

# Chapter 3: Environment – Climate Change Management



## Overall conclusion:

- Province is using strategic plans and legislated requirements to manage climate change
- Nova Scotia met the 2020 greenhouse gas reduction target
- Some departments are not involved in coordinated climate change planning
- Public reporting on climate change is limited

## Why we did this audit:

- Climate change is one of the biggest threats to how we live
- Our work is part of a Canada-wide look by Auditors General at government response to climate change
- Government response to climate change needs to be coordinated
- Climate change is not confined within provincial borders

## What we found in our audit:

- Province has a greenhouse gas reduction target and a climate change action plan
- Nova Scotia reduced greenhouse gas emissions in 2015 to 18% below 1990 levels; this exceeded the minimum 10% reduction required by 2020
- Nova Scotia's average of 17.2 tonnes per person of greenhouse gas emissions falls in the middle among all Canadian provinces
- Nova Scotia Environment works with departments on climate change planning, but not all departments are involved
- Province did not include 57 of 68 promised actions in its public reports
- New action plan is needed as existing plan is mostly complete
- Nova Scotia Environment has not re-evaluated climate change risks in over a decade
- Province helped all municipalities develop climate change plans



## Recommendations at a Glance

### **Recommendation 3.1**

Environment should publicly report on progress in addressing climate change, including actions to adapt to expected impacts.

### **Recommendation 3.2**

Environment should develop and publicly update plans for targeting future impacts of climate change.

### **Recommendation 3.3**

Environment should regularly review its rating of climate change risks to determine if the ratings have changed and identify any new actions required to address the changes.

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# 3 Environment: Climate Change Management

## Significant Audit Observations

### Developing Targets and Strategies

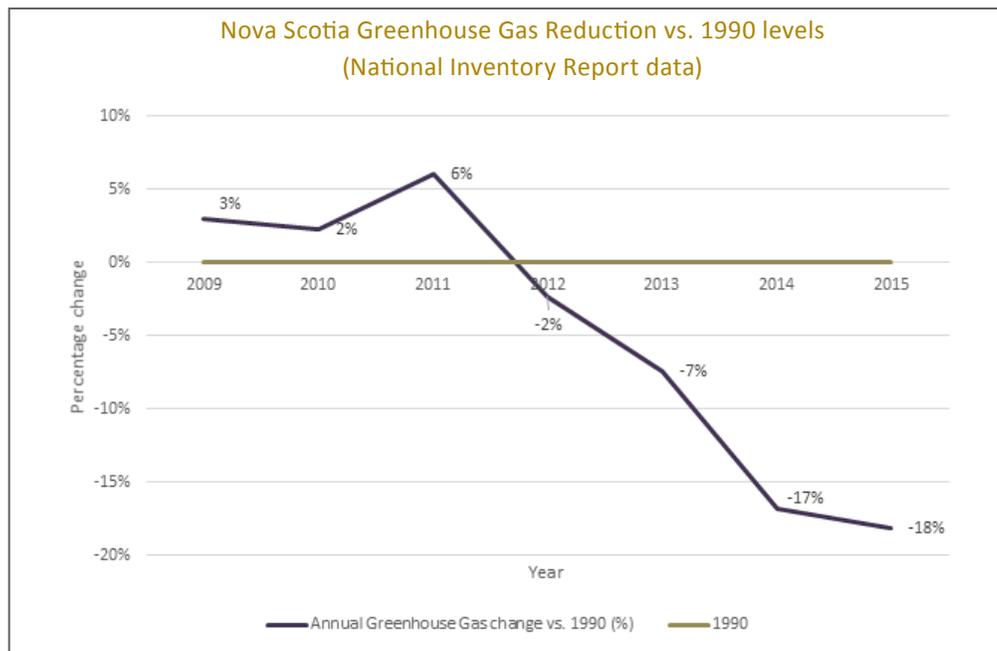
#### ➔ Province has targets and strategies for climate change

- 3.1 Several goals in the Environmental Goals and Sustainable Prosperity Act target climate change. These goals include reducing greenhouse gas emissions to a minimum of 10% below the Province's 1990 levels by 2020 and increasing the use of renewable energy sources. Under the Environment Act, the Greenhouse Gas Emissions Regulations set maximum allowable emissions for power plants that emit greater than 10,000 tonnes of greenhouse gases each year.
- 3.2 In January 2009, the Province released *Toward a Greener Future – Nova Scotia's Climate Change Action Plan* to meet the greenhouse gas emissions target and prepare for climate change. The action plan includes 68 actions covering eight key areas.
- Cleaner energy
  - Energy efficiency
  - Renewable energy
  - Transportation
  - Air quality
  - Government leadership
  - Public engagement and education
  - Adapting to climate change
- 3.3 In 2014, Nova Scotia Environment developed a five-year plan to support and increase the skills of departments to include adapting to climate change in their policy and planning processes. The phases of the adaptation plan outlined the following steps:
- Environment to identify and work with key departments with significant responsibilities affected by climate change.
  - Departments to select a representative to champion and promote planning for climate change.

