



Part VI

Environment

1. Climate Change

Seizing the
Opportunity

Volume 2

Part VI Environment

Section 1. Climate Change

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Climate Change

Statement of Principle

Global climate change is a serious problem on a planetary scale, brought about by the release of greenhouse gases produced by human activity into the environment. Nova Scotia is participating with federal and other provincial and territorial governments in formulating Canada's response to climate change, and is undertaking steps to reduce its greenhouse gas emissions.

The reality of human effects on the global climate through the release of greenhouse gases (GHG) into the atmosphere is no longer in serious dispute by most of the scientific community. Burning fossil fuels in our homes, our cars, and our industries is the single largest contributor to global climate change. We do not yet know the magnitude of GHG reductions that will be required of Nova Scotia in order to meet national reductions targets, but are participating in the national process in which the potential effects and possible solutions are being analyzed.

Climate change is a global problem and will require global solutions. Nova Scotia will continue to work with the federal, provincial, and territorial governments to arrive at a Canadian solution that meets our needs and is shared fairly across the country.

Government Role and Responsibility

The federal government has the prime responsibility for Canada's international commitments to GHG reductions. Canada has signed the Kyoto Protocol and it is ultimately a federal government decision whether to ratify it. Instruments by which national action on climate change might be effected (e.g. carbon taxes, emissions caps, and trading systems) are national in scope and must be enacted at the federal level. However, any decision for action on climate change must be informed and guided by input from provinces and territories because most sectors that must be part of the solution (i.e., energy, transportation, environmental regulation) lie within provincial/territorial jurisdiction. Nova Scotia has a responsibility to participate in the national process, to provide input and advice, and, most importantly, to ensure that Nova Scotia's interests are considered in any discussions leading to national action.

Strategy Objectives

- To work with the federal and other provincial/territorial governments to implement the National Implementation Strategy (NIS) on climate change.
- To ensure that all Canadian jurisdictions equally share the burden of implementing any national response to climate change.
- To implement a long term strategy to reduce greenhouse gas (GHG) emissions in Nova Scotia.

Actions to Achieve Objectives

2001-2005

- Continue to participate in the national climate change process and contribute to the National Implementation Strategy (NIS).
- Continue to negotiate with federal and other provincial governments to ensure that impacts of national actions with respect to climate change are shared fairly by all jurisdictions.
- Launch a provincial program to reduce GHG emissions in government operations.
- Support the creation of public education programs on global climate change.
- Maintain a regulatory framework that encourages the use of clean fuels such as natural gas.
- Work with the Union of Nova Scotia Municipalities to promote greater awareness of the need to reduce GHG and adapt to climate change in key areas such as buildings, transportation and land-use planning.
- Promote the development of innovative technologies and practices to reduce GHG.
- Make climate change a part of government decision-making.
- Continue to work with government to establish a system that ensures credit to business and industry for early actions on climate change.
- Encourage climate change related research.

2006 and Beyond

- Respond to national actions regarding reduction of GHG emissions.

Background

Climate Change in Perspective

Global climate change has been called the most significant environmental problem facing the world in the 21st century. Global climate change results from releasing greenhouse gases produced by human activities into the atmosphere. Since the Industrial Revolution, the concentration of carbon dioxide (CO₂) in the atmosphere has increased by 30%, and every year human activities release 28 billion tonnes of CO₂ into the atmosphere. If current emission trends continue, concentrations of atmospheric CO₂ is expected to at least double during this century. Even if greenhouse gas emissions were to stop immediately, the effects of past emissions on climate would persist for centuries.

The reality that climate change is principally caused by anthropogenic GHG emissions is now accepted by most people, governments, and companies. As Sir John Browne, Chief Operating Officer of British Petroleum, said recently: "We can't ignore mounting scientific evidence on important issues such as climate change. The science may be provisional. All science is provisional. But if you see a risk you have to take precautionary action just as you would in any other aspect of business." The vast majority of climate experts see evidence that we are experiencing a gradual warming of the earth's atmosphere, and sea levels are rising.

