

Our Climate, **OUR FUTURE**

Nova Scotia's Climate Change Plan
for Clean Growth

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Nova Scotia's Climate Change Plan for Clean Growth

Department of Environment and Climate Change
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Contents

- Minister's Message** 1
- Our Climate, Our Future: Nova Scotia's Climate Change Plan for Clean Growth**3
- Facing the Climate Emergency Together** 9
 - Section 1: Responding to Climate Impacts**..... 10
 - Increasing access to climate data and information 12
 - Building capacity for planning and implementation 13
 - Minimizing climate impacts by restoring natural areas and ecosystems..... 14
 - Section 2: Reducing Our Greenhouse Gas Emissions** 15
 - Creating a clean electricity system 18
 - Reducing our demand for energy 19
 - Helping Nova Scotians get off home heating oil and reduce home heating costs..... 20
 - Fast-track the transition to net-zero and climate resilient buildings 21
 - Creating cleaner transportation options 22
 - Section 3: Seizing Opportunities for a Cleaner Sustainable Economy**.. 23
 - Building on and expanding partnerships with experts 24
 - Developing skills for the clean economy..... 25
 - Helping our communities take action on climate change 26
 - Supporting sustainable growth in innovative clean technologies and services 27
 - Section 4: Reporting and Evaluating Progress**..... 29
- The Path Ahead**..... 31
- Appendices** 33
 - Appendix A: Full list of actions in Our Climate, Our Future: Nova Scotia's Climate Action Plan** 35
 - Appendix B: Links to Resources and Programs** 42

Minister's Message



The climate is changing and all Nova Scotians are feeling the effects of it. We need to act, and we need to act now.

We need to take a holistic view and recognize that climate change will affect us in many ways. Responding to climate change requires a coordinated and collective effort from all of us.

Reducing greenhouse gas emissions here in Nova Scotia is a critical part of the global effort to slow climate change. Collective worldwide efforts will determine the kind of climate we'll experience in the future and our province needs to do its part.

At the same time, we need to improve our ability to be responsive and prepared for changes in the climate that will impact us to avoid further damages and losses.

This climate change plan outlines our next steps to reach a sustainable future. This continues our work to meet the 28 ambitious goals in the *Environmental Goals and Climate Change Reduction Act*, which we introduced as one of our first actions as a government.

We are well on our way to meeting our 2030 greenhouse gas emissions reduction target – the strongest target in the country.

This plan represents our government's commitment to develop, coordinate, and lead actions that promote sustainable prosperity for all Nova Scotians.

Actions to protect more land, the air we breathe, and to increase access to energy efficient homes and active transportation will improve the health and well-being of Nova Scotians.

This plan is a starting point for a new focus on climate action. It will require collaboration and contributions from individuals and organizations across the province. It will create jobs, make lives more affordable, and strengthen our communities.

Together, we have an opportunity to make positive change and work together to protect each other and all that we value.

A handwritten signature in blue ink, appearing to read 'T. Halman'. The signature is fluid and cursive.

Honourable Timothy Halman

Minister of Environment and Climate Change



Our Climate, Our Future

Nova Scotia's Climate Change Plan for Clean Growth

Nova Scotia is facing a climate emergency and there is an urgent need for action. Greenhouse gas emissions from human activity are building up in our atmosphere. This has led to the changes in our climate we are seeing today and will continue to see for decades to come. Our government is committed to developing, investing, and coordinating action on climate change. We have made that clear by setting ambitious goals to develop a sustainable future in the *Environmental Goals and Climate Change Reduction Act*.

Our Climate, Our Future

Nova Scotia's Climate Change Plan for Clean Growth

Guiding Principles

The *Environmental Goals and Climate Change Reduction Act* was passed in 2021. It has 28 goals that address the climate emergency by reducing greenhouse gas emissions, growing the green and circular economies, improving the health and sustainability of Nova Scotia's environment, and moving to clean, renewable energy.

One of these goals is to create a climate change plan that guides this work.

This is that plan.

This plan is based on the same principles that the *Environmental Goals and Climate Change Reduction Act* is based on:

- **Netukulimk:** defined by the Mi'kmaq as the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community by achieving adequate standards of community, nutrition, and economic well-being without jeopardizing the integrity, diversity, or productivity of the environment.
- **Sustainable development:** development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.
- **A circular economy:** an economy in which resources and products are kept in use for as long as possible, with the maximum value being extracted while they are in use and from which, at the end of their service life, other materials and products of value are recovered or regenerated.
- **Equity:** the recognition of people's differences and the attempt to counteract unequal opportunities by considering fairness and justice.

Climate change can have direct impacts on our physical and mental health through increased exposure to extreme weather events like flooding, heat waves, and illnesses carried by insects. High levels of greenhouse gas emissions can lower our air quality, leading to more cases of asthma or other breathing difficulties. More frequent storms and coastal flooding impacts our homes, communities, and threatens our livelihood. Extreme weather events like droughts, flooding, and ocean acidification can impact our agriculture and fisheries sectors and reduce access to locally grown or harvested healthy foods. The anxiety and stress that is attached to these impacts can harm our mental health. By responding to climate change, we can help protect the health of Nova Scotians. We can also reduce our vulnerability to the impacts of climate change by preparing our health-care system so we can better respond to the risks of climate change.



Nova Scotians want action on climate change to protect our environment, our economy, our well-being, and our quality of life. This climate change plan is our government's commitment to act. It will guide us to a sustainable and healthier future for Nova Scotians by

- identifying how Nova Scotians can partner with each other and their communities to prepare for and respond to the impacts of climate change
- outlining how we will meet our 2030 greenhouse gas emissions reduction target and put ourselves on a pathway to being net-zero by 2050
- positioning Nova Scotians to capitalize on opportunities in the clean economy

The climate change plan will build on the leadership of the government, individual Nova Scotians, businesses, and communities across the province. Our government is committed to supporting Nova Scotians to take action to reduce their greenhouse gas emissions and respond to the impacts of climate change. Actions to date include, but are not limited to the following:

Actions to Date in Responding to Climate Impacts

- Completing the latest provincial climate change risk assessment.
- Creating the Sustainable Communities Challenge Fund in partnership with the Nova Scotia Federation of Municipalities.
- Supporting flood line mapping in communities throughout Nova Scotia.
- Partnering to launch CLIMAtlantic, a regional climate change data services centre, with the federal government and other Atlantic provinces.
- Partnering to create the Climate Adaptation Leadership Program, a program to help develop and implement climate adaptation strategies for government and industry, with the federal government.
- Passing the *Coastal Protection Act* to protect the province's coastline.
- Designating Owls Head Provincial Park as a provincial park.
- Upgrading 60km of dykeland sites in the province to prevent flooding.