- Departments to assign project leaders to focus on specific climate change projects.
- Environment to assist in training and coaching the representatives and project leaders as they develop and fulfill their roles.

➔ **Province met 2020 emissions target**

3.4 The Province, using 2013 data, reported it was on track to meet its 2020 goal of lowering greenhouse gas emissions a minimum of 10% below 1990 levels. Based on 2015 emissions, the following graph shows an 18% reduction, exceeding the minimum 2020 target. This result may be revised, as discussed in the following paragraph. Some of the success is due to government actions, such as setting targets to reduce emissions and increase use of renewable energy sources. The Province also reported other events, such as the shutdown of two mills in 2012 and increase in oil prices, likely contributed to lower emissions. Analysis of greenhouse gas emissions based on population, detailed in Appendix I, shows Nova Scotia’s 2015 emissions rate per person was fifth highest among all provinces.



*Prepared by OAG Nova Scotia based on National Inventory Report emissions*

3.5 Environment and Climate Change Canada publishes reports each year on Canada’s greenhouse gas emissions. The emissions reported are based on estimates rather than specific measurements. This means they may be updated if information or ways to calculate the emissions change. The reports break down emissions by province and type of activity, such as electricity generation and transportation. Provincial emissions may be affected by economic downturns, or significant weather events like longer and colder, or



shorter and milder, winters. Nova Scotia Environment uses the reports to determine the Province's progress in meeting the greenhouse gas reduction target.

- 3.6 We did not audit the national emissions reports. Environment and Climate Change Canada states it has quality assurance and control practices for preparing the reports, including reviews by independent experts. The reports are submitted to the United Nations where they are reviewed by international experts. Emissions reports take two years to complete, with the most recent report released in 2017 for the 2015 emissions year.

### Coordinating Climate Change Initiatives



#### Climate change roles and responsibilities are in place

- 3.7 Roles and responsibilities for climate change actions are defined in legislation and through consultation among departments. For example, the Environment Act's greenhouse gas regulations require power plants emitting above a certain limit to report their emissions annually to Environment. To carry out the 2009 action plan, Environment and other departments determined which department had the best mandate to carry out each action.
- 3.8 The first phase of Environment's 2014 adaptation plan involved six organizations – the Departments of Agriculture, Fisheries and Aquaculture, Internal Services, Municipal Affairs, Transportation and Infrastructure Renewal, and the Office of Planning and Priorities. Each selected a representative to promote planning for climate change within their organization.
- 3.9 The first phase of Environment's plan was not completed as intended. At the time of our audit only two departments still had representatives. In the other departments, the representative left or took on a different role. Environment is continuing to work with the organizations to include climate change planning in their operations.



#### Not all departments involved in adaptation planning process

- 3.10 Environment's goal to have all departments consider climate change in their planning processes is a good way to target and coordinate the wide-reaching effects of climate change. While Environment's original plan and approach may need to be adjusted, having all departments consider climate change is worth pursuing. Staff told us they are looking at other departments to involve in the adaptation planning process. Environment's coordinating of climate change work is less effective if all departments do not participate.
- 3.11 The following paragraph is an example which shows Environment had limited knowledge in one area of significant risk. It shows there are gaps



in the Department's coordinating and understanding of actions targeting climate change impacts.

### ➔ Environment has limited knowledge of health risk actions

- 3.12 The climate change action plan did not include actions targeting health risks identified in a 2005 risk assessment discussed later in this chapter. Management at Environment told us they are generally aware of what the Department of Health and Wellness is doing. However, staff at Environment did not know what was being done to address the health impacts from expected increases in levels of ultraviolet rays, outbreaks of West Nile virus, and incidents of respiratory problems.

### Reporting on Progress Toward Goals

#### ➔ Limited public reporting on climate change

- 3.13 The Minister of Environment reports annually to the House of Assembly on progress and adequacy of the goals of the Environmental Goals and Sustainable Prosperity Act. The Minister's annual report does not include progress toward completing the climate change action plan. Eleven of the 68 actions in the plan are included in the goals of the Act. The 11 actions mainly involve energy efficiency initiatives and greenhouse gas emissions reductions. Actions in the plan that focus on adapting to climate change are not part of the annual report. A 2015 Environment report – *Taking Action on Climate Change* – provided limited information on adaptation efforts underway.
- 3.14 It is difficult for Nova Scotians to know the range of activity or assess how well the Province is doing in addressing climate change without complete reports. Public reporting on all activities could explain what has been done. For incomplete actions, there may be valid reasons why they are not done, which can be outlined in the report. Public reporting is also a way to hold the Province accountable for actions which it should have, but has not yet, undertaken.