The Intergovernmental Panel on Climate Change (IPCC) stated in its July 2001 report that “there is new and stronger evidence that most of the warming observed over the past 50 years is attributable to human activities,” that “human influences will continue to change atmospheric composition throughout the 21st century,” and that change “will persist for many centuries.” The IPCC predicts that the earth’s average surface temperature will rise between 1.4 and 5.8°C from 1990 to 2100, significantly higher than its 1995 estimate of 1 to 3.5°C. Predictions of sea-level rise in the coming century range from 35 cm to 100 cm.

CO₂ emissions produced by the burning of fossil fuels represent by far the greatest contributor to human-induced climate change. In Nova Scotia, more than 92% of GHG emissions are created by fossil-fuel production, distribution, and consumption. Electricity generation accounts for 38%, transportation 27%, and the industrial sector 10%.

Some of the options for reducing emissions include: using renewable energy sources; switching to lower-carbon fossil fuels (e.g. oil to gas); energy efficiency; sequestration of carbon in agricultural soils, forests, or geological reservoirs; methane capture from landfills and underground mining; and emissions trading (the purchase of emissions credits from other entities).

International Efforts to Address Climate Change

The world’s nations first signalled their intention to address greenhouse gas emissions when they signed the 1992 United Nations Framework Convention on Climate Change (UNFCCC) agreeing to work towards stabilization of GHG emissions at 1990 levels.

In light of new scientific evidence, representatives from the world’s nations met in Japan in 1997 at the Third Conference of the Parties (CoP3) and negotiated the Kyoto Protocol, which calls on 40 developed countries to reduce their GHG emissions for the period 2008–2012 by an average of 5.2% below 1990 levels, as a first step in a coordinated international effort to counter human-induced climate change. Canada accepted a target of 6%, the United States 7%, and the European Union 8%.

The Kyoto Protocol includes provisions for international emissions trading, the use of agricultural and forest sinks as storehouses for carbon, a balance between domestic action and international emission-reduction projects, and a compliance regime with penalties for failure to meet country-specific targets.

In July 2001, ministers meeting in Bonn reached political agreement on key issues regarding international emissions trading, carbon sequestration in agricultural soils and forest sinks, and penalties for non-compliance by countries that ratify the protocol. At CoP7 in Marrakesh in October 2001, broad agreement was reached on implementing the details of the Bonn agreement, setting the stage for a Canadian decision on ratification of the Kyoto Protocol in 2002.

U.S. President George W. Bush has said that his country will not ratify the Kyoto Protocol, but the United States did attend the sessions in Bonn and Marrakesh and is currently reviewing its climate change policy. Other Annex 1 countries (those with targets) are expected to decide on ratification in 2002—in time for the 10th anniversary of the UNFCCC in September 2002 in Johannesburg, or the Eighth

Conference of the Parties (CoP8) in November 2002.

Canada's Response to the Climate Change Challenge

In December 1997 Canada's first ministers agreed to work cooperatively to assess the impacts on Canada of meeting its Kyoto target. They adopted four basic principles to guide climate change work in Canada:

- Canada must do its part;
- costs and options for reducing emissions must be known;
- all Canadians must participate; and
- no region or sector shall bear an unreasonable burden.

This national collaborative process is managed by the Joint Ministers of Energy and Environment. It involves more than 450 Canadians participating in a series of issue tables to analyze the potential effects of implementing various mechanisms to reduce greenhouse gas emissions. Nova Scotia has been an active participant in the national process. In October 2000 the joint ministers agreed to a national implementation strategy and a first business plan for national action on climate change (available at www.nccp.ca).

Federal government leaders have said repeatedly that Canada intends to live up to its Kyoto commitment. Nonetheless, it is important to recognize that GHG reductions will come at a cost, and it remains the position of provincial leaders that the analysis of costs and benefits must be completed before any final decision is made.

Public Advice

Many submissions emphasized the importance of global climate change as both a local and international issue. The public widely recognizes that climate change is a global problem, and that there must be a national process to address Canada's response to the Kyoto Protocol. Many submissions identified the need for a provincial action plan to support the national implementation strategy for climate change, as well as a longer-term policy approach that promotes efficient use of energy and long-term development of technology.

