

# TAKING ACTION

## A CLIMATE CHANGE ACTION PLAN FOR PRINCE EDWARD ISLAND

2018-2023



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



# MINISTER'S MESSAGE

There is now overwhelming evidence that climate change is occurring and the consequences may be quite serious for our Island province. Our Earth's climate is warming and the 'greenhouse gases' emitted by human activities, in particular the burning of fossil fuels, is a major contributor. Every day we see the evidence in more extreme weather events, rising sea levels, and coastal flooding.

The Climate Change Action Plan provides a framework for both adapting to the new forces that are re-shaping our global environment, as well as mitigating greenhouse gas emissions. Islanders need to be prepared for the future and as we renew our efforts to protect our Island, we need to make changes to our way of life and rethink how we work, live, and play.

We have collaborated with the community as well as experts in the field to develop this Action Plan. Actions outlined in the plan provide practical solutions that will allow us to adapt to a changing climate and do our part to reduce greenhouse gas emissions. If the plan is to be successful it will require the wholehearted efforts of every individual, community, and industry group from across the province. By working together, we will be able to build a better and more secure future for Prince Edward Island.

**The Honourable Richard Brown**

*Minister of Communities, Land and Environment*



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### **Our Five-year Plan**

Our five-year plan outlines the actions that government will take to both adapt to a changing climate and reduce our greenhouse gas emissions.

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# INTRODUCTION

**Prince Edward Island's residential, commercial, and industrial infrastructure located on the coast will become increasingly vulnerable to sea level rise and storm activity.**



The earth's climate is changing and there is overwhelming scientific evidence to support that much of the change is being caused by human activity. Human activities—including our use of fossil fuels to run our vehicles, heat our homes, and power our industries—release gases, called greenhouse gases

(GHGs), into the atmosphere. Farm practices and waste management also generate GHGs that contribute to this problem. These GHGs are accumulating in the atmosphere like a blanket, trapping heat and raising global temperatures.



Warmer temperatures will affect all aspects of our climate, influencing everything from the amount of rain that falls to how much sea ice accumulates in the bodies of water surrounding our Island. Prince Edward Island can expect the following changes:

- *milder winters, earlier extended thaws, earlier starts to the growing season, later frosts, and more extreme hot days;*
- *more intense and frequent heavy rainfall events, changes in the timing of our rainfall, and increased demand on water resources;*
- *rising sea levels, reduced sea ice, more intense storm surges, and increased coastal erosion and flooding; and*
- *changes in the type, diversity, and distribution of plant-life, fish, and animal populations, and emergence of new pests and diseases.*

These changes will affect Prince Edward Island in different ways. For example, Prince Edward Island's residential, commercial, and industrial infrastructure located on the coast will become increasingly vulnerable to sea level rise and storm activity. Drier, warmer summers may have a positive impact on some parts of our tourism industry, while others, such as golf courses, may struggle to maintain their fairways with less rain. Farmers may begin to grow new crops, but struggle to grow ones that have been part of their rotations for many years. Softwood trees could begin to decline in favour of hardwood species suited to longer, warmer growing seasons. Insect and disease pests, like the deer tick, may become more common, creating health concerns for people and pets.

## **Taking Action**

Prince Edward Island has been actively engaged in international efforts to combat climate change. These efforts include working with the Government of Canada to achieve the targets under the Paris Agreement and the long-standing regional commitment to reduce GHG emissions as part of the New England Governors and Eastern Canadian Premiers (NEG-ECP) Climate Change Action Plan.

The NEG-ECP Climate Change Action Plan, adopted in 2001, was the first international, multi-jurisdictional commitment to reduce GHG emissions. The plan established regional GHG emission reduction targets for 2010, 2020 and the longer term. The 2017 update adopted in Charlottetown in August, 2017, reports on progress and outlines possible future regional actions.

## Introduction, continued

At the 2015 meeting of the Conference of the Parties (COP), which Prince Edward Island attended at the request of the Prime Minister, a landmark international agreement was reached, known as the Paris Agreement. While in Paris, Prince Edward Island also signed on to RegionsAdapt, which facilitates collaboration between state and regional governments to reduce the risks of climate change and build resilience. The Paris Agreement, which Canada ratified in 2016, laid the foundation of actions to combat climate change, at national and sub-national levels, beginning in 2020.

In 2016, Prince Edward Island was part of the development of the Pan-Canadian Framework on Clean Growth and Climate Change (PCF). The PCF is Canada's collective plan to grow the economy while reducing emissions and building climate resilience. The PCF has four main pillars: pricing carbon pollution; complementary measures to further reduce emissions across the economy; measures to adapt to the impacts of climate change and build resilience; and actions to accelerate innovation, support clean technology, and create jobs.

With respect to all of these commitments, Prince Edward Island continues to contribute to actions taken regionally, nationally, and internationally. The recently released PEI Energy Strategy and this Climate Change Action Plan align well with the agreements to which Prince Edward Island is party.

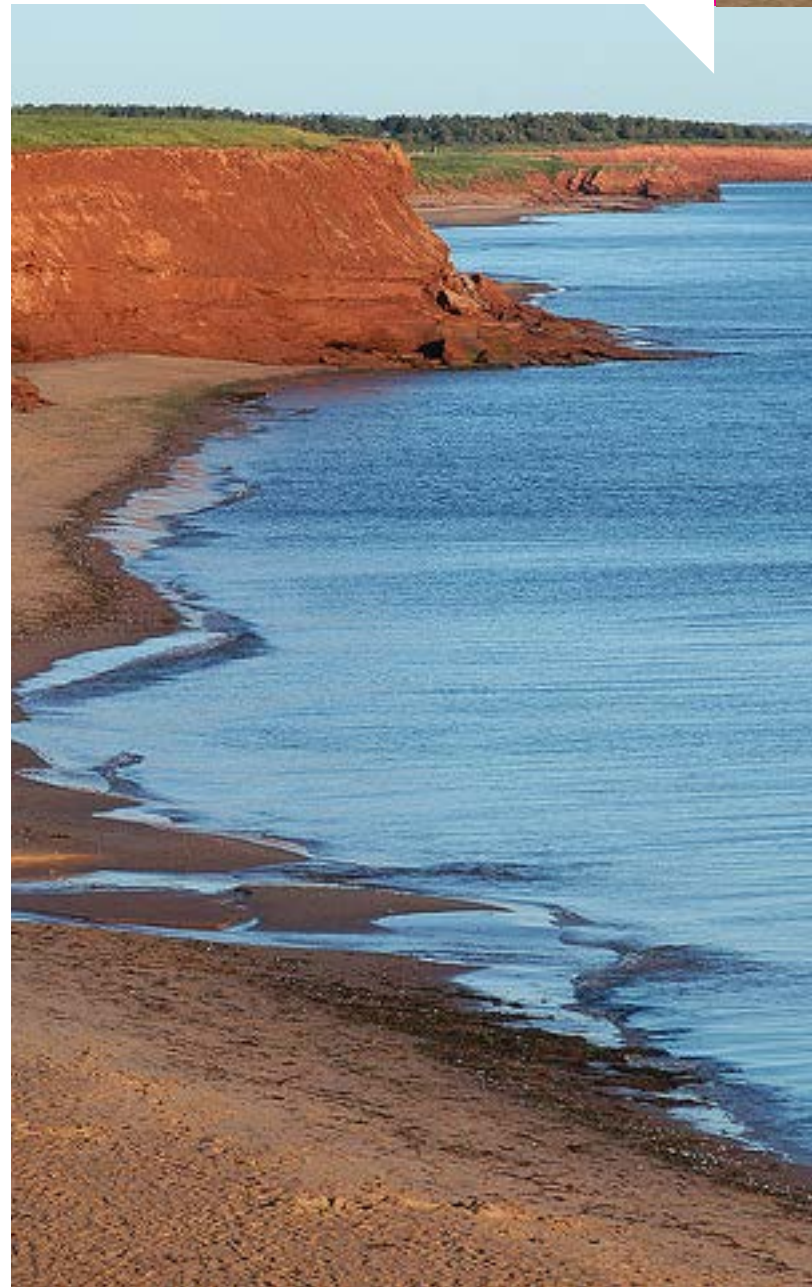
The Prince Edward Island Climate Change Action Plan will outline our Government's long-term, continuing commitment to prepare for a changing climate and reduce our GHG emissions. The Action Plan has a two-pronged approach:

1. *reducing the impacts of climate change (adaptation); and*
2. *reducing the amount of GHGs that we emit (mitigation).*

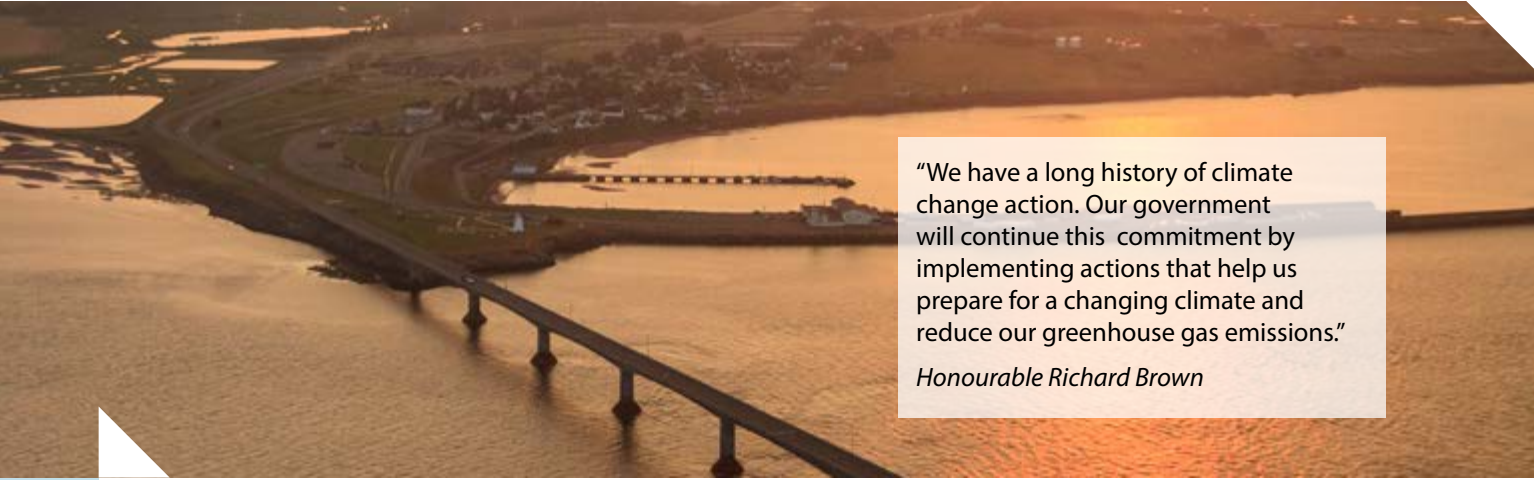
Adaptation addresses the impact of climate change. We can reduce the impact of coastal flooding, for example, by building roads and homes on higher ground. Reducing

GHG emissions addresses the cause of climate change. We can do this by driving lower emission vehicles, farming more sustainably, and heating our homes more efficiently.

This Action Plan promotes a clean, safe, innovative, and resilient future for Islanders today and in the generations to come.



# Our Five-Year Plan



"We have a long history of climate change action. Our government will continue this commitment by implementing actions that help us prepare for a changing climate and reduce our greenhouse gas emissions."

*Honourable Richard Brown*

## **Climate change is not a new problem. In fact, we have taken important steps over the past 40 years to address this issue.**

For example, Prince Edward Island leads the country in wind energy integration. Currently, 24 per cent of the province's electricity is provided by locally generated wind energy, making Prince Edward Island a world leader in this respect. Wind energy not only reduces GHG emissions, but also contributes to the economy, creating local jobs for Islanders, and providing a sustainable energy supply for residents and businesses.

*(For more examples of Prince Edward Island's actions on climate change, see timeline in Appendix 1).*

The new Climate Change Action Plan was created in response to key recommendations from the previously noted international agreements as well as the following provincially-developed documents:

### **Prince Edward Island Recommendation for the Development of a Climate Change Mitigation Strategy**

(2017) [www.princeedwardisland.ca/en/information/climate-change-mitigation-recommendations-report](http://www.princeedwardisland.ca/en/information/climate-change-mitigation-recommendations-report)

### **Prince Edward Island Climate Change Adaptation Recommendations Report**

(2017) [www.princeedwardisland.ca/en/information/communities-land-and-environment/climate-change-adaptation-recommendations-report](http://www.princeedwardisland.ca/en/information/communities-land-and-environment/climate-change-adaptation-recommendations-report)

### **Prince Edward Island Provincial Energy Strategy 2016/2017**

[www.princeedwardisland.ca/en/information/transportation-infrastructure-and-energy/energy-strategy](http://www.princeedwardisland.ca/en/information/transportation-infrastructure-and-energy/energy-strategy)

The public and various stakeholders provided valuable input into the process. Additional documents that helped influence the Action Plan can be found in Appendix 2.

### **The Action Plan includes five action areas:**

1. Adapting to Climate Change
2. Reducing Greenhouse Gas Emissions
3. Carbon Sequestration
4. Education and Capacity Building
5. Research and Knowledge Building

Many of the actions in the Action Plan will be completed within the five-year window. Other actions will continue long after.



