Across Canada, Canadians are acting to reduce emissions in all sectors of the economy and in all aspects of their lives. Governments are supporting them in these efforts, by creating incentives to appropriate technological choices and behavioural change; removing barriers; and supporting voluntary action and international activities. Programs focus on sectors ranging from agriculture, to buildings, to industry, to transportation, to municipalities.

Encouraging Action

TRANSPORTATION

Government of Canada

Alternative and Future Transportation Fuels
The Alternative and Future Transportation Fuels
program encourages the development, production and
use of alternative and future vehicle and fuels technologies. The focus is on a number of fuels, including
propane, natural gas, and alcohols, as well as on
electricity and hydrogen. The program provides support
to fleet operators in the public and private sectors
through economic and market studies, emissions and
safety assessments; market demonstration, communications and awareness activities, and general and
technical information about fuel options in Canada.
The program also sponsors workshops with the industry and other governments to review market, technical
and policy issues.

Natural Resources Canada, http://oee.nrcan.gc.ca Peter Reilly-Roe, (613) 996-6001, peterrr@nrcan.gc.ca

Auto\$mart Program

The Auto\$mart Program promotes energy-efficient practices among Canadian motorists through publications, events, joint projects and a Student Driver Kit available to driver trainers across Canada. Motorists also receive helpful tips on buying, driving and maintaining their vehicles to reduce fuel consumption and greenhouse gas emissions.

Natural Resources Canada, http://oee.nrcan.gc.ca Catherine Ray, (613) 995-5264, cray@nrcan.gc.ca

EnerGuide for Vehicles

The EnerGuide for Vehicles program provides prospective new-vehicle buyers with information on energy consumption and costs to enable them to compare and purchase the most fuel-efficient vehicle that meets their needs. The EnerGuide for Vehicles tools include the *EnerGuide Label* (on all new vehicles sold in Canada), the *Fuel Consumption Guide* (a complete listing of fuel consumption information for all new vehicles), and the *EnerGuide for Vehicles Awards* (which recognize the most fuel-efficient vehicles in different categories).

Natural Resources Canada, http://oee.nrcan.gc.ca Charles Villeneuve, (613) 947-7788, chvillen@nrcan.gc.ca

Excise Tax Exemption

The federal excise tax exemption for alcohol-blend gasoline or aviation gasoline, maintained in the 2000 Government of Canada Budget, provides for a proportionate reduction in the excise tax payable in cases where gasoline or aviation gasoline have been blended with alcohol to produce a gasoline-alcohol fuel or an aviation gasoline-alcohol fuel, containing less than 1.35 percent alcohol by volume. The exemption applies to the portion of ethanol and methanol (alcohols) blend produced from biomass or renewable feedstock. For example, a 10 percent methanol-gasoline blend would qualify for a 10 percent reduction in the existing fuel excise tax rate of 10 cents per litre (equivalent to 1 cent per litre) while a 20 percent blend would qualify for a 2 cent rate reduction (equivalent to 8 cents per litre tax instead of 10 cents). The exemption does not apply to ethanol or methanol produced from petroleum, natural

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SECTION

gas, or coal. The federal excise tax does not apply to propane or compressed natural gas when these are used as transportation fuels.

Department of Finance, www.fin.gc.ca Francine Noftle, (613) 992-3246, noftle.francine@fin.gc.ca

FleetSmart

The FleetSmart program helps fleet managers reduce fuel costs and vehicle emissions through energy-efficient practices. The program develops energy-use data and profiles for fleet segments and provides a range of products such as an energy management tool kit, success stories and case studies that identify best practices, and a SmartDriver training initiative.

Natural Resources Canada, http://oee.nrcan.gc.ca Bob Smith, (613) 992-9608, bobsmith@nrcan.gc.ca

Intelligent Transportation System (ITS) Plan for Canada: En Route to Intelligent Mobility This Plan sets out the Government of Canada's strategy for stimulating the development and deployment of these systems across urban and rural Canada. The goals are to maximize the use and efficiency of existing infrastructure and to meet future mobility needs more responsibly. The ITS Plan provides leadership and support to advance the application and compatibility of ITS technologies to make Canada's multimodal ground transportation system safe, integrated, efficient, and sustainable. To accelerate the deployment, integration, and interoperability of ITS across all modes, the Government of Canada will provide funding for ITS deployment and integration to lever complementary public and private sector investment.

> Transport Canada, www.tc.gc.ca/pol/en/its/menu_e.htm Theresa Spadaccini, (613) 991-6441, spadact@tc.gc.ca

Moving On Sustainable Transportation (MOST)
The Moving on Sustainable Transportation Program
has been established to support projects that produce
the kinds of education, awareness and analytical tools
Canada needs if we are to make sustainable transportation a reality. The MOST Program provides funding to help support projects that will provide Canadians
with practical information and tools to better under-

stand sustainable transportation needs; encourage the creation of innovative ways to promote sustainable transportation; and achieve quantifiable environmental and sustainable development benefits.

Transport Canada, www.tc.gc.ca/envaffairs/MOST/Main_e.htm Renetta Siemens, (613) 993-1869, siemenr@tc.gc.ca

Natural Gas for Vehicles

The Natural Gas for Vehicles program, for regions of Canada serviced by Alberta natural gas, is an incentive program designed to encourage the production and use of natural gas vehicles. The program contributes \$2,000 for each factory-built natural gas vehicle and \$500 for road vehicles converted to natural gas. The program also encourages the development of new refuelling outlets, cost-shared marketing and awareness activities, and co-funded research and development. The program continues until January 31, 2002.

Natural Resources Canada, http://oee.nrcan.gc.ca Peter Reilly-Roe, (613) 996-6001, peterrr@nrcan.gc.ca

Vehicle Fuel Efficiency Program

The Vehicle Fuel Efficiency program promotes improvements in vehicle fuel efficiency by encouraging motor vehicle manufacturers to meet voluntary annual company average fuel consumption targets for new automobiles sold in Canada. Working with vehicle manufacturers through a voluntary Memorandum of Understanding on vehicle fuel efficiency, this initiative focuses on opportunities to improve vehicle fuel technology and provide information to consumers on the fuel efficiency of vehicles.

Natural Resources Canada, http://oee.nrcan.gc.ca Marie Schingh, (613) 995-8401, mschingh@nrcan.gc.ca

British Columbia

Consultation on Options to Reduce Greenhouse Gases from Light Trucks and Passenger Vehicles British Columbia is consulting with stakeholders to identify and evaluate options to reduce greenhouse gas emissions from passenger vehicles and light trucks, including the option of a feebate system based on vehicle fuel efficiency. A Discussion Paper outlining





the options and implications will be released in fall 2000 and will be available on the Ministry of Finance and Corporate Relation's website.

Ministry of Finance and Corporate Relations, www.fin.gov.bc.ca Glen Armstrong, (250) 387-4196, glen.armstrong@gems2.gov.bc.ca

Development of Cycling Networks in Municipalities and Cycling Corridors between Municipalities
The BC Transportation Financing Authority invests
\$2 million annually to develop cycling networks on a 50/50 cost-shared basis with local governments.
Cycling Network Program funding for 2000-2001 is
\$1.73 million to 27 communities. The Government of British Columbia is integrating cycling by providing safe, accessible, and convenient bicycle facilities on provincial highways and by publishing a Cycling Policy. In addition, the province has committed \$5 million (\$3.5 million in 2000-2001) toward development of the Trans Canada Trail.

Ministry of Transportation and Highways, www.th.gov.bc.ca/bchighways/cycling/bicycle.htm Communications Branch, (250) 387-7788, www.gov.bc.ca/th/cont/ (e-mail via website)

Gasoline and Diesel Tax for Public Transit
A gasoline and diesel tax is collected by British
Columbia on behalf of certain public transit authorities
for transit funding (i.e. 4 cents per litre in the Greater
Vancouver Regional District, and 2.5 cents per litre in
Greater Victoria), in addition to the general fuel tax on
gasoline and diesel.

Ministry of Finance and Corporate Relations, www.fin.gov.bc.ca/revenue/ctb/MoreTopics.htm (See Bulletin 85)
Dave Barnett, (250) 387-9072, dave.barnett@gems9.gov.bc.ca

High-Occupancy Vehicle (HOV) and 'Bus Only' Lanes British Columbia anticipates spending approximately \$21 million in fiscal year 2000-01 on HOV lane projects to encourage the use of buses, van/carpools and other high-occupancy vehicles in the Lower Mainland.

> Ministry of Transportation and Highways, www.th.gov.bc.ca/BCHighways/capehorn/ capehorn.htm Communications Branch, (250) 387-7788,

www.gov.bc.ca/th/cont/ (e-mail via website)

Selected Intelligent Transportation Systems (ITS)
To improve traffic flows in selected situations, the Traffic Management Plan Pilot Project includes an advanced traveller warning system and accident response process on the Trans Canada Highway through the Lower Mainland. A Commercial Vehicle Operations (CVO) Strategic Plan is being developed. Development of an ITS Strategic Plan is expected to be initiated this year as well as the Traffic Management Plan Pilot Project which involves incident management and traveller information systems on the Trans-Canada Highway.