Analysis

The responses of governments, companies, and individuals to climate change will have a long-term influence on energy supply and demand in Nova Scotia. Action to reduce greenhouse gas emissions significantly will affect future fuel choices. Energy sources that are significant GHG emitters (e.g. fossil fuels) will come at a higher cost while those with lower carbon content, or those such as wind, solar, hydro and biomass that are carbon neutral, will enjoy a price advantage.

Nova Scotia accepts the science of climate change and recognizes that action is needed locally, nationally, and globally to contain the problem. It is important that Nova Scotia be at the national table

when decisions are taken regarding action to address climate change. The Nova Scotia government will continue to participate in the national climate change process, including active involvement in the National Air Issues Coordinating Committee on Climate Change (NAICC-CC). Nova Scotia agreed to the National Implementation Strategy, and since 1998 has implemented a number of cost-shared climate-change programs in partnership with the federal government to increase awareness and promote reduced GHG emissions in this province.

National action on climate change potentially poses difficult challenges for provinces like Nova Scotia that rely on coal for a substantial part of their electricity supply. To remain consistent with the principle that no region or sector will bear an unreasonable burden, it is important that there be national agreement on how the impacts of action on climate change will be shared. To this end, Nova Scotia will work toward a national agreement with federal and other provincial governments to ensure that impacts of national actions with respect to climate change are shared fairly by all jurisdictions.

In 1999, the Government of Nova Scotia held a round of consultations with stakeholders on climate change. These consultations led to the development of the Framework for Climate Change Strategy in Nova Scotia (see Appendix 1). This framework includes nine strategic actions, which are the province's first steps in addressing the climate change issue. They represent minimal cost (and in some cases may return energy savings) and are based on a phased approach to action, with periodic reviews and a flexible response to new scientific information and international events.

Among the actions is a "Government House-in-Order" program to improve energy efficiency in the provincial government's own operations and set an example for energy efficiency. Private-sector energy service companies (ESCOs) will be employed to retrofit government buildings to a more energy efficient state, and be paid out of realized savings. Except for the small cost of administering the program, there is no capital cost to government. When the contractor is fully paid back, energy savings revert to government. This type of program has already been successfully implemented in many other jurisdictions. As an example of possible savings, New Brunswick has successfully implemented a provincial buildings initiative, which resulted in an average of 20% energy saving in participating buildings. It is estimated that a similar level of success in Nova Scotia could eventually represent annual savings of \$10 million to the province.

In August 2001, Premier John Hamm joined with other eastern Canadian premiers and New England governors in signing a joint Climate Change Action Plan (see <www.cmp.ca/press-neg.htm#2001>). The plan establishes regional goals for GHG emissions, placing the northeast region in the forefront of efforts to manage global climate change.

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Appendix 1. Creating a Framework for Climate Change Strategy in Nova Scotia

Climate Change: Understanding the Challenge

Climate¹ is one of the most significant, but least appreciated or understood, aspects of our lives. It is a common denominator that helps shape our economy, our environment, our health and indeed our lives. We tend to think and talk about climate as an independent phenomenon: something unconnected to our daily lives and something we are helpless to do anything about.

However, we are learning that climate and human activity affect each other in important ways. Leading scientists believe that human-induced changes to the climate are already taking place. They see evidence that we are experiencing a gradual warming of the earth's atmosphere and sea levels are rising.

Climate change is not just "someone else's problem." It is everyone's problem and we share responsibility to respond. Every contribution is important.

Nova Scotia faces two challenges in responding to climate change. We must take measures to mitigate the impacts of climate change by reducing emissions of greenhouse gases (GHGs). We must also prepare to adapt to climate change. Although we cannot yet be certain of the scope of climate-related change, we must be able to anticipate changes and effectively manage our response².

Almost 90 per cent of Nova Scotia's GHG emissions result from production and consumption of fossil fuels (see Existing Initiatives and Successes).

Energy producers may reduce their emissions by increasing the efficiency of production. Switching to less carbon-intensive energy sources is another way to reduce GHG emissions.

