoon, Regina, Prince Albert, Moose Jaw, North Battleford and Battleford, Yorkton, and Swift Current with support for feasibility studies and start-up capital funding for smaller centres not yet served by local public transit
YK	Partnership with NRCan to provide transportation-related programming and services to reduce GHG emissions (e.g. Fuel Management Workshops for government and corporate fleet managers – Fall 2006) Alternative fuel pilot project involving refinement of used restaurant vegetable oil (Energy Solutions Centre)

Primary Energy	
AB	Requirement of a 12% reduction in GHG emissions intensity by large industrial emitters (regulatory requirement, effective July 1, 2007) Significant emissions reductions achieved from flaring and venting of solution gas from oil and gas operations
BC	Reduction of GHG emissions from oil and gas industry to 2000 levels by 2016 Elimination of all routine flaring at producing wells and production facilities by 2016 with interim goal of reducing flaring by 50% by 2011 Requirement of zero net GHG emissions from existing thermal generation power plants by 2016 Requirement of 100% carbon sequestration for all coal-fired electricity projects
MB	Achievement of status as North American leader in geothermal (ground source heat pumps) installations; training of over 50% of Canada's geothermal installers Loan program for geothermal installations Shutdown of 4 coal-fired units and conversion of 2 coal units to natural gas Assisting off-grid communities to reduce reliance on fossil fuels (Manitoba Hydro)
NB	Assess and foster development of renewable energy generation opportunities (biomass, solar, wind, tidal, small scale hydro) Refurbish existing nuclear reactor facility at Point Lepreau
NL	Lower emissions per unit of output from NL offshore areas than conventional oil production due to scale of production and re-injection of associated gas Development of natural gas endowment as a competitively priced alternative energy source
NT	"Air Quality and Emissions Management Code" (Government of NT, 2007): providing guidance to oil and gas industry on emissions management
NS	Promotion of natural gas exploration Tidal Power: Annapolis Royal Tidal Power Generating Station (opened 1984 as part of provincial tidal power project); regulations for tidal power projects in the Bay of Fundy (forthcoming); possibility of tidal power demonstration facility
NU	Diesel generators in each community
ON	Replacement of coal-fired generation with cleaner energy sources and conservation by 2014 Renewable energy capacity target of 15 700 MW by 2025
PE	Generation of 30% of energy needs from on-island renewable resources by 2016 Continued development of renewable energy: wind, biomass, biogas, and biofuels Alternative Heating Loan Program and PST rebate on small-scale renewable energy systems (e.g. biomass, earth energy, solar, wind, biogas)
QC	Promotion of biofuels: promotion of agricultural, forestry and municipal biomass for biofuel production; support for establishment of two cellulose ethanol production plants by 2008; target of 5% ethanol content in gasoline products from gas distributors by 2012 Collection of royalties on fuels to finance the Climate Change Action Plan (2006) and the Energy Strategy (2006)

Primary Energy	
SK	Investment in pipeline expansions and participation in development of flare gas processing opportunities in southeast Saskatchewan (2007/2008) Royalty incentives to promote use of CO_2 in enhanced oil recovery SaskBio: program to support construction or expansion of transportation biofuel production facilities (2007-2009) International Energy Agency Weyburn-Midale CO_2 Monitoring and Storage Project
YK	6% of total energy use from wood

Electricity	
AB	Creation of emissions management framework by government, industry and other stakeholders (based on recommendations of the Clean Air Strategic Alliance) Target to increase the share of renewable and alternative electrical energy generation in Alberta by 3.5% by 2008. Minimum of 15% of electricity from the Alberta Urban Municipalities Association's energy aggregation program (allowing member communities to purchase electricity and natural gas at preferred rates) must be generated from certified 'green' sources
BC	Requirement of net zero GHG emissions by 2016 for all electricity produced in British Columbia, including all new generation projects Commitment that clean or renewable electricity generation will continue to account for at least 90% of total generation Acquiring 50% of BC Hydro's incremental resource needs through conservation by 2020 "Standing Offer" program for clean electricity projects up to 10 MW
MB	96% of electricity is hydroelectric; new dams are low impact Legislation that allows profits from export sales of renewable energy to be targeted toward energy efficiency for low income and First Nation housing Wind energy development including 100 MW wind farm and targets for 1 000 MW of production Variety of industrial, institutional and residential energy efficiency programs (PowerSmart)
NB	Renewable Portfolio Standard Regulation: an additional 10% of electricity supplied by NB Power must come from new renewable sources by 2016 (75 MW of wind power announced to date); subsequent announcements expected with total in excess of 400 MW Creation of Efficiency NB, a government funded energy efficiency agency with mandate to promote efficiency in all sectors and all energy forms
NL	75% of electricity is domestically-generated hydroelectricity, GHG emissions from electricity production are only 1.5 MT per year; Holyrood Generating Station uses fuel with low sulfur content (1%) Purchase of wind-generated electricity and signing of agreement for future purchase Development of medium-penetration wind diesel system and Lower Churchill Hydro Development Project Demand Side Management study as part of the forthcoming Energy Plan (expected 2007)
NT	NT Power Corporation internal targets to reduce GHG emissions by 10% (per kWh) from 1996/1997 levels within 10 years Replacement of oil space heating with hydro power in selected government buildings Wind energy strategy to ensure successful implementation (work in progress) Distributed generation guidelines to set rules for the connection of alternative energies into the electricity grid (work in progress)
NS	Conserve Nova Scotia Renewable Energy Standard (minimum inclusion of new renewables in the post 2001 energy mix): 20% of electricity to come from renewable energy sources by 2013 Demand Side Management Study (Department of Energy/Conserve Nova Scotia, 2007)
NU	Separate generators in each community (no grid system) Four low level wind penetration wind generation systems (Kugluktuk, Cambridge Bay, Rankin Inlet) Feasibility studies on hydroelectric systems