Actions to Date in Reducing Greenhouse Gas Emissions

- Legislating the phase out of coal-fired electricity generation and a requirement to have 80 per cent of electricity being generated from renewable sources by 2030.
- Procuring 372MW of new wind power, which means that 70 per cent of electricity will come from renewable sources by 2026.
- Setting a target of 5GW of offshore wind by 2030 to support green hydrogen projects.
- Passing legislation to enable the development of green hydrogen projects, expand solar energy, and to build on Nova Scotia's leadership in energy efficiency programming.
- Helping Nova Scotians save more than \$180 million on their electricity bills annually, with over \$1 billion in customer bill savings since 2011.
- Helping over 20,000 low-income families reduce their energy bills and greenhouse gas emissions through the HomeWarming program.
- Supporting 2,600 jobs in Nova Scotia's energy efficiency sector.
- Helping over 2,400 homes generate their own renewable energy through solar installations and net metering, which has also created over 400 jobs.
- Helping Nova Scotians purchase over 1,000 electric and plug-in hybrid vehicles, as well as over 3,500 e-bikes, through the Electrify Nova Scotia Rebate Program and creating a provincial electric charging infrastructure network.

The climate change plan actions were developed using feedback provided by Nova Scotians through a broad consultation process. The What We Heard Report can be accessed at cleanfuture.ca. In total, 1,478 individuals and organizations responded, 136 people attended workshops, and 1,342 submissions containing more than 5,600 individual ideas were shared through the consultation.

The climate change plan is our government's commitment to collaborate with Nova Scotians to develop a sustainable future for our province. The climate change plan's actions are grouped into the following areas:

1. Responding to climate impacts
2. Reducing our greenhouse gas emissions
3. Seizing opportunities for a cleaner sustainable economy
4. Reporting and evaluating progress

There are multiple benefits to taking action on climate change. While the actions in this climate change plan are presented in the four areas above, they do more than just reduce our emissions or help us prepare for the impacts of climate change. For example, energy efficiency upgrades to our homes reduce greenhouse gas emissions and lower our energy bills. But these upgrades, like insulating our homes or installing heat pumps, can also keep our homes cooler in response to more frequent and longer heat waves. This results in better health outcomes for Nova Scotians.

Facing the Climate Emergency Together

The climate change plan has **68 actions** that were informed by the climate change risk assessment, conversations with Nova Scotians, and local opportunities for action. The climate change plan builds on our past work by strengthening current programs and supporting new projects. This plan will help us reach our goals under the *Environmental Goals and Climate Change Reduction Act*.

The climate change plan will help more Nova Scotians reduce their greenhouse gas emissions, save on their energy bills, and prepare for the impacts of climate change. This is important for the health and well-being of every Nova Scotian and for the communities we call home. But we also know that not all Nova Scotians have the same ability to participate in reducing their greenhouse gas emissions due to barriers in accessing supports and concerns over affordability. We will need to support all Nova Scotians and build strong partnerships to reach our goals. That is why our climate change plan includes commitments to work with individual Nova Scotians, businesses, communities, and other jurisdictions. By building partnerships, we will make sure everyone has opportunities to reduce their greenhouse gas emissions and better prepare for the impacts of climate change.



SECTION 1:

Responding to Climate Impacts

Nova Scotians are already experiencing the effects of climate change. And these effects will continue to grow well into the next century. Nova Scotia's climate change risk assessment, *Weathering What's Ahead*, helps us to understand how our climate is changing, impacts and risks of concern, and the opportunities to take action.

As greenhouse gases continue to be emitted, Nova Scotians will be at even greater risk of impacts of climate change such as

- inland and coastal flooding
- illnesses carried by insects or other animals
- extreme temperatures and their potential to harm food production, roads and rails, human health, and ecosystems
- wildfires



Climate change adaptation is about understanding how the climate is changing and how these changes impact us. This helps us to act early to manage damages and risks. It is also about seeing new local and global opportunities for economic development, jobs, health care, research, education, and other social supports. To adapt to climate change, we need to communicate climate risks and opportunities widely, and we need to partner with individuals, businesses, and communities across Nova Scotia to prepare and respond. How we adapt to climate change will look different in every community, and it will change over time as new information becomes available and we begin to experience new changes and impacts.

Nova Scotia needs to prepare

If our greenhouse gas emissions continue to increase at current levels, Nova Scotia's climate will continue to change in the following ways:

It will get warmer

- 2.5 °C warmer by mid-century and up to 4.5 °C by the end of the century. Higher temperatures mean increased impacts from heat waves.

Precipitation patterns will continue to change

- An average of 10 per cent more precipitation per year by the end of the century, with more rainfall and less snow. Higher intensity rain means increased risk of flooding.

Our oceans will continue to change

- Increased ocean temperatures pose harm to habitats and species and ocean acidification can lower the productivity of ocean waters.

Storms will continue to become more intense and frequent

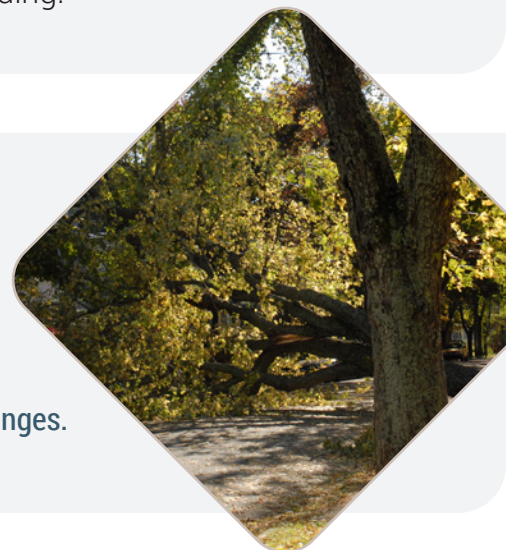
- A warming climate will mean more tropical storms for Atlantic Canada, with higher peak wind speeds and more powerful storm surges.