Nova Scotia: Predicted Impacts of Climate Change *Sea-level rise*

- increase in coastal flooding and erosion
- move or rebuild some coastal roads, bridges, wharves, railways, etc.
- changes in coastal wetlands as fish breeding grounds, water purifiers and erosion and flood control zones

Precipitation changes

- greater percentage of rainfall in single events
- earlier and higher river flooding
- lower summer river flows with low flow periods starting earlier

Agriculture

- increased flooding of land protected by dykes
- more diverse and less predictable weather with more disease, changes in crop selection and new challenges for water management

Forestry

- added stress from changes in temperature and precipitation
- more damaging and costly insect infections
- changes in growth rates and dieback and number and severity of forest fires

Fishery

- some fish species decline or move, others prosper and new species appear
- communities, businesses and individuals need assistance to respond to changes in stocks

¹ See Climate, The Greenhouse Effect and Fossil Fuels for a definition of climate

² Predicted impacts of climate change based on *Canada Country Study*

Consumers - including business, industry, households and individuals - make important choices which have an impact on GHG emissions (e.g. heating and cooling systems; transportation; recreation and leisure activities).

There are costs and benefits associated with taking action but costs will certainly escalate if we choose to ignore climate change and postpone taking action.

Climate Change: Canada and the International Community

In June 1992, Canada signed the *United Nations Framework Convention on Climate Change* (UNFCCC) and agreed to work towards stabilizing its greenhouse gas emissions. In 1997, countries that signed the UNFCCC met in Japan and agreed to the *Kyoto Protocol*, in which 40 countries were assigned targets to reduce greenhouse gas emissions by an average of about 5.2 per cent below 1990 levels for the period 2008 to 2012. Canada's target is six per cent below 1990 levels.

In December, 1997, Canada's First Ministers agreed to work cooperatively to assess the impacts on Canada of meeting the Kyoto target. First Ministers set out four basic principles to guide climate change work in Canada:

- Canada must do its part,
- costs and options for reducing emissions must be known,
- all Canadians must participate, and
- no region or sector shall bear an unreasonable burden.

Developing a Nova Scotia Strategy for Climate Change

Nova Scotians need to understand the economic, environmental and social impacts of climate change. We need to understand the choices we have and what actions will work best for us. Moving forward in the face of uncertainty is a challenge but we must find a way to do so.

Nova Scotia has always been willing to do its part to address environmental issues. Addressing climate change means reducing emissions from burning fossil fuel in our homes, our cars, and our industries. Emissions from using fossil fuel are believed responsible for not only the quickening pace of climate change, but also for other environmental problems like acid rain, smog, and mercury deposited in our environment.

We know we must contribute, we must be a part of the climate change solution. We know and expect that others will act responsibly, to make contributions that will improve our environment here in Nova Scotia and around the globe.

In late 1999, The Government of Nova Scotia asked Voluntary Planning to organize a series of public workshops around the province to seek input from Nova Scotians regarding principles and possible actions which could provide a framework for the provincial government's climate change strategy. A three-person panel representing members of Voluntary Planning and Clean Nova Scotia conducted the workshops in Amherst, New Glasgow, Sydney, Dartmouth, Bridgewater and Yarmouth. Aided by a

workbook distributed in advance, approximately 150 people participated in the workshops. A document summarizing workshop discussions was prepared by Voluntary Planning and is available in hard copy or on-line (www.gov.ns.ca/natr/climate/index.htm).

What we heard from these consultations was that climate change is an issue that needs to be addressed by all Nova Scotians with leadership to come from the Government of Nova Scotia.

Nova Scotia's Climate Change Vision

Nova Scotians must look ahead and want to reap the benefits of a world that will become increasingly less dependent on carbon as everyone responds to the climate change challenge. We see others taking actions to use less carbon-intensive energy sources, increase energy efficiency, and encourage more climate-friendly business and personal activities. Moreover, we expect lifestyle and consumption patterns to change as society places greater priority on healthy living.