Electricity	
ON	Introduction of regulation to ensure that coal will not be used to generate electricity at the four remaining coal-fired generating plants after December 31, 2014 (coal-fired generation replaced with cleaner energy sources and conservation) Established goals to increase renewables in Ontario's energy mix by 5% (1 350 MW) by 2007 and 10% (2 700 MW) by 2010, and increase the total capacity of renewable energy sources used in Ontario to 15 700 MW by 2025 Establishment of the Clean Energy Standard Offer Program (CESOP) and the Renewable Energy Standard Offer Program (firsts in North America): aimed at reducing barriers to small generators and distributed energy projects that use natural gas or surplus energy streams, in the case of CESOP, and renewable sources such as solar, wind, biomass and water power under RESOP Strengthened the east-west power grid interconnection agreement with Québec to enable the flow of an additional 1 250 MW of clean hydroelectric power effective in 2009
PE	Wind generation capacity: North Cape Wind Farm (10.56 MW) and Eastern Kings Wind Farm (30 MW) Renewable Portfolio Standard for electricity of at least 15% by 2010 (achieved 2007) Public utilities required to submit demand side management plans to reduce intensity of peak demand for electricity by 5% starting in 2010
QC	Generation of 4 500 MW from new hydroelectric projects by 2015 Produce 4 000 MW of wind-generated energy by 2015, of which 500 MW are reserved for native and local communities Decentralization of electricity production up to 1 MW; production of electricity wherever it is cost effective (will add value to biogas) Energy efficiency programs (target of saving equivalent of 8 TWh by 2015)
SK	Commitment since 2003 to zero emissions for new and replacement generation facilities; all new and replacement electricity generation facilities either emissions free or fully offset by emission credits Front-end engineering and design study of clean coal plant (SaskPower) Environmentally Preferred Power Program: purchase of power capacity from independent power producers (must have low environmental impact, e.g. generated from flare gas, wind, low-impact hydro, biomass, biogas, heat recovery from an existing waste heat source, solar and, most recently, waste heat at pipeline compressors) 172 MW of wind power added since 2001 represents 5% of electric system capacity
YK	93% of all electricity produced from hydro and wind

Non-Energy Industry	
AB	Specified Gas (GHG) Emitters Regulation (12% emissions intensity reduction requirement) covering non-energy sectors like cement, landfills, forestry, and chemicals
BC	Power Smart for Business program to assist businesses in saving energy and money "An Industrial Energy Efficiency Program for BC" (Government of British Columbia, work in progress): to address specific challenges faced by the industrial sector
MB	Manufacturing Tax Credit includes energy conservation equipment as eligible asset Green Manufacturing Tax Credit Enhanced Oil Recovery Strategy Cool Shops Manitoba (energy, waste, water conservation)
NB	Continued support for research and monitoring to assess fisheries viability and resource risks, such as disease management in aquaculture
NL	Climate Change Action Plan requirements for fisheries and aquaculture: raising awareness in the fishing industry of climate change impacts and emerging safety issues; encouraging development and implementation of technologies, equipment and vessel design to increase efficiency and safety Sector-specific conferences and workshops (health, marine/fishing)
NT	Potential wind power installation by BHP Ekati diamond mine
NS	n/a
NU	n/a
ON	Programs and pilot projects to encourage energy efficiency and energy conservation (cooperation with various sectors): includes Advanced Manufacturing Investment Strategy, Ontario Automotive Investment Strategy, Canada-Steel Sector MOU, Ontario's Environmental Leaders program, food industry energy audits, and others Industry Emissions Reduction Plan: NO_x and SO_2 emissions caps for industry (more stringent limits for 2010 and 2015); standards for 40 air pollutants (announced 2005) Ontario Ethanol Growth Fund Proposed regulatory amendments to require replacement of older industrial, commercial and institutional refrigeration and air conditioning units and chillers
PE	n/a
QC	Reduction of GHG emissions agreements signed by three aluminium plants (2002-2007 and 2007-2012) Reduction of GHG emissions of 6.8% from industrial sector (1990-2003) Voluntary negotiations and agreements on GHG reduction with major emitters by 2012
SK	Expansion of eligibility for the Investment Tax Credit for Manufacturing and Processing to certain types of renewable energy and energy conservation equipment used to generate electricity Energy Performance Contracting service for industrial and commercial electricity customers (SaskPower)
YK	n/a