#### **Recommendation 3.1**

Environment should publicly report on progress in addressing climate change, including actions to adapt to expected impacts.

***Environment Response:** Agree. NSE will continue to report on the progress toward meeting its greenhouse gas emissions reduction target by 2020 through the annual Environmental Goals and Sustainable Prosperity Act (EGSPA) reporting process. NSE will commit to publish progress updates similar to the 2015 "Taking Action on Climate Change" report on a regular basis, with the next scheduled for 2019. NSE is about to embark on a significant new approach to*



*addressing climate change impacts in the future through a cap and trade program. This program will inform future reporting requirements. Timing: ongoing*

### ➡ Progress on action plan monitored, further plans and actions needed

3.15 The Province needs to continue planning for and adapting to climate change since it is expected to affect Nova Scotia into the future. Environment last updated the status of the actions in the climate change action plan in 2015. By then, most actions were complete. The Province has an opportunity to build on work already done and possibly establish higher or wider-ranging targets. Management told us recent federal government climate change initiatives are expected to influence the Province's future work. This should not prevent the Province from developing plans and taking action to reduce climate change impacts.

#### **Recommendation 3.2**

Environment should develop and publicly update plans for targeting future impacts of climate change.

***Environment Response:** Agree. NS Environment will select key focus areas for work planning through our risk assessment process noted in Recommendation 3 and is committed to develop and update plans outlining these key areas of priority focus every two years. Timing: 2018*

### ➡ Most actions complete; long-term progress not tracked

3.16 Environment accurately assessed the status of the actions we examined from the climate change action plan – 36 actions were complete and 11 were ongoing. One action assessed as complete was still ongoing, but we did not consider it a significant difference. The actions from the climate change action plan, including the 47 we examined, are shown in Appendix II.

3.17 The departments responsible for two ongoing actions did not know if they were on track to achieve their 2020 targets. The targets are to:

- reduce energy consumption by 30% for all government buildings built before 2001 (Department of Transportation and Infrastructure Renewal), and
- improve energy efficiency in the province by 20% (Department of Energy).

3.18 Staff in the departments told us they focused on actions to reduce energy use and improve efficiency, rather than ways to measure the actions. These examples further support our recommendation for public reporting which could explain why progress was not tracked and ways to determine progress.



## Assessing Climate Change Risks

### ► Strategies target major climate change risks

3.19 The 2009 climate change action plan targeted electricity generation and heating, and transportation – Nova Scotia’s most significant sources of greenhouse gas emissions. Actions to reduce emissions include:

- reducing the maximum allowable emissions from electricity generation;
- by 2020, increasing overall provincial energy efficiency by 20% over 2008 levels;
- increasing the use of cleaner and renewable energy sources; and
- developing a sustainable transportation strategy.

3.20 Climate change impacts, such as flooding and coastal erosion, that require adjusting to the harmful effects were targeted in the action plan or other work by Environment. Initiatives in the action plan aimed at adapting to the changing climate include:

- creating a fund to encourage research and development;
- creating advisory committees to coordinate efforts and provide policy advice; and
- developing a water resource management strategy and wetland conservation policy.

### ► Climate change risk ratings not periodically reviewed

3.21 In 2005, the Province assessed how likely and severe climate change effects could be to determine those of high, medium, or low risk. Environment does not periodically review the 2005 assessment to see if changes to the risk ratings are needed. Staff told us, although the risks would not change over time, their likelihood and harmful effects may have changed over the 12 years since the assessment was done. Lower-rated risks, such as impacts on domestic water supplies, may now be a greater risk for Nova Scotia and need more attention. Good risk assessment practice includes periodic review of risks and ratings to determine if anything has changed and needs to be addressed.

### **Recommendation 3.3**

Environment should regularly review its rating of climate change risks to determine if the ratings have changed and identify any new actions required to address the changes.



