

New Brunswick and Climate Change

- Solid Foundation in Climate Change Action

2011-2012
Progress Report Summary



The *New Brunswick Climate Change Action Plan 2007 – 2012* includes a number of specific actions in the areas of greenhouse gas (GHG) emissions reduction, adaptation to the effects of climate change, as well as partnerships and education.

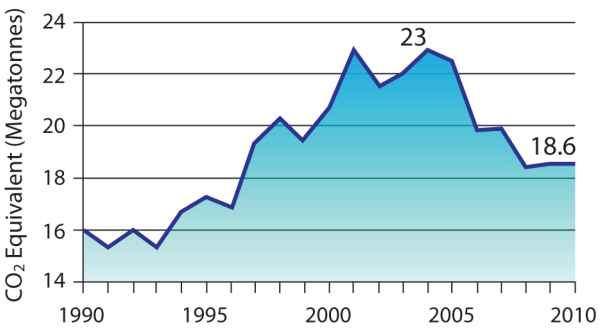
During the fifth year of implementation of the plan, the Province has made significant progress towards meeting its GHG emissions target, in helping New Brunswick communities adapt to the impacts of a changing climate as well as supporting collaboration, engagement and partnerships.

The plan has been a framework for government departments, communities, organizations and New Brunswickers to foster change. This plan will continue to produce positive results in the future.

New Brunswick Greenhouse Gas (GHG) Emissions

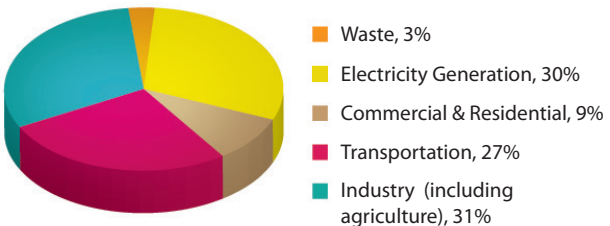
Figure 1 shows New Brunswick's Annual GHG Emissions from 1990 to 2010. In 2010, greenhouse gas (GHG) emissions from all sources in New Brunswick amounted to 18.6 megatonnes (Mt) of carbon dioxide equivalent (CO₂ eq.), 2.7 per cent of the Canadian total. Between 2004* and 2010, New Brunswick emissions declined by 4.4 Mt (19 per cent), with emissions from large industries and electricity generation falling by 33 per cent.

Figure 1 - New Brunswick Annual GHG Emissions



Source: National Inventory Reports, Environment Canada

Figure 2 - New Brunswick GHG Emissions in 2010 - 18.6 Mt



Source: National Inventory Reports, Environment Canada

*2004 data was used as the most recent baseline year available when developing the *New Brunswick Climate Change Action Plan 2007 – 2012*. The most recent data from Environment Canada is for 2010.

New Brunswick's Five Year Achievements

In the five years since the release of the *New Brunswick Climate Change Action Plan 2007 – 2012*, New Brunswick has made significant progress in reducing greenhouse gas (GHG) emissions and increasing the climate resiliency of communities.

Here is an overview of New Brunswick's major achievements:

- the Province is on track to meet its 2012 GHG target of returning to 1990 emissions levels;
- 294 megawatts (MW) of wind power capacity have been developed in New Brunswick. With the Point Lepreau Nuclear Station return to service, more than 65 per cent of electricity used in the province will be from clean, renewable or non-emitting sources;
- \$40 million federal funding allocation for public transit resulted in additional transit capacity, greater fleet efficiency and reduced GHG emissions;
- since 2005, Efficiency New Brunswick programs have invested \$58.6 million to help make homes and businesses more energy efficient, and leveraged \$307 million in private sector efficiency investments. This prevents the release of 326,000 tonnes of GHG per year, and generates \$50.8 million per year in energy cost savings;
- in partnership with the federal government, \$34 million has been invested in projects reducing greenhouse gas emissions around the province, with a potential reduction in GHG emissions of 700,000 tonnes per year;
- the 57 MW Grand Lake coal-fired power plant has been closed;
- the Province adopted the "*New Brunswick Energy Blueprint*" energy policy, in which