Construction	
AB	Built Green program: promotion of energy efficient new home construction (Alberta Home Builders Association)
BC	"Energy Efficient Buildings: A Plan for BC" (Ministry of Energy, Mines and Petroleum Resources, 2005): to both lower energy costs for new and existing buildings and reduce GHG emissions; Implementation of ten policy measures (in partnership with the building industry, energy consumer groups, utilities, NGOs and the federal government) Unified BC Green Building Code (to be developed with industry and communities) Measures to help homeowners undertake energy audits and retrofit existing homes and buildings Pilot project on energy performance labeling of homes and buildings (in coordination with local and federal governments, First Nations, and industry associations)
MB	Green Building Policy: all new buildings and major renovation projects by government or other organizations receiving provincial funding must be at least 33% better than the Model National Energy Code for Buildings and be certified LEED Silver or better Information, guidelines, technical assistance and financial incentives for new construction and retrofits through Manitoba Hydro's PowerSmart programs New green buildings including Red River College and Winnipeg Airport Authority Terminal Redevelopment to be LEED Silver, and the new Manitoba Hydro building designed to be among the greenest corporate headquarters in the world Photovoltaic demonstration projects
NB	Target LEED standards for construction of new provincial buildings and the retrofitting of existing government buildings to improve energy efficiency and water conservation NB Energy Efficient New Homes program: financial incentives for new homebuyers who purchase homes with EnerGuide 80 rating and high efficiency non-electric central heating systems Start Smart Commercial Buildings Incentive program: financial incentives to offset the costs associated with designing sustainable high-efficiency buildings based on estimated annual energy savings Bright Ideas Lighting program: premium high efficiency lighting products for commercial new construction and commercial building retrofits
NL	LEED Silver standards for new government buildings and retrofitting of existing buildings; work to achieve higher LEED performance ratings as opportunities found Energy Performance Contracting used to upgrade government buildings Interdepartmental collaboration on energy efficiency in public and low income housing (to be addressed in forthcoming Energy Plan) Support for EnerGuide for Houses Program through Conservation Corps and Climate Change Education Centre
NT	Support for national process to update the 1997 Model National Energy Codes; support EnerGuide for Houses Program through Arctic Energy Alliance Proactive addressing of energy use in buildings owned by the NT Housing Corporation; commercial building audits Pilot project to test wood pellet boilers in the Yellowknife Correctional Centre Steps to protect infrastructure from increased permafrost problems encountered throughout the NT
NS	Nova Scotia Homebuilders Association R2000 Program (NS has the most R2000 homes in Canada per capita)

Construction	
NU	Good Building Practice Guidelines Energy efficiency plan being implemented Heat capturing and usage through residential systems; fuel efficient appliances; Healthy House (water reclamation systems) Photovoltaic panels – Arctic College Solar Wall Demonstration and Monitoring
ON	Building Code (2006): enhanced energy efficiency requirements for houses and larger buildings; provisions promoting use of green technologies (e.g., solar photovoltaic systems, active solar hot water systems, wind turbines, rooftop storm water retention, storm and grey water use) Directive to Ontario Power Authority authorizing up to 150 MW of conservation and demand management in municipalities, universities, schools, hospitals, and commercial buildings Several projects designed for Leadership in Energy and Environment Design (LEED) certification (work in progress) Ontario Strategic Infrastructure Financing Authority Loan Program: loans to municipalities for infrastructure projects that reduce GHG emissions (announced 2007)
PE	Examination of use of energy codes and energy performance standards for government buildings
QC	Funding program for energy efficiency, available for the public, industries, institutions, businesses and municipalities New building code to improve energy efficiency of new buildings and housing (implementation in 2008)
SK	Energy Efficient New Homes program: rebate for Energy Star® or R-2000 homes and additional grants for solar hot water heating, heat recovery from waste water and natural gas appliances Factor 9 Demonstration Home (Saskatchewan Research Council): uses nine times less energy than average existing home Energy Performance Contracting Program (industry and commercial buildings)
YK	Green mortgage program (low interest mortgage for houses that meet ‘green’ standards) and 0% interest loans for energy efficient upgrades on existing dwellings PBET program (database of energy use in all government buildings to help identify areas that need improvement) Training for trades people on installation, maintenance and inspection of heating, cooling and control systems for greater energy efficiency

Waste Management	
AB	Comprehensive waste management approach emphasizing pollution prevention and waste reduction Recycling programs for e-waste, paint, tires and used oil
BC	Solid waste management planning required by regulation Regulation to phase in requirements for methane capture at landfills (work in progress)
MB	Extended Producer Responsibility Strategy New regulations out for consultation Landfill methane capture study
NB	Methane recovery systems from landfills (currently two regional waste facilities) Composting of waste at landfills (currently two regional waste facilities)
NL	Provincial Waste Management Strategy (2002) being implemented including solid waste management planning Office paper recycling initiative mandatory for firms in metropolitan St. John's area Targets established for the elimination of incinerators Commitment of 60% of EcoTrust funding for methane capture
NT	Beverage Container Program: collection of 30 million containers since 2005 Current research to identify other recyclable materials and items Public consultations on expanding the recycling program (expected Fall 2007)
NS	Nova Scotia Solid Waste-Resource Management Strategy: legislated goal of 50% waste diversion by 2000 (accomplishments attracting international attention as more countries look to NS for guidance on how to reduce waste)
NU	Solid waste management required by regulation
ON	Investigation of biomass/bio-coal options for fuel replacements like millfeed (bran and hulls from flour milling) Regulations under the Environmental Protection Act to streamline approvals for the production of biodiesel or ethanol from specified waste biomass and for the use of woodwaste as fuel Landfill regulation requiring mandatory landfill gas collection, as well as burning or utilization for new or expanding landfill sites larger than 3 million cubic metres
PE	Island-wide waste management program with separate streams for compost, waste and recyclables (over 65% of solid waste diverted from landfills)
QC	Implementation of the Québec Policy on Residual Material Management Implementation of the Regulation Concerning the Landfilling and Incineration of Residual Materials (biogas capture for new landfills) Conversion of more than 65% of 7.1 million tonnes annually of reclaimable residual matter Program for purchase and energy conversion of GHG produced by biogases from waste disposal sites

Waste Management	
SK	Collection and recycling of all non-refillable, ready-to-serve beverage containers (except milk containers) for deposit refund (Sarcan Recycling) Recycling programs for waste paint, e-waste, beverage containers, pesticide containers, scrap tires, and used oil (Saskatchewan Environment) Mercury Thermostat Recovery Program (SaskPower): environmentally safe collection and disposal of mercury from old household thermostats as a follow-up to potential wastes created by rebate for Energy Star® Programmable Thermostats program
YK	Beverage Container Refund System for already-to-serve beverage containers Financial support for e-waste, household hazardous waste and used tire collection and proper disposal