Ministry of Transportation and Highways, Communications Branch, (250) 387-7788, www.gov.bc.ca/th/cont/ (e-mail via website)

Long-Term Tax Policy for Alternative Fuels
British Columbia is implementing a long-term general
tax policy for all alternative motor fuels. Under the policy, tax rates on alternative motor fuels will be phased
in, based on market share and environmental benefits,
with the maximum tax rate below the gasoline tax rate.
This will provide suppliers and consumers of alternative
fuels with certainty that alternative fuels will receive
preferential tax treatment over the long-term, to
encourage the development and distribution of these
fuels and the purchase of alternative-fuel vehicles.

Ministry of Finance and Corporate Relations www.fin.gov.bc.ca/revenue/ctb/MoreTopics.htm (See Bulletin 85)

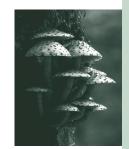
Dave Barnett, (250) 387-9072, dave.barnett@gems9.gov.bc.ca

Motor Assisted Bicycles

Legislation passed in 2000 in British Columbia encourages people to use motor-assisted bicycles as an alternative mode of transportation. (Such bicycles are fitted with an accessory motor kit for use up hills or when needed.) Under the amendment to the Motor Vehicle Act, people riding motor-assisted cycles will not need vehicle registration, licences or insurance.

Bill Mumford, (250) 414-7902, bill.mumford@icbc.com

Motor Fuel Tax Exemptions for Alternative Fuels British Columbia provides a motor fuel tax exemption for natural gas and 85 percent ethanol and methanol blends of fuel used in motor vehicles. There is also a preferential tax rate for auto-propane of 7 percent of the price, significantly lower than the gasoline tax rate on an energy equivalent basis. A tax exemption will be



provided for the ethanol used in lower-level gasolineethanol blends once a commercial-scale ethanol plant is in operation in the province.

Ministry of Finance and Corporate Relations www.fin.gov.bc.ca/revenue/ctb/MoreTopics.htm (See Bulletin 85)
Dave Barnett, (250) 387-9072,
dave.barnett@gems9.gov.bc.ca

Partial Sales Tax Rebate for Factory-Produced Alternative-Fuel Vehicles and Vehicle Conversions British Columbia provides a provincial sales tax refund of up to \$500 for purchases of eligible new factory-manufactured alternative-fuel vehicles and up to \$5000 for eligible alternative-fuel passenger buses. Kits and installation labour to convert existing motor vehicles to operate on alternative fuels such as propane, natural gas and electricity are also exempted from provincial sales tax.

Ministry of Finance and Corporate Relations www.fin.gov.bc.ca/revenue/ctb/MoreTopics.htm (See Bulletin 85)
Glen Armstrong, (250) 387-4196,
glen.armstrong@gems2.gov.bc.ca

Regional Growth and Transportation
Demand Management (TDM) Strategies
British Columbia is providing technical support to local
and regional governments in the main urban growth
areas (Lower Mainland, Okanagan Valley and Greater
Victoria) to help develop regional growth and transportation demand management strategies, aimed at
designing settlement patterns and transportation modes
that decrease vehicle use and shorten travel distances.

Ministry of Transportation and Highways, Communications Branch, (250) 387-7788, www.gov.bc.ca/th/cont/ (e-mail via website)

SkyTrain Expansion

British Columbia has committed \$1.2 billion to build SkyTrain's new Millennium Line, a 21-km line linking New Westminster and Vancouver via the Lougheed and Broadway corridors. It is also reviewing the feasibility of future connections to other Lower Mainland cities, including a line connecting Port Moody and Coquitlam, and another west of Vancouver Community College.

Rapid Transit Project 2000 Ltd. www.rapidtransit.bc.ca Information Services, (604) 739-6985, info@rapidtransit.bc.ca



Transit Enhancement

Two transit measures, bus renewal and LRT expansion, are aimed at increasing transit use in urban centres through provincial and federal government funding to improve transit service and expand infrastructure. Calgary and Edmonton have identified transit bus renewable and LRT expansion as investment areas in their respective transportation infrastructure investment plans. Funding for these measures has been secured through the new provincial allocation of fuel tax revenue to Edmonton and Calgary.

Lawrence Schmidt, (780) 415-0682 lawrence.schmidt@gov.ab.ca

Saskatchewan

Short-Line Railway Advisory Program
This program provides technical, marketing and legal advice to groups interested in setting up short-line railways. Its objectives include reducing grain producers' transportation cost relative to truck transportation; minimizing damage to thin pavements due to heavy grain truck traffic; and reducing the taxation burden on rural residents associated with the elimination of railways and elevators. Six short-line railways are currently in operation, with a seventh in the process of being established. Total short-line trackage is expected to reach 1200 km by the end of the year.

Ed Zsombor, (306) 787-5847, ed.zsombor.hi@govmail.gov.sk.ca

Trucking Partnership Program

The program provides an opportunity for companies to improve the efficiency of their hauling operation by allowing loads in excess of weights and/or lengths that can be legally hauled on the provincial highway system. The companies must meet specific operational requirements including the sharing of haul savings with the Department of Highways and Transportation. The objectives of the program are to support economic development in Saskatchewan; provide additional revenues for road improvement; promote the use of more efficient, road friendly vehicle technology; and ensure that the taxpayers and motoring public are not adversely affected by industrial traffic.

John Palaschuk, (306) 787-4846, john.palaschuk.hi@govmail.gov.sk.ca





Volatile Organic Compounds Reduction
The Saskatchewan Department of Highways and
Transportation is reducing emissions of volatile organic
compound emissions by cutting down the use of
Trichlorocltrylene in asphalt testing; promoting the use
of emulsified asphalt instead of cutting back ashphalt
where possible; and increasing the use of water-based
paint on road striping.

Magdy Beshara, (306) 787-4922, mbeshara@highways.gov.sk.ca

Quebec

Employer Program

The Quebec Department of Transport has developed a transport plan for businesses that includes a wide range of measures to facilitate travel by employees between home and the workplace. It is designed to bring about change in travel habits by promoting public transport and ride-sharing, and rethinking the management of parking lots, etc.

Department of Transport, www.mtq.gouv.qc.ca Christine Duby, (514) 864-1730 ext 261

Public Transit Program

The program is designed to create conditions in the cores of major urban areas to encourage use of public transit as the main mode of travel, as well as encouraging the maintenance and development of efficient networks and services. The capital investment aspect of the program is designed to encourage maintenance of assets, improve infrastructures and expand networks.

Department of Transport, www.mtq.gouv.qc.ca/ministere/programmes/ c11.htm Robert Carignan, (418) 644-0316 or Christian Crête, (418) 643-7896

Prince Edward Island

Advanced Traveller System (ATIS) for PEI Well-informed travellers make better travel decisions, which usually translates into more efficient travel patterns. A traveller information system distributes information on weather, road conditions, construction zones, detours, and congestion by means of radio broadcasts, variable message signs, web pages and/or other media. The PEI Department of Transportation

and Public Works is investigating ATIS, and is seeking ways to distribute existing information easily.

www.gov.pe.ca/mapguide/index.php3 Cathy Worth, (902) 894-0271, ceworth@gov.pe.ca

Greater Charlottetown

Synchronized Traffic Signal System Improving traffic flow through intersections through the application of Intelligent Transportation Systems (ITS) reduces vehicle emissions by minimizing idling times at red lights. Phase I, the widening of the intersection on the Charlottetown Perimeter Highway to allow for two through lanes in each direction, has been completed, implementing time-based signal co-ordination along the entire section of highway. Phase II will expand the system to include University Avenue. If funding becomes available and the City of Charlottetown is on-side, implementation of Phase III will include the upgrading of the entire signalized network system (approximately 40 signalized intersections) to be fully adaptive for all signalized intersections in the greater Charlottetown area.

Helen Blake, (902) 566-5155, heblake@gov.pe.ca

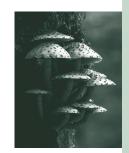
PEI Enerpool

The program objective is to demonstrate the energy conservation potential through ride-sharing. The Energy and Minerals Section of the PEI Department of Development & Technology sponsors two vans that provide weekday transportation to and from Charlottetown, Prince Edward Island.

Jessie MacPhail, (902) 368-5010, jmmacpha@gov.pe.ca

Road Weather Information System (RWIS)
Improved knowledge of specific road conditions
(temperature, moisture, wind speed, salt concentration)
greatly improves road condition forecasting ability.
RWIS enhances highway maintenance decision-making
ability, leading to more efficient use of the highway
maintenance fleet. Accurate, timely, and specific road
condition information can pinpoint problem areas and
dispatch equipment accordingly.

Cathy Worth, (902) 894-0271, ceworth@gov.pe.ca



Nova Scotia

TRAX (Transportation Halifax)

TRAX is a public education program to reduce the use of private vehicles, and encourage mass transportation/car pooling/walking/bicycling as viable healthy alternatives. Several major employers in the core of Halifax will be assisted in setting up in-house programs. Existing efficient public transportation initiatives will be supported and efforts undertaken to change/introduce legislation that will encourage more efficient public transportation. Partnership with the health field will emphasize the negative aspects of personal vehicles and the positive aspects of alternatives.

Sue Watson/Rebecca O'Brien, (902) 429-0924, TRAX@istar.ca.