Based on what Nova Scotians told us in workshops and in written submissions, the following vision statement will guide the response of the Government of Nova Scotia to climate change:

Nova Scotia will take responsible action in response to climate change. Actions to protect and improve our health, environment and quality of life will be guided by sustainable development principles.

Nova Scotia's Environment Act defines "sustainable development" as "development that meets the needs of the present generation without compromising the ability of the future generation to meet their own needs."

We know that it is not a challenge to be taken lightly. Many opportunities for reducing emissions are available to us that also deliver benefits in the areas of energy savings, health and the environment that outweigh the costs. We have identified a number of these opportunities and we will focus on them in the short term as we lay the groundwork for future action.

As uncertainty about the science of climate change and how the world will respond diminishes over the longer term, more far reaching and challenging action, involving more substantial changes in the ways we use energy and the energy sources we rely on, will be required. The cost of this action to government and the public may go beyond the short-term benefits of the investment.

Guiding Principles

The Government of Nova Scotia will take a leadership role with respect to helping Nova Scotians learn more about climate change and understanding potential impacts. It will encourage individuals, businesses, industry and communities to take early actions to reduce emissions and adapt to climate change. It will foster development of a strategic approach recognizing that as we become better informed about climate change, we will be able to make better decisions.

The following principles will guide Nova Scotia's climate change strategy:

1. The strategy will support Nova Scotia's commitment to work with the federal government and other

- provinces and territories to develop a national, coordinated response to climate change.
2. The strategy must be realistic, affordable and effective. Addressing climate change will cost money. Partnerships with other governments, industry and individuals can make our dollars go farther.
 3. The strategy recognizes that both mitigation and adaptation measures are necessary.
 4. Addressing climate change is a shared responsibility: there is a role for everyone.
 5. Public education is vital to engage Nova Scotians in emission reduction, and is essential in implementing the strategy.
 6. We need to better understand the science of climate change, the impacts on our province, and how to adapt to change. We also need more information about the impacts, costs and benefits of taking certain actions.
 7. We will begin by taking “no regrets” actions and evaluate the results. We will begin by choosing actions where the benefits exceed the costs. In the longer term, we must be prepared to implement actions where costs will be higher.
 8. There is no “one-size-fits-all” solution: the strategy will support a broad range of actions which take account of the unique and special characteristics of different communities and regions.

Early Actions on Climate Change

Climate change is a global phenomenon. At present, the nations of the world are debating appropriate goals and actions. The federal, provincial and territorial governments are still defining elements of a national climate change strategy under the Nova Scotia Climate Change Strategy Framework. The province will prepare and maintain an evolving three-year business plan, consistent with the time frame proposed by the National Implementation Strategy and the provincial budget cycle. Three-year plans allow for course correction changes based on science, education, technology and public priorities. Initial actions that will form the foundation of the province’s first business plan are outlined below.

1. The Province will negotiate agreements with the federal government and other provinces to establish a framework for cooperative and coordinated action.
2. The province will launch a Government House-in-Order program to improve energy efficiency in its operations and set an example for energy efficiency improvements.
3. The province will support the creation of public education programs to prepare and present information and to support interaction on climate change with various stakeholders. This program will be a useful, cost-effective mechanism to support climate change initiatives.
4. The province will maintain a regulatory framework that will encourage the use of natural gas in Nova Scotia.
5. The province will work with the Union of Nova Scotia Municipalities to promote greater awareness leading to action aimed at reducing greenhouse gas emissions and adaptation to climate change in key areas such as buildings, transportation and land-use planning.
6. The province will promote development of innovative technologies and practices to increase energy

efficiency, generate clean energy, and reduce greenhouse gas emissions.

7. The province will make climate change a part of all government decision-making about energy projects, resource use, new business start-ups, and business expansion plans.
8. Nova Scotia will continue to work with the federal government, other provinces, and territories to establish a system that will offer business and industry assurance that actions taken now and in the near future to reduce emissions will receive credit should emission controls become mandatory at some future date.
9. The Nova Scotia government will encourage universities, community colleges, research institutions, non-governmental organizations and industry associations to identify and evaluate the impacts of climate change as well as investigate potential adaptation measures.