# ACTIONS

## Adapting to Climate Change

### On-going Initiatives

#### Government is currently:

- investing in infrastructure upgrades that are increasing our resilience to climate change impacts;
- evaluating innovative approaches to shoreline protection;
- incorporating future climate extremes into emergency management planning;
- sustainably managing and protecting our water resources, now and under future climate conditions, through the new *Water Act*;
- requiring stormwater systems and structures on provincial highways and roads be designed to accommodate future extreme rainfall events; and
- assessing erosion and flood risk for new coastal developments.

Islanders are already aware that climate change is happening. Adapting our way of doing things will be critical if we are to successfully meet the challenges and opportunities presented by a changing climate.

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#### Adaptation will require action

##### across many sectors, including:

- how we design our infrastructure, including bridges and culverts;
- where we build our homes and businesses;
- how we manage our water resources;
- how we manage and protect our ecosystems; and
- which crops we grow.

Our Government continues to help local decision-makers better understand and prepare for the impacts of climate change.





# Commitment #1

Government will take proactive measures to reduce Prince Edward Island's vulnerability to the impacts of climate change, and to take advantage of new opportunities that contribute to a prosperous and resilient economy.

## - Infrastructure -

Our schools, hospitals, fire halls, bridges, businesses and homes will all be affected as our climate changes. The threat of these impacts will require that new approaches be taken as we design and locate our infrastructure. Improved design standards can ensure that structures will withstand new weather extremes. New development will be encouraged in areas less vulnerable to severe weather events. Options for existing infrastructure in at-risk

areas may include moving to a less vulnerable location or protecting it with engineered solutions.

One approach that is gaining prominence is the use of green infrastructure, such as green roofs and permeable pavement. This type of infrastructure is intended to mimic natural processes and has emerged as a cost-effective, less energy intensive solution to some weather related problems.

## NEW ACTIONS

### Government will:

1. identify vulnerable public assets and infrastructure along the coast;
2. retrofit, relocate, or protect critical and vulnerable public infrastructure to address the impacts of climate change, as is feasible and cost-effective;
3. introduce new hazard guidance to inform development decisions and design in coastal areas; and
4. pilot green infrastructure projects for stormwater management and shoreline protection.

## - Water Resources -

Changing rain and snowfall patterns, along with increasing temperatures will influence water resources in Prince Edward Island. This may challenge our ability to provide an adequate, reliable, and safe supply of drinking water along with the provision of water to maintain healthy ecosystems and supply industrial needs. Not only will the supply of water be influenced by climate change, but drier conditions will increase the demand for water. More extreme weather events, including heavy rainfalls, may overwhelm some

wastewater management systems, leading to flooding and the release of untreated wastewater.

Prince Edward Island's new **Water Act**, introduced in 2017, will determine how water will be protected in the future. This legislation will ensure the sustainability of our water resources by establishing and enforcing new criteria for protecting the Island's water supply. This work will require collaboration between both provincial and municipal governments.

## NEW ACTIONS

### Government will:

5. model the impacts of climate change on streams, wetlands, and drinking water resources; and
6. promote and enhance water conservation efforts as a way to reduce demands on water and wastewater systems.





## - Ecosystems -

As our climate changes, the suitability of habitats to support plant and animal populations and ecosystems will also change. Some species of plants may no longer be able to grow here. We may lose some fish species as fish habitats change and new distribution and migration patterns develop. New animal species may become established as the climate becomes more favourable for them. All these changes will affect the stability of our ecosystems.

Sustainability is a key feature of any healthy ecosystem. This requires that the ecosystem can maintain its function and make-up even in the face of stressful change. Actions that help maintain or improve the health of ecosystems can lessen the impact of climate change. These actions can include efforts to add additional habitat, reduce fragmentation of habitat, and enhance biodiversity (i.e., the variety of all living things present).

## NEW ACTIONS

### Government will:

7. increase the province's protected land base in order to connect habitats and enhance biodiversity; and
8. increase collaboration with watershed groups and other community organizations, building local capacity to improve habitat resilience.

# Reducing Greenhouse Gas Emissions

Prince Edward Island's GHG emissions were 1.8 million tonnes of carbon dioxide equivalent (CO<sub>2</sub> eq) in 2016. On a per-capita basis, Prince Edward Island is among the lowest emitters in Canada at 12 tonnes per person.

Prince Edward Island's emissions come primarily from five areas: transportation, agriculture, buildings, industry, and waste (Figure 1). Transportation accounts for almost half of our GHG emissions. Many of these emissions come from passenger vehicles, such as cars, trucks, and SUVs. Transport trucks, airplanes, boats, and recreational vehicles also produce emissions.

Agriculture is our second largest source of GHG emissions. Most farm-related emissions come in the form of methane and nitrous oxide, which are among the most potent GHGs. Methane emissions are mostly from livestock (e.g., cattle belching) and manure. Nitrous oxide emissions come from the use of nitrogen fertilizers in crop production.

Using fossil fuels to heat and cool our buildings accounts for less than 20 per cent of Prince Edward Island's emissions. This includes homes, businesses, schools, hospitals, and other institutions. Industries also produce emissions during the manufacture and processing of goods.

The disposal and treatment of waste, including municipal solid waste, compost, and wastewater, can produce GHGs. Garbage that is buried in landfills, for example, produces methane when it breaks down.

Estimated GHG emission reductions associated with the following actions are provided in Appendix 3.

Where do our greenhouse gases come from?

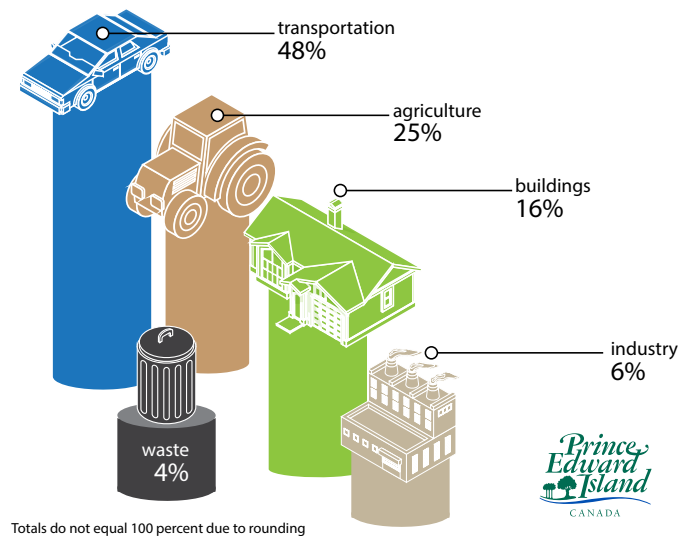


Figure 1

## On-going Initiatives

### Government is currently:

- constructing efficient roadways and roundabouts that save motorists time and money by reducing idling and emissions;
- diverting more waste per person from landfill than any other province;
- using sustainably harvested biomass (e.g. wood) to heat schools, hospitals, and other government facilities; and
- increasing the energy efficiency of new buildings through the adoption of the National Building Code and the National Energy Code for Buildings.

