

# New Brunswick and Climate Change *- On Track to 2012*

2010-2011

Progress Report Summary

October 2011



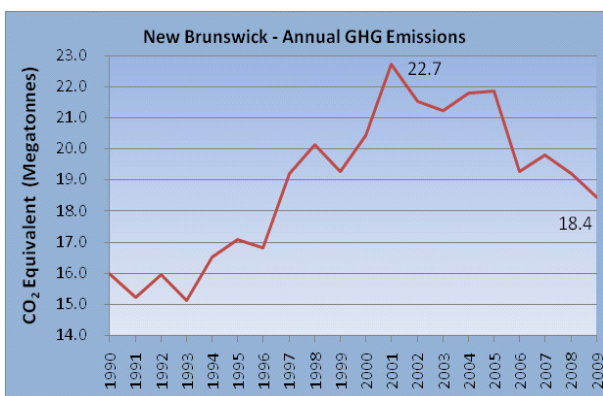
In 2007, the first *New Brunswick Climate Change Action Plan* was launched. The “made-in-New Brunswick” plan includes a series of actions to reduce greenhouse gas (GHG) emissions, to adapt to climate change impacts and to encourage partnerships and engage communities and citizens to embrace progressive change. The plan provides a framework for many government departments, agencies and non-governmental organizations to collaborate in delivering the broad scope of actions needed.

During the fourth year of implementation, the Province continued to foster significant progress to address climate change and is on track to deliver on the commitments made in the action plan. The most recent data for 2009, show that New Brunswick was about 2.4 megatonnes (Mt) away from its commitment to reduce GHG emissions to the 1990 level in 2012. In addition to the emissions reductions, a wide range of studies are being carried out to assess and understand the effects of our changing climate in an effort to make informed decisions and apply solutions. These efforts combined with a variety of partnerships and citizen engagement activities are contributing to **New Brunswick being on track to reach its target in 2012 and preparing for the effects of a changing climate.**



## New Brunswick Greenhouse Gas (GHG) Emissions

In 2009, GHG emissions from all sources in New Brunswick amounted to 18.4 Mt of carbon dioxide equivalent (CO<sub>2</sub>eq.), 2.7 per cent of the Canadian total. Between 2004\* and 2009, New Brunswick emissions declined by 3.4 Mt (16 per cent), with emissions from large industries and electricity generation falling by 22 per cent.



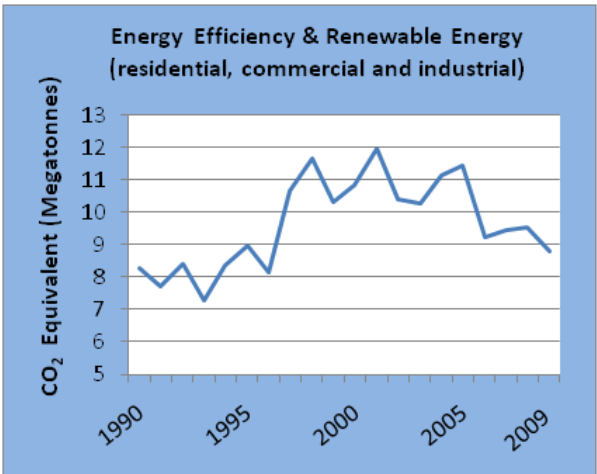
Source: National Inventory Reports, Environment Canada

Electricity generation remains the largest single contributor of GHG emissions in New Brunswick, but its share of emissions has been declining. Electricity generation accounted for 38 per cent of total emissions in 2009, down from 41 per cent in 2004. Lower energy demand, growth in wind energy and electricity purchases from neighbouring utilities contributed to a reduction in GHG emissions from electricity generation.

\* 2004 data was used as the most recent baseline year available when developing the 2007-2012 Climate Change Action Plan. 2009 is the most recent data from Environment Canada.

# Energy Efficiency and Renewable Energy

**E**nergy efficiency and renewable energy have affected emissions in the residential, commercial and industrial sectors. Emissions from these sectors have declined by nine per cent since 2007 when the action plan was introduced. Emissions from the residential sector have declined to 699 kilotonnes (kt) while emissions from the commercial sector have declined to 727 kt.



