



NEW BRUNSWICK
AND CLIMATE CHANGE
**BUILDING ON
THE FOUNDATION**

2012–2013

**PROGRESS
REPORT
SUMMARY**

The issue of climate change touches New Brunswickers across the province, from the people affected by sea level rise and increasing flooding to the wide-ranging actions led by industries, businesses and individuals to reduce GHG emissions.

Since the release of the first *New Brunswick Climate Change Action Plan* in 2007, New Brunswick has made significant progress in reducing greenhouse gas (GHG) emissions and increasing the climate resiliency of communities.

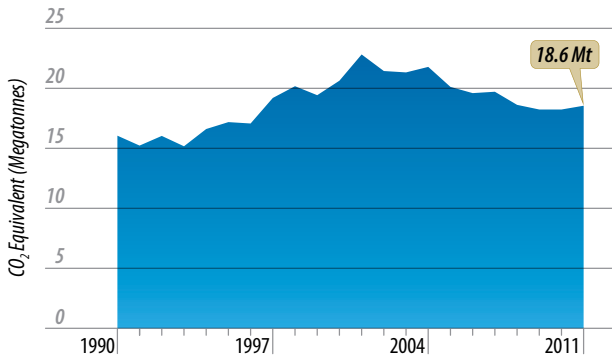
Several departments and agencies have collaborated on climate change adaptation and emission reduction activities across the New Brunswick government. In addition, many communities and non-governmental organizations have raised awareness and understanding of climate change issues.



New Brunswick Greenhouse Gas (GHG) Emissions

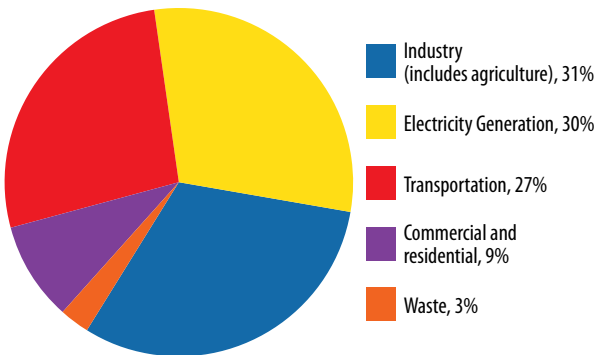
Figure 1 shows New Brunswick's annual GHG emissions from 1990 to 2011. In 2011, GHG emissions from all sources amounted to 18.6 megatonnes (Mt) of carbon dioxide equivalent (CO₂ eq.), 2.6 per cent of the Canadian total. In 2011*, New Brunswick total emissions returned to 2009 level because large industries and electricity generation declined by 8.9 per cent. Figure 2 shows a breakdown of those emissions.

Figure 1: New Brunswick Annual GHG Emissions



Source: National Inventory Reports, Environment Canada

Figure 2: New Brunswick GHG Emissions in 2011 – 18.6 Mt



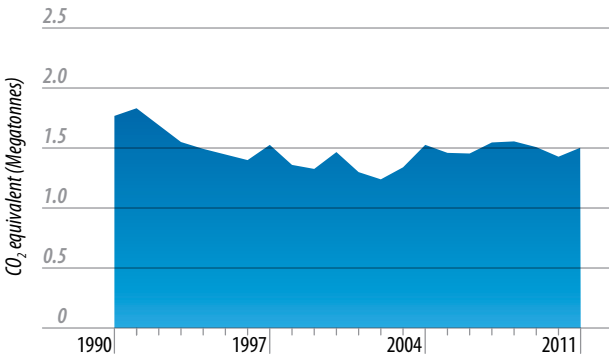
Source: National Inventory Reports, Environment Canada

* 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 2011.

Energy Efficiency and Renewable Energy

Figure 3 shows that initiatives in energy efficiency and renewable energy have reduced GHG emissions in commercial and residential sectors over time. In 2011, total emissions from these sectors were 1.5 Mt, 300,000 tonnes lower than the 1990 level.

Figure 3: Energy Efficiency and Renewable Energy (commercial and residential)



Source: New Brunswick Department of Environment and Local Government

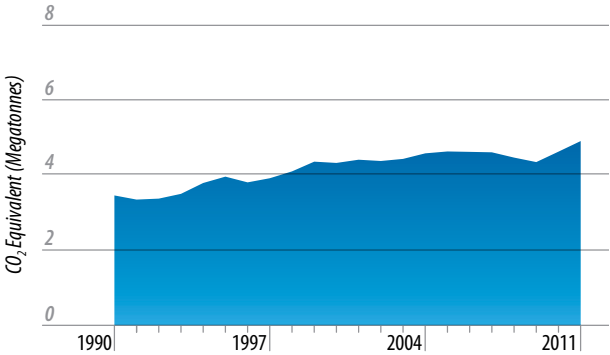
Snapshot of actions during 2012–2013

- Over 5,000 applications were made under residential programs delivered by Efficiency NB. The estimated reductions in GHG emissions equal 136,480 tonnes per year, amounting to total savings of over 400,000 tonnes per year.
- The New Brunswick Energy Blueprint requires NB Power to supply renewable energy to a minimum of 40 per cent of in province sales. This also includes locally owned small scale renewable energy generation opportunities for First Nations and community owned renewable energy projects.