# Commitment #2

Government, together with residents, businesses, and industries, will reduce provincial greenhouse gas emissions by 30 per cent below 2005 levels by 2030.

## Furnace Oil Usage & Trend

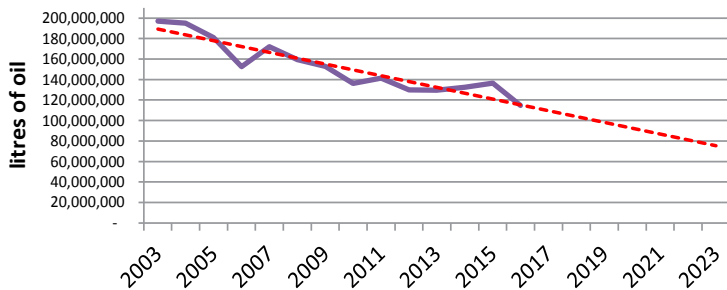


Figure 2

## NEW ACTIONS

### Government will:

9. provide Island residents, businesses, industries, and municipalities with more opportunities to reduce their energy consumption and switch to lower-carbon energy systems and technologies by offering new and expanded programs and services through **efficiencyPEI**; and
10. encourage the design of efficient and resilient communities through the development of a provincial land use policy.

## - Built Environment -

There are many ways to reduce GHG emissions in both new and existing buildings. Over half of the energy we use in our homes is wasted (e.g. heat loss from homes). The most effective method of reducing emissions is to make buildings more efficient.

Most homes and buildings in Prince Edward Island still heat with home heating oil—a carbon-intensive fossil fuel. Switching how we heat our homes and buildings is an effective way to reduce emissions. This can include switching fuels or installing new, more efficient heating equipment. Using heat pumps (geo-thermal or air source) and burning wood are both alternative ways to heat our homes while producing fewer

emissions. Existing programs have helped decrease furnace oil usage (Figure 2). Appendix 4 lists the programs **efficiencyPEI** will be offering to help Islanders reduce their GHG emissions.

We can also take important steps toward addressing climate change through the design of our communities. Land use planning helps direct how we move around and design our cities, towns, and communities. Planning can be a powerful tool to help reduce GHG emissions by ensuring that communities are walk-able and transit friendly. In well-designed communities, people live close to the places they work, shop, and visit, encouraging healthier and more active lifestyles.

## NEW ACTIONS

### Government will:

11. develop initiatives that contribute to a more sustainable transportation system; and
12. design and install a province-wide electric vehicle charging network to meet the needs of both residents and visitors to Prince Edward Island.

## - Sustainable Transportation -

Sustainable forms of transportation include walking, biking, public transport, and driving low or zero emission vehicles. Where walking and biking are not possible and a vehicle is required, a fuel-efficient or electric vehicle is a viable alternative. Electric vehicles require less maintenance than conventional gasoline and diesel powered vehicles, are less expensive to run (e.g., saving \$1,500-\$2,000 per year on fuel), and eliminate GHG emissions and other forms of air pollution.



## NEW ACTIONS

### Government will:

13. install 20 additional biomass heating systems in public buildings;
14. increase the use of electric vehicles in its light-duty vehicle fleet; and
15. implement a greening government program, including the development of a GHG emissions inventory for government, energy efficiency upgrades to provincial buildings, improved fuel efficiency of its vehicle fleet, and a commitment to green procurement.

Over 1/2 million passengers rode the Charlottetown transit system in 2017, and ridership is growing each year.

## - Government Leadership -

The Climate Change Action Plan signals our government's continued commitment to reduce greenhouse gases in its own operations.

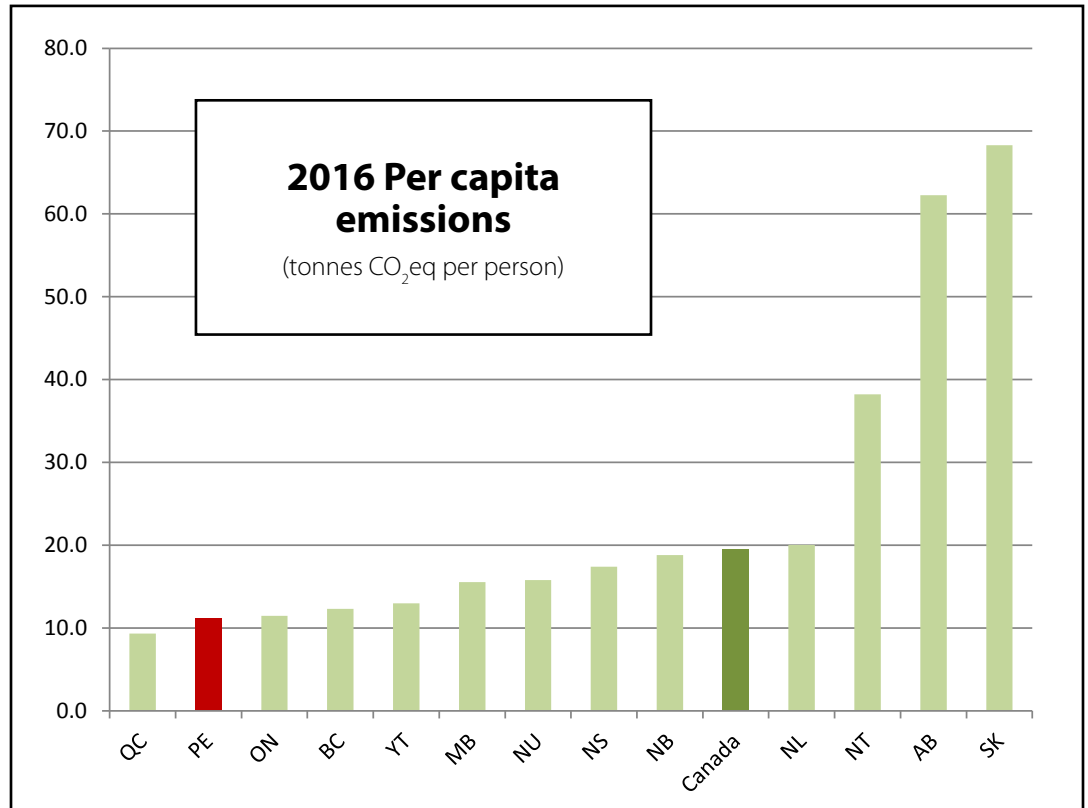
Over the past several years, 29 public buildings have been converted to biomass heating systems, greatly reducing the GHG emissions from these facilities. Heating is not the only area where government can improve its operations. Areas such as vehicle fleet management, green procurement, and energy conservation can yield significant emission reductions.