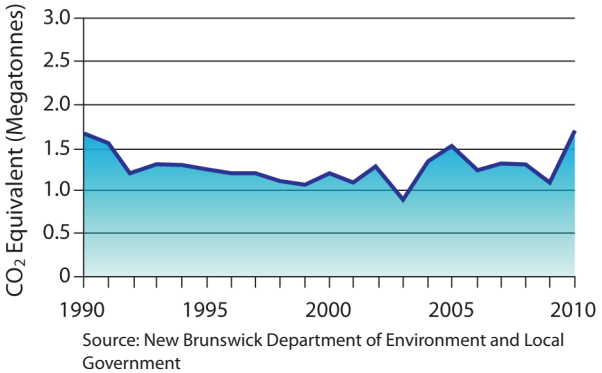
commitments are made that support continued reduction in GHG emissions;

- amendments have been made to the following Acts and Regulations:
 - the *Municipalities Act* was amended to remove barriers to municipal green electricity generation;
 - the *Ozone Depleting Substances Regulation* was amended to control ozone-depleting replacement substances;
 - the *Clean Environment Act* was amended to authorize regional solid waste commissions to be generators of electricity;
 - the regulations under the *Energy Efficiency Act* were amended to increase regulated efficiency levels and increase the number of products included in the regulations;
- significant investments have been made to improve the province's adaptive capacity to climate change, including:
 - 12 major projects through the Regional Adaptation Collaborative, a federal-provincial partnership, with a focus on managing flooding and erosion risks, and protecting water supply in key communities; and
 - 50 projects through the Environmental Trust Fund, with work on predicting flood risk, mapping vulnerable areas, and engaging stakeholders in adaptation planning; and
- the Province has partnered with environmental organizations, youth, families, and businesses on projects promoting green business practices, engaging the public on climate change issues, and working with individuals around the province to reduce their environmental footprint via eco-challenges.

Energy Efficiency and Renewable Energy

Figure 3 shows that initiatives in energy efficiency and renewable energy have stabilized emissions in commercial and residential sectors over time.

Figure 3 - Energy Efficiency and Renewable Energy (Commercial and Residential)



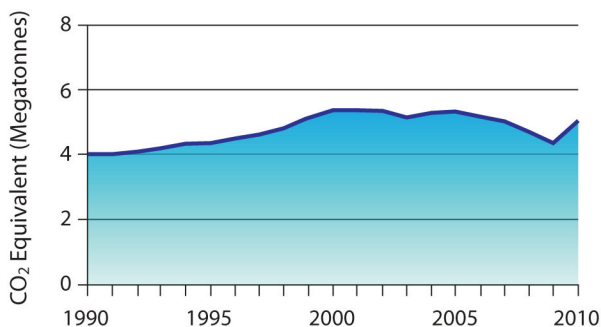
Snapshot of actions during 2011-2012:

- Over 5,000 applications were made under residential energy efficiency programs delivered by Efficiency NB. The estimated reductions in GHG emissions equal 88,500 tonnes per year.
- Three active leases on Crown lands account for a total of 294 megawatts (MW) wind power over an area of 87.34 hectares.

Transportation

Figure 4 demonstrates that in 2010, although emissions in the transportation sector increased by 0.6 Mt compared to 2009 levels, they remain below the peak of 5.4 Mt in 2000. Transportation related emissions were 5.1 Mt in 2010.

Figure 4 - Transportation



Source: New Brunswick Department of Environment and Local Government

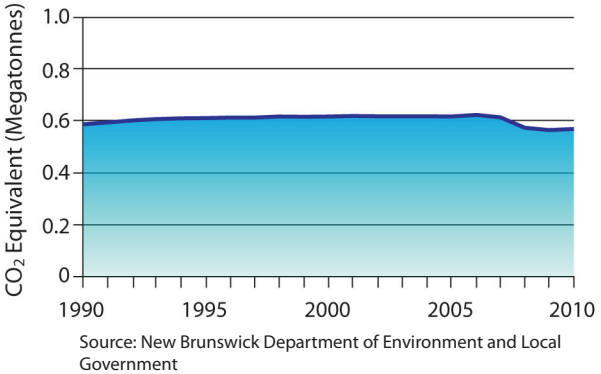
Snapshot of actions during 2011-2012:

- Collaboration with the trucking industry continued in issuing an increased number of special permits to operate long combination vehicles (LCVs) on four-lane highways in New Brunswick. The number of special permits issued for the use of single wide tires also increased.
- The Province partnered with the New Brunswick Economic and Social Inclusion Corporation to organize a Provincial Transportation Dialogue event in June 2012. The goal of the event was to enable participants to address their common transportation needs and was attended by 200 participants.

Waste Management

Figure 5 shows that emissions from landfills have declined in recent years and were 565 kilotonnes (kt) in 2010, or 50 kt below 1990 levels. This reduction is due to improved landfill gas and waste management practices.

Figure 5 - Waste Management



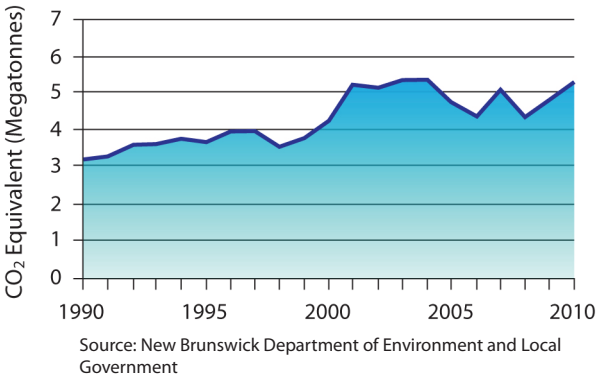
Snapshot of actions during 2011-2012:

- The Fredericton, Nepisiguit-Chaleur, and South West solid waste commissions continued to collect landfill gas, the COGERNO and Westmorland-Albert Solid Waste Corporation are commissioning these systems. Fredericton has ordered two electricity generators for their landfill site and COGERNO is also in the process of commissioning an electricity generator.

Industry

Figure 6 depicts industry (excluding agriculture and electricity generation) emissions from 1990 to 2010. GHG emissions from large industrial facilities were 5.3 Mt in 2010.

Figure 6 - Industry



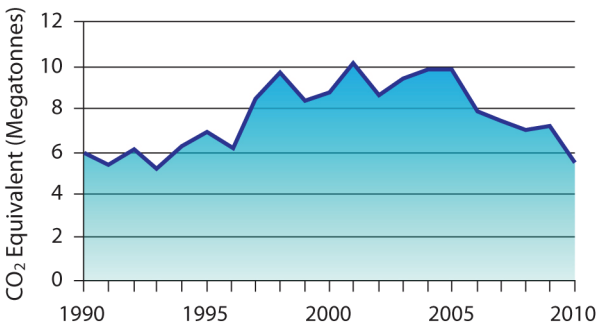
Snapshot of actions during 2011-2012:

- More than \$5 million in loans and loan guarantees were provided to leverage corporate investment for energy, productivity and efficiency initiatives from the Financial Assistance to Industry Program delivered by the Economic Development Department.
- Nearly \$1.8 million was similarly invested in energy, productivity and efficiency initiatives through the NB Growth Program.
- Efficiency NB received the Canadian Industry Program for Energy Conservation Leadership Award. To date Efficiency NB Industrial programs are providing annual energy savings of \$21 million and 2,451 terajoules (TJ) which have reduced annual GHG emissions by 167,700 tonnes.

Electricity Generation

Figure 7 depicts electricity generation emissions from 1990 to 2010. Electricity generation emissions were eight per cent below 1990 levels in 2010. This reduction is due to the closure of the coal fired power plant at Grand Lake and an increase in renewable energy including wind power.

Figure 7 -Electricity Generation



Source: New Brunswick Department of Environment and Local Government

Snapshot of actions during 2011-2012:

- NB Power connected a 600 kilowatts (kW) biogas generator (Laforge Bioenvironmental biogas plant) to its distribution network, and continued the Powershift Atlantic "Maritime Load Control for Wind Integration Project".