ELECTRICITY

Government of Canada

Capital Cost Allowance (CCA) and Related Changes These changes, introduced in Government of Canada Budgets between 1996 and 2000, make several adjustments that will directly or indirectly encourage investment in certain types of energy-efficiency and renewable-energy technologies. The changes include:

- Extending higher CCA rates (i.e. 30 percent) to equipment used in photovoltaic systems with lower minimum peak capacity requirements (i.e. 3 rather than 10 kiloWatts);
- II. Allowing the deduction of 100 percent of certain pre-production costs in the renewable-energy projects. These costs can also be renounced to shareholders under flow-through share agreements, providing improved access to financing in the early stages of a project when there is little or no income against which tax deductions related to these expenses can be applied;
- III. Including test wind turbines as pre-production expenses eligible for flow-through;
- IV. Increasing the CCA rates for a distributor of heat or water from 4 percent to 8 percent for production and distribution equipment (other than buildings and other structures);
- V. Extending the separate class election to include natural gas turbines. This separate class election allows taxpayers to fully deduct any remaining undepreciated balance as a terminal loss upon the disposition of all the property in that class, including used equipment; and

VI. Extending higher CCA rates (i.e. 30 percent) for electricity-generating equipment fuelled by flare gas at oil fields. (This incentive helps to reduce greenhouse gas emissions in the oil and gas industry by better controlling the combustion process and by displacing coal-fired electricity generation.)

Department of Finance, www.finance.gc.ca Bill Toms, (613) 992-0960, toms.bill@fin.gc.ca

EnerGuide for Equipment

The EnerGuide for Equipment program ensures that new major household appliances and room air conditioners comply with Canada's *Energy Efficiency Act* and show an EnerGuide label — either a yearly energy consumption rating (major household appliances) or an energy-efficiency ratio (air conditioners). All ratings are based on standard test procedures. Labelling helps consumers obtain consistent and reliable information on energy performance.

Natural Resources Canada, http://oee.nrcan.gc.ca Anne Wilkins, (613) 992-3900, awilkins@nrcan.gc.ca

Energy-Efficient Equipment and Appliances
The Energy-Efficiency Regulations, created by regulations authorized under the *Energy Efficiency Act*, aim to eliminate inefficient energy-using equipment from the Canadian market by prescribing minimum energy-efficiency performance levels.

Natural Resources Canada, http://oee.nrcan.gc.ca John Cockburn, (613) 996-4359, jcockbur@nrcan.gc.ca

Extension of the Manufacturing and Processing (M&P) Tax Credit

The extension of the 7 percent M&P tax credit to electricity generation, announced in the 1999 Government of Canada Budget, will encourage investment in new electrical generating capacity. A related change in Budget 2000 will encourage district heating by providing the same income tax rate to all producers of steam for sale for uses other than the generation of electricity.

Department of Finance, www.finance.gc.ca Bill Toms, (613) 992-0960, toms.bill@fin.gc.ca





British Columbia

BC Hydro Greenhouse Gas Initiatives B.C. Hydro has undertaken several initiatives designed to reduce greenhouse gas emissions:

- Request for Green Power is a commitment to making 10 percent of all BC Hydro's new generation resource acquisitions green resources (i.e. renewable, socially responsible, licensable, and having a low environmental impact).
- The Energy Futures Program identifies realistic green energy options, including green energy supplies, new products or services, and new business ventures. Options being considered are wind, micro-hydro, woodwaste, community energy planning, and green energy certification. Two wind monitors have been installed to evaluate wind viability and three more will be installed across the province in the next year.
- Power Smart is a customer energy-efficiency program. BC Hydro is also increasing the energy efficiency of its own operations and facilities; for example, improving hydroelectric generation efficiency (Resource Smart program) and upgrading the Burrard Thermal Generating Plant. It has also committed more than \$2 million for the purchase of greenhouse gas offsets over the 2000-2001 time frame.

BC Hydro, www.bchydro.com/environment Kristann Boudreau, (604) 623-3536, kristann.boudreau@bchydro.bc.ca

Alberta

ATCO Electric

- ASHCORT Technologies Ltd. is a new subsidiary company for marketing ash. Ash sales increased by more than 50 percent in the company's first year of operation.
- Promoting energy efficiency Some of Atco
 Electric's internal energy efficiency projects include
 a solar power installation at its Anderson substation, a turbine efficiency upgrade at its Sheerness
 station, a fuel pipe refurbishment and coal bunker
 modifications at its H.R. Milner station and the
 purchase of more fuel efficient vehicles for company use. In addition, ATCO Electric works with
 customers to enhance the efficient use of energy
 in their homes and businesses, has developed

partnerships with communities to share ideas and address local environmental concerns and has developed educational materials, which are used by schools and other groups in its service area.

www.atcoelectric.com

EPCOR

EnVest™ is an energy efficiency program that can enable commercial and industrial customers to reduce their energy consumption. EPCOR developed EnVest™ to allow commercial and industrial customers to reinvest in themselves. The program allows commercial and industrial customers to avoid the large capital requirements traditionally needed for energy and water saving upgrades to existing facilities. By becoming a partner in the EnVest™ program, commercial and industrial customers can access all the resources required for major energy improvements to their current water, gas and electric systems. The program also shows commercial and industrial customers how to decrease their operating costs, limit the impact of their operations on the environment, and access affordable financing to cover project costs.

www.epcor-group.com, envest@epcor.com

• Flyash – Coal flyash is the light airborne particulate that is produced by coal-fired power plants. It has physical and chemical properties that resemble limestone, which is used to make cement. These properties allow flyash to displace limestone in concrete production. Flyash has been found to increase the long-term strength and durability of cement. Using flyash in place of limestone reduces the need for disposing it in a landfill, avoids the cost of landfilling and generates revenues when sold. It also results in less energy consumed in concrete production. In 1999, EPCOR sold 61,918 tonnes of ash for cement production. This represents a net carbon dioxide reduction of 31,000 tonnes.

www.epcor-group.com

Harvesting Power Poles – In August 1996, EPCOR
entered into an agreement with Moen Lumber Sales
of Edmonton to recycle used cedar power poles.
Moen sells the poles, which displace virgin lumber
in the retail market. This has resulted in numerous
benefits. Used power poles are no longer sent to
the landfill, which means fewer trees are harvested



and the energy consumption associated with harvesting is reduced. In 1999, this program resulted in 20,000 tonnes of carbon dioxide emissions reductions. Carbon dioxide offsets associated with the resulting displaced forestry, and avoided greenhouse gas emissions and root system impacts are estimated at an additional 124,00 tonnes per year.

www.epcor-group.com

Landfill Gas – Methane gas from Clover Bar Landfill is used as an alternative energy source to produce electricity at EPCOR's Clover Bar Generating Station. More than 70 active wells from a total of more than 110 wells at the Clover Bar Landfill produce 39,000 cubic metres of landfill gas each day. The methane gas used at Clover Bar generates electricity at an average rate of 5,700 kiloWatts of net electrical power, enough to satisfy the power needs of 4,100 homes.

www.epcor-group.com, Tim Boston, (780) 412-3268

 Standing Up For Trees – EPCOR joined with 40 other Canadian and American utilities to form the UtiliTree program. The goal of the UtiliTree Carbon Company is to promote ecologically and economically sustainable forest management. It sponsors projects such as tree planting, forest protection and innovative forest management that result in the storage of carbon. EPCOR's participation in the UtiliTree project offset 16,200 tonnes of carbon dioxide in 1999.

www.epcor-group.com

TransAlta

Ash Sales – TransAlta sold approximately 16 percent of the fly ash from their coal-fired generating plants to Alberta and British Columbia cement companies in 1999. This represented 348,618 tonnes of ash, reducing CO₂ emission by 20,357 tonnes.

www.transalta.com, sustainable_development@transalta.com

 Offsets – TransAlta has signed an agreement to purchase up to 2.8 million metric tonnes of carbon emission reduction credits from farms in the United States. Credits from these reductions will be delivered to TransAlta beginning in 2008. TransAlta led a consortium of seven Canadian companies involved in the deal through the Greenhouse Emissions Management Consortium (GEMCo).

www.transalta.com, sustainable_development@transalta.com

Renewable Purchases – TransAlta purchases
renewable energy in Alberta through the Small
Power Research and Development Act. Through
this program, TransAlta has signed long-term power
purchase contracts at legislated prices with various
independent renewable energy producers. In 1999,
TransAlta purchased 573,806 megaWatt hours of
electricity generated by wind, biomass and small
hydro operations.

www.transalta.com, sustainable_development@transalta.com

Saskatchewan

SaskEnergy's Climate Change Initiative SaskEnergy set in motion efforts to reduce corporate greenhouse gas emissions eight years ago. The corporation continues to roll out the top, cost-effective projects that were identified by its internal Climate Change Task Force, and searches for new and additional ways to reduce its impact on the environment. SaskEnergy is a third of its way toward its goal of reducing its greenhouse gas emissions to 6 percent below 1990 levels by the year 2005, when many of these projects will be substantially completed. In addition to its internal initiatives, SaskEnergy is a strong supporter of provincial initiatives to educate the public, improve the energy efficiency of Saskatchewan businesses and the public, and help them reduce their greenhouse gas emissions. These initiatives consist of Action By Canadians (ABC) workshops, natural gas vehicle conversions, the Government of Canada's R-2000 HOME Program, industrial and commercial building energy management programs, and various research and development initiatives. SaskEnergy also has a program in place that will finance the purchase of natural gas appliances.