Climate, The Greenhouse Effect and Fossil Fuels

Climate is the average weather, including seasonal extremes and variations, either locally, regionally or across the globe. In any one location, weather can change very rapidly from day to day and from year to year, even within an unchanging climate. These changes involve shifts in, for example, temperatures, precipitation, winds and clouds. In contrast to weather, climate is generally influenced by slow changes in features like the ocean, the land, the orbit of the earth about the sun, and the energy output of the sun.

The Earth's ecosystems not only contain our genetic and species diversity but provide us with many goods and services such as food, fibre, medicine, energy, clean water and opportunities for tourism and recreation.

These ecosystems, so essential to human health and well being, are all sensitive to changes in climate. Changes in any one part of the earth's climate system, such as the atmosphere, will affect the entire system. Rapid changes in the amount of precipitation, temperature or wind or sun across days or seasons such as predicted by global climate change can threaten ecosystems and overwhelm their capacity to adapt.

Greenhouse gases form a "blanket" and trap heat close to the earth's surface, helping to create the climate we experience here on earth. Without this "blanket" scientists estimate the mean global temperature would be 30 degrees C cooler than it is at present.

Fossil fuels, used to generate electricity and power cars and trucks, are the single most important man-made source of greenhouse gases (GHG). Greenhouse gases include water vapour (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃) and halocarbons (PFCs, CFCs, etc.).

Scientists are worried about even greater increases in man-made, global GHG emissions as developing nations acquire new technology and strive to achieve lifestyles equivalent to those enjoyed in more developed regions. For its part, the developed world has been grappling with the challenge to reduce GHG emissions on a timely and responsible basis, but these nations have not yet been successful in stemming the tide of emissions growth.

Nova Scotia's emissions profile (1997 data) shows that power generation accounts for 37.5% of GHG

emissions, transportation 30%, industrial activity 9.8%, residential 8%, commercial 4.5%, and other 10%. Total CO₂ emissions in 1990 were 19.4 million tonnes, the same level as in 1997, the last year for which figures are available. Forecasts indicate that this figure could rise to 21.2 million tonnes by 2010 if current energy consumption patterns continue.

Nova Scotia ranks sixth among provinces and territories for its emissions of carbon dioxide, with approximately 3.5 per cent of Canadian emissions. The province, however, has the third highest per capita greenhouse gas emissions in Canada. These statistics illustrate the challenge confronting Nova Scotia: on a national and global scale we produce a relatively small percentage of greenhouse gases, but taken on a per capita basis Nova Scotians rank closer to the top of the list.

Existing Initiatives and Successes

Nova Scotia does not lack innovative, positive action to address energy efficiency, production, and consumption issues at local and household levels. In part because a coordinating body is not yet in place, and partly because the media has yet to identify climate change as an important subject for continuous reporting and monitoring, many Nova Scotians have never heard about significant early-action projects. Participants in the Climate Change Workshops advocated sharing information about pilot projects and incorporating success stories into the provincial strategy.

As previously noted, the Government of Nova Scotia has participated in nine Climate Change Action Fund projects, including:

- Our Dynamic Climate (ACAP, Cape Breton)
- Climate Change 2000 (Clean Nova Scotia)
- Climate Change Action Pack (Scientists and Innovators in the Schools)
- Home Tune-Up Program (Clean Nova Scotia)
- Annapolis Atmosfarm Outreach Project (Clean Annapolis River Project)
- Halifax Transportation Options Program (Ecology Action Centre)
- Retrofitting for Climate Change (Annapolis Valley Homebuilders' Association)
- Light Better for Less! (Illuminating Engineering Society)
- Annapolis River Climate Change Action Program (Clean Annapolis River Project)

Other initiatives and projects include:

- The province's Waste Management Strategy has been instrumental in reducing methane emissions by banning organic waste from municipal landfill sites.
- The "Light Better for Less!" Program was initiated as a partnership between the Nova Scotia Department of Natural Resources, the Nova Scotia Department of the Environment, Nova Scotia Power Inc., the Illuminating Engineering Society of North America, and the EcoAction 2000 Program sponsored by Environment Canada. The program encourages businesses to use energy

efficient lighting systems and demonstrates that investments in energy-efficient lighting usually pay for themselves within a year and reduce greenhouse gas emissions immediately.