Sea levels will continue to rise

- Sea levels around Nova Scotia are expected to rise by up to one metre by 2100, increasing the risk of coastal flooding.

Hurricane Fiona

Hurricane Fiona in September 2022 provides an example of the types of storms that will become more frequent because of climate change. We must act now to prepare our communities for these changes.



Increasing access to climate data and information

More data and information is needed to better understand the impacts of climate change. The climate change risk assessment has identified opportunities to continue to research the impacts of climate change across societies and ecosystems. New tools and resources are needed to help people access and use this data, and stronger communication is needed to give more Nova Scotians information on how they can prepare for and respond to climate change.

To increase access to climate data and information, our government will take the following actions:

1. Build on the research findings of the climate change risk assessment to better understand the risks identified and research important data and information gaps.
2. Improve municipal stormwater infrastructure by updating planning requirements and helping develop stormwater management plans.
3. Improve the quality and availability of water-resource data for better water-resource management and flood line mapping by upgrading provincial water monitoring networks.
4. Create a new fisheries and aquaculture climate change information hub to improve the sharing of climate change adaptation and greenhouse gas emissions reduction data and information in the fisheries and aquaculture sector.
5. Help homeowners understand and respond to climate risks such as flooding.
6. Review the infrastructure that Build Nova Scotia manages to assess climate risks and develop adaptation plans to reduce future damages from climate change.

Building capacity for planning and implementation

We need to develop and implement plans to help prepare communities and businesses for the impacts of climate change. Communities and businesses are often the first to experience the impacts of climate change, and they are usually the first to respond to events such as flooding, heat waves, and wildfires. It is important that communities and businesses across the province have the capacity and support needed to enable them to prepare for climate change.

To help communities and businesses build capacity to prepare for climate change, our government will take the following actions:

7. Increase climate change adaptation capacity across government by developing and implementing climate change adaptation strategies for all government departments.
8. Increase climate change adaptation capacity in communities and business sectors by supporting them in hiring their own climate change coordinators to help develop and implement climate change adaptation strategies.
9. Support the fisheries and aquaculture sector to complete climate change vulnerability assessments on important infrastructure and develop sector-specific adaptation plans.
10. Bring key partners together to plan for responses to multiple climate risks facing our natural, built, human, social, and financial systems.
11. Raise awareness of climate risks and adaptation priorities across Nova Scotia through public education and engagement on the results of the climate change risk assessment and other important climate change data and information.

Climate Adaptation Leadership Program

The Climate Adaptation Leadership Program is supporting business sector groups and provincial government departments in developing climate change adaptation strategies. Departmental adaptation strategies are part of the *Environmental Goals and Climate Change Reduction Act*. The program will now support these partners as they implement their strategies to strengthen department and sector-specific responses to climate change in areas such as electricity, archaeology, agriculture, and coastal parks.

Minimizing climate impacts by restoring natural areas and ecosystems

Climate change is contributing to sea-level rise, flooding, and coastal erosion. It poses an immediate risk to homes, communities, infrastructure, and ecosystems. Conserving and restoring natural spaces, like forests and wetlands, can help minimize the impacts of these changes, promote greater biodiversity, and lead to healthier ecosystems.

Ecosystems and Biodiversity

Natural areas, like forests and wetlands, can increase or maintain carbon storage; reduce the effects of climate change, such as flooding and erosion; help keep our air and water clean; and enhance habitats for wildlife. Protecting natural areas, maintaining natural connections across the landscape, and restoring degraded ecosystems helps to conserve biodiversity and promote healthier ecosystems across Nova Scotia. Through a new protected areas strategy and regulations under the *Coastal Protection Act*, this climate change plan will help us protect sensitive coastal and inland ecosystems and support sustainable development across the province.

To restore natural areas and ecosystems so they can help minimize climate impacts, our government will take the following actions:

12. Strengthen and coordinate responses to coastal and inland flood risk by investing in natural flood protection and implementing new regulations under the *Coastal Protection Act* in 2023.
13. Research natural carbon sinks to help offset any remaining greenhouse gas emissions needed to reach net-zero greenhouse gas emissions by 2050.
14. Protect at least 20 per cent of Nova Scotia's total land and water mass by 2030 through a new protected area strategy.
15. Invest in infrastructure and natural systems to manage heat stress, such as tree planting in urban areas or heat pumps/cooling centres to lower exposure to high temperatures for vulnerable Nova Scotians, and invest in ecosystem-based responses like coastal wetland restoration to help manage flooding.
16. Plant 21 million trees across Nova Scotia in partnership with the federal government's 2 Billion Trees Commitment.

SECTION 2: Reducing Our Greenhouse Gas Emissions

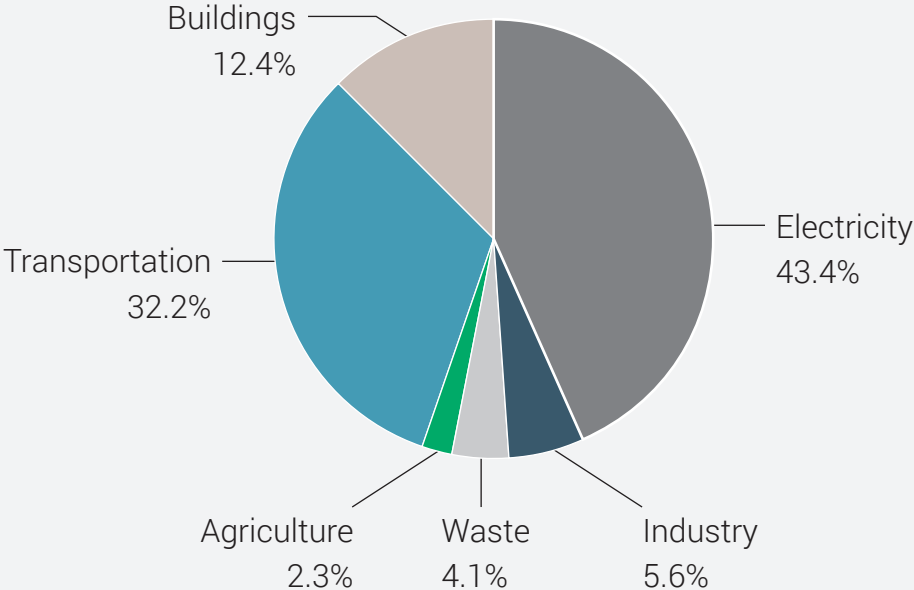
The science is clear – we need to reduce global greenhouse gas emissions if we want to avoid the most severe impacts of climate change. The 2022 [Intergovernmental Panel on Climate Change \(IPCC\) assessment](#) shows that the window to reduce global greenhouse gas emissions to avoid the greatest risks to societies and ecosystems is closing.