> SaskEnergy, www.saskenergy.com Bernard Ryma, (306) 777-9368, bryma@saskenergy.sk.ca

SaskPower's Climate Change Action Plan Initiative SaskPower has adopted a four-pronged approach to mitigation of greenhouse gases. Internally, SaskPower





is striving to improve efficiencies, while customer programs include the Energy Solutions program and participation in the Actions By Canadians (ABC) Program. Offset projects include those initiated through GEMCo as well as the SERM forest offset project and others in various stages of development. Research and development has focused on clean coal technology, the capture and storage of CO_2 and terrestrial carbon sequestration.

SaskPower, www.saskpower.com Cynthia Edwards, (306) 566-3247, cedwards@saskpower.com

New Brunswick

Cogeneration Policy

New Brunswick has developed a cogeneration policy to encourage the purchase of electricity by the utility in cases where an industry is modernising or expanding. In 1996, 38.5 megawatts of biomass-fuelled generation was added to the New Brunswick Power system. The project reduces annual $\rm CO_2$ emissions by 250 kilotonnes. Opportunities to increase the level of cogeneration are continually being sought.

Darwin Curtis, (506) 453-2206, darwin.curtis@gnb.ca

Energy Efficiency Standards for Equipment
The objective of this program is to improve the energy
efficiency of selected products and eliminate the use
of inefficient ones. A total of 23 types of equipment
such as refrigerators, washers, electric motors and
lighting are regulated for minimum energy-efficiency
levels under the *Energy Efficient Act*.

Rejean Thibodeau, (506) 453-2206, rejean.thibodeau@gnb.ca

Yukon

Power Sales Incentive Program

This program encourages the use of surplus renewable electricity to displace fossil fuels used for space and water heating. The program will guarantee a return on investment to customers who install the equipment necessary to purchase secondary power.

www.yec.yk.ca/ Duncan Sinclair, (867) 393-5334, duncan.sinclair@yec.yk.ca

Northwest Territories

Development of Residual Heat Systems
The Northwest Territories Power Corporation operates
diesel engine-driven electrical generating plants in
most communities in the Northwest Territories (and
also in Nunavut). Heat from the cooling of the generators is used to reduce the amount of heating oil
consumed by nearby commercial and institutional
buildings. Systems are installed where it is feasible
to do so. The Power Corporation has signed a
Memorandum of Understanding with the territory's
Department of Public Works and Services to cooperate
in these installations.

www.gov.nt.ca/pws/index.htm www.ntpc.com/index.htm Joe Auge, (867) 873-7829, joe_auge@gov.nt.ca

Northwest Territories Power Corporation's VCR Action Plan

The Northwest Territories Power Corporation operates diesel engine-driven electrical generating plants in most communities in the Northwest Territories. In October 1999, the Corporation filed an action plan with the Voluntary Challenge and Registry (VCR). Initiatives identified in the latest plan include wind energy conversions; residual heating systems; efficient diesel engines, programmable logic controllers, natural gas generating facilities, energy-efficient street lighting, transmission and distribution lines, energy-efficient initiatives, continued involvement in the Arctic Energy Alliance, and continued involvement in the VCR program.

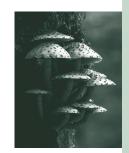
www.ntpc.com/index.htm Engineering Division, Northwest Territories Power Corporation, (867) 874-5282

INDUSTRY

Government of Canada

Canadian Industry Program for Energy Efficiency (CIPEC)

The Canadian Industry Program for Energy Efficiency (CIPEC), a voluntary industry-government alliance, provides a framework to identify energy-efficiency potential, establish energy-efficiency improvement targets, implement and manage energy-efficiency improvement programs and projects, report on progress and celebrate accomplishments. The Government of Canada also works with companies through its Industrial Energy



Innovators Initiative (see description below.) CIPEC includes 35 trade associations, representing more than 3,000 companies and 90 percent of secondary industrial energy demand. Industry members under CIPEC include the following sectors: aluminum, brewery, cement, chemicals, dairy, electrical and electronics, fertilizer, food processing, general manufacturing, lime, mining, oil sands, petroleum products, pulp and paper, rubber, soft drink, steel, textiles, transportation manufacturing, and wood products. Industries participating in CIPEC recorded an average annual energy-efficiency improvement of 1.3 percent for the period 1990-1998, while stabilizing energy-related emissions of CO₂. This improvement represents the amount of energy necessary to heat 40 percent of all Canadian houses in 1998. Two examples of individual company energy savings include, in the aluminum sector, Aluminerie Lauralco (300,000 megawatts with increased production of five percent) and, in the mining/smelting sector, Cominco (zinc/copper), a total greenhouse gas reduction of 40 percent since 1989. Examples of CIPEC projects are listed below.

> Natural Resources Canada, http://oee.nrcan.gc.ca Philip B. Jago, (613) 995-6839, pjago@nrcan.gc.ca

The Aluminum Energy Efficiency project includes
the replacement of old, less efficient smelters with
energy-efficient AP-30 Pechiney technology and
the use of committees, working groups, and special
studies to pursue other technological advances.
Already 70 percent of total aluminum production
comes from modern facilities. From 1990-1998, the
aluminum sector increased production by 51 percent
while reducing its greenhouse gas emissions per
unit of production by 41 percent.

Aluminum Industry Association, www.aac.aluminium.gc.ca Christian Van Houtte, (514) 288-4842

 The Energy Benchmarking Strategy project provides tools to measure and compare energy performance (usage and costs) in underground bulk mining operations in order to identify where improvements and better practices can be adopted.

> Mining Association of Canada, www.mining.ca/english/press/press-eng.html Dan Paszkowski, (613) 233-9392, ext. 320; dpaszkow@mining.ca

The Global Climate Change: Taking Action project (completed in September 2000) supported the Pembina Institute's and Stratos's collaboration on the creation of a guide to help managers at all levels in the Canadian mining industry develop a corporate strategic response to the risks and opportunities associated with climate change and greenhouse gas emission reductions. The guide includes the rationale for progressive action on climate change, greenhouse gas emission reduction opportunities, and business opportunities related to greenhouse gas emission reductions that can be implemented in mining operations both within and outside Canada. The guide also includes information on how to inventory, measure and report on climate change actions.

> Mining Association of Canada, www.mining.ca/english/press/press-eng.html Dan Paszkowski, (613) 233-9392, ext. 320; dpaszkow@mining.ca

The Energy Innovators Initiative
This initiative encourages Canadian organizations
in the commercial and institutional sectors to make
energy-efficiency investments throughout their operations, in order to lower costs and reduce greenhouse
gas emissions related to energy use. The program uses
partnerships with key associations and corporate
energy management planning to guide these organizations to greater energy efficiency. Clients implement
their energy-efficiency initiatives with support from the
program's information products, advice and incentives.

Natural Resources Canada, http://oee.nrcan.gc.ca Gilbert Aubin (public sector), (613) 996-5958, gaubin@nrcan.gc.ca David Atkins (private sector), (613) 943-8293, datkins@nrcan.gc.ca

National Action Plan on Ozone Depleting
Substances and their Halo-Carbon Alternatives
Both federal and provincial governments are responsible for control of ozone depleting substances (ODS) and their halo-carbon alternatives (i.e. HFCs and PFCs, substances used in air-conditioning, fire suppression and solvent applications. Regulations controlling the use of ODS are in place in all jurisdictions. In addition Alberta, British Columbia, Newfoundland, Ontario, Yukon and the Government of Canada regulate the





use of HFCs. Other provincial regulations governing HFCs are expected to be implemented in the future.

Environment Canada, www.ec.gc.ca/ozone Alex Cavadias, (819) 953-1132, alex.cavadias.ec.gc.ca

Renewable Energy Market Development Program
The Renewable Energy Market Development program
encourages the use of renewable energy from emerging resources and helps the supply industry take
advantage of promising markets. The program also
helps industry improve its delivery infrastructure
through a variety of activities, including upgrading
industry training programs and product standards,
and developing software to facilitate feasibility studies
and system designs.

Natural Resources Canada, www.nrcan.gc.ca/es/erb/reed Denis Zborowski, (613) 947-9815, dzborows@nrcan.gc.ca

Voluntary Challenge Registry Inc. (VCR)
This is a not-for-profit corporation that encourages private- and public-sector organizations to voluntarily limit their net greenhouse gas emissions as a step towards meeting Canadas climate change goals. To date, more than 700 companies and organizations from all sectors of the economy have registered action plans, including the Government of Canada and all provincial governments.

Natural Resources Canada, www.vcr-mvr.ca Marie Maher, (613) 947-2076, mamaher@nrcan.gc.ca

Alberta

Industry Workshops on International Actions
The Government of Alberta is sponsoring a series of one-day workshops highlighting important developments in international climate change negotiations.
These workshops provide Alberta industry with information on how it can benefit and become involved in international projects. The initial focus is on companies already doing business in Latin America. Company and government representatives from Alberta and Latin American countries are invited to a two-day conference to explore opportunities to increase awareness of Clean Development Mechanism (CDM) projects in Latin America.

Sarah Waddington, (780) 422-8687, sarah.waddington@gov.ab.ca

Reductions in Flaring

Following a recommendation by the Clean Air Strategic Alliance (CASA), Alberta's Energy and Utilities Board (EUB) has incorporated in its July 1999 Flaring Guide a 25 percent reduction on volumes flared by 2001 and stringent performance standards for the remaining flares. A 25 percent reduction in flaring volumes would reduce CO₂ emissions by an estimated 1.25 megatonnes — a 0.7 percent decrease in Alberta emissions. At the end of 1999, volumes flared were reduced to more than 20 percent below 1996 levels. Alberta's Department of Resource Development and the Energy and Utilities Board, together with stakeholders, have taken actions to facilitate electricity generation from solution gas that would otherwise have been flared. Key priorities have been the creation of a royalty waiver program announced in July 1999 that exempts otherwise flared solution gas from the Electric Utilities Act.