Land Use and Local Government	
BC	Green Cities Initiative: resources for local governments to improve air quality, reduce energy consumption and encourage more active lifestyles Commitment to development of incentives for smaller lot and house sizes, and high-performance developments Central data warehouse for all local governments: information on level and sources of energy consumption and GHG emissions; communities encouraged to develop GHG reduction plans and helped to identify funding sources available for their various initiatives (work in progress) BC Agricultural Land Reserve (protects 4.7 million hectares from development) Community Action on Energy and Energy Efficiency Program Community Clean Energy Program for remote communities' energy planning
MB	Sustainable planning based on climate change adaptation and impacts on the boreal forest and First Nations communities on the east side of Lake Winnipeg Watershed planning/evaluation of best management practices project Best management practices for managing manure on forage land project
NB	Construction of municipal infrastructure that is designed to function in a changing climate, minimize greenhouse gas emissions and reduce energy use (work in progress) Initiatives identified under "Climate Change Action Plan" (2007)
NL	Development of a land use policy (ongoing) Workshops held between December 2005 and May 2007 to educate community leaders/municipalities on the impacts of climate change and the importance of planning and adapting for potential adverse effects
ON	Greenbelt Act, 2005 (protection of 1.8 million acres) Places to Grow Act, 2005 – Growth Plan for the Greater Golden Horseshoe: long-term plan, supported by legislation, with policies to protect natural systems and agricultural areas and create more vibrant, mixed use, compact communities including promoting public transit, walking, bicycling, reduction of automobile use, better integrated waste management, and conservation of water and energy Amendments to Provincial Policy Statement, 2005 and Planning Act ("Strong Communities, 2004" and "Planning and Conservation Land Statute Law, 2006"): support for sustainable development, green space protection, public transportation, and energy conservation, efficiency and supply
QC	Best practices guide for urban management: « *La réduction des émissions de gaz à effet de serre et l'aménagement du territoire* » (Ministère des Affaires municipales, du Sport et du Loisir, 2005) Support for municipalities wishing to adopt by-laws on vehicle idling

Adaptation

Impact and/or Adaptation Agency	
AB	Alberta Climate Change Adaptation Team (interdepartmental team led by Alberta Environment with representation from nine departments and Climate Change Central)
BC	Pacific Climate Impacts Consortium
MB	Prairie Adaptation Research Collaborative (PARC)
NB	New Brunswick Climate Change Secretariat and other relevant New Brunswick departments
NL	Newfoundland and Labrador Department of Environment and Conservation
NT	Department of Environment and Natural Resources Climate Change Network
NS	Canadian Climate Impacts and Adaptation Research Network (C-CIARN Atlantic)
NU	Canadian Climate Impacts and Adaptation Research Network (Northern C-CIARN)
ON	Funding for the national climate change impact assessment and the Ontario Branch of the Canadian Climate Impacts and Adaptation Research Network (C-CIARN)
PE	Canadian Climate Impacts and Adaptation Research Network (C-CIARN Atlantic)
QC	Ouranos Consortium Interministerial Committee on Climate Change
SK	Prairie Adaptation Research Collaborative (PARC)
YK	Northern Climate ExChange

Adaptation Planning	
AB	Incorporation of climate change mitigation and adaptation into programs and management plans of government departments Exploration of opportunities to improve capacity for adaptation planning
BC	Future Forest Ecosystems Initiative: umbrella for "Preparing for Climate Change: Adapting to Impacts on British Columbia's Forest and Range Resources" (Ministry of Forests and Range, 2006)
MB	Expansion of flood management infrastructure to include floodway around capital Moving winter roads onto land Integrated Watershed Management Planning
NB	Sea-level rise project (Environment Canada) Management of natural resources (carbon storage sequestration) Integration of climate change considerations into decision-making processes involving economic, social and environmental considerations Environmental Trust Fund projects to promote community adaptation projects
NL	Participation in development of national and local strategies to address long-term impacts of climate change and identify appropriate adaptation initiatives ("Climate Change Action Plan 2005", Department of Environment and Conservation) *Fisheries and Aquaculture:* development of partnerships to encourage research on local climate change impacts; engagement of stakeholders in research and development of commercial and emerging species; cooperation with federal government and research institutions to promote policies advocating sustainable harvest levels; engagement in long-term environmental monitoring and assessment for existing and potential aquaculture sites; consideration of climate change impacts in Integrated Coastal Zone Management Planning; promotion of climate change awareness at planning stages of Marine Protected Areas *Northern Labrador:* Climate Change Adaptation Strategy for Northern Labrador (in conjunction with Nunatsiavut government, work in progress); relevant aspects of "Climate Change Action Plan 2005")
NT	"Impact and Adaptation Plan for the NT" (Department of Environment and Natural Resources, expected 2007) City of Yellowknife Adaptation Plan
NS	"Adapting to Changing Climate in Nova Scotia: Issues Paper" (Government of Nova Scotia, 2004) Study of climate change impacts on the Halifax Harbour (Halifax Regional Municipality, forthcoming) ClimAdapt: private sector driven environmental network providing innovative climate change adaptation expertise in Canada and internationally Halifax *Climate S*ustainable *M*itigation and *A*daptation *R*isk *T*oolkit: "Climate Smart: An HRM Integrated Strategy for Climate Change Mitigation and Impact & Adaptation Preparedness and Planning"
NU	Nunavut Climate Change Adaptation Plan (work in progress) Community and regional input workshops