In the *Environmental Goals and Climate Change Reduction Act*, our government has created the most ambitious 2030 greenhouse gas emissions reduction target in the country. We are committed to reducing greenhouse gas emissions by at least 53 per cent below 2005 levels by 2030. The reductions cannot stop in 2030 though. This is why our government has also committed to being net-zero by 2050. The actions in the climate change plan will help us continue our success in reducing our greenhouse gas emissions and keep us on a path to a net-zero future.

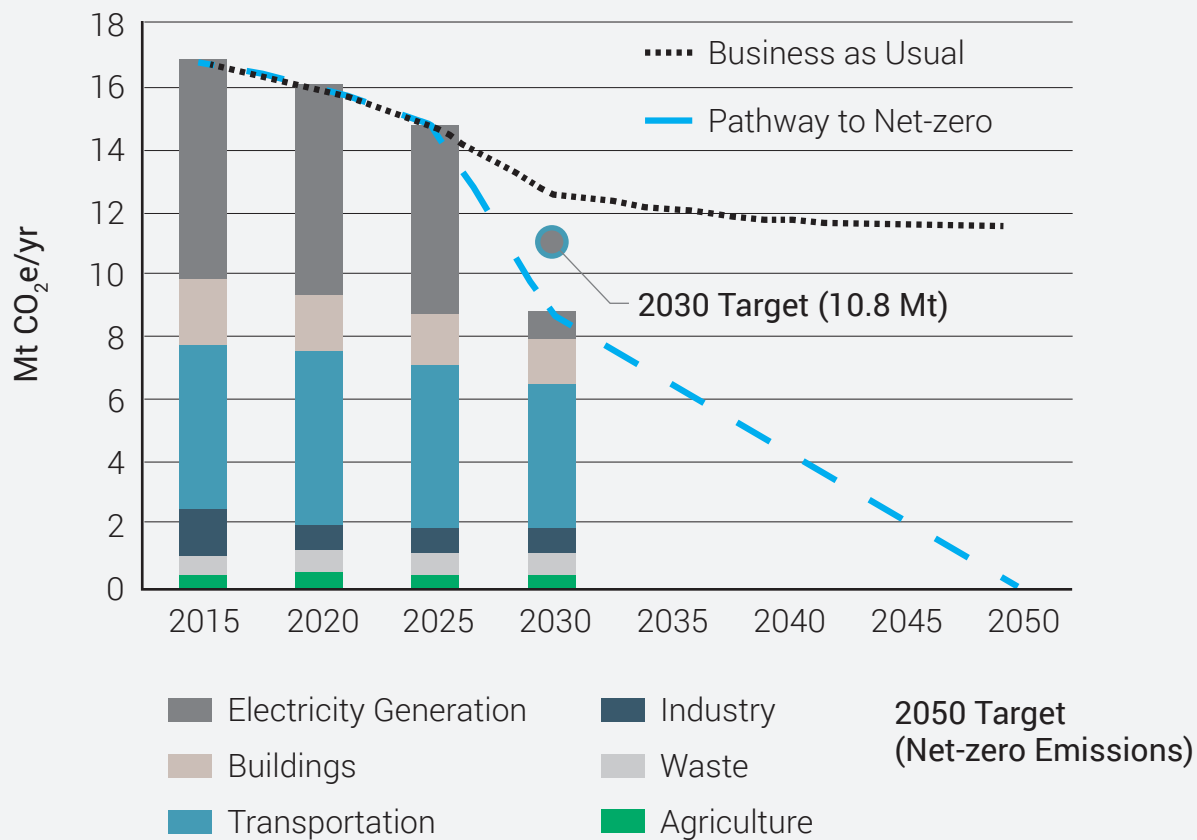
Nova Scotia's greenhouse gas emissions and targets

In 2020, nearly all (88 per cent) of greenhouse gas emissions came from the use of fossil fuels for electricity generation, transportation, and heating buildings.

Nova Scotia's Greenhouse Gas Emissions, 2020



Nova Scotia's Pathway to 2030 and Net-zero Greenhouse Gas Emissions



We have measured how the climate change plan will impact greenhouse gas emissions in Nova Scotia. This figure shows our projected pathway to 2030. It includes policies like phasing out coal-fired electricity generation, having 80 per cent of electricity come from renewable sources, reducing our reliance on oil for home heating by at least 20 per cent, and having 30 per cent of new vehicle sales be zero-emission vehicles by 2030.

These projections do not include potential greenhouse gas reductions from the new provincial output-based pricing system, which covers the electricity sector and large industry. It also does not include a federal fuel charge rate on fossil fuels. Modelling was completed before the output-based pricing system program was designed and the federal fuel charge rate was announced by the federal government. This modelling will be updated regularly to account for new and changing policies, programs, and other trends.

Electricity generation made up 43 per cent of Nova Scotia's greenhouse gas emissions in 2020. The *Environmental Goals and Climate Change Reduction Act* requires that we stop using coal to generate electricity and make sure that at least 80 per cent of our electricity comes from renewable sources by 2030. These two policies will have the greatest impact on our greenhouse gas emissions. To support these policies, we are investing in building new local, renewable energy and partnering with our neighbouring provinces to increase the flow of clean electricity across Atlantic Canada and Québec. Additional supports for more energy storage and the expansion of energy efficiency programs will help to reduce greenhouse gas emissions, improve reliability, and stabilize prices across our electricity system.