> www.resdev.gov.ab.ca Brent Lakeman, (780) 422-8463, brent.lakeman@gov.ab.ca

Quebec

Promotion of Energy Efficiency
Any project or activity that may help to promote energy efficiency, stimulate the energy-efficiency industry or support the impact made by this industry abroad may be approved for a financial or professional contribution by the Agence de l'efficacité énergétique du Québec. Public and para-public organizations in Quebec, non-profit companies and non-profit organizations are all eligible.

www.aee.gouv.qc.ca/10/150/150-1.htm Luc Morin, (418) 627-6379

Prince Edward Island

\$mart Energy Management

This program assists manufacturers and processors in Prince Edward Island in reducing their energy costs through energy efficiency, mitigating greenhouse gas emissions in the process. The program includes energy efficiency workshops, development and distribution of an interactive CD-ROM on energy efficiency for the sector, and an energy auditing service.

Mike Proud, (902) 368-5019, mpproud@gov.pe.ca



Nova Scotia

Light Better for Less

This program improves lighting efficiency in small commercial operations. Electrical contractors are trained to perform lighting energy audits on small commercial facilities and recommend and install energy-efficient lighting. Wholesalers are asked to increase stock of lighting projects. Seminars and other marketing are directed at small commercial operators.

www.gov.ns.ca/natr/energy/lb4l Brian Hayes, (902) 424-8162, blhayes@gov.ns.ca

Yukon

Energy Infrastructure Loans for Resource
Development Projects (EILRDP) Program
The Energy Infrastructure Loans for Resource
Development Projects (EILRDP) Program is designed to
encourage the responsible and efficient use of energy
in the development of resources in the Yukon. It assists
Yukon's resource development sector by deferring the
high capital cost of building energy infrastructure.

www.economicdevelopment.yk.ca/ Scott Milton, (867) 667-3061, scott.milton@gov.yk.ca

BUILDINGS

Government of Canada

Commercial Buildings Incentive Program (CBIP)
This program provides financial incentives to encourage building owners to incorporate energy-efficient technologies and practices in designs for new commercial and institutional buildings.

Natural Resources Canada, http://oee.nrcan.gc.ca Jim Clark, (613) 947-1948, jclark@nrcan.gc.ca

EnerGuide for Houses

The EnerGuide for Houses program encourages Canadians to improve the energy performance of their houses. Homeowners receive advice from independent energy-efficiency experts on how to improve home comfort and reduce heating and cooling costs when making home improvements.

> Natural Resources Canada, http://oee.nrcan.gc.ca

Barbara Mullally Pauly, (613) 995-2945, bmullall@nrcan.gc.ca

Heating, Ventilation and Air Conditioning (HVAC) Energy-Efficiency Rating System
This program provides consumers with energyefficiency ratings for gas and propane furnaces, central air conditioning equipment and air-to-air heat pumps.
Oil-fired furnaces will soon be added to the rating system. Ratings are published at the back of manufacturers' brochures in order to provide consumers with the information needed to purchase energy-efficient home heating and air conditioning products. This program is operated in association with the Heating, Refrigeration and Air Conditioning Institute (HRAI), which provides contractors with the tools to promote the sale of more energy-efficient equipment.

Natural Resources Canada, http://oee.nrcan.gc.ca Anne Wilkins, (613) 992-3900, awilkins@nrcan.gc.ca

Model National Energy Code for Buildings and Houses

This program aims to increase the energy efficiency of new Canadian houses and buildings by specifying minimum energy requirements, supporting the implementation and adoption of these model national energy codes by relevant authorities having jurisdiction for buildings and houses, and monitoring and analyzing the impact of such codes.

Natural Resources Canada, http://oee.nrcan.gc.ca John Cockburn (Buildings), (613) 996-4359, jcockbur@nrcan.gc.ca Barbara Mullally Pauly (Houses), (613) 995-2945, bmullall@nrcan.gc.ca

R-2000 HOME

The R-2000 HOME program uses a quality-assurance process to ensure that certified R-2000 houses meet the voluntary performance standard for energy efficiency, indoor air quality and environmental sustainability. The program is delivered provincially and in the Territories by more than 30 industry partners, including energy utilities and home builders' associations. The program's quality assurance process provides technical support, builder training and industry infrastructure. Between 1982 and 1995, the program was responsible for reducing the equivalent of 14,200 kilotonnes of CO₂.





The R-2000 HOME program has had a major influence on building codes and energy-efficient technologies and practices in new home construction. Since the program began in 1982, more than 8,000 homes have been R-2000-certified and more than 10,000 builders have received R-2000 training.

Natural Resources Canada, http://oee.nrcan.gc.ca Tim Mayo, (613) 996-0777, tmayo@nrcan.gc.ca

Renewable Energy Deployment Initiative (REDI)
This program promotes renewable energy systems for space and water heating, and for cooling through an incentive that funds 25 percent of the cost of adopting new systems (to a maximum of \$50,000). Eligible systems include solar air heating, solar water heating, high efficiency/low emission biomass combustion.
REDI also provides market support for earth energy systems and supports pilot projects in the public institutions and residential markets.

Natural Resources Canada, www.nrcan.gc.ca/es/erb/reed Celia Kirlew, (613) 943-2215, ckirlew@nrcan.gc.ca

Sponsorship Program

The Sponsorship Program provides Canadian homeowners with consumer information on residential energy efficiency through a network of sponsors that includes hardware and building supply retail sectors, utilities, media and industry associations.

Natural Resources Canada, http://oee.nrcan.gc.ca Mary O'Keefe, (613) 947-1203, mokeefe@nrcan.gc.ca

British Columbia

Green Buildings B.C.
This initiative has two parts:

 The Retrofit Program provides an opportunity for provincially-funded schools, universities, colleges, and health care institutions to upgrade existing facilities with energy and water efficiency enhancements, as well as waste-saving measures. Since the late 1970s, British Columbia has reduced energy consumption in targeted buildings by more than 55 percent and generated more than \$120 million in total energy savings. www.greenbuildingsbc.com Orest Maslany, (250) 952-8631, omaslany@bcbc.bc.ca www.bcbc.bc.ca Jack Meredith, (250) 952-8627, jmeredith@bcbc.bc.ca

 The New Buildings Program: New provinciallyfunded facilities will meet or exceed national energy-efficiency standards, within existing capital budgets. In addition, the program is working with industry to promote BC expertise in "green" building design, construction and operation.

> www.greenbuildingsbc.com Martine Desbois, (250) 952-0668, Martine.Desbois@gems2.gov.bc.ca

Tax Exemption for Energy Conservation Materials and Equipment

A provincial sales tax exemption is provided for certain energy conservation materials and equipment, including insulation materials for buildings (e.g. various types of insulation material, double-paned windows, doors) and certain wind, solar and micro-hydro equipment.

Ministry of Finance and Corporate Relations www.fin.gov.bc.ca/revenue/ctb/MoreTopics.htm (See Bulletin 11)
Glen Armstrong, (250) 387-4196,
glen.armstrong@gems2.gov.bc.ca

Alberta

School Buildings Guidelines

The Alberta Government has created new standards and guidelines for the building of new schools and the modernization of existing ones. The purpose is to provide a minimum standard for this work. These guidelines incorporate life cycle costing and energy efficiency requirements. They also require that decisions be made on a ten-year payback.

John Gibson, (780) 422-0106, john.gibson@gov.ab.ca

Saskatchewan

EnerGuide for Houses

The Government of Canada's EnerGuide for Houses program is delivered in Saskatchewan by Sun Ridge Group. Its objective is to further improve the energy efficiency and reduce the environmental impact of Canadian low-rise housing. EnerGuide for Houses



evaluates the energy-related features of a house, estimates the homes annual energy requirements and provides a comparative energy-efficiency rating.

> www.gov.sk.ca/enermine Howard Loseth, (306) 787-3379, howard.loseth@sem.gov.sk.ca

Energy Management Initiative
This initiative makes affordable improvements to
health facilities to obtain optimum energy efficiency
and cost benefits.

Leslie Parker, (306) 787-3265, lparker@health.gov.sk.ca

Northern Energy Efficiency Feasibility Study Through this study, Saskatchewan Environment and Resource Management (SERM) is assessing the potential for pilot projects for improving the energy efficiency of public buildings in Northern Saskatchewan communities.