**Environment Response:** *Agree. NS Environment commits to reviewing its ranking of climate change risks and validating this information based on the latest science every 5 years. Timing: 2019*



### Province working with municipalities on climate change

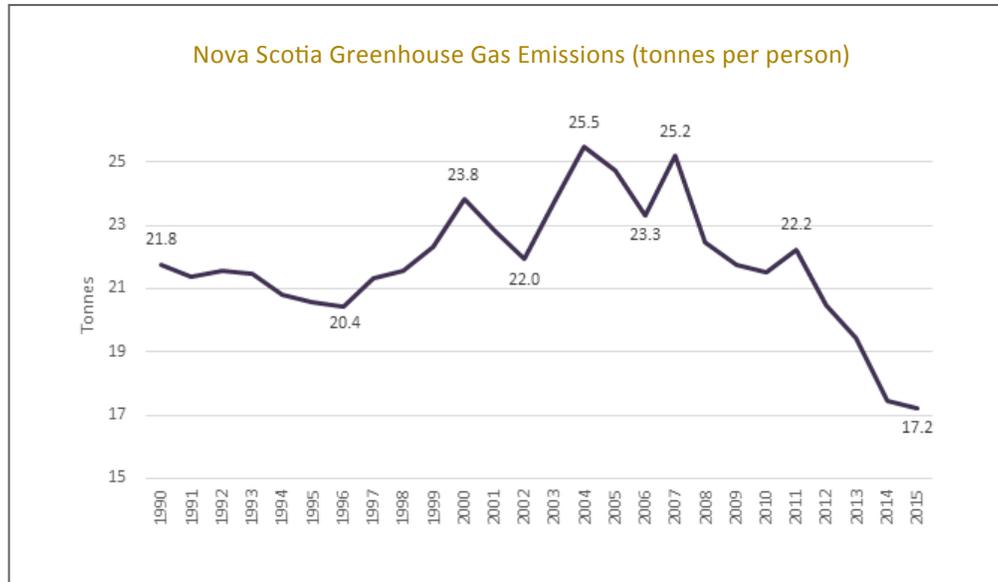
- 3.22 In 2013, the Department of Municipal Affairs required municipalities to submit climate change action plans. The Province recognized municipal governments need to be involved in climate change planning since they have significant responsibilities for buildings, roads, and services that will be impacted. Environment worked with Municipal Affairs to support municipalities in developing their plans. All municipalities submitted the required plans.
- 3.23 We examined the plans for the following five municipalities:
- Halifax Regional Municipality
  - Cape Breton Regional Municipality
  - Town of Amherst
  - District of Digby and Town of Digby (joint plan)
  - County of Colchester and Town of Truro (joint plan)
- 3.24 The plans aligned well with the significant risks identified in the Province's 2005 risk assessment and contained actions to reduce the impacts. Land use planning, road upgrading, inspecting and monitoring, and working with other levels of government were common actions noted.
- 3.25 The Department of Municipal Affairs prepared a report which identified common risks, such as flooding, in the municipal plans. The report noted climate change is already impacting municipalities and gives a detailed picture of the way it is expected to affect them in the future. It noted the plans outline a variety of actions proposed or underway to make communities better prepared for climate change. The report also provides useful information for the Province to consider when planning for ongoing climate change. The report was in draft status when we completed our work.



Appendix I

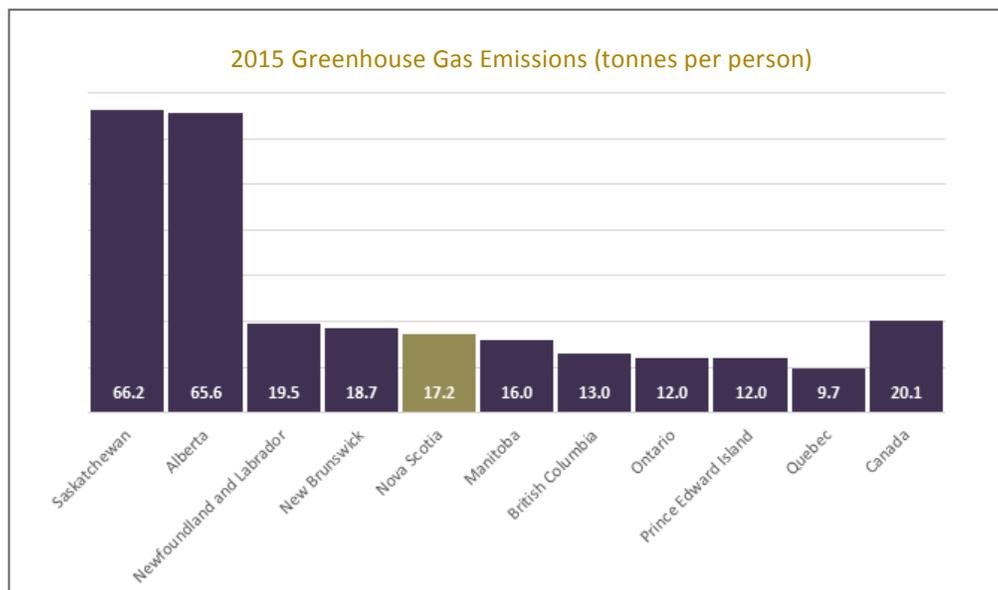
Emissions By Population

Greenhouse gas emissions ratios based on population measure how much is emitted in the province for every Nova Scotian. In 2015, the emissions rate was 17.2 tonnes per person. In 1990, it was 21.8 tonnes. The graph below shows Nova Scotia has achieved significant emissions reductions per person over the last several years.