## - Carbon Pricing -

Carbon pricing is an economic tool whereby a relative financial cost is applied to the use of fuels that contain carbon. The cost signal provided through relative carbon pricing is designed to encourage people to use less of these fuels and move to more environmentally friendly options.

In the fall of 2016, the Government of Canada announced that all provinces will be required to adopt some form of carbon pricing to achieve carbon mitigation goals. Prince Edward Island has sought a pricing solution that meets the objective of moving people away from carbon-intensive consumption and keeps a level field with our regional neighbours.

A first step has been to decrease the relative price of electric heating in homes. This 10% price reduction results in an overall \$7.3 million per year in pricing differential and provides a clear price signal to encourage clean energy over carbon-intensive uses in home heating consumption.



As a province, PEI has the lowest overall emissions in Canada and is the 2<sup>nd</sup> lowest per capita emitter.

We continue to work to achieve the goals of the Pan-Canadian Framework for Clean Growth and Climate Change and being alert to regional and national objectives, including an overall approach to carbon pricing that makes sense for the residents and economy of Prince Edward Island. As a province, PEI is the smallest emitter in Canada and has the second lowest per capita emissions.

### NEW ACTIONS

#### Government will:

16. Work to achieve the goals of the Pan-Canadian Framework and, through relative pricing on cleaner energy, mitigation efforts and clean growth, building on PEI's existing record of low emissions.
17. Adopt the federal backstop for industrial emitters.
18. Ensure exemptions are applied to marked fuel in the agriculture and fisheries sectors.

# Carbon Sequestration



We can use carbon sequestration to remove GHGs from the atmosphere. As we plant more trees, more carbon is absorbed by them.

Trees, plants, soils, and wetlands have the ability to absorb carbon dioxide from the atmosphere. Trees store carbon as biomass (trunks, branches, roots and leaves). The removal and storage of carbon from the atmosphere is called carbon sequestration.

We can use carbon sequestration to remove GHGs from the atmosphere. As we plant more trees, more carbon is absorbed by them. This will offset the amount of GHGs we will need to reduce elsewhere in order to meet our GHG emission reduction target.

However, trees do not store carbon indefinitely. Some of the carbon stored in our woodlands and forests is released back into the atmosphere when trees die and decompose. Forest fires will also release the sequestered carbon back into the atmosphere. These factors must be considered when using carbon sequestration to help contribute to our GHG emission reduction target.

Estimated carbon sequestration associated with the following actions is provided in Appendix 3.

## On-going initiatives

### Government is currently:

- partnering with non-profit environmental groups to assist in the purchase and protection of new natural areas;
- growing about 750,000 trees and shrubs each year, including over 30 different species in a variety of sizes, for reforestation efforts on public and private lands; and
- partnering with over 425 farmers and landowners, through the community-developed, farmer-delivered Alternative Land Use Services Program, to achieve environmental outcomes, including carbon sequestration.



# Commitment #3

Government will work to protect and enhance the ecosystem, while encouraging practices that increase carbon sequestration.



## NEW ACTIONS

### Government will:

19. reforest areas, targeting abandoned or marginal agricultural land to increase biodiversity and enhance carbon sequestration;
20. model and report province-wide carbon sequestration in the State of the Forest Report; and
21. increase support for existing funding programs such as the Alternative Land Use Services (ALUS) program and the Forest Enhancement Program (FEP) to expand carbon sequestration opportunities and enhance resilience.



## Education and Capacity Building

In order for Islanders to respond effectively to the challenges associated with climate change, we will all need to increase our awareness of the issues at hand, and to build upon our strengths and skill sets. New education and training opportunities need to be provided to students, professionals, community groups, and other stakeholders who are involved in the work of addressing climate change. All Islanders—communities, businesses, and residents alike—will be encouraged to play their part.

### On-going initiatives

#### Government is currently:

- sponsoring workshops, seminars, and activities to improve climate change awareness;
- promoting the Coastal Community Adaptation Toolkit, a product that helps communities identify engineering and land use planning solutions to adapt to climate change; and
- informing coastal property owners of current and future hazards by promoting the PEI Coastal Property Guide.

# Commitment #4

Government will help Islanders understand and take responsibility for the environmental impacts of their actions by developing education programs and integrating climate change principles into learning environments.

## NEW ACTIONS

### Government will:

22. develop initiatives to inform, educate, and motivate Islanders about the many implications of climate change;
23. incorporate climate change principles and issues into the K-12 learning environment;
24. enhance capacity amongst engineers, planners, emergency management personnel, and other practitioners by supporting learning opportunities that integrate climate change considerations into their professional development;
25. integrate climate change considerations in its policies, procedures, decisions, long term strategies and financial planning. Government will also support similar integration at the municipal level of government;
26. develop and share coastal hazard maps incorporating the latest information on future sea level rise, storm surge, and coastal erosion; and
27. facilitate and support sharing of information, knowledge, and best practices that will enable sectors and disciplines to learn from each other.

# Research and Knowledge Building

Research, monitoring, and adoption of new technologies and innovative approaches all have an important role to play in advancing our efforts to reduce GHG emissions and adapt to a changing climate.

New technologies and innovative approaches are needed in many of our economic sectors. In agriculture, for example, barriers exist that prevent widespread adoption of solutions such as nutrient stewardship, conservation cropping, and livestock feeding strategies.

Accurate and accessible climate-related information and knowledge, including

Traditional Knowledge, will form the foundation of our efforts to address climate change. Although monitoring networks currently exist, expanded monitoring networks and approaches are needed to further develop hazard maps and conduct risk assessments. These will help identify our most threatened locations, economic sectors, and day-to-day activities, and show us where to act first.

## On-going initiatives

### Government is currently:

- supporting the UPEI Climate Lab's coastal erosion monitoring network, including the use of drone imagery and analysis;
- studying the electricity rate-structure in order to maximize benefits from renewable sources of electricity and accommodate future electrification of the transportation system;
- monitoring and ensuring that well field extraction rates maintain surface water flow in streams and wetlands, and groundwater extraction practices protect groundwater and surface water resources now and into the future; and
- collaborating with the UPEI Climate Lab to inventory and evaluate the effectiveness of shoreline protection strategies.