Ron Zukowsky, (306) 787-6285, ron.zukowsky.erm@govmail.gov.sk.ca

R-2000 HOME

The Government of Canada's R-2000 HOME program is implemented in Saskatchewan by the Saskatchewan Homebuilders' Association. Its goals are to promote energy-efficient housing in Saskatchewan and to provide the framework and procedures whereby builders may construct houses to the R-2000 standard and whereby the houses may receive a national R-2000 identification certificate. In 1999-2000 there were 13 R-2000 homes built and certified, and there were 15 active R-2000 builders.

www.gov.sk.ca/enermine Howard Loseth, (306) 787-3379, howard.loseth@sem.gov.sk.ca

Residential Rehabilitation Assistance Program (RRAP)

The RRAP Program includes several repair programs that benefit low-income homeowners and renters by bringing their homes up to minimum health and safety standards and improving energy efficiency. Also included is a program to encourage landlords to convert appropriate non-residential buildings to residential uses.

www.mach.gov.sk.ca Linda MacNaughton, (306) 787-7367, Imacnaughton@mach.gov.sk.ca



Energy Efficiency Action Program in the Institutional Sector

The program of the Agence de l'efficacité énergétique du Québec provides financial support to encourage institutions to promote energy efficiency. This assistance is intended for institutions that conduct energy analyses and feasibility studies that lead to the implementation of measures or projects designed to reduce energy bills by 10 percent.

Agence de l'efficacité énergétique du Québec (AEE) www.aee.gouv.qc.ca/10/150/150-3.htm Jean-Marc Robert, (418) 627-6379

NOVOCLIMAT Program

The goal of this program of the Agence de l'efficacité énergétique du Québec (AEÉ) [Quebec energy efficiency agency] is to support initiatives designed to improve the energy performance of new houses by training and accrediting persons involved in the residential construction sector. The program will make it possible to develop a product and skills that will benefit consumers.

Agence de l'efficacité énergétique du Québec (AEE), www.aee.gouv.qc.ca Chantal Dallaire, (418) 627-6379

Rules Governing Energy Performance Contracts
The Quebec Department of Education has prevailed
upon the government to amend the regulations governing construction contracts to allow all parts of
the education system to award contracts designed to
achieve savings as a result of energy improvements
to buildings. These contracts are paid for with the
savings achieved and include both professional
services and construction work.

Quebec Department of Education www.meq.gouv.qc.ca Jean Drouin, (418) 644-2525

New Brunswick

Energy Efficient Standards for Buildings
The objective of this program is to increase the level
of energy efficiency in new facilities by promoting
the use of energy efficiency standards for buildings.
A variety of activities are undertaken to support this
effort. New Brunswick is a member of the Canadian
Consortium for Building Energy Compliance Software





who have released a software package that measures compliance under the Model National Energy Code for Buildings. The province also supports R-2000 and requires that social housing be built to the R-2000 standard. The penetration of R-2000 homes in New Brunswick has had a significant impact on the standard levels of energy efficiency in new homes, which are close to the R-2000 standard.

Rob Murray, (506) 453-2206, rob.murray@gnb.ca

Nova Scotia

Halifax Home Tune-Up Program
The goal of this two-year program is to improve energy efficiency, conserve water, and improve waste management practices and air quality in two thousand homes in the greater Halifax area, by providing low-cost, in-house environmental assessments. Homeowners receive written reports including recommendations for improvements, an information

www.clean.ns.ca/programs/tuneup.html Peter Geddes, (902) 420-3474, pgeddes@clean.ns.ca

package, a water conservation kit, and a list of long-

term retrofits requiring contractor assistance.

Residential Energy Advisory Service

This program encourages the use of energy-efficiency measures and renewable energy in new home construction and renovation. Activities are directed at contractors and homeowners. The program includes support for the Government of Canadas R-2000 HOME program, EnviroHome projects, energy-efficient and renewable energy demonstration projects, publications and videotapes on energy efficiency.

www.gov.ns.ca/natr/energy George Foote, (902) 424-8168, gffoote@gov.ns.ca

Yukon

C-2000

C-2000 is delivered by the Yukon Housing Corporation. Its objective is to encourage increased energy efficiency and environmental performance in commercial buildings through enhanced awareness and understanding among building owners and through training courses for building designers and construction contractors.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Commercial Energy Management Program
This program assists municipalities, First Nations, and private building owners and tenants to implement energy-efficient renovations, including lighting retrofits and heating system improvements. The program also provides energy audits, general information, and financial incentives.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

EnerGuide for Houses

EnerGuide for Houses is a Government of Canada program delivered in the Yukon by the Yukon Housing Corporation. It provides site visits by energy auditors who test the home to determine its energy rating and consult with occupants on suggested improvements. The Yukon Housing Corporation provides low-interest financing to help carry out the energy auditor's recommendations. See Home Repair Program, Green Mortgages, and Residential Electricity Management Program.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Energy Efficiency Initiative

This initiative promotes the efficient use of energy in the home and in the workplace by providing information to homeowners and businesses. A pilot (House Calls) project involving visits to over 100 homes has been completed. Demonstrations of energy-saving options for businesses are being conducted. In winter 2000-01 House Calls will visit 2,000 homes. Estimated greenhouse gas reduction is 1,000 tonnes.

www.yec.yk.ca/ Duncan Sinclair, (867) 393-5334, duncan.sinclair@yec.yk.ca

Green Mortgages

This program encourages energy-efficient construction and the use of local labour and building materials through preferred mortgage rates. Homes must meet a strict energy budget.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Home Repair Program

This program is intended to upgrade Yukon homes to current building code standards of safety and comfort. As part of this, it also addresses energy efficiency.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca



R-2000 HOME

R-2000 promotes comfortable, healthy, lowmaintenance, energy-efficient housing through training, builder registration and certification, performance standards, inspection, testing, research and development, and information.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Rental Rehabilitation Program

This program provides low-interest loans to landlords to improve the energy efficiency of rental units.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Residential Electricity Management Program
This program is sponsored by the Yukon Development
Corporation and administered by the Yukon Housing
Corporation. It provides low-interest loans to replace
electric heat in residences with alternative heating systems. It has resulted in more than 200 conversions since
1997, with an annual reduction of 2,500 tonnes of CO₂.

Ed Zanetti, (867) 667-8696, ed.zanetti@gov.yk.ca

Northwest Territories

Inuvik Conversion Assistance Program
This program provides financial assistance to residential homeowners to convert from oil heat to natural gas. The amount of the grant is matched by the gas supplier. The major objective of the program is to assist in the rapid conversion of residential homeowners to a local, cleaner energy source for heating.

www.ngasnwt.com/ Jill Finley, (867) 777-7055, jfinley@inuvikgas.com

AGRICULTURE

Government of Canada

Agricultural Environmental Stewardship Initiative (AESI)

The Agricultural Environmental Stewardship Initiative (AESI), funded under the Canadian Adaptation and Rural Development (CARD) fund, addresses the regional impacts of agricultural practices on water, soil, and air quality, biodiversity and greenhouse gas emissions through education and awareness, technology transfer, and stewardship tools including environmental clubs, environmental management systems, and land use planning. This program is delivered through the provincial and territorial adaptation councils.

Agriculture and Agri-Food Canada, http://agr.ca/policy/environment/home.html John Brown, (613) 759-7301, brownj@em.agr.ca

Community Pasture Program

The Prairie Farm Rehabilitation Administration operates over 900,000 hectares of community pasture in the three prairie provinces. The two major objectives of the program are to remove lands from unsuitable or unacceptable land uses and to facilitate improved land use through their rehabilitation, conservation and management; and to utilize the resource primarily for the summer grazing of cattle while assisting in stabilizing small farms and providing breeding bulls to encourage high quality, long-term cattle production. Grazing management and stocking rates significantly increase carbon sequestration in soils and reduce methane emissions. Pasture patrons, mainly cattle ranchers, pay full cost recovery for the service provided.

Prairie Farm Rehabilitation Administration (PFRA), www.agr.ca/pfra/cpproge.htm www.agr.ca/pfra/resource/climate.htm Hugh Cook, (306) 780-5158, cookh@em.agr.ca Rick Gaube, (306) 780-5154, gauber@em.agr.ca

Irrigation and Water Management Technology Transfer

The irrigation and diversification centres at Outlook, Saskatchewan and Carberry, Manitoba demonstrate irrigation and water management technologies that improve the efficiency of agricultural production and reduce the emission of greenhouse gases.

Prairie Farm Rehabilitation Administration (PFRA), www.agr.ca/pfra/mcdcgene.htm and www.agr.ca/pfra/sidcgene.htm www.agr.ca/pfra/resource/climate.htm Laurie Tollefson, (306) 867-5404, tollefsonl@em.agr.caq Dale Tomasiewicz, (204) 834-6005, tomasiewiczd@em.agr.ca

Livestock Environmental Initiative (LEI)
This \$1.3 million initiative under the Canadian
Adaptation and Rural Development (CARD) program is
comprised of two components: research and development, assessment and transfer of technology to the
livestock industry; and the development of a national
environmental certification system for the hog industry. Many of the mitigation measures that would
address the environmental priorities of the livestock





sector will also assist in the reduction of greenhouse gas emissions. Greenhouse gas emissions is one of the criteria used in the screening of research proposals.

> Agriculture and Agri-Food Canada www.agr.ca/policy/environment/home.html Sheila Jones (613) 759-7300, jonessh@em.agr.ca

Permanent Cover Program (PCP)

The PCP programs (PCP I and PCP II) converted land marginal for annual cultivation in cereal production to long-term forages in order to reduce soil degradation on environmentally sensitive lands that have high erosion risk under annual cultivation. Local landowners made either 10 or 21 year commitments to perennial cover on these lands. The PCP, announced in 1989, took place in Manitoba, Saskatchewan and parts of Alberta. PCP II (1991) included eligible land in the Peace River Region of British Columbia and in Alberta. Studies have shown significant carbon sequestration potential in the lands that have been converted.