Prepared by OAG Nova Scotia based on National Inventory Report emissions and Statistics Canada population values.

Emissions per person can be used to compare Nova Scotia to other provinces and the national average. The chart below shows Nova Scotia was the 5th highest emitter on a per person basis among all provinces – just under the Canadian average of 20.1 tonnes.



Prepared by OAG Nova Scotia based on National Inventory Report emissions and Statistics Canada population values.



## Nova Scotia Climate Change Action Plan

Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 1:</b> Impose increasingly stringent absolute caps on NSPI's GHG emissions for 2010, 2015, and 2020.	2010	Complete	Agree – complete
<b>Action 2:</b> Target GHG and air pollutant emissions from sources other than coal-generated electricity, by working with stakeholders to develop policies and regulations.	No date	On track/ongoing	Agree – ongoing
<b>Action 3:</b> Create a new, independent administrator for the electrical efficiency program established by the Utility and Review Board.	2009	Complete	Agree – complete
<b>Action 4:</b> Commit to increasing overall energy efficiency in the province by 20 per cent over 2008 levels by 2020, and strive to implement all cost-effective steps toward energy efficiency.	2020	On track/ongoing	Agree – ongoing
<b>Action 5:</b> Expand energy efficiency and conservation programs for homeowners and businesses, and develop new ones. Spending in the current fiscal year will exceed \$17 million.	No date	Complete	Not assessed
<b>Action 6:</b> Study rate structures and metering systems that encourage electricity conservation and efficiency, beginning in 2009, to see what will work best in Nova Scotia.	2009	On track/ongoing	Agree – ongoing
<b>Action 7:</b> Create a Chair in Farm Energy Conservation at the Nova Scotia Agricultural College.	2009	Complete	Agree – complete
<b>Action 8:</b> Effective in 2011, amend the Nova Scotia Building Code Act to require all new commercial buildings of more than 600 m <sup>2</sup> to exceed the 1997 Model National Energy Code for Buildings by at least 25 per cent, or to adopt the updated version of the 1997 Model National Energy Code for Buildings expected in 2011. This is only a start. The province will work with its partners to strengthen standards on a continuing basis as innovative and cost-effective technologies come to the market.	2011	Complete	Agree – complete
<b>Action 9:</b> Require, by December 31, 2009, all new residential dwellings, and all commercial buildings under 600 m <sup>2</sup> , to meet prescriptive or performance requirements that are equivalent to an EnerGuide for New Homes rating of 80 under the Nova Scotia Building Code Act.	2009	Complete	Agree – complete
<b>Action 10:</b> Require low-flush toilets and permit the use of water-free technologies and the re-use of grey water by December 31, 2009, under the Nova Scotia Building Code Act.	2009	Complete	Agree – complete



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 11:</b> Implement stricter energy-efficiency regulations for appliances. The new rules, which will also increase the number of appliance categories that are regulated, will be updated every three years to the highest regulatory standards.	2012	On track/ ongoing	Agree – ongoing
<b>Action 12:</b> Produce the 2009 Energy Strategy, a companion piece to this document [the Climate Change Action Plan]. Developed by the Department of Energy, it will lead the transformation of Nova Scotia's electricity system to achieve a green energy future where at least 25 per cent of our electricity needs will come from renewable energy sources by 2020.	2009	Complete	Agree – complete
<b>Action 13:</b> Begin studies on regional electricity integration, known as the Green Grid Initiative, to diversify our energy sources. These studies, led by the Department of Energy, will begin in 2009.	2009	On track/ ongoing	Agree – ongoing
<b>Action 14:</b> Armed with the better understanding of costs and capacity that will result from Action 13, require greater use of renewable energy after 2013.	2013	Complete	Agree – complete
<b>Action 15:</b> Develop regulations to allow greater use of two-way electric meters after 2009. Two-way meters (net metering) let small producers of intermittent renewable power transmit electricity to NSPI when their generators are operating and receive power from the grid when they are not.	2009	Complete	Agree – complete
<b>Action 16:</b> Develop a bio-resource strategy by 2011 to determine the best potential uses and the best policies to encourage the use of bio-energy-based fuels. The strategy will take account of GHGs and other air emissions produced throughout the life cycle of various bio-fuels.	2011	No progress	Not assessed
<b>Action 17:</b> To support the development of biomass for electrical generation, provide the forest industry with funds from the Community Development Trust to study the feasibility of potential biomass generation projects.	No date	Complete	Not assessed
<b>Action 18:</b> To support development of other uses for forest biomass, provide funds from the Community Development Trust to improve our understanding of forest biomass availability and the potential of forest biomass projects to improve site productivity.	No date	Complete	Not assessed
<b>Action 19:</b> Produce a Sustainable Transportation Strategy by 2010 that will build on existing work. A task force headed by Transportation and Infrastructure Renewal, with members from Conserve Nova Scotia, Service Nova Scotia and Municipal Relations, Nova Scotia Environment, and municipal governments, will consult with the public and interested groups. The task force, to be created by March 31, 2009, will consider all aspects of transportation, including public transit, active transportation, funding, and land-use planning.	2010	Complete	Agree – complete