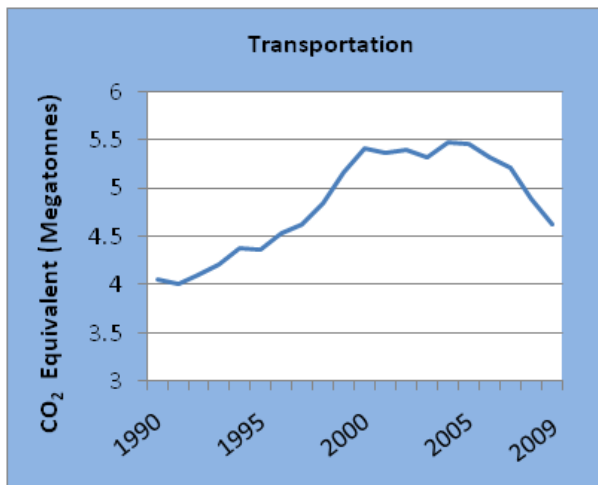
Source: New Brunswick Department of Environment

## Snapshot of actions for 2010-2011:

- All emissions-related categories of the action plan reported declining trends.
- Efficiency NB programs reduced GHG emissions by 177,000 tonnes.
- 45 megawatts (MW) of wind power were installed at Lamèque, New Brunswick's third wind facility, bringing total wind-powered capacity to 294 MW.
- A new 3.5 MW hydro facility was commissioned in Edmundston.
- Eight allocations for Crown forest biomass totaling 1,276,000 cubic metres were awarded in mid 2010, enough to displace about 200 million litres of oil.

## Transportation

In 2009, emissions from the transportation sector continued to decline from the peak of 5.5 Mt in 2004. Emissions from this sector were 4.6 Mt, remaining 0.6 Mt above 1990 levels. Emissions from road transportation, which accounts for 80 per cent of total transportation emissions, have been declining since 2007 and are currently at 3.7 Mt. Emissions from air travel, rail and marine continued to decline from 2007 levels.



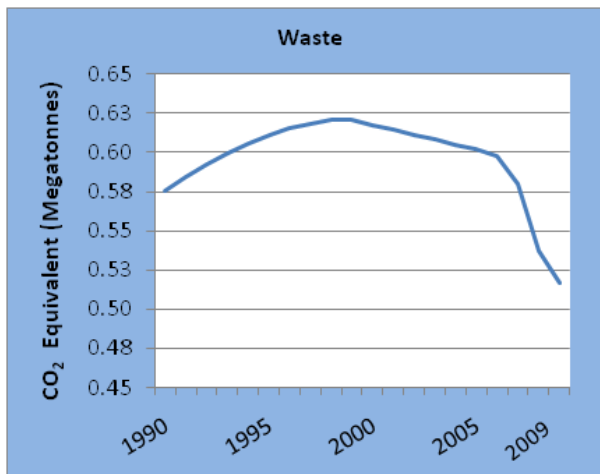
Source: New Brunswick Department of Environment

### Snapshot of actions for 2010-2011:

- The work with the municipalities of Fredericton, Moncton, Miramichi and Saint John continued regarding enhancement of public transit services. The \$40 million federal funding allocation for public transit resulted in additional transit capacity, greater fleet efficiency and reduced GHG emissions.
- A new weigh-in-motion (WIM) facility on Route 2 at Salisbury on the Eastbound lane was opened in September 2010 bringing the total number of WIM sites to five. WIM sites significantly reduce GHG emissions from idling, starting and stopping of heavy commercial vehicles at conventional scales. Business competitiveness is enhanced by more efficient transportation systems.

## Waste Management

Emissions from landfills have been declining and were 516 kt in 2009, or 50 kt below 1990 levels. This reduction is due to technological improvements in provincial landfills such as the installation of systems to capture and flare landfill gas along with improved management practices.



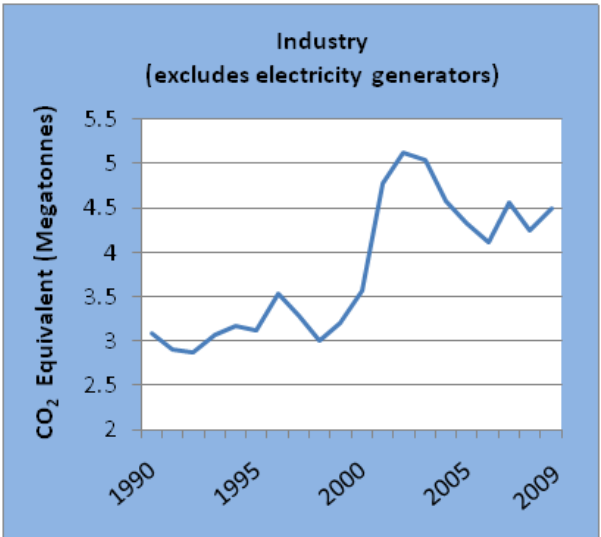
Source: New Brunswick Department of Environment