Prairie Farm Rehabilitation Administration, www.agr.ca/pfra/land/margine.htm www.agr.ca/pfra/resource/climate.htm Ken Thompson, (306) 780-5159, thompsonk@em.agr.ca

Shelterbelt Program

The Shelterbelt Program is a permanent program for the distribution of seedlings, free of charge, to farmers and Conservation Boards for planting shelterbelts or for conservation and land reclamation projects in the Prairies. It includes a research and a communications component. Some program results include the creation of wildlife habitat, conservation of soil, carbon sequestration, and significant energy reductions in farmsteads. The applicants are responsible for transportation costs, and to plant and maintain the shelterbelts.

Prairie Farm Rehabilitation Administration, www.agr.ca/pfra/shbproe.htm www.agr.ca/pfra/resource/climate.htm Bruce Neill, (306) 695-2284, neillb@em.agr.ca

Soil Management, Manure Management and Resource Planning Activities
The Prairie Farm Rehabilitation Administration (PFRA) offers soil and manure management advice to clients on topics such as tillage, summerfallow, cropping, intensive livestock siting, riparian area management,

resource conservation and development issues. Examples that relate to climate change include:

- Straw Harvest Potentials to assess the potential for the sustainable harvest of crop aftermath for use in straw board and other emerging manufacturing industries.
- Prairie Agriculture Landscapes Project to assess the impact on the soil resources of future economic development and climate scenarios.
- Methane and Nitrous Oxide demonstration of manure management techniques such as lagoon covers.

Prairie Farm Rehabilitation Administration, www.agr.ca/pfra/resource/sconsere.htm www.agr.ca/pfra/pfintroe.htm www.agr.ca/pfra/resource/climate.htm Bob Wettlaufer, (306) 780-5105, wettlauferb@em.agr.ca
Bernie Ward, (306) 780-8132, wardb@em.agr.ca

Alberta

Environmentally Sustainable Agriculture Program
The Alberta Environmentally Sustainable Agriculture
Program is helping to develop and encourage farming
practices that can lead to lower greenhouse gas
emissions. More than 25 projects are underway in the
program's four components: farm-based, processingbased, resource monitoring, and research. It has
encouraged research and adoption of reduced tillage
and other management practices that have reduced
fuel use and increased soil carbon storage. The
program also supports research to find cost-effective
ways to reduce greenhouse gas emissions from
agriculture and agri-food business.

Alberta Agriculture, Food and Rural Development, www.agric.gov.ab.ca John Hermans, (780) 427-3908, john.hermans@gov.ab.ca

Farm Business Management Program
This program focuses primarily on improving financial
and other business management skills. Production
(nutrient) management is one component of the program
that can provide greenhouse gas reduction benefits.

Alberta Agriculture, Food and Rural Development, www.agric.gov.ab.ca Wilson Loree, (403) 556-4213, wilson.loree@gov.ab.ca



Proposed Regulatory Framework for Livestock Feeding Operations in Alberta One component of this proposed framework for Alberta is a standards document to deal with manure storage and nutrient management. This is a way to identify and encourage adoption of practices and technologies to reduce greenhouse gas emissions.

> Alberta Agriculture, Food and Rural Development, www.agric.gov.ab.ca Joe Rosario, (780) 422-2070, joe.rosario@gov.ab.ca

Saskatchewan

Crop Nutrient Management

This program focuses on the extension/promotion/ technology transfer/R&D of soil fertility management practices/cropping systems for major and diversified crops to maximize nutrient use efficiency while sustainability and improving the health of our soils. Soil and plant tissue testing are major tools in achieving this objective. R&D projects have components dealing with greenhouse gases, including the form, timing, and placement of fertilizers, with a focus on nitrogen.

www.agr.gov.sk.ca Ken Panchuk, (306) 787-0556, kpanchuk@agr.gov.sk.ca

Crop Residue Burning Program

The Residue Burning Pilot is being expanded to increase farmer awareness and to provide information to farmers, with the objective of encouraging farmers to reduce or stop crop residue burning.

www.agr.gov.sk.ca/ Wayne Gosselin, (306) 787-6586, wgosselin@agr.gov.sk.ca

Improved Grazing Management

This program seeks to improve and sustain rangeland and pasture resources through continued research and the provision of technical advice and training to producers involved in range/livestock production. It also encourages multiple use of rangeland and environmental sustainability.

www.agr.gov.sk.ca Zoheir Abouguendia, (306) 651-4182, zabouguendia@agr.gov.sk.ca, Manure Management

The focus of this program is on managing manure as a resource. When used properly, manure can be a valuable source of plant nutrients and organic matter to improve crop production and soil quality. Manure is a source of soil organic matter (sequestered carbon).

www.agr.gov.sk.ca/ Karen Bolton, (306) 787-9183, kbolton@agr.gov.sk.ca

Processing of Surplus Crop Residues

This program encourages processing of surplus crop residues to produce value-added products such as fibre products, strawboard, and alternate energy products.

www.agr.gov.sk.ca Ken Panchuk, (306) 787-0556, kpanchuk@agr.gov.sk.ca

Pulse and Other Legume Production
Pulse and legume crop diversification assists in
achieving sustainability. Pulses and other legumes fix
nitrogen from the air, reducing the need for nitrogen
fertilizer, and encourage local value-added processing.
They also encourage longer rotations and reduction in
summerfallow acres.

www.agr.gov.sk.ca Ken Panchuk, (306) 787-0556, kpanchuk@agr.gov.sk.ca

Soil Conservation

Soil conservation projects (extension, awareness, R&D) have the objective of adjusting agricultural practices to reduce the loss and enhance the productivity of valuable top soil. As a result, these projects increase the uptake or reduce the production of greenhouse gases. Building soil organic matter (carbon sequestration) and reducing soil erosion are the two main focuses. Practices include reduced tillage, zero-till, field shelterbelts, grass strips, strip cropping, etc.

www.agr.gov.sk.ca Ken Panchuk, (306) 787-0556, kpanchuk@agr.gov.sk.ca

Prince Edward Island

Agriculture and Environmental Resource Conservation (AERC)

The program provides technical and financial assistance to farmers to make their farm operations more





productive and sustainable, while achieving compliance with environmental protection legislation. A wide range of on-farm conservation projects are eligible, including soil erosion control practices, soil conservation, hedgerow planting, manure storage, livestock fencing and watering.

> www.gov.pe.ca/af/aerc/index.asp Patsy Reardon, (902) 894-0340

Capture and Use of Methane Gas at Agri-food Processing Plants
This program promotes the capture of methane for use as a replacement for heavy fuel oil. Methane capture in 1999 was approximately 4 million cubic metres, which replaced 800,000 gallons of Bunker "C" oil.

Todd Fraser, (902) 368-5037, ktfraser@gov.pe.ca

Land Use Inventory Field Plots

This program establishes soil quality indicators, measures soil quality on an ongoing basis using a variety of parameters, and reports results to the public. The inventory includes 254 forested locations with an average of 3.4 plots per cluster and 232 agriculture locations that also had an average of 3.4 plots per cluster. One of the measurements that will be monitored is total organic carbon in the soil.

Teresa Mellish (Agriculture), (902) 368-5605 Bill Glen (Forestry), (902) 368-4703

Livestock Management and Grazing Management
The objectives of this program are to reduce emissions
from digestive processes and manure storage and
application and to increase nutritional quality of pasture grasses. The focus will continue to be on fencing
and watering options to prevent livestock access to
watercourses and to prevent water contamination
by manure.

Christine MacKinnon, (902) 368-6776, cgmackinnon@gov.pe.ca

Planting Hedgerows and Shelter Belts
This program promotes the planting of hedgerows and shelter belts to mitigate soil erosion by wind and to sequester carbon.

Soil Nutrient Efficiency

This program develops and promotes best management practices that result in farmers applying the appropriate form, amount, timing and concentration

of nitrogen, such as broader adoption of nutrient management planning.

Christine MacKinnon, (902) 368-6776, cgmackinnon@gov.pe.ca

Nova Scotia

Annapolis Atmosfarm Project

The purpose of the project is to increase understanding of climate change, reduce greenhouse gas emissions and increase carbon sequestration on commercial farms in the Annapolis Valley region. The project will develop and publish a farmers' handbook that will promote a list of actions that farmers can take now to reduce greenhouse gas emissions and increase carbon uptake in the soil. In addition, the project will identify longer-term measures that the agricultural industry can take to reflect the emerging realities of climate change. It is anticipated that at least 30 percent of the 1,140 farms in the Annapolis Valley will voluntarily adopt the protocols of the Atmosfarm Plan. Ultimately, all Canadian farmers may use these same protocols.

Renée Després, (902) 532-7533, r_despres@hotmail.com Scott McCoombs, (902) 4524-7305, srmccoom@gov.ns.ca

FORESTRY (SINKS)

British Columbia

Forests – Carbon Budget Modelling
Using the Government of Canada's national carbon
emissions model, British Columbia is analyzing carbon
emissions for tree farm licences and timber supply
areas under combinations of potential accounting rule
scenarios. This will clarify BC's sink/source position
under various potential Kyoto outcomes.

lan Whitworth, (250) 387-8692, ian.whitworth@gems2.gov.bc.ca

Forests – Research and Modelling Towards Developing a Carbon Management Accounting Framework for BC

British Columbia is developing a carbon management accounting framework for forests that focuses on four key areas: developing standards for carbon measuring, reporting and monitoring for the province with links to national standards; investigating the development of a



carbon information system, enabling forest companies to submit operational data for automatic processing/ reporting; researching soil carbon storage to develop regionally specific conversion factors relating merchantable volume to estimates of soil carbon storage; and investigating legislative changes required to establish non-timber rights to sequestration credits as an incentive to forest carbon sink projects.