Adaptation Planning	
ON	Work with agencies and organizations to successfully understand and adapt to the impacts of climate change around the Great Lakes Enhancements to emergency preparedness, forest seed preservation and planting strategies; investigation of use of more adaptive crop seeds Series of thematic reports to help Ontarians adapt to impacts of climate change, including "Climate Change Projections for Ontario: Practical Information for Policymakers and Planners" (CCRR-05, Ministry of Natural Resources, 2007); "Climate Change and Ontario's Provincial Parks: Towards and Adaptation Strategy" (CCRR-06, Ministry of Natural Resources, 2007); and "Coastal Zone Management Under a Changing Climate in the Great Lakes" (Environment Canada and Ontario Ministry of Natural Resources, 2007) Planning undertaken for the addressing of potential impacts of severe storms on drinking water
PE	Incorporation of climate change mitigation and adaptation into programs and management plans of government departments Exploration of opportunities to improve capacity for adaptation planning (e.g. hazard mapping)
QC	2nd Operating Agreement between the Consortium on Regional Climatology and Adaptation to Climate Change (Ouranos) and its partners, covering the period 2004-2009 "Adapting to Climate Change" (Ouranos, 2004) Ouranos Strategic Plan 2004-2009 "Framework for Natural Hazard Prevention" (*Ministère de la Sécurité publique, ministère du Développement durable, de l'Environnement et des Parcs, ministère des Affaires municipales et des Régions, ministère des Transports, et ministère des Ressources naturelles et de la faune,* 2006)
SK	Province-wide adaptation strategy (Provincial government, Prairie Adaptation Research Collaborative, Saskatchewan Research Council, Saskatchewan Forestry Centre and other stakeholder groups, expected 2008) Expansion of provincial watershed planning process to better protect water supplies
YK	"Yukon Climate Change Action Plan" (Department of Environment, expected 2008): to include mitigation and adaptation actions Work with all levels of government on comprehensive adaptive strategies

Adaptation Risk Assessment and/or Project Implementation	
AB	Provincial level vulnerability assessment project to define priorities for adaptation planning and further research (considers environmental, economic and social vulnerability by assessing exposure, sensitivity, and adaptive capacity of the various sectors of the Alberta economy)
BC	Incorporation of climate change risks into park management plans (BC Parks)
MB	Investment in research in the form of funding for the Prairie Adaptation Research Collaborative (PARC), a Climate Change Research Professor at the University of Winnipeg, the Centre for Earth Observation at the University of Manitoba, the Churchill Northern Studies Centre, private researchers, and the Manitoba Climate Change Action Fund (MCCAF) Host of Centre for Applied Research in Sustainable Infrastructure (Red River College) Red River Floodway expansion initiative; Assessment of temperature trends affecting the winter road season
NB	Provincial risk assessment initiative to identify risks and vulnerabilities associated with climate change impacts, particularly in coastal areas and inland waters Investment in networks, programs and research to better understand NB's climate change vulnerabilities Fully integrated emergency management system to optimize resources for prevention, preparedness, response and recovery (work in progress) Effective zoning policies to take advantage of conservation design, smart growth, etc. and the design/construction of infrastructure to consider climate change impacts, in conjunction with communities and planning commissions (work in progress)
NL	Completion of study on climate change impacts on park areas All Hazards Risk Assessment study for several coastal communities at high risk (Memorial University of Newfoundland – Geography Department, ongoing, expected March 2008) Assessment of community vulnerability to natural geological phenomena (e.g. land slides) and examination of the impact climate change may have on these events (possible pilot project on impacts on infrastructure)
NT	Evolution of winter road construction techniques to maintain access despite warming trends observed over past two decades Increased maintenance of existing infrastructure foundations and improved engineering practices for new construction in response to permafrost degradation
NS	n/a
NU	Adaptation pilot projects in Clyde River, Hall Beach and Iqaluit to identify local conditions, vulnerabilities, resilience and adaptation strategies, local planning and shared knowledge, and predict future conditions
ON	Study of the impacts of climate change: forests, river basin ecology, threats to biodiversity Research to examine the impacts of potential climate regimes on forest productivity and growth
PE	"Coastal impacts of Climate Change and Sea Level Rise on Prince Edward Island" (Geological Survey of Canada, 2002) Consequences of Climatic Changes on contamination of drinking water by nitrate on Prince Edward Island (Climate Change Action Fund, 2007)
QC	Experimenting with ways to reduce the impact of permafrost thaw on transportation infrastructure in Nunavik
SK	Reports and projects of the Prairie Adaptation Research Collaborative Great Sandhills Regional Environmental Impact Assessment
YK	n/a

Adaptation Support Tools	
AB	Climate scenarios for the 2020s, 2050s and 2080s (Prairie Adaptation Research Collaborative): for agencies interested in climate change adaptation
BC	Storm surge model and increased forecast capacity (in conjunction with the Institute of Ocean Sciences, work in progress)
MB	Water Protection Act Water Stewardship Fund Manitoba Climate Change Action Fund Waste Reduction and Pollution Prevention Fund
NB	NB Coastal Area Protection Policy and NB Water Management Strategy Provincial Planning Policy Environmental Trust Fund projects Environmental Impact Assessments and Approvals to Operate
NL	Comprehensive water modeling system providing watershed level baseline data, including flow rates and water quality
NT	n/a
NS	Halifax Climate Sustainable Mitigation and Adaptation R*i*sk Toolkit: “Climate Smart: An HRM Integrated Strategy for Climate Change Mitigation and Impact & Adaptation Preparedness and Planning”
NU	Nunavut Awareness Workshops at schools in Baker Lake, Rankin Inlet, Cambridge Bay, Kugluktuk, and Iqaluit Nunavut Climate Change Website (work in progress)
ON	Adjustment of control programs and technology transfer to producers Adaptive management workshops for Great Lakes communities and residents “Coastal Zone Management Under a Changing Climate in the Great Lakes” (Environment Canada and Ontario Ministry of Natural Resources, 2007) Adaptation strategies for tree planting
PE	n/a
QC	Strengthening of climate, water resources and underground water monitoring networks Installation of monitoring systems (heat waves and epidemics) to prevent and mitigate the consequences of climate change on health Climate change forecasting with the help of a regional climatic model (Ouranos, work in progress) New statistical tools adapted to the scenario created by climate change (work in progress)
SK	Prairie Adaptation Research Collaborative: developing climate, climate variability and biophysical assessment tools to support provincial adaptation strategies Investment in additional air quality monitoring and acquisition of a major geospatial imagery database of northern Saskatchewan (Saskatchewan Environment)
YK	n/a