### Snapshot of actions for 2010-2011:

- Four regional solid waste facilities captured landfill gas (potent GHG emissions). The Fredericton, Fundy Region, Nepisiguit-Chaleur, and South West solid waste commissions are collecting and flaring landfill gas and the Fundy region has installed electricity generation.

## Industry

Industrial sector emissions have been trending downward in recent years. GHG emissions from large industrial facilities went from a high of 5.1 Mt in 2002 to 4.5 Mt in 2009. An overall increase in the industrial sector of 250 kt reported by Environment Canada in 2009 was the result of reporting method adjustments.



Source: New Brunswick Department of Environment

### Snapshot of actions for 2010-2011:

- The Small and Medium Industry Efficiency NB program grew to include 24 participants with 17 projects or feasibility studies underway.
- A study was undertaken to identify potential carbon offsets that could be developed over the next five years. The study identified a range of 100,000 tonnes to one million tonnes of GHG offsets available with a potential financial value of more than \$1.5 million.

## Government Leading by Example

**G**overnment is leading by example and guiding sustainable practices by implementing GHG reduction programs for their own buildings and operations. Several departments and agencies are adopting best environmental practices in the areas of procurement, transportation, building design and energy management by improving the energy efficiency of new construction and existing buildings. The results of these practices are being shared between all levels of government.

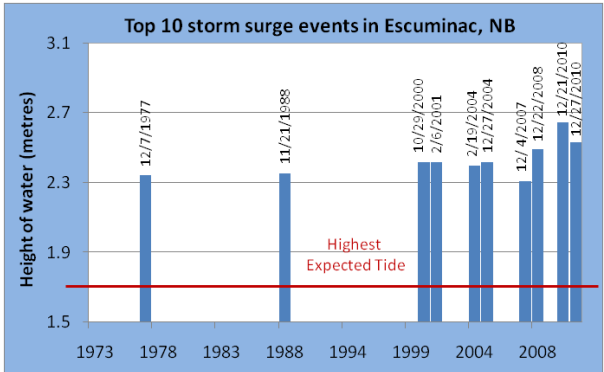
### **Snapshot of actions for 2010-2011:**

- An investment of \$4.5 million was made in energy auditing and implementation of energy efficiency measures in government operations, and the construction of smart metering systems for schools and hospitals.
- A computer model was initiated to track and report energy consumption and corresponding emissions by government departments, an essential step in managing government's energy consumption and carbon footprint.
- The two-year biodiesel trials on 12 vehicles including a school bus, grader, plow truck and light truck was completed. The trial was successful with no barriers being identified to using five and ten percent biodiesel blended in petroleum diesel in the government fleet of vehicles when it becomes commercially available. The project resulted in a reduction of 22 tonnes in GHG emissions and 8,600 litres of diesel fuel.



# Adaptation

Individuals, businesses, communities, and government are working together to assess and manage the risks and opportunities posed by New Brunswick's changing climate. The Government is currently involved in over 50 climate change adaptation projects, such as vulnerability assessments and community adaptation plans. Many of these projects are taking place in coastal areas and along inland waters because these areas may be particularly vulnerable to climate change. By taking action now, New Brunswick can begin to adapt to the unavoidable and continually increasing impacts on communities and ecosystems through appropriate policy and program responses.



Source: Fisheries and Oceans Canada

This figure shows the top 10 storm surge events at Escuminac (near Miramichi) since measurements were first recorded in 1973. These extreme high water level events, caused by intense weather systems with strong winds and unusually low air pressure, are increasing in magnitude and frequency along New Brunswick's coasts. These events represent substantial risks for the people, property, economy and ecosystems of New Brunswick.

There is also agreement in Atlantic Canada that working together on issues of joint concern allows the four Atlantic Provinces to go beyond what can be achieved individually. In adopting an adaptation strategy for

Atlantic Canada, the participating provinces recognize the significance of climate change and the need to encourage and support adaptive measures particularly with respect to impacts to coastal areas and inland waters in the Atlantic region.