# Commitment #5

Government will work with Indigenous, provincial, and regional partners to advance climate change research and knowledge in Prince Edward Island.

## NEW ACTIONS

### Government will:

28. explore opportunities to integrate Traditional Knowledge into provincial adaptation approaches;
29. support research, monitoring, and modeling of climate change through local and regional partnerships;
30. assess future climate impacts upon sectors and stakeholders to help prioritize efforts to adapt to climate change;
31. deploy new tide monitoring stations to better measure storm surge and sea level rise; and
32. consult with farmers to develop a series of farm practices that reduce GHG emissions and better sequester carbon. Farm-specific GHG reduction plans will be piloted on 20 to 30 participating farms.





Currently, 24 per cent of the province's electricity is provided by locally generated wind energy, making Prince Edward Island a world leader in this respect.

# MEASURING AND REPORTING SUCCESS

This Action Plan outlines the actions Government will implement to adapt to a changing climate and reduce our GHG emissions. In the weeks, months, and years to come, implementation plans will be developed for each action item. These plans will provide more detailed information on each action, including who will lead its implementation, when it will be completed, and how its success will be measured.

## Meeting our Target

Our new GHG emission reduction target—30 per cent below 2005 levels by 2030—will serve as a key indicator, measuring the success of efforts to reduce emissions. Meeting our target will require annual emissions to decrease to less than 1.4 million tonnes (Mt) of CO<sub>2</sub>e by 2030. On-going initiatives are expected to reduce annual emissions to 1.6 Mt of CO<sub>2</sub>e by 2030.

The actions in the Climate Change Action Plan are expected to further reduce annual emissions by 0.2 Mt of CO<sub>2</sub>e by 2030 (see Appendix 3). These, along with future actions, will ensure we meet the target.

## Annual Reporting

Reporting our progress to the public will ensure transparency and provide an opportunity to change course if needed. It will allow government and others to gauge where we are and how far we still have to go. The annual updates will be provided as a status report and posted on the Climate Change Action Plan webpage.



Our new GHG emission reduction target—30 per cent below 2005 levels by 2030—will serve as a key indicator, measuring the success of efforts to reduce emissions.





# DOING YOUR PART

We are all contributing to the warming of our planet. The good news is that we can all be part of the solution. We can make small or large changes that reduce our contribution to climate change and minimize

its impacts. In addition to protecting the environment, these changes can also help us save money and lead healthier lifestyles. The following tips are just some of the things we can all do to make a difference.

*We are all contributing to the warming of our planet.  
The good news is that we can all be part of the solution.*

**Grade your yard.** Ensure your lot is properly graded, so that water can drain away from your basement walls.

**Insulate your basement.** Insulating a basement can be one of the easiest ways to improve your home's energy efficiency, especially if it's an older home. You can save up to \$1,000 each year by making this change.

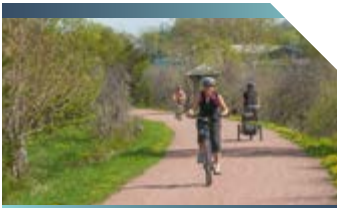
An insulated basement can prevent moisture problems and can also keep those rooms directly above warmer.

**efficiencyPEI's** Home Insulation Rebates program can provide support for these upgrades.

**Buy a fuel-efficient vehicle.** The next time you are in the market for a new vehicle, buy the most fuel efficient vehicle that meets your everyday needs. Choosing a smaller, fuel efficient vehicle can reduce your GHG emissions by up to one tonne of CO<sub>2</sub>e each year, and save money on fuel costs.

**Cover window wells.** Cover window wells to prevent water from accumulating and entering your home around basement windows. Transparent window well covers will still allow light to get in.





## Drive less

Use public transit, bike, walk, or carpool with a friend or neighbor. Prince Edward Island boasts extensive walking and biking trails. Daily municipal transit services are also available in Charlottetown, Cornwall, Stratford, and Summerside.



## Don't idle

If you stop for more than 10 seconds, except in traffic, turn off your engine. For more information, visit the Idle-Free Zone at <http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/idling/4397>



## Plant trees and shrubs

Planting trees and shrubbery can significantly reduce runoff during heavy rainfall events, especially if your property is sloped. These plants can also shade your home, making it more comfortable on hot, summer days.



## Use a rain barrel

Place rain barrels under roof downspouts to capture water from rainfall. This relieves pressure on your community's stormwater system and can reduce the likelihood of flooding. You can also use rain water on flower and vegetable gardens.

Choosing a smaller vehicle can reduce your GHG emissions by up to one tonne per year.

**Seal air leaks.** Use caulking and weather-stripping to seal air leaks around doors, windows, baseboards, attic hatches, and outlets. This can significantly reduce your heating costs, and save up to \$500 every year. **efficiencyPEI's** Winter Warming program offers a caulking and weather-stripping service free of charge to Islanders with annual household incomes of less than \$50,000. For more information, contact them at [efficiencyPEI@gov.pe.ca](mailto:efficiencyPEI@gov.pe.ca) or 1-877-734-6336 (toll free).

### Lower the thermostat.

Turn down the heat when you are away from home and at night. For every 1°C (2°F) you lower your thermostat, you save 2 per cent on your heating bill. A programmable or SMART thermostat can do this for you automatically.



# Appendix 1

## Climate Change Action Timeline

### 1981

**Atlantic Wind Test Site** was established in North Cape.

### 1983

**District heating system** (PEI Energy Systems) was developed. Biomass and solid waste combustion helps heat over 80 buildings in Charlottetown.

### 1984

**Waste Watch** began as a pilot program in East Prince. Today, Islanders each divert an average of 429 kg of waste from landfill each year.

### 2001

Conference of New England Governors and Eastern Canadian Premiers endorsed the **Climate Change Action Plan** outlining GHG emission reduction goals for the region and approaches for meeting those goals.

PEI Energy Corporation opens Atlantic Canada's first utility-scale **wind farm at North Cape**.

### 2004

**Energy Framework and Renewable Energy Strategy** was released with 19 action items, many focused on advancing the incorporation of renewable energy into the provincial energy mix.

### 2005

**Charlottetown Transit** system was launched. Over 1/2 million passengers rode the Charlottetown system in 2017.

### 2007

30 MW **wind farm began operation in East Point**. The clean electricity produced at this site displaces the same amount of GHG emissions as that produced by 16,000 cars each year.

### 2008

Prince Edward Island's **Alternative Land Use Services (ALUS) program** was launched. It remains the only provincially supported, province-wide ecological goods and services program in Canada.

Prince Edward Island and Climate Change - **A Strategy for Reducing the Impacts of Global Warming** was released.

**Office of Energy Efficiency** opened. Now called **efficiencyPEI**, it has helped save Islanders over \$9 million on their energy bills.