The rest of our greenhouse gas emissions, mainly from heating buildings and driving our vehicles, will be reduced through other actions outlined in this plan. These actions will reduce greenhouse gas emissions across the province and help homeowners, community organizations, and businesses lower their energy bills. In some cases, they will also improve the quality of the air Nova Scotians breathe and make our homes more comfortable.

Carbon pricing

In response to the federal government's new requirements for carbon pricing, we are bringing in a new system to hold large industry more accountable for reducing their greenhouse gas emissions. It is called the output-based pricing system and it will take effect on January 1, 2023. It sets greenhouse gas emissions reduction targets for the electricity sector and other large industrial emitters. The electricity sector and large industries make up nearly 50 per cent of Nova Scotia's greenhouse gas emissions. This program will require large emitters to reduce their greenhouse gas emissions in a way that is fair, cost-effective, and flexible to the needs and circumstances of our province.

Creating a clean electricity system

We are taking action to move to a clean electricity system. Renewable energy, such as wind, tidal, and solar, is our future. Moving away from coal and toward a clean, reliable, and efficient electricity system is essential if we are to meet our greenhouse gas emissions reduction targets. As we move away from fossil fuels for home heating and transportation, we need to know that the electricity that is being used instead has come from a renewable source and is not still contributing to climate change. A clean electricity system is also important to advance our standing in the clean economy. Having a reliable and clean source of electricity is important to help Nova Scotia respond to the demand for alternative sources of energy like green hydrogen.

To create a clean electricity system, our government will take the following actions:

- 17.** Create provincial regulations to phase out coal-fired electricity generation by 2030 with the goal of achieving at least a 90 per cent reduction in greenhouse gas emissions from the electricity sector by 2035.
- 18.** Increase the amount of renewable energy used for electricity generation by building at least 500 megawatts of new local, renewable energy by 2026 and an additional 50 megawatts of new community solar.
- 19.** Provide funding support for farms and other businesses to adopt more solar power.
- 20.** Research how we can use battery technologies or electric vehicles for electricity storage and backup power supplies to make our electricity system more reliable.
- 21.** Work with our neighbouring provinces to transfer more electricity across Atlantic Canada and Québec through projects like the Atlantic Loop, Muskrat Falls, and stronger connections with New Brunswick.

Reducing our demand for energy

To support a reliable electricity system, we need to manage our energy demand. By expanding current energy efficiency programs and developing new programs, we can help to make sure we can access the energy we require while reducing the amount of energy we use and how much we pay for it.

To reduce our demand for energy, our government will take the following actions:

- 22.** Help Nova Scotians reduce their demand for electricity by continuing and expanding programs delivered by Efficiency Nova Scotia and their partners.
- 23.** Support businesses and communities in reducing their energy demand by expanding access to on-site energy managers and continuing support for energy efficiency programming for businesses.
- 24.** Help new building developments install shared heating systems to make multi-building heating more efficient.
- 25.** Review energy efficiency programming in Nova Scotia to see where programming has gaps or can be made better.

Energy efficiency and affordability

Nova Scotia is a leader in energy efficiency. Efficiency Nova Scotia was created through legislation in 2009 and became Canada's first energy efficiency utility in 2014. Since then, we have helped 400,000 Nova Scotians complete energy efficiency projects, including supporting 20,000 low-income families through our HomeWarming program. This has helped Nova Scotians save \$180 million annually on their energy bills. It also helps avoid one million tonnes of greenhouse gas emissions annually.

Nova Scotia is recognized nationally for our work in energy efficiency programming. [Efficiency Canada's 2022 Canadian Energy Efficiency Scorecard](#) ranks Nova Scotia second in the country, one spot higher than we were in 2021.

Helping Nova Scotians get off home heating oil and reduce home heating costs

Our homes and buildings are also large sources of greenhouse gas emissions. Heating our homes and buildings also costs Nova Scotians a lot of money, especially those who depend on home heating oil. Now is the time to move away from home heating oil. Doing so will not only reduce greenhouse gas emissions, it will also save Nova Scotians money on their energy bills.

To help Nova Scotians get off home heating oil and reduce home heating costs, our government will take the following actions:

- 26.** Reduce heating oil use by at least 20 per cent by 2030 by helping retrofit 60,000 homes and piloting a new off-oil program for homeowners to completely replace oil heating equipment with electric ones.
- 27.** Provide energy efficiency upgrades to more low-income households by expanding on programs such as HomeWarming and the Affordable Multifamily Housing program.
- 28.** Continue with the Mi'kmaw Home Energy Efficiency Project and pilot a similar program for African Nova Scotian communities.



Fast-tracking the transition to net-zero and climate resilient buildings

The buildings we build today will still be around in 2050. To support our net-zero target, we will need to prepare the building sector for a net-zero future. This means more than just removing oil-fired heating equipment. It requires a full review of how we renovate old buildings and build new ones to make sure they are energy efficient and climate resilient.



To fast-track the transition to net-zero and climate resilient buildings, our government will take the following actions:

29. Ban installations of oil-fired heating equipment in new buildings by 2025.
30. Adopt the 2020 National Energy Code for Buildings and the 2020 National Building Code.
31. Support the construction and renovation of net-zero homes and multi-unit residential buildings, including net-zero affordable housing.
32. Help owners of commercial and institutional buildings better understand their energy performance and plan for energy efficiency upgrades through voluntary energy-use monitoring.
33. Require all new government buildings and major retrofits that enter planning after 2022 be net-zero energy ready and climate resilient, and prioritize leases on buildings that are committed to net-zero energy standards and climate resiliency starting in 2030.
34. Launch the Green Choice Program in 2023, which will allow government to purchase 100 per cent renewable electricity for our operations as it becomes available.

Buildings and energy efficiency

Investing in energy efficiency is one of the most cost-effective ways to reduce greenhouse gas emissions and help make lives more affordable for Nova Scotians. It also creates well-paying local jobs in communities across the province.