### **Snapshot of actions for 2010-2011:**

- Major progress was made engaging and working with numerous New Brunswick communities as part of the \$8.5 million Atlantic Regional Adaptation Collaborative. Case studies examining coastal and inland flooding and erosion, drinking water supplies and impacts on land use and infrastructure at risk were initiated and made substantial progress. The *www.atlanticadaptation.ca* website was launched to showcase these projects.
- Construction of dykes upstream of the Petitcodiac causeway was completed to meet future sea level rise predictions for the protection of property and farmland as part of the Petitcodiac Restoration.
- A project was started to provide detailed information on current and future climate projections for New Brunswick.
- A more robust emergency program for Charlotte County is being developed. This pilot project will integrate local, provincial, private sector and non-government entities under a comprehensive emergency program, providing local authorities with much greater capacity to manage emergencies and disasters.
- A three year project to develop a high accuracy digital elevation model (DEM) for the Saint John River was completed. The New Brunswick River Forecast Centre is using the DEM to improve inundation modelling and forecasting. NB Emergency Measures Organization and the NB 911 Bureau have developed a number of applications that use the DEM to visualize at-risk areas, current and forecasted water levels and the associated flood impacts. The DEM also supports a range of other climate change adaptation planning activities.

## Partnerships and Communication

To foster the changes needed to transition the province to a lower carbon economy and higher resiliency to the changing climate, the engagement of all citizens and businesses is essential. The Department of Environment developed an engagement strategy for three core groups: opinion leaders, communities of interest and the general public. The opinion leaders' forum assisted in generating key ideas for public engagement such as the Neighborhood Eco-Challenge and the Climate Change Youth Engagement Network.

Partners such as Efficiency NB, the New Brunswick Climate Change Hub, the Conservation Council of New Brunswick, the New Brunswick Environmental Network, and provincial and municipal associations all helped the Province meet its climate change outreach and engagement objectives. It's everyone's responsibility to take action on climate change.

Funding through the New Brunswick Environmental Trust Fund was allocated to a number of non-governmental organizations and municipalities to promote energy efficiency, transportation efficiencies, waste reduction, and water conservation. Local knowledge and results stemming from these activities were shared with departments and agencies to foster citizen engagement at a provincial scope.

### **Snapshot of actions for 2010-2011:**

- Public engagement initiatives were continued such as the Opinion Leaders Forum, the Green Business Pilot Project for the Edmundston Region Chamber of Commerce, Earth Hour events and the Neighborhood Eco-Challenge. These initiatives generated GHG emissions reductions and promoted climate change awareness.
- Efficiency NB launched a toolbox of resources to help municipalities and community groups educate residents about the importance and benefits of energy efficiency.
- Presentations and workshops were delivered

at conferences. For example, a partnership was made between government departments, the New Brunswick Environmental Industry Association and the New Brunswick Purchasing Management Institute in April to host the first ever New Brunswick green products and services forum in Fredericton.

## Moving Forward

The Climate Change Secretariat monitors GHG emissions trends and progress regarding the implementation of all climate change initiatives in the action plan. Several government departments and agencies lead climate change activities. The departments of Agriculture, Aquaculture and Fisheries, Business New Brunswick, Energy, Environment, Finance, Health, Local Government, Public Safety, Social Development, Supply and Services, Natural Resources, Tourism and Parks, and Transportation, as well as Efficiency NB, the New Brunswick Innovation Foundation, and NB Power all contributed towards the progress of the plan. In addition, many communities, industries, businesses, non-profit organizations and individuals have contributed significantly to the plan. Work between provincial departments and partners is ongoing to facilitate the transfer of knowledge and to gain a better understanding of climate change issues.

To learn more about the progress reported on actions, visit the Climate Change Action Plan 2010-2011 Progress Report On Track to 2012 at:

[www.gnb.ca/climatechange](http://www.gnb.ca/climatechange).

The Province is now embarking on the final year of the Climate Change Action Plan 2007-2012. Its many actions continue to be phased in and implemented; these actions will continue to produce beneficial results into the future from which the next plan to 2020 can be built. This first New Brunswick Climate Change Action Plan establishes a base to inform and influence decisions. The next plan will expand upon existing initiatives with new actions.

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and Green Economy Project

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[www.gnb.ca/climatechange](http://www.gnb.ca/climatechange)

The summary and progress report  
are also available electronically.