### 2009

Prince Edward Island co-founded the **Atlantic Climate Adaptation Solutions Association (ACASA)**, a regional government collaborative to address climate change impacts.



## 2011

**PEI Energy Accord** took effect. The Accord started plans for a new provincial cable, invested in the clean power of Point Lepreau, and ended our relationship with the coal-fired Dalhousie power plant.

## 2012

**Cavendish Farms switched to natural gas**, achieving a 28 per cent reduction in GHG emissions.

## 2014

Government partnered with UPEI Climate Lab to begin **monitoring coastal erosion** at over 100 sites across Prince Edward Island.

## 2015

Prince Edward Island supported Canada's position in the development of the **Paris Agreement**, the most recent international agreement from the United Nations Framework Convention on Climate Change.

Prince Edward Island signed onto **RegionsAdapt**, which facilitates collaboration between state and regional governments to reduce the risks of climate change and contribute to resilience.

## 2016

The **PEI Coastal Property Guide** was released to help coastal property owners understand current and future hazards.

Prince Edward Island signed onto the **Vancouver Declaration** committing provinces and territories to ambitious action on climate change.

Canada became a signatory to the **Paris Agreement** in 2016, agreeing to the foundation of actions to combat climate change, at national and sub-national levels, beginning in 2020.

Prince Edward Island established a **Climate Change Secretariat**.

Prince Edward Island signed onto the **Pan-Canadian Framework** for Clean Growth and Climate Change, after chairing the Adaptation and Climate Resilience Working Group.

## 2017

Prince Edward Island **Provincial Energy Strategy** 2016/2017 was released.

Conference of New England Governors and Eastern Canadian Premiers released an updated **climate change action plan**.

A **Water Act** for Prince Edward Island was created to protect, conserve and enhance the province's water resources.

# Appendix 2

## Climate Change Policy Documents

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### **Prince Edward Island Provincial Energy Strategy 2016/2017**

[www.peiec.ca/uploads/6/6/6/4/66648535/pei\\_energy\\_strategy\\_march2017\\_web.pdf](http://www.peiec.ca/uploads/6/6/6/4/66648535/pei_energy_strategy_march2017_web.pdf)

### **2017 Update of the New England Governors and Eastern Canadian Premiers Regional Climate Change Action Plan**

[www.coneg.org/Data/Sites/1/media/documents/reports/2017-rccap-final.pdf](http://www.coneg.org/Data/Sites/1/media/documents/reports/2017-rccap-final.pdf)

### **Pan-Canadian Framework on Clean Growth and Climate Change (2016)**

[www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html](http://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html)

### **Vancouver Declaration (2016)**

<https://pm.gc.ca/eng/news/2016/03/03/communique-canadas-first-ministers>

### **Paris Agreement (2015)**

<https://unfccc.int/process/the-paris-agreement/what-is-the-paris-agreement>

### **RegionsAdapt (2015)**

<http://www.nrg4sd.org/climate-change/regionsadapt/>

### **Prince Edward Island: Planning for a Sustainable Future - A Time For Questions (2012)**

[www.gov.pe.ca/photos/original/susfuture.pdf](http://www.gov.pe.ca/photos/original/susfuture.pdf)

### **PEI Energy Accord: Backgrounder (2010)**

[www.gov.pe.ca/photos/original/energyaccord.pdf](http://www.gov.pe.ca/photos/original/energyaccord.pdf)

### **Prince Edward Island and Climate Change: A Strategy for Reducing the Impacts of Global Warming (2008)**

[www.gov.pe.ca/photos/original/env\\_globalstr.pdf](http://www.gov.pe.ca/photos/original/env_globalstr.pdf)

### **Prince Edward Island Energy Strategy. Securing our Future: Energy Efficiency and Conservation (2008)**

[http://www.gov.pe.ca/photos/original/env\\_snergyst.pdf](http://www.gov.pe.ca/photos/original/env_snergyst.pdf)

### **Island Wind Energy Securing our Future: The 10 Point Plan (2008) http://**

[www.gov.pe.ca/photos/original/wind\\_energy.pdf](http://www.gov.pe.ca/photos/original/wind_energy.pdf)

# Appendix 3

## Estimated GHG Emission Reductions

This table provides estimated annual GHG emission reductions and removals that will be achieved in 2030 by this five-year Action Plan. Future measures beyond the life of this Plan are expected to reduce GHG emissions further.

Action		Description	Estimated Annual Emission Reductions or Removals in 2030 (tonnes CO <sub>2</sub> eq)
Energy Efficiency	#9	uptake of <b>efficiencyPEI</b> 's home and business energy efficiency programs	140,000
Efficient Communities	#10	adoption of land use planning policies that encourage compact development and co-location of people and service centres	TBD <sup>1</sup>
Sustainable Transportation	#11	implementation of new sustainable transportation options	TBD <sup>1</sup>
Electric Vehicles	#12 & #14	expanded electric vehicle charging infrastructure and promote the adoption of electric vehicles	20,000
Biomass Heating	#13	installation of 20 biomass heating systems in government buildings	4,000
Greening Government	#15	reduced energy use in provincial government facilities through <b>efficiencyPEI</b>	6,000
Carbon Pricing	#16	an economic tool whereby a relative financial price is applied to the use of fuels that contain carbon	TBD <sup>1</sup>
Forest Planting	#17	establish new forests on abandoned and marginal agricultural land	10,000
ALUS and FEP	#19	Increase support for these programs to expand carbon sequestration opportunities	TBD <sup>1</sup>
<b>TOTAL</b>			<b>180,000</b>