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 20:</b> While the Nova Scotia Sustainable Transportation Strategy is being developed, continue to fund public and alternative transportation and expand innovative transportation projects.	2009-2011	Complete	Agree – complete
<b>Action 21:</b> Following consultation and co-operation with other jurisdictions, introduce regulations by 2010 setting fuel consumption and emissions standards for new vehicles.	2010	Complete	Agree – complete
<b>Action 22:</b> Develop a program in 2009 to encourage – and support – consumers to choose greener cars and trucks that are more fuel efficient and produce less air pollution.	2009	On track/ongoing	Not assessed
<b>Action 23:</b> Review the province's park-and-ride lots with the intention of increasing their capacity. There are now about 30 park-and-ride lots at intersections of major highways.	No date	Complete	Agree – complete
<b>Action 24:</b> Over the next five years, expand the weigh-in-motion program at scale houses throughout the province. These systems save idling time by reducing stops and starts for heavy trucks. The first such system has already been installed at the Canso Causeway.	2009-2014	Complete	Agree – complete
<b>Action 25:</b> Begin a pilot project to allow double 53-foot semi-trailers to be hauled by a single tractor on four-lane, divided highways between Halifax and the New Brunswick border at speeds of 90 km/h or slower. These trucks reduce emissions and save fuel by allowing one engine to haul two loads.	2009	Complete	Agree – complete
<b>Action 26:</b> Develop an anti-idling policy for government vehicles and employee vehicles on government business by 2009. A model anti-idling bylaw for use by municipalities will also be developed.	2009	Complete	Agree – complete
<b>Action 27:</b> Introduce a pilot project to provide incentives for equipment that will improve the energy efficiency of heavy truck fleets and encourage the use of efficient light-duty vehicles in commercial fleets, such as taxis.	No date	Complete	Not assessed
<b>Action 28:</b> Use an airshed approach to manage Nova Scotia's air quality, and consider the combined impact of local and out-of-province emissions. Nova Scotia Environment will lead this effort. The province will work with industry, and others, to reduce local emissions, and with the Canadian government and other provinces to curb out-of-province pollution.	No date	Complete	Not assessed
<b>Action 29:</b> To give Nova Scotians better information about the quality of our air, continue its long-term air monitoring and begin to implement the Air Quality Health Index. The system will produce up-to-the-hour information about air quality.	No date	Complete	Agree – complete



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 30:</b> In addition to the cap already in place for 2010, set new, tighter limits on NSPI's sulphur dioxide emissions for 2015 and 2020.	No date	Complete	Agree – complete
<b>Action 31:</b> Assess the effectiveness of our sulphur reduction efforts by 2011.	2011	Complete	Agree – complete
<b>Action 32:</b> In addition to the cap already in place for 2009, set new, tighter limits on NSPI's nitrogen oxide emissions for 2015 and 2020.	No date	Complete	Agree – complete
<b>Action 33:</b> Continue to require that all utility and industrial boilers install low-NO <sub>x</sub> burner technology during upgrades. A clearer definition of "low-NO <sub>x</sub> " will strengthen this requirement.	No date	Started	Not assessed
<b>Action 34:</b> Complete its plan for complying with the Canada-wide standard for particulate matter and ground-level ozone by the end of 2009.	2009	Complete	Not assessed
<b>Action 35:</b> Achieve the 2010 cap on mercury emissions, and comply with further strengthening of the Canada-wide standard for mercury emissions. These efforts may include capturing 80 per cent or more of the emissions from coal-fired plants by 2018.	No date	Complete	Not assessed
<b>Action 36:</b> By the end of 2009, include an assessment of greenhouse gas and air pollutant emissions as part of a "green filter" applied to projects requiring government approval.	2009	On track/ongoing	Not assessed
<b>Action 37:</b> Require that all new government-owned buildings achieve LEED Silver certification after 2008; achieve LEED Gold certification or equivalent after 2010; and be carbon neutral after 2020. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a widely used set of standards for sustainable construction.	2010	Complete	Not complete – work ongoing
<b>Action 38:</b> Require any organization seeking government funds for building projects to adopt the LEED Silver standard, or an acceptable equivalent, for energy efficiency and water consumption.	No date	Complete	Agree – complete
<b>Action 39:</b> By 2015, construct a building that demonstrates a leading standard for energy efficiency and sustainability.	2015	Complete	Agree – complete
<b>Action 40:</b> Achieve an overall 30 per cent reduction by 2020 in energy consumption for all government-owned buildings constructed before 2001.	2020	On track/ongoing	Agree – ongoing
<b>Action 41:</b> In support of Action 40, begin a program in 2009 to achieve BOMA BEST* [Building Owners and Managers Association of Canada – Building Environmental Standards] certification, or equivalent, for all of the Department of Transportation and Infrastructure Renewal's major owned and operated buildings by 2015.	2009	Complete	Agree – complete