Creating cleaner transportation options

About 41 per cent of Nova Scotians live in rural communities and depend on their cars to get to work, school, medical appointments, and to stay connected to each other and their communities. Investing in cleaner and more sustainable modes of transportation in all communities across the province will reduce greenhouse gas emissions, and will also save Nova Scotians money by reducing how much gasoline and diesel they use.

To create cleaner transportation options, our government will take the following actions:

35. Build more electric vehicle charging stations across the province so Nova Scotians can access them when and where they need to.
36. Increase the number of zero-emissions vehicles and e-bikes to meet the 2030 30 per cent zero-emissions vehicle sales target by continuing to offer rebates and continuing to provide education and outreach programs.
37. Increase the number of zero-emissions medium- and heavy-duty, freight, and marine vehicles through new incentives.
38. Develop a greening fleets strategy for government vehicles.
39. Increase access to community transportation services for all communities outside of the Halifax Regional Municipality and Cape Breton Regional Municipality.
40. Electrify public transit across the province by partnering with municipalities and the federal government.
41. Explore opportunities for electric school buses through a strategic pilot project.
42. Make transportation easier by developing new transportation efficiency strategies and reducing single-person vehicle trips.
43. Create more active transportation options in Nova Scotia by developing a provincial active transportation strategy and continuing to work on the Blue Route.



SECTION 3:

Seizing Opportunities for a Cleaner Sustainable Economy

People across the world are moving toward more sustainable businesses and services. This change will bring new opportunities for economic growth and job creation to Nova Scotians. To make sure Nova Scotia is prepared for these new opportunities, we must build on our efforts to date and continue to support clean technology research and development, renewable energy projects, and the sustainable management of our natural resources. Individual Nova Scotians, industries, small businesses, researchers, and communities have already started to take interest in and invest in these opportunities. The climate change plan will expand on this early work and allow for even more action to take place.

Green hydrogen – alternative energy for a strong economy and clean environment

Hydrogen is a clean-burning fuel that industrial processes, heavy transportation, and the marine sector can use to get off fossil fuels faster. There is also a global demand for green hydrogen as countries shift to clean energy alternatives to coal, natural gas, and oil. Nova Scotia is well positioned to meet this demand and become a global producer and exporter of green hydrogen.

Compared to the rest of Canada, our natural gas system is well positioned to carry green hydrogen. We also have access to large amounts of offshore wind to help provide the electricity needed to produce green hydrogen.

Our government is already taking action in this area. We have passed legislation to pave the way for the production and use of green hydrogen as a clean energy source in Nova Scotia and across the world. We have also set a target for five gigawatts of offshore wind by 2030 to support the production of green hydrogen in Nova Scotia.

Building on and expanding partnerships with experts

It is important as we move toward a sustainable future that we do so in an inclusive way that provides opportunities for all Nova Scotians. That means listening to multiple perspectives, and making sure we are collecting knowledge, expertise, and experiences from across society to make sure our planning and actions are creating opportunities for all Nova Scotians.

To make sure we are partnering with experts, our government will take the following actions:

44. Work with subject matter experts and industry leaders to develop tools, programs, and supports for those looking to invest in the clean economy.
45. Support youth-centred climate actions and learn from youth through a new youth climate change advisory committee.
46. Make sure that diverse voices from across Nova Scotia and abroad are advising government on climate adaptation research, planning, outreach, and strategy.
47. Support and fund solutions that address systemic inequities and discrimination related to climate change.





Developing skills for the clean economy

A well-prepared workforce is essential to take advantage of the opportunities of the clean economy. Workers may need different skills than they do now. To make sure we are ready for this transition, we must act now to prepare Nova Scotians for the jobs of tomorrow.

To develop the skills we need for the clean economy, our government will take the following actions:

- 48.** Support the education of youth by updating school curriculums with the knowledge and teachings of *Netukulimk* and support youth professional development programs to develop new skills and experiences.
- 49.** Increase the representation of racialized and Indigenous workers in the energy efficiency and clean technologies sector.
- 50.** Make sure professionals across Nova Scotia understand how they can participate in the clean economy and grow their businesses through new specialized training programs.
- 51.** Develop new industry training for advanced building techniques for engineering and design professionals to make sure these professionals are ready to build to new national energy and building codes.
- 52.** Make sure we have the trade professionals needed and that they are prepared to meet the demands of the clean economy by modernizing the Nova Scotia apprenticeship program.

Helping our communities take action on climate change

The impacts of climate change will be felt most by local communities. Our communities are well positioned to act on opportunities for climate action and they can have a large impact on the well-being of Nova Scotians. But communities often cannot act alone and need strong partnerships and supports to build capacity for taking action on climate change. By helping communities take action on climate change, we can make sure all Nova Scotians experience the social and economic benefits of climate action.

To help our communities take action on climate change, our government will do the following:

53. Provide funding through programs like the Sustainable Communities Challenge Fund and support new community-based climate change coordinators to help municipalities, Mi'kmaq, and African Nova Scotian communities respond to their climate priorities.
54. Provide funding to help more communities across Nova Scotia complete clean energy projects in areas such as buildings, transportation, electricity, and capacity building through programs like the Low Carbon Communities program and the Halifax Climate Investment, Innovation, and Impact (HCi3) Fund.
55. Continue to support federal-provincial partnerships on large infrastructure projects throughout Nova Scotia through programs like the national Investing in Canada Infrastructure Program (ICIP).
56. Create a new funding navigator at the Department of Environment and Climate Change to connect Nova Scotians to climate change funding opportunities.



Supporting sustainable growth in innovative clean technologies and services

There is a need for new innovative technologies and services, like green hydrogen, if we are going to achieve net-zero greenhouse gas emissions by 2050. We know where the greatest opportunities are for greenhouse gas emissions reductions in the short-term, but more investment in innovative technologies and services is needed to support Nova Scotia in reaching net-zero greenhouse gas emissions. By creating a more supportive environment for clean investments, our government is positioning Nova Scotia to respond to the global demand for these technologies and services.