Monitoring and Reporting of Climate Change Impacts	
AB	State of the Environment Report Work of the Prairie Adaptation Research Collaborative (PARC)
BC	"Indicators of Climate Change for British Columbia, 2002" (Ministry of Water, Land and Air Protection)
MB	"Kyoto and Beyond. A Plan of Action" (Manitoba Science, Technology, Energy and Mines, 2002, update expected 2007) "Provincial Sustainability Report for Manitoba" (Manitoba Conservation, 2005) Sustainable Development Procurement and Reporting, undertaken by each department on an annual basis
NB	"Climate Change and the Science of Adaptation in New Brunswick" (ENV document, 2004) Development and maintenance of networks to access best available information on climate trends and future impacts Regular reports to government through Climate Change Secretariat
NL	Annual reporting on NEG/ECP "Climate Change Action Plan" Annual reporting on "Climate Change Action Plan 2005"
NT	n/a
NS	Comprehensive forest monitoring
NU	Inuit Qaujimajatuqangit (IQ) of Climate Change for North and South Baffin, Kivalliq and Kitikmeot Northern Strategy Round Table
ON	Monitoring of pest complexes affecting agriculture sector Monitoring of species and ecological process Monitoring invasive species to protect biodiversity, since 1992, in partnership with the Ontario Federation of Anglers and Hunters
PE	State of the Environment Report
QC	"Canadian Climate Change Impacts and Adaptation Assessment" (Natural Resources Canada, forthcoming): Ouranos to write chapter on Québec Various research reports by government departments and Ouranos
SK	State of the Watershed Report Prairie Adaptation Research Collaborative (PARC) reports on climate change and climate change impacts on the prairies and in Saskatchewan
YK	Numerous monitoring programs including Wolf Creek Research Basin; PCH Body Condition; CANTTEX Site; Kluane Ecosystem Monitoring Project; Vegetation Change in North Yukon; Roadside Waterfowl Surveys; Mammalian Biodiversity Monitoring; ongoing climate change research and monitoring on Herschel Island

Innovation and Economic Opportunity

Research and Innovation	
AB	Energy Innovation Fund: studies in bioenergy and pilot facility for treatment of biomass waste; water management; nanotechnology and applied university research, including a demonstration of next generation clean carbon and hydrocarbon upgrading technologies with capture of CO_2 Field testing of innovative oil and gas recovery technologies through royalty adjustments Initiatives in climate change technologies including the monitoring and evaluation of the long-term reliability of storing CO_2 in geological formations, and clean coal gasification (IGCC) – front end engineering design underway for converting sub-bituminous coal into clean power and capturing and using the CO_2 Research and technology projects to reduce natural gas and water use, and to improve efficiency in energy production and value-added energy products
BC	Innovative Clean Energy Fund: encouragement of commercialization of alternative energy solutions such as bioenergy, geothermal energy, tidal, run-of-the river, solar, and wind power Federal-provincial partnership to invest in hydrogen fuelling stations and a fleet of fuel cell buses; new fuelling stations part of initial phase of hydrogen highway from Whistler to Vancouver, Surrey, and Victoria (planned negotiation of hydrogen highway from Whistler to San Diego by 2020) Trees infested with Mountain Pine Beetle to be used to create new, clean energy (work in progress)
MB	Investment in research in the form of funding for the Prairie Adaptation Research Collaborative (PARC), Climate Change Research Professor at the University of Winnipeg, Manitoba Hydro/NSERC Alternative Energy Chair at the University of Manitoba; the Centre for Earth Observation at the University of Manitoba; the Churchill Northern Studies Centre; private researchers; and the Manitoba Climate Change Action Fund Electric energy and vehicle to grid technology (Manitoba Hydro and NSERC Chair in Alternative Energy) Promotion of hydrogen technology : Hydrogen Transit Bus Cold Weather Testing (Vehicle Technology Centre); “Preliminary Hydrogen Opportunities Report” – Manitoba Energy Development Initiative, 2003; Hydrogen Centre of Expertise; MOU with Iceland Manitoba Zero Tillage Research Association, mitigation of GHG emissions from Agriculture (Department of Soil Science, University of Manitoba)
NB	New Brunswick Innovation Foundation: funding for environmentally focused research and development Hydrogen storage research at the University of New Brunswick Assessment and fostering of the development of a range of renewable energy generation opportunities such as biomass, solar, wind and tidal
NL	Research on biofuels sources, including marine feedstock
NT	Alternative Energy Technology Program: funds for community based pilot projects and studies to test applicability of new technologies in northern conditions such as solar photovoltaics, solar hot water, ground source heat pumps, etc.