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 42:</b> Demonstrate leadership and a commitment to sustainable prosperity by choosing vehicles that are fuel efficient and environmentally responsible after 2008. A policy guiding this commitment will apply to certain types of vehicles and will result in the acquisition by lease or purchase of vehicles in the top 20 per cent of their class for energy efficiency and GHG and air pollutant emissions.	2009	Complete	Agree – complete
<b>Action 43:</b> Expand the E-Pass employee bus pass program as quickly as possible to all government employees.	No date	No progress	Not assessed
<b>Action 44:</b> As part of a broader sustainable procurement policy being developed by 2009, require that all new information and communications equipment bought or leased by the province have Electronic Product Environmental Assessment Tool (EPEAT) silver certification or equivalent. Where EPEAT criteria have not been developed, equipment must meet the applicable ENERGY STAR standard.	2009	Complete	Agree – complete
<b>Action 45:</b> Using funds from the federal Gas Tax Agreement continue to fund a sustainability coordinator for the Union of Nova Scotia Municipalities.	No date	Complete	Agree – complete
<b>Action 46:</b> Using funds from the federal Gas Tax Agreement provide funding in 2009 to help municipal governments plan for climate change. A key focus will be the impacts of sea-level rise on land-use planning and on the design of wastewater treatment plants.	2009	Complete	Agree – complete
<b>Action 47:</b> In 2009, work with the Union of Nova Scotia Municipalities on a memorandum of understanding that will address climate change mitigation and adaptation.	2009	Complete	Agree – complete
<b>Action 48:</b> Amend funding agreements with municipalities by 2010 to require climate change strategies in municipal Integrated Community Sustainability Plans.	2010	Complete	Agree – complete
<b>Action 49:</b> Encourage the Government of Canada to support further GHG and air pollutant reductions by funding programs like ecoNova Scotia II and the Greening the Grid project to upgrade transmission capacity. The ecoNova Scotia fund for Clean Air and Climate Change, which currently supports innovative projects that reduce emissions, is in place only until March 2011.	No date	On track/ ongoing	Not assessed



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 50:</b> Participate in national and international discussions on climate change and clean air, including those taking a North American approach. This will continue to include participation in the Canadian Council of Ministers of the Environment, the Council of Atlantic Environment Ministers, and the Conference of New England Governors and Eastern Canadian Premiers. Nova Scotia will seek observer status at discussions of the Western Climate Initiative.	No date	On track/ ongoing	Agree – ongoing
<b>Action 51:</b> Embark on a public awareness and education program, led by Nova Scotia Environment, to give citizens the knowledge and insight to lead more sustainable lifestyles.	No date	On track/ ongoing	Not assessed
<b>Action 52:</b> Incorporate climate change, sustainability, and complex decision making into the school curriculum. This builds on learning and teaching of these concepts that is already integrated into the curriculum.	No date	On track/ ongoing	Not assessed
<b>Action 53:</b> Create an Adaptation Fund within Nova Scotia Environment to encourage adaptation research and development starting in 2009.	2009	Complete	Agree – complete
<b>Action 54:</b> Develop statements of provincial interest on adaptation by 2010 to provide guidance on land-use planning. This is a formal tool, established under the Municipal Government Act, to protect the province's interest in such areas as land use, water resources, and community planning.	2010	Behind schedule	Not assessed
<b>Action 55:</b> Incorporate climate change impacts and adaptation response plans into the strategies and initiatives of all provincial departments by 2012.	2012	On track/ ongoing	Agree – ongoing
<b>Action 56:</b> Establish criteria in 2009 for the consideration of climate change during Nova Scotia Environment's environmental assessment process and develop a guide to climate change for project proponents.	2009	Complete	Not assessed
<b>Action 57:</b> Launch a web-based clearinghouse of information and tools to support adaptation to climate change in Nova Scotia in 2009.	2009	Complete	Agree – complete
<b>Action 58:</b> Begin work on a provincial vulnerability assessment and progress report on adaptation to climate change in Nova Scotia. This report, which will be updated biannually, will provide updates on the latest climate research, review critical information gaps, and provide policy direction for the province.	No date	On track/ ongoing	Agree – ongoing
<b>Action 59:</b> Continue to work with the other Atlantic provinces on common adaptation goals.	No date	On track/ ongoing	Not assessed
<b>Action 60:</b> Create an interdepartmental steering committee and external advisory committee responsible for coordinating adaptation efforts and providing adaptation policy advice, in 2009.	2009	Complete	Agree – complete