To build a more supportive environment for clean investments, our government will take the following actions:

- 57.** Develop a clean investment plan that takes deliberate and strategic actions to ensure the Nova Scotia economy is prepared to respond to the needs of a low carbon economy.
- 58.** Create a green hydrogen action plan by 2023 to support the development of the green hydrogen sector in Nova Scotia.
- 59.** Issue leases for five gigawatts of offshore wind energy by 2030, with a first call for bids by 2025.
- 60.** Create a clean fuels fund to support industries and businesses in adopting low-carbon and renewable fuels such as green hydrogen, renewable natural gas, biofuels, and sustainable biomass.
- 61.** Implement the Innovation Rebate Program and pilot a low carbon stream of the Early Stage Commercialization Fund through Invest Nova Scotia to create an environment that supports innovative businesses.
- 62.** Modernize the environmental assessment process to consider climate change impacts, cumulative effects, diversity, equity and inclusion, the role of independent review, and *Netukulimk* more fully.
- 63.** Invest in research needed for new clean technologies and practices to help us meet our net-zero by 2050 target.

- 64.** Launch the Green Choice Program in 2023, which will allow large industrial energy consumers to purchase 100 per cent renewable electricity as it becomes available.
- 65.** Extend the Clean Technology for Agriculture Program to allow more farmers to adopt clean technologies that support more sustainable farming.
- 66.** Create a new fisheries and aquaculture energy efficiency innovation fund and new fisheries and aquaculture climate change adaptation fund to help prepare the fisheries and aquaculture sector to reduce their energy use and better prepare for the impacts of climate change.



SECTION 4:

Reporting and Evaluating Progress

Our government will report annually on the progress made under the climate change plan so Nova Scotians can track our progress in moving toward a sustainable future. We will release an annual review of the climate change plan every July to align with existing progress reporting on the *Environmental Goals and Climate Change Reduction Act*.

Over the next year, our government will develop key performance indicators and establish clear baselines to make sure we are effectively monitoring and reporting on the climate change plan. We will also take the following actions:

67. Report annually on progress and impacts of the actions in the climate change plan.
68. Review and renew the climate change plan within five years of its release.

In response to our ongoing research into climate risks and monitoring of new opportunities in the clean economy, we will conduct regular reviews of the climate change plan and make adjustments when necessary. These reviews will make sure we remain ambitious in our response to climate change and that the actions in the plan still reflect the priorities of Nova Scotians.



The Path Ahead

This climate change plan represents our government's commitment to develop, coordinate, and lead actions that promote sustainable prosperity for all Nova Scotians. There is a lot of work ahead, but Nova Scotians have already demonstrated strength, resiliency, and innovation. With this plan, we are well positioned to be leaders in addressing the climate emergency.

The actions in this plan will help us transition to a sustainable future. They will make sure that we are

- responding to the impacts of climate change and building on our understanding of the risks identified in the climate change risk assessment
- investing in activities that reduce greenhouse gas emissions while helping Nova Scotians transition to more affordable sources of energy
- preparing Nova Scotians for the local and global opportunities that come with the shift to a clean economy and sustainable future

Our Climate, Our Future: Nova Scotia's Climate Change Plan for Clean Growth outlines our next steps to reach a sustainable future. There is a lot of work to do to meet the goals in the *Environmental Goals and Climate Change Reduction Act*. We are well underway. With so much global interest and investment in climate change, there are always new challenges and opportunities presenting themselves. As we have always done, we will continue to look for new partners and opportunities to advance the work under this plan and respond to the current-day priorities of Nova Scotians.

Appendices



Appendix A:

Full list of actions in *Our Climate, Our Future:*

Nova Scotia's Climate Change Plan for Clean Growth

Summary of action areas, sub-areas, and individual actions

Responding to Climate Impacts

Increasing access to climate data and information

1. Build on the research findings of the climate change risk assessment to better understand the risks identified and research important data and information gaps.
2. Improve municipal stormwater infrastructure by updating planning requirements and helping develop stormwater management plans.
3. Improve the quality and availability of water-resource data for better water-resource management and flood line mapping by upgrading provincial water monitoring networks.
4. Create a new fisheries and aquaculture climate change information hub to improve the sharing of climate change adaptation and greenhouse gas emissions reduction data and information in the fisheries and aquaculture sector.
5. Help homeowners understand and respond to climate risks such as flooding.
6. Review the infrastructure that Build Nova Scotia manages to assess climate risks and develop adaptation plans to reduce future damages from climate change.

Building capacity for planning and implementation

7. Increase climate change adaptation capacity across government by developing and implementing climate change adaptation strategies for all government departments.
8. Increase climate change adaptation capacity in communities and business sectors by supporting them in hiring their own climate change coordinators to help develop and implement climate change adaptation strategies.
9. Support the fisheries and aquaculture sector to complete climate change vulnerability assessments on important infrastructure and develop sector-specific adaptation plans.

10. Bring key partners together to plan for responses to multiple climate risks facing our natural, built, human, social, and financial systems.
11. Raise awareness of climate risks and adaptation priorities across Nova Scotia through public education and engagement on the results of the climate change risk assessment and other important climate change data and information.

Minimizing climate impacts by restoring natural areas and ecosystems

12. Strengthen and coordinate responses to coastal and inland flood risk by investing in natural flood protection and implementing new regulations under the *Coastal Protection Act* in 2023.
13. Research natural carbon sinks to help offset any remaining greenhouse gas emissions needed to reach net-zero greenhouse gas emissions by 2050.
14. Protect at least 20 per cent of Nova Scotia's total land and water mass by 2030 through a new protected area strategy.
15. Invest in infrastructure and natural systems to manage heat stress, such as tree planting in urban areas or heat pumps/cooling centres to lower exposure to high temperatures for vulnerable Nova Scotians, and invest in ecosystem-based responses like coastal wetland restoration to help manage flooding.
16. Plant 21 million trees across Nova Scotia in partnership with the federal government's 2 Billion Trees Commitment.

Reducing Our Greenhouse Gas Emissions

Creating a clean electricity system

17. Create provincial regulations to phase out coal-fired electricity generation by 2030 with the goal of achieving at least a 90 per cent reduction in greenhouse gas emissions from the electricity sector by 2035.
18. Increase the amount of renewable energy used for electricity generation by building at least 500 megawatts of new local, renewable energy by 2026 and an additional 50 megawatts of new community solar.
19. Provide funding support for farms and other businesses to adopt more solar power.