- Most climate-change pilot projects have been organized and conducted by industry organizations and the non-governmental sector. For example, the residential building sector has taken a leadership role with respect to designing, building and retrofitting energy-efficient homes that are healthy to live in (R-2000 Home Program). Home builders recognized that our climate and energy use patterns presented an opportunity for all to gain: homeowners by reducing energy consumption; builders by augmenting their trade with professional certification; the manufacturing industry by creating demand for new or existing products and the environment by reducing greenhouse gas emissions. The Nova Scotia Home Builders' Association estimates that 28% of all R-2000 homes built in Canada were built in this province. While it is acknowledged that building homes to R-2000 standards is expensive, the payback period is relatively short and the long-term savings are substantial.
- A pilot project in Bedford, undertaken with assistance from Natural Resources Canada, involved testing the capacity of domestic solar hot water systems. Preliminary findings indicate that solar systems have provided 33% of the hot water needs of participating residents.
- Since 1998, the private Morgan Falls Power Company (New Germany) has been generating hydroelectricity. By replacing heavy fuel oil or coal with hydro, this facility reduces carbon dioxide emissions in Nova Scotia by 4,000 tonnes annually.
- The Town of Amherst is experimenting with ground-source heat pumps to service the residential sector. Nearby in Springhill, geothermal power from mine water is being used to heat homes and commercial enterprises (supplying water for aquaculture). Springhill has been recognized as a Millennium Eco-Community and may be the only so-designated community that is successfully using a renewable energy resource.
- Earth energy is also being used effectively in several institutional settings. The federal Women's Correctional Centre in Truro is completely dependent on ground heat to supply its heating requirements, and is regarded as being the most efficient facility of its kind in Canada. The new high schools in Horton and Milford rely on extracting heat from the ground and using it to heat and cool the buildings.
- The Eco-Efficiency Centre in Burnside Industrial Park, Dartmouth, assists small- and medium-sized businesses improve their environmental performance, including the reduction of GHG emissions, while not adding to overall costs. The centre helps match companies in the park, where the waste product of one could become the raw material for another. The centre is operated as a partnership between the three levels of government, Nova Scotia Power, and Dalhousie University.
- Clean Nova Scotia is leading a major public education and awareness campaign aimed primarily at homeowners and consumers. In addition to producing easy-to-read educational materials about climate change, they piloted a successful Home Tune-Up program in Halifax Regional Municipality

which will involve up to 2000 home visits and follow-up reports. The team of environmental assessors looked at participating homes as inter-related systems (considering energy consumption, water consumption, solid waste management, and landscaping).

- Voluntary Challenge and Registry Inc. (VCR Inc.) is a not-for-profit corporation that helps public and private sector organizations limit their net greenhouse gas emissions on a voluntary basis. The mission of VCR is “to provide the means for promoting, assessing and recognizing the effectiveness of the voluntary approach in addressing climate change”. Across Canada, about 900 companies and organizations have joined the VCR; there are 23 members in Nova Scotia:
- Acadia University
- Annapolis Valley Regional School Board
- Atlantic Shopping Centres
- Bowater Mersey Paper Company Limited
- Cape Breton and Central Nova Scotia Railway
- Government of Nova Scotia
- Halifax Regional Municipality
- Kerr Heating Products
- Kimberly-Clark Nova Scotia
- Maritime Paper Products Ltd.
- Morgan Falls Power Company
- Mount Saint Vincent University
- Northwoodcare Incorporated
- Nova Scotia Community College
- Nova Scotia Power Inc.
- Nova Scotia Textiles Limited
- Nova Ski Ltd. (Ski Martock)
- Nu-Air Ventilation Systems Inc.
- Queen Elizabeth II Health Sciences Centre (QE II)
- Saint Mary’s University
- Stora Enso Port Hawkesbury
- Town of New Glasgow
- University College of Cape Breton