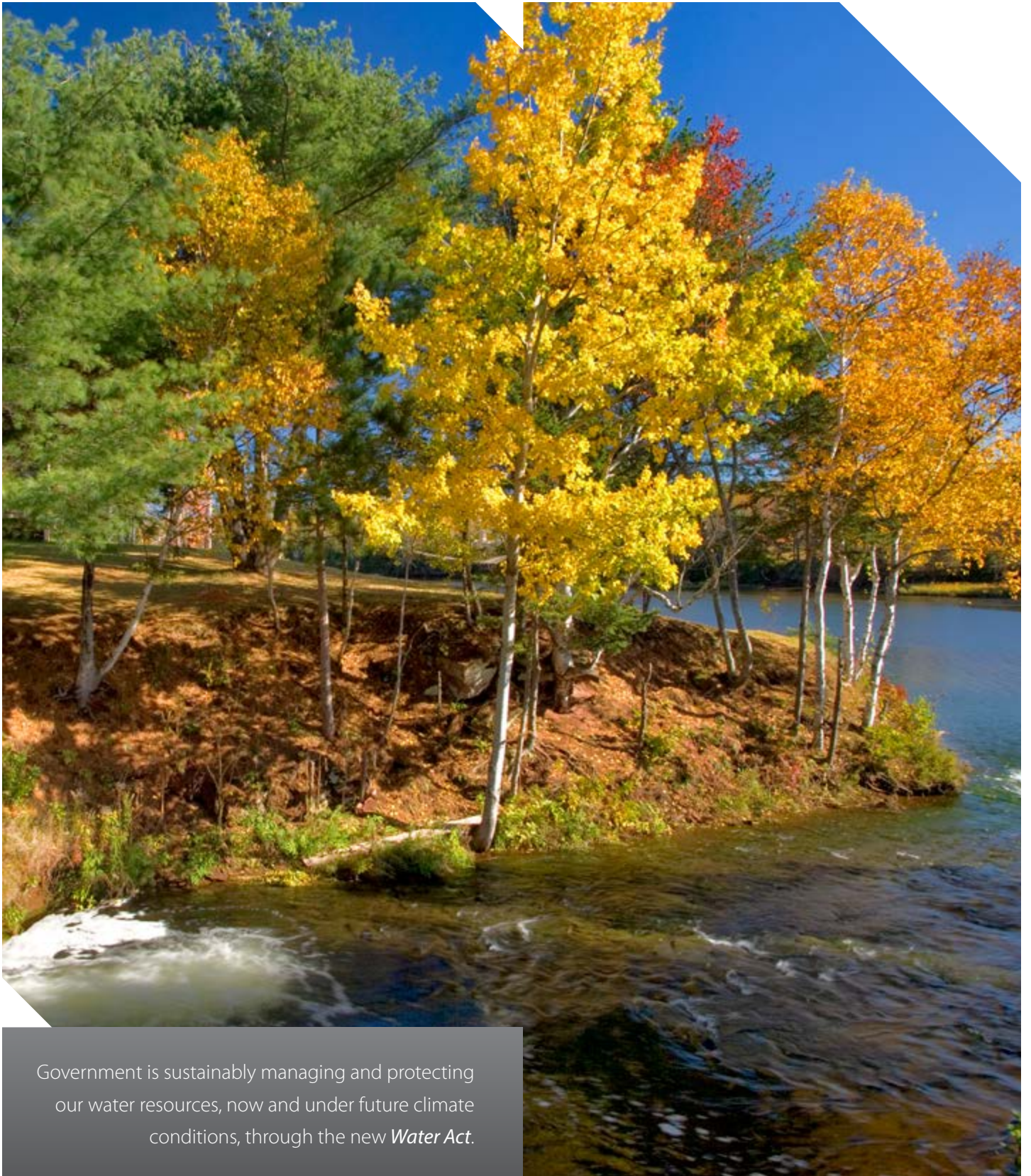
# Appendix 4

## Energy Efficiency and Fuel Switching Programs



Program	Description
<b>Home Energy Assessment</b>	This program incentivizes building envelope upgrades (insulation, air sealing) and provides homes with an EnerGuide rating. Pre and post energy audit is required (\$99+HST to homeowners).
<b>Home Comfort</b>	Offered in conjunction with the Department of Family and Human Services (FHS) Home Renovation Program, this program provides comprehensive energy upgrades to low-income clients free of charge. All clients who are approved through FHS receive an energy audit, and energy-saving measures are implemented free of charge.
<b>Home Insulation Rebates</b>	This program provides rebates for building envelope upgrades (insulation, air sealing, windows, doors). Pre and post energy audit is required (\$99+HST to homeowners).
<b>Energy Efficient Equipment Rebates</b>	This program provides rebates for energy efficient equipment upgrades (heating systems, heat pumps). No energy audit is required.
<b>Business Energy Rebate</b>	This program provides mail-in rebates for approved equipment for businesses/agriculture. Rebates are promoted in-store and by contractors, but processed at <b>efficiencyPEI</b> .
<b>Winter Warming</b>	Previously the Home Energy Low Income Program (HELP), this program assists clients with household income of less than \$50,000, beginning with a 20 minute discussion with the homeowner about energy efficiency and programs. The clients then receive air sealing, weather-stripping, programmable thermostats, replacement of all non-LED bulbs, electric hot water tank and pipe wrap, and attic hatch insulation. Assistance is provided free of charge.
<b>On-site Energy Manager</b>	This program makes available <b>efficiencyPEI</b> staff that are dedicated to specific industries/sectors. Staff work directly with clients on-site to identify opportunities and manage upgrades and projects. This program is likely to be delivered as part of the Custom Energy Solutions program.
<b>Government Biomass and Efficiency Programs</b>	This program targets government facilities through funding for projects to reduce energy consumption, assistance to install biomass systems (chips or pellets), and support for energy efficiency upgrades.
<b>Instant Savings</b>	This program provides point of sale/in-store discounts on efficient products. Discounts for lighting and small appliances will be offered periodically While discounts for large appliances will be available year round.
<b>Business Energy Solutions</b>	This program complements the rebates available under Business Energy Rebates program by providing coverage for energy audits, larger equipment, and envelope upgrades. This customized and interactive program targets businesses and the agriculture sector.
<b>Custom Energy Solutions</b>	This program provides customized energy savings options for businesses and the agriculture sector, including the deployment of an On-site Energy Manager (OEM). This program focuses on industrial processes and equipment development.
<b>Community Outreach and Marketing</b>	This program includes ongoing outreach to the public as well as key industries/stakeholders (businesses, builders, contractors) as programming continues to expand.

For more information contact **efficiencyPEI** toll-free at 1-877-7634-6336 or [efficiencypei@gov.pe.ca](mailto:efficiencypei@gov.pe.ca)



Government is sustainably managing and protecting our water resources, now and under future climate conditions, through the new *Water Act*.

# From small things, big things come



There is no longer any doubt that our climate is changing and this presents a number of challenges for Prince Edward Island. It drives where we build our homes and businesses, what crops and shellfish we harvest, and all aspects of our economy. This is not a distant problem—one that we can avoid dealing with for years or decades to come.

The good news is that there are practical solutions for Islanders. The actions from this document will help each and every one of us prepare for a changing climate and reduce our greenhouse gas emissions. As an island province, we are in the unique position to see how climate change impacts us, and how the results of our actions can make a difference.

As we insulate our houses, we are saving ourselves money and reducing our emissions at the same time. We have the opportunity to make significant changes, and history shows that our small population does not deter us from doing great things.

## *The Mighty Island*

**This action plan is meant to benefit Islanders,  
it is now up to all of us to make the changes we need to.**

**[princeedwardisland.ca/climatechange](http://princeedwardisland.ca/climatechange)**