Status of Actions			
Action	Target Date	Status	OAG Comment
<b>Action 61:</b> Ensure that design standards and plans for new provincial construction, and for the renewal of existing provincial infrastructure, reflect projected climate trends, not historical records, by 2010.	2010	On track/ongoing	Not assessed
<b>Action 62:</b> Release a Sustainable Coastal Development Strategy by 2010. A major part of the strategy will focus on strengthening our resiliency to climate change impacts along our coast.	2010	No progress	Not assessed
<b>Action 63:</b> Take sea-level rise into consideration and place priority on conserving coastal wetlands in preparing a policy to prevent net loss of wetlands. The Environmental Goals and Sustainable Prosperity Act requires that this policy be developed by 2009.	2009	Complete	Agree – complete
<b>Action 64:</b> Develop a strategy to ensure the sustainability of the province's natural capital in forests (forestry), minerals (mining), parks, and biodiversity by 2010. This strategy will be led by the Department of Natural Resources.	2010	Complete	Agree – complete
<b>Action 65:</b> Develop a comprehensive water resource management strategy by 2010. As a key priority, the strategy will consider climate change impacts on water quality and quantity.	2010	Complete	Agree – complete
<b>Action 66:</b> Lead, through the Department of Natural Resources, an interdepartmental and forest industry working group on forest carbon management and forest adaptation to climate change.	No date	No progress	Not assessed
<b>Action 67:</b> With advice from the Nova Scotia Round Table on Environment and Sustainable Prosperity, assess progress toward meeting our GHG reduction target as part of the Environmental Goals and Sustainable Prosperity Act annual progress report. The effectiveness of the target will be assessed every five years through a public review by the Round Table.	No date	On track/ongoing	Agree – ongoing
<b>Action 68:</b> Establish a Climate Change Directorate within Nova Scotia Environment. This office will work with provincial departments and municipalities, agencies, schools, and hospitals to reduce GHG emissions and ensure that effective adaptation measures are being implemented.	No date	Complete	Agree – complete

Mitigation Action\* – intervention to reduce the sources or enhance the storage of greenhouse gases

Adaptation Action\* – activity that reduces the negative impacts, or takes advantage of beneficial impacts, of climate change

\* Classification determined by OAG Nova Scotia



## Appendix III

### Audit Objectives and Scope

In winter 2017, we completed a performance audit at Nova Scotia Environment on the Province's plans for addressing climate change. The audit was conducted in accordance with sections 18 and 21 of the Auditor General Act, and auditing standards of the Chartered Professional Accountants of Canada.

The purpose of the audit was to determine whether the Province is meeting its commitments to reduce greenhouse gas emissions and preparing for climate change.

The objectives of the audit were to determine whether the Province:

- has developed and implemented strategies to address climate change;
- is making progress in meeting its commitments to reduce greenhouse gas emissions; and
- effectively coordinates efforts to achieve emissions reduction targets and implement its strategies.

This audit is part of a collaborative project undertaken with federal, provincial, and territorial legislative auditors across Canada. Each participating office agreed to examine mitigation and adaptation initiatives, to provide a look at how effectively Canada is meeting commitments to reduce greenhouse gas emissions and adapting to climate change. Each participating office determined their own audit objectives and date for reporting their results. A summary report on all the audits is scheduled for release in early 2018.

Generally accepted criteria consistent with the objectives of the audit did not exist. Audit criteria were developed specifically for this engagement. Criteria were accepted as appropriate by senior management of Nova Scotia Environment.

Our audit approach included an examination of relevant legislation, regulations, guidelines, and processes. We interviewed management and staff at Nova Scotia Environment, as well as other departments as required. We reviewed action plans; examined agreements, strategies, meeting minutes, and other documentation as necessary; and tested compliance with legislation, strategies, policies, and other related processes. Our audit period included provincial action on climate change between January 2009 to June 2016.

Our audit did not include organizations outside of government who may be responding to climate change, such as Nova Scotia Power Incorporated.