Transportation

Figure 4 shows that in 2011, emissions in the transportation sector increased by 0.3 Mt compared to 2010, which is primarily due to an increase in off-road transportation while emissions from passenger and freight transportation remained relatively stable.

Figure 4: Transportation



Source: New Brunswick Department of Environment and Local Government

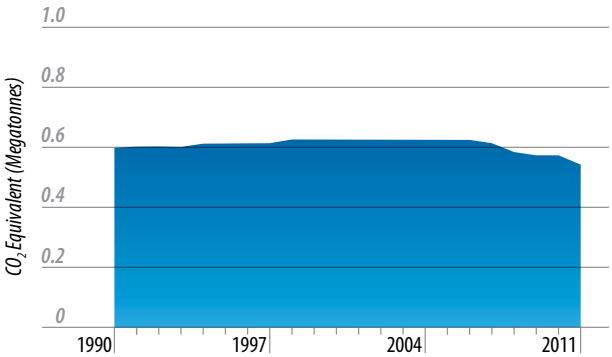
Snapshot of actions during 2012–2013

- The Department of Transportation and Infrastructure continued in issuing special permits to operate long combination vehicles on highways in New Brunswick. This type of vehicle configuration allows greater volumes of cargo to be hauled with the same power unit and results in fuel savings of about 40 per cent.

Waste Management

Figure 5 shows that emissions from landfills have been declining and were 500 kilotonnes (kt) in 2011, or 100 kt below 1990 levels. This reduction is due to improved landfill gas and waste management practices.

Figure 5: Waste Management



Source: New Brunswick Department of Environment and Local Government

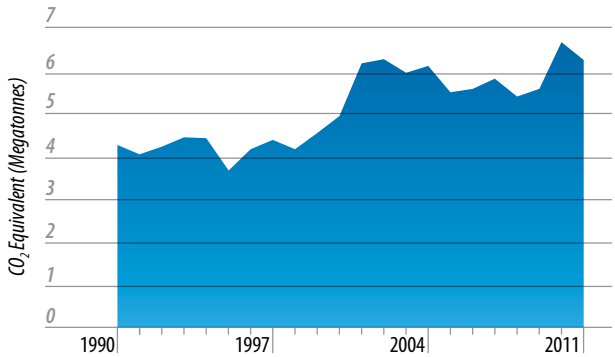
Snapshot of actions during 2012–2013

- Regional Service Commissions 1, 3, 7, 9, 10, and 11 collected landfill gas. Regional Service Commissions 1, 9 and 11 are using landfill gas to generate electricity. Regional Service Commission 7 is in the early implementation stage of acquiring an electricity generator.

Industry

Figure 6 depicts industry emissions (excluding agriculture) from 1990 to 2011. GHG emissions from large industrial facilities declined to 4.9 Mt in 2011, but remained 2.2 Mt higher than in 1990 due to increased activity in the resource extraction sectors.

Figure 6: Industry



Source: New Brunswick Department of Environment and Local Government

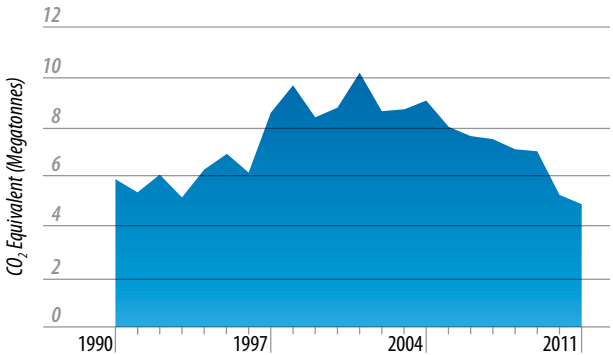
Snapshot of actions during 2012–2013

- Efficiency NB implemented projects as part of the Large Industry program which are providing annual energy savings of 2,880 terajoules (TJ) and associated annual GHG reductions of 194,100 tonnes.

Electricity Generation

Figure 7 depicts electricity generation emissions from 1990 to 2011. Electricity generation emissions were 1 Mt below 1990 levels in 2011. The reduction is due to the closure of the coal-fired power plant at Grand Lake in 2010 and an increase in renewable energy production including wind power.

Figure 7: Electricity Generation



Source: New Brunswick Department of Environment and Local Government

Snapshot of actions during 2012–2013

- NB Power continued with the PowerShift Atlantic project (3.5 years into a 4.5 year project). NB Power is approaching the completion of a load shift of 15 to 17 MW (across the Maritimes). Focus is on load shifting of water heaters, electric thermal storage and energy management systems in buildings to off peak periods allowing NB Power to run fossil fuel power plants less.
- NB Power entered into a multi-year agreement with Siemens Canada to integrate Smart Grid technology into the province's electrical system and create a Centre of Competence. Smart Grid programs will help enable customers to control and manage their energy usage.