Government Leading by Example

The Province has reduced GHG emissions with its buildings and through the purchase of more fuel efficient vehicles and technology for the government fleet.

Snapshot of actions during 2011-2012:

- An investment of \$3.9 million was made in energy auditing and energy retrofit measures. Projected savings for the measures completed is \$550,000 per year while emission reductions are expected to be 4,200 tonnes CO₂ equivalent per year. Nearly \$3.4 million was invested in health care facilities, \$400,000 in education buildings and \$50,000 in community colleges.
- An investment of \$110,000 was made to continue building control system updates required to enable monitoring of energy data. This will enable facility managers to reduce energy costs through improved energy management.

Adaptation

Since most New Brunswickers live near water, the increased risk of flooding and erosion (both along the coasts and inland) has been one primary focus of research in the province. Research has also been carried out on climate scenarios and climate adaptation tools. Ensuring risks and opportunities are identified and managed will help the Province set priorities in building a resilient province.

Snapshot of actions during 2011-2012:

- A long-term wetland management strategy is being developed that reflects consultations with the public and stakeholders. The strategy contains 13 project areas to be implemented in phases.
- 190 candidate Protected Natural Areas were identified on Crown lands, totaling 143,000 hectares (353,000 acres). The Department of Natural Resources intends to select approximately 122,000 hectares (301,000 acres) of these candidate sites, and designate them as new Protected Natural Areas.
- Applied studies in communities across New Brunswick were overseen and managed of as part of the Regional Adaptation Collaborative (RAC) Project. This initiative, developed in collaboration with the other Atlantic Provinces, municipalities and Natural Resources Canada, promotes and enables climate change adaptation actions via applied case studies that address priority concerns, including coastal and inland flooding and erosion, infrastructure, community planning, and groundwater management. Information can be found on the Atlantic Climate Adaptation Solutions Association (ACASA) website - www.atlanticadaptation.ca.
- A new flood mapping application was developed which has improved the Riverwatch web-site.

- The Province initiated a response to several weather related events for affected communities.

Partnerships and Communications

The Province has undertaken significant work to encourage businesses, individuals and municipalities to reduce their GHG emissions, including in areas of energy efficiency, transportation, and waste reduction.

Snapshot of actions during 2011-2012:

- Public engagement initiatives were continued such as the Family Eco-Challenge and Earth Hour events. New Brunswickers saved enough energy during Earth Hour 2012 to power approximately 15,000 homes, which is also the equivalent to turning off more than 2.1 million 13 watt compact fluorescent light bulbs (27.3 megawatts), making the Earth Hour 2012 the most successful to date in the province.
- Partnerships were developed with various agencies, communities, departments, groups, organizations and schools to assist in delivering climate change outreach initiatives.
- Presentations and workshops were delivered to raise awareness in regards to GHG emissions and adaptation.
- Engagement with communities to share information on adapting to the effects of a changing climate.

Moving Forward

The region met the target in the 2001 New England Governors and the Eastern Canadian Premiers (NEG/ECP) Plan of reducing GHG emissions to the 1990 level by 2010 while the Gross Domestic Product (GDP) in the region grew by 60 per cent. New Brunswick's reductions in GHG emissions contributed to this regional achievement. New Brunswick has contributed with GHG emissions trending downward and will meet the provincial target of returning to 1990 levels in 2012.

The Province has put in place numerous measures to monitor progress in order to remain accountable for its commitments to reduce GHG emissions and increase adaptive capacity to climate impacts. The Climate Change Secretariat collaborates with several government departments and agencies that deliver climate change activities and their actions are represented in the *Climate Change Action Plan 2011-2012 Progress Report - Solid Foundation in Climate Change Action*. Many communities, industries, businesses, non-profit organizations and individuals have also contributed significantly to climate change efforts. This ongoing partnership between governmental departments and nongovernmental partners is essential to the success of the plan.

To learn more about the progress, visit the *Climate Change Action Plan 2011-2012 Progress Report - Solid Foundation in Climate Change Action* at:

www.gnb.ca/climatechange.

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The summary and progress report
are also available electronically.