Research and Innovation	
NS	Eco-Efficiency Centre: support to individual companies and encouragement of cooperation between businesses; provision of information on eco-efficiency/pollution prevention, resource conservation and economic efficiency; initiatives including “By-product Inventory and Map of Nova Scotia: Opportunities for Synergy and Sustainable Economic Development” (ongoing) Nova Scotia Environmental Engineering Research Centre: GHG and air quality monitoring, modeling, and related technology development Environmental Technology Trust Fund: advancement of research, development and commercialization of technologies addressing environmental issues including GHG, alternative energy, and environmental management Energy-at-Dal program: research on fuel cell technology, carbon sequestration and storage technologies and potentials (Dalhousie University)
NU	n/a
ON	Centre of Excellence for Energy: encouragement of R&D concerning emerging energy sources and technology Fuel Cell Innovation Program to encourage research and development Innovation Demonstration Fund Support for Research Chair in Biomaterials and Transportation at University of Guelph
PE	Home of Wind Energy Institute of Canada (WEICan): focus on testing and certification, research and innovation, industry training and public education, and technical consultation and assistance; several projects ongoing PE Wind-Hydrogen Village Project: demonstration of wind-hydrogen technologies across a wide range of applications (to include installation of a hydrogen energy station, hydrogen storage depot, and wind-hydrogen and wind-diesel integrated control system to power the North Cape Interpretive Centre Complex and WEICan) Prince Edward Island Wind Atlas: identification of areas with best potential for future wind energy development (Université de Moncton, Environment Program)
QC	Program to support research, development, demonstration and deployment of technologies related to the reduction or safe storage of GHG emissions Non-GHG specific programs: demonstration projects; support for research (individual projects, organizations or teams and permanent research infrastructure); awareness programs concerning carbon markets and measurement of emission reduction
SK	Petroleum Technology Research Centre International Test Centre for CO_2 Capture: researching and demonstrating technologies for capturing carbon dioxide from industrial sources before release to the atmosphere World's first dual fuel hydrogen-diesel truck to ease transition from fossil fuels to hydrogen in transportation sector (Saskatchewan Research Council) Green Technology Commercialization Fund (Saskatchewan Environment and Saskatchewan Industry and Resources): assistance in commercializing products that have a preventative or remedial environmental benefit
YK	Establishment of a Climate Change Research Centre of Excellence (work in progress) Energy Solutions Centre: pilot testing of clean energy technologies in northern conditions

Energy Efficiency and Conservation	
AB	ME First program for municipalities: per capita interest-free loan program to encourage municipalities to move to energy efficient practices Significant conservation achieved from initiatives to reduce flaring and venting of solution gas from oil and gas operations Climate Change Central rebate programs (furnaces, washing machines)
BC	Ambitious conservation target: acquire 50% of BC Hydro's incremental resource needs through conservation by 2020 In-home smart metering
MB	Manitoba Hydro *PowerSmart* plan to achieve electricity savings of 616 MW and 1 669 GWh plus natural gas savings of 86 million cubic meters in the residential, commercial and industrial sectors by 2017/2018 (since 1999, about 150 000 Manitobans have participated in *PowerSmart* programs, reducing their energy bills and saving 300 MW of power) Small commercial incentive program (Green Manitoba/Manitoba Hydro) Low Income Energy Efficiency program: retrofits including adding insulation, caulking and high efficiency showerheads and toilets Manufacturing Tax Credit includes energy conservation equipment as eligible asset
NB	Subsidization (grant or zero-interest loan) of home energy audit costs and financial assistance to residential homeowners for retrofitting of homes based on audit recommendations (Efficiency NB) Subsidization of cost of EnerGuide rating-based energy evaluation and grant to help offset the costs of energy efficiency upgrades for owners of multi-unit residential buildings (20 units or less) Free energy audit and energy efficiency upgrades for low income homeowners Energy Smart Commercial Buildings Retrofit program: financial assistance to defray costs of energy evaluation and energy retrofit projects
NL	Energy Efficiency to be a focus of the Energy Plan (work in progress) Major study of efficiency opportunities related to electrical energy (NL Hydro and Newfoundland Power, forthcoming)
NT	Energy Conservation Program: funding of 50% of energy conserving projects undertaken by community funded departments, boards, agencies or non-profits Energy Efficiency Incentive Program to encourage residents to buy the most energy efficient products
NS	Incentive programs and policy development for energy efficiency and conservation (Conserve Nova Scotia) Quick Tips Booklet: "Conserve Energy and Save Money" (Department of Energy, 2005) Residential Energy Affordability Program: pilot project to energy retrofit low income homes Energy Conservation Kits: sent to all homes that received an EnerGuide Energy audit and to recipients of the low-income "Keep the Heat" grant
NU	"Energy Conservation Tips" booklet The Nunavut Energy Management Program and Save 10 implemented in Iqaluit, Arviat, Repulse Bay, Rankin Inlet, Baker Lake, Pangnirtung, Clyde River, Pond Inlet, and Qikiqtarjuaq Facility Energy Efficiency Review Program Retrofitting program in Cambridge Bay, Taloyoak, Iqaluit