Government Leading By Example

The Government is committed to building on the progress it has already made in reducing the environmental and emission impacts from the public sector's operations.

Snapshot of actions during 2012–2013

- All new construction and some renovation projects receiving funding under provincial programs are required to be built in compliance with the government's Green Building Policy.
- Through the Public Low Income Housing Program, an investment of \$550,000 was made on efficiency-related upgrades. An estimated 255 tonnes of GHG emissions will be saved per year.
- An investment of \$300,000 was made to the Grand Falls General Hospital to complete a wood biomass interface project. The biomass plant is designed to utilize wood pellets and is expected to reduce the light oil consumption by 300,000 litres annually and GHG emissions by 8.2 kt.
- Through the PowerShift Atlantic project, electric thermal storage units were installed in several schools. This enables the utility to shift the time which energy is drawn from the grid to heat these facilities and run fossil fuel power plants less.

Adaptation

The effects of climate change in New Brunswick are evident now, with more frequent and severe storm events, coastal erosion, and flooding. As a result, New Brunswick is preparing for these changes and building resiliency to the impacts of climate change. Identifying and assessing both potential risks and opportunities of climate change is critical. A number of communities have become engaged to reduce the risks and maximize opportunities arising from a changing climate.

Snapshot of actions during 2012–2013

- A comprehensive database on historic floods in the province was made available via a web portal, which will help inform communities of current and future flood vulnerabilities.
- A web-based information tool providing information on current climate conditions in New Brunswick and predicted future climate to the year 2100 was launched. Information is presented in the form of maps with accompanying text. Mapping was completed for four time periods, two GHG emission scenarios and 14 climate parameters.
- A web page providing localised, detailed information on climate change indicators (eg., Figure 8 – Extreme Rainfall Indicator) was released which will help New Brunswickers better understand how the climate is changing. Each indicator shows a chart to demonstrate what is happening in New Brunswick, why it is important, and what is predicted. The web page can be found at: www.gnb.ca/climatechange.

Figure 8: Extreme Rainfall Indicator



Source: New Brunswick Department of Environment and Local Government

- Ground breaking climate change adaptation projects under the Atlantic Provinces' Regional Adaptation Collaborative (RAC), in collaboration with Natural Resources Canada and New Brunswick communities were completed. This includes projects in Richibucto (salt-water intrusion), Sackville (flooding), the Acadian peninsula (coastal erosion), Grand-Bay Westfield (flooding), Greater Moncton (inland flooding), and Grand Falls (inland erosion).
- A conference was held in Fredericton and showcased the results of the New Brunswick



RAC. It was attended by over 200 participants and featured presentations from experts in the field of climate change, and panels were moderated by leading practitioners.

Presentations and workshop materials are available on the Atlantic Climate Adaptation Solutions Association website at: <http://atlanticadaptation.ca/node/260>.

- Regionalization of emergency services continued to be improved by hiring six Regional Emergency Management Coordinators. These coordinators are located throughout the province and their role is to work collaboratively with local and municipal governments, or their agents, to enhance and standardize emergency readiness on a regional basis.
- The New Brunswick Emergency Measures Organization has developed a new flood warning mapping application using Service New Brunswick's GeoNB mapping service which provides improved situational awareness and flood alerts during River Watch.

Partnerships and Communications

There is an increasing need for the collection, organization, and dissemination of climate change information and tools throughout the province. Departments, agencies and non-governmental organizations assisted in disseminating climate change information and delivering climate change education and outreach.

Snapshot of actions during 2012–2013

- With support from the RAC program, provided funding and logistical support for the production of a series of high-quality film documentaries on climate change in New Brunswick and Atlantic Canada. An associated photo exhibit was also produced. The film and photo material was launched in November 2012 in Fredericton and subsequently toured the region.

- A series of 11 information banner displays were prepared to present the results of projects completed through the RAC initiative in New Brunswick. The displays were toured to numerous locations including government and municipal offices.
- Presentations were delivered at workshops, conferences, information sessions, home shows and events to raise awareness of GHG emissions reduction and climate change adaptation.

Moving Forward

New Brunswick will continue to contribute to regional and national initiatives to address climate change and to track progress in reducing GHG emissions and increasing resiliency to climate impacts.

The Climate Change Secretariat coordinates the ongoing activities of the Interdepartmental Committee on Climate Change and the provincial government's commitments with respect to the Climate Change Action Plan.

Many communities, industries, businesses, non-profit organizations and individuals have also contributed to climate change efforts. These ongoing partnerships between governmental departments and nongovernmental partners are essential to the success of the plan.

To learn more about the progress being made, visit the *Climate Change Action Plan 2012–2013 Progress Report – Building on the Foundation* at: www.gnb.ca/climatechange.

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The summary and progress report are also available electronically.



New Brunswick and Climate Change –
Building on the Foundation
2012–2013 Progress Report Summary

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