Ian Whitworth, (250) 387-8692, ian.whitworth@gems2.gov.bc.ca

MUNICIPALITIES

Government of Canada

Community Energy Systems

The Community Energy Systems program helps Canadian communities meet their energy needs by identifying and developing opportunities for the use of district heating and cooling, combined heat and power (cogeneration), waste heat recovery, thermal storage and local sources of renewable energy, particularly biomass.

Natural Resources Canada, www.nrcan.gc.ca/es/etb/cetc/cetchome.htm Michael Wiggin, (613) 996-8870, mwiqqin@nrcan.gc.ca

Partners for Climate Protection (PCP)

This program is a partnership between the Federation of Canadian Municipalities (FCM) and the International Council for Local Environmental Initiatives (ICLEI), supported by the Government of Canada, that helps municipal governments reduce greenhouse gas emissions. The central focus of PCP is community sustainability. Current priorities for PCP are: engagement (identifying champions, assessing needs, developing templates for local action plans), capacity-building (an on-site employment program, a newsletter, greenhouse gas software and a national workshop); and the Sustainable Community Awards Program (annual awards to six municipalities that have excelled in planning and implementing innovative approaches to sustainable community development).

Federation of Canadian Municipalities, www.fcm.ca Azzah Jeena, (613) 241-5221 ext. 264, ajeena@fcm.ca



Energy Aware Committee (EAC)

The EAC works with interested local governments to promote and support Community Energy Planning (CEP). Over the last two years, the committee has conducted CEP workshops for local governments in the Greater Vancouver Regional District (GVRD), the Central Okanagan, the Capital Regional District and the City of Abbotsford. These workshops help communities examine the energy-efficiency opportunities presented through CEP, and identify opportunities to implement energy efficiency initiatives.

www.energyaware.bc.ca Odette Brassard, (604) 270-8226, obrasar@energyaware.bc.ca

Partners for Climate Protection (PCP)
Several British Columbia municipalities are involved in the Partners for Climate Protection program led by the Federation of Canadian Municipalities. The Greater Vancouver Regional District (GVRD), its member municipalities and neighbouring regional and local governments are actively involved in the GVRD Regional and Local Government Working Group on Climate Change (WGCC) to share information and expertise on implementation of greenhouse gas reduction initiatives.

The GVRD is also actively involved in several greenhouse gas initiatives through its Air 2000 program, including high volume flash concrete, solar thermal pool retrofits, better building partnerships and greenhouse gas action quide.

www.gvrd.bc.ca Jennie Moore, (604) 451-6683, jennie.moore@gvrd.bc.ca

Alberta

Eco-Efficient Communities Initiative
The Alberta Eco-Efficient Communities Initiative,
developed by Alberta's Clean Air Strategic Alliance
(CASA), provides municipalities with the practical
information and tools to reduce operational costs,
create local jobs and reduce greenhouse gas emissions. The program is designed for small and mid-sized
communities in Alberta, which often do not have the
in-house staff and resources for independent energy
efficiency exploration. The program, delivered by the
Pembina Institute, offers a range of project materials,





workshops and conferences that are available to any local government interested in doing more with less.

www.pembina.org Brent Lakeman, (780) 422-8463, brent.lakeman@qov.ab.ca

Kikino Métis Settlement Pilot Initiative
Kikino Métis Settlement in northeastern Alberta is
the focus of a pilot project to identify greenhouse gas
reduction opportunities and encourage action. The
Alberta government and partners including the Kikino
Métis Settlement, TransCanada, Alberta Pacific Forest
Industries Ltd., and the Government of Canada are
working together to help shape future community
engagement initiatives in other Alberta communities.

Brent Lakeman, (780) 422-8463, brent.lakeman@gov.ab.ca

Natural Gas Service Extended to
Three Métis Settlements
Under the Rural Gas Grant Program, natural gas
service was extended to three Métis settlements in
northern Alberta, Buffalo Lake, Kikino, and Gift Lake
Métis settlements. The Rural Gas Grant Program is
a cost-sharing mechanism that defrays the costs of
installing natural gas infrastructure in rural Alberta.

Terry Holmes, (780) 427-0134, terry.holmes@gov.ab.ca

Sustainable Communities Initiative (SCI)
Alberta Environment and FEESA, an Environmental
Education Society, are working through the
Sustainable Communities Initiative to support
local community efforts to achieve their visions of
sustainability. SCI has helped communities develop
and implement action plans on waste, green spaces,
transportation, sustainable housing and other grassroots projects. The program has been implemented
in eight communities across Alberta.

www.feesa.ab.ca Bev Yee, (780) 427-5025, bev.yee@gov.ab.ca

New Brunswick

Partnership Initiatives

The objective is to encourage voluntary action by actively supporting the delivery of energy efficiency programs through partnership arrangements. Examples include in kind support to the New Brunswick Lung

Association in the delivery of the Wood Stove Campaign and Healthy Schools Program and the R-2000 program, which is delivered by the New Brunswick Home Builders Association.

Rob Murray, (506) 453-2206, rob.murray@gnb.ca

Prince Edward Island

Waste Watch

The Island Waste Management Corporation (IWMC a provincial crown corporation) is responsible for the management of all solid waste on Prince Edward Island, including the implementation of the Waste Watch Program. Waste Watch, which is currently running in selected areas of the province, is a threestream source separation system that includes recycling, compost and waste. Currently, 10,000 tonnes of organic matter are diverted from landfill annually. The IWMC anticipates that by 2002, the Waste Watch program will be operational Island-wide and that 30,000 tonnes of organic material will be diverted from landfill per year and composted. The quantities of methane and carbon dioxide produced in composting are far less than those produced by the same quantity of organics in a landfill situation.

Todd Fraser, (902) 368-5037, ktfraser@gov.pe.ca

Yukon

Community Development Fund (CDF)

This program assists municipal and First Nations governments and community non-profit organizations to implement projects to improve the quality of community life. A wide range of projects is eligible for funding. Energy-related projects funded under CDF include wind energy monitoring, solar power for a summer camp, an educational wind turbine for a school, a wood-fired district energy system, and a series of workshops to increase energy efficiency in recreation facilities.

www.economicdevelopment.yk.ca/ programs_and_services/community_ development_fund.asp Cheryl Goulet, (867) 667-3561, cheryl.goulet@gov.yk.ca

Community District Energy

This program assists municipal and First Nations governments to implement district energy projects to utilize residual heat from community diesel power plants. One installation is completed at Watson Lake,



heating the school and community centre, with possible expansion to privately owned buildings. This installation reduces greenhouse gas production by up to 800 tonnes of ${\rm CO_2}$ per year. Studies are being conducted to identify potential projects in other communities.

www.gov.yk.ca/depts/dgs/Govserv.htm
Pat Hogan, pat.hogan@gov.yk.ca, (867) 667-3064

Rural Electrification Program

This program is available to Yukon residents in areas not serviced by utility power. It encourages the installation of renewable alternative energy systems through information and low-interest loans.

www.yukon.net/cts/property.html Clare Robson, (867) 667-5268, clare.robson@gov.yk.ca

Nunavut

Energy Management

The energy management program in Nunavut promotes energy management and community energy planning with local government, Nunavut regional staff and other decision-makers; raises awareness of the Arctic Energy Alliance (AEA) and its program; performs energy assessments of major buildings and facilities; and determines the potential for energy management projects that would ensure benefits to the community. The initiative is currently active in nine communities.

Earle Baddaloo, (867) 975 5910, ebaddaloo@gov.nu.ca

CROSS-SECTOR INITIATIVES

Government of Canada

Climate Change and Health Office
Health Canada established the Climate Change and
Health Office in 1998 as the department's point of
entry for all intra- and inter-departmental climate
change-related issues. A team of five provides support
for various climate change-related inter-departmental
committees and for horizontal file management and
linkages to other departmental branches. Its mission is
to ensure that the potential impacts of climate change
on human health are evaluated and to propose solutions to address the health impacts of climate change.

It also ensures that Government of Canada actions intended to mitigate and to adapt to global climate change take into consideration the implications of climate change on human health and address potential health impacts.

Health Canada, www.hc-sc.gc.ca/english/climate.htm

Mark Raizenne, (613) 954-0161,

mark_riaizenne@hc-sc.gc.ca

Alberta

Climate Change Central

Climate Change Central was announced in November 1999 as a public/private partnership to implement the key recommendations of the Alberta Climate Change Round Table. Climate Change Central is a catalyst for governments, municipalities, businesses, institutions, non-governmental organizations and individuals to focus on climate change strategy, education and capacity building, and technology. Premier Ralph Klein is the executive chair of Climate Change Central. The Alberta Environment Minister and David Tuer, President and CEO of PanCanadian Petroleum Limited, are the cochairs. Thirteen business and community leaders bring a broad range of expertise to the board of Climate Change Central, which also includes representatives from the environmental and academic communities, municipalities and industries involved in climate change.

> www.climatechange.gov.ab.ca Raymond Stemp, (780) 427-2303, raymond.stemp@gov.ab.ca