Energy Efficiency and Conservation	
ON	Energy Conservation Responsibility Act: enables the installation of 800,000 smart meters in Ontario homes and businesses by 2007 and installation in all homes and businesses by 2010, and strengthens conservation culture in Ontario by providing the authority to require public agencies to both remove barriers to conservation and prepare and publish conservation plans on a regular basis Establishment of the Conservation Bureau as part of the Ontario Power Authority (OPA) to promote energy conservation, develop province-wide conservation program and report on Ontario's progress (OPA directed to deliver 6 300 MW of conservation by 2025 as part of its 20-year integrated electricity system planning process) Establishment of incentive programs to increase the energy efficiency of homes and buildings, including grants for home energy audits and retrofits; retail sales tax exemption on the purchase of qualifying Energy Star® rated household products; retail sales tax rebate on qualifying renewable energy equipment; grants to encourage installation of solar thermal heating systems; pilot financing for residential renewable energy; rebates for electricity customers who purchase 100% green power from recognized green energy retailers Equipment and products sold in Ontario now more energy efficient, through establishment of minimum efficiency standards under Ontario's Energy Efficiency Act (over 50 products categories are now covered) and a ban on inefficient light bulbs starting in 2012; increased energy efficiency of buildings through amendments to the Ontario Building Code (as of January 1, 2007, Ontario's building code has the highest energy efficiency standards of any building code in Canada)
PE	Residential Energy Assistance Program: low-income Islanders given free energy efficiency upgrades (basic energy-saving measures such as weather stripping and caulking, programmable thermostats, low-flow showerheads, and furnace cleaning) Compact Fluorescent Lighting: over 1 000 homes (100 in 2006, 1 000 in 2007) in PEI received compact fluorescent lighting retrofit; schools given 200,000 CFLs and CFLs to be sold as part of school fundraising campaigns Energy efficiency potential study to explore the potential for energy efficiency opportunities and greenhouse gas emissions reductions in the residential, commercial/institutional and transportation sectors (work in progress)
QC	Action plan for energy efficiency: measures to reduce electricity, natural gas and crude oil consumption including the Energy Efficiency Program (natural gas), 5% ethanol requirement, and vehicle efficiency standards similar to California; investment in public transportation; incentives and tax reductions for transportation of people and goods
SK	Saskatchewan EnerGuide for Houses Grant Matching Program Saskatchewan Home Energy Improvement Program: energy conservation for low income consumers PST Exemption on Energy Star® Furnaces and Boilers Low interest loans at prime rate +2% to finance purchase of energy efficient natural gas equipment
YK	"GreenHoG" Energy Conservation booklet with tips, suggestions and rebate coupons (Energy Solutions Centre, 2005, 2006 and 2007) Energy conservation market transformation projects including rebates on Energy Star® appliances, furnaces and boilers, and promotional compact fluorescent light distribution campaign Work with municipal governments to adopt or increase use of co-generation in diesel-electric communities (using waste heat from diesel-electric generation to provide space heating and displace the use of oil for heating)

Recently Announced Government Commitments on Climate Change

AB	Update of climate change action plan to incorporate public, stakeholder and expert feedback received in a series of consultation sessions held across the province between March and June 2007 (expected late Fall 2007)
BC	New strategies will be launched to promote high standards of sustainability in major public buildings and infrastructure, including universities, colleges, hospitals, schools, prisons, ferries, and airports (work in progress)
MB	Hydro development commitments: to build the Conawapa dam, resulting in 1 250 MW of additional power; to develop 1 000 MW of wind power over the next decade Climate registry portal: establishment of a recognized carbon credit registry in Manitoba through a partnership agreement with the Canadian Climate Exchange and the Canadian Standards Association Development of a “Made-in-Manitoba” vehicle standard: a vehicle emissions advisory board will be set up to receive recommendations (the board must look to the California model in formulating their recommendations)
NB	Transportation: expansion of idle-free policies and zones introduction and use of biofuels (work in progress); development of public transportation strategy; work with trucking industry and other public/private partnerships to reduce emissions (e.g. reduce highway speeds, pursue engine efficiency and aerodynamic technologies) Non-Energy Industry: use project assessment reviews and other environmental approval processes to minimize project emissions Adaptation Risk Assessment: provincial risk assessment initiative to identify risks and vulnerabilities associated with climate change impacts, particularly in coastal areas and inland waters
NL	Pilot of energy efficiency education unit for primary students Regulations on air emissions from wood stoves (effective 2008)
NS	Environmental Goals and Sustainable Prosperity Act (2007): sets out 21 goals representing provincial commitments on renewable energy, greenhouse gas emissions; mercury, sulphur dioxide and nitrogen oxide reductions; emission standards for new vehicles and for "greening" our building code; and for developing strategies for key areas like mining, parks, forestry and biodiversity
ON	Expert Panel on Climate Change Adaptation: asked to develop adaptation strategies for Ontario and provide recommendations to the minister (two co-chairs appointed) Loans and grants available to help municipalities reduce greenhouse gas emissions by improving and retrofitting buildings (through the Ontario Strategic Infrastructure Financing Authority Loan Program and Municipal Eco Challenge Fund grant program) Proposal to regulate speed limiters for large commercial trucks at 105 kilometres per hour. Interactive web site showing the impact greenhouse gases could have on the province’s climate; financial support for the first year of a three-year research project into polar bears and their threatened habitats
PE	New England Governors and Eastern Canadian Premiers adopted recommendations that will facilitate intra-regional energy trade, promote the development of renewable energy, increase energy efficiency and address critical transportation planning and air emissions issues (Resolution 31-1, June 2007)

SK	Minister's Council on Sustainability and Climate Change: to provide advice to the province on developing a sustainable future and meeting the challenge of climate change Electricity conservation program to reduce electricity load by 300 MW in 2017 Development of a Saskatchewan Energy Code for Commercial Buildings to achieve energy efficiency standards 25% higher than current national standards (expected 2009) Promote development of E85 fuel corridors in Saskatchewan Develop a 1.4 million litres/year biofuels industry Biodiesel fuel policy for Saskatchewan Transportation Company buses: 2% by 2008, and up to 5% Bio-Products Centre of Excellence Emissions Offset Fund (voluntary and provincially certified): support for emission reduction initiatives in Saskatchewan through payments made by organizations and individuals to offset their GHG emissions Reforestion of 20 000 hectares of not sufficiently regenerated land by 2017, sequestering the equivalent of about 4.9 million tonnes of CO_2 over the life of the plantation Target of 20% reduction in agricultural emissions, per animal of livestock production and per acre of crop production, by 2030 (through development of more efficient management practices and technology)
YK	Energy conservation programs including: 0% interest loan on energy efficient upgrades to existing homes; 0% financing for the first 10 years on alternate energy systems such as heat pumps and solar energy; grants for new home construction to meet high energy standards