20. Research how we can use battery technologies or electric vehicles for electricity storage and backup power supplies to make our electricity system more reliable.
21. Work with our neighbouring provinces to transfer more electricity across Atlantic Canada and Québec through projects like the Atlantic Loop, Muskrat Falls, and stronger connections with New Brunswick.

Reducing our demand for energy

22. Help Nova Scotians reduce their demand for electricity by continuing and expanding programs delivered by Efficiency Nova Scotia and their partners.
23. Support businesses and communities in reducing their energy demand by expanding access to on-site energy managers and continuing support for energy efficiency programming for businesses.
24. Help new building developments install shared heating systems to make multi-building heating more efficient.
25. Review energy efficiency programming in Nova Scotia to see where programming has gaps or can be made better.

Helping Nova Scotians get off home heating oil and reduce home heating costs

26. Reduce heating oil use by at least 20 per cent by 2030 by helping retrofit 60,000 homes and piloting a new off-oil program for homeowners to completely replace oil heating equipment with electric ones.
27. Provide energy efficiency upgrades to more low-income households by expanding on programs such as HomeWarming and the Affordable Multifamily Housing program.
28. Continue with the Mi'kmaw Home Energy Efficiency Project and pilot a similar program for African Nova Scotian communities.

Fast-tracking the transition to net-zero and climate resilient buildings

29. Ban installations of oil-fired heating equipment in new buildings by 2025.
30. Adopt the 2020 National Energy Code for Buildings and the 2020 National Building Code.

31. Support the construction and renovation of net-zero homes and multi-unit residential buildings, including net-zero affordable housing.
32. Help owners of commercial and institutional buildings better understand their energy performance and plan for energy efficiency upgrades through voluntary energy-use monitoring.
33. Require all new government buildings and major retrofits that enter planning after 2022 be net-zero energy ready and climate resilient, and prioritize leases on buildings that are committed to net-zero energy standards and climate resiliency starting in 2030.
34. Launch the Green Choice Program in 2023, which will allow government to purchase 100 per cent renewable electricity for our operations as it becomes available.

Creating cleaner transportation options

35. Build more electric vehicle charging stations across the province so Nova Scotians can access them when and where they need to.
36. Increase the number of zero-emissions vehicles and e-bikes to meet the 2030 30 per cent zero-emissions vehicle sales target by continuing to offer rebates and continuing to provide education and outreach programs.
37. Increase the number of zero-emissions medium- and heavy-duty, freight, and marine vehicles through new incentives.
38. Develop a greening fleets strategy for government vehicles.
39. Increase access to community transportation services for all communities outside of the Halifax Regional Municipality and Cape Breton Regional Municipality.
40. Electrify public transit across the province by partnering with municipalities and the federal government.
41. Explore opportunities for electric school buses through a strategic pilot project.
42. Make transportation easier by developing new transportation efficiency strategies and reducing single-person vehicle trips.
43. Create more active transportation options in Nova Scotia by developing a provincial active transportation strategy and continuing to work on the Blue Route.

Seizing Opportunities for a Cleaner Sustainable Economy

Building on and expanding partnerships with experts

44. Work with subject matter experts and industry leaders to develop tools, programs, and supports for those looking to invest in the clean economy.
45. Support youth-centred climate actions and learn from youth through a new youth climate change advisory committee.
46. Make sure that diverse voices from across Nova Scotia and abroad are advising government on climate adaptation research, planning, outreach, and strategy.
47. Support and fund solutions that address systemic inequities and discrimination related to climate change.

Developing skills for the clean economy

48. Support the education of youth by updating school curriculums with the knowledge and teachings of *Netukulimk* and support youth professional development programs to develop new skills and experiences.
49. Increase the representation of racialized and Indigenous workers in the energy efficiency and clean technologies sector.
50. Make sure professionals across Nova Scotia understand how they can participate in the clean economy and grow their businesses through new specialized training programs.
51. Develop new industry training for advanced building techniques for engineering and design professionals to make sure these professionals are ready to build to new national energy and building codes.
52. Make sure we have the trade professionals needed and that they are prepared to meet the demands of the clean economy by modernizing the Nova Scotia apprenticeship program.

Helping our communities take action on climate change

53. Provide funding through programs like the Sustainable Communities Challenge Fund and support new community-based climate change coordinators to help municipalities, Mi'kmaq, and African Nova Scotian communities respond to their climate priorities.
54. Provide funding to help more communities across Nova Scotia complete clean energy projects in areas such as buildings, transportation, electricity, and capacity building through programs like the Low Carbon Communities program and the Halifax Climate Investment, Innovation, and Impact (HCi3) Fund.
55. Continue to support federal-provincial partnerships on large infrastructure projects throughout Nova Scotia through programs like the national Investing in Canada Infrastructure Program (ICIP).
56. Create a new funding navigator at the Department of Environment and Climate Change to connect Nova Scotians to climate change funding opportunities.

Supporting sustainable growth in innovative clean technologies and services

57. Develop a clean investment plan that takes deliberate and strategic actions to ensure the Nova Scotia economy is prepared to respond to the needs of a low carbon economy.
58. Create a green hydrogen action plan by 2023 to support the development of the green hydrogen sector in Nova Scotia.
59. Issue leases for five gigawatts of offshore wind energy by 2030, with a first call for bids by 2025.
60. Create a clean fuels fund to support industries and businesses in adopting low-carbon and renewable fuels such as green hydrogen, renewable natural gas, biofuels, and sustainable biomass.
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Reporting and Evaluating Progress

67. Report annually on progress and impacts of the actions in the climate change plan.
68. Review and renew the climate change plan within five years of its release.

Appendix B:

Links to Resources and Programs

The following is a list of resources and programs referenced within the *Our Climate, Our Future: Nova Scotia's Climate Change Plan for Clean Growth*, as well as some links to helpful organizations.

This is not meant to be an all-inclusive list of resources available to Nova Scotians.

Government of Nova Scotia Links

[The Environmental Goals and Climate Change Reduction Act](#)

[The Environment Act \(PDF\)](#)

[Climate Change Nova Scotia](#)

[Clean Future - Public Consultations Report](#)

[Nova Scotia Climate Risk Assessment](#)

[Nova Scotia Coastal Protection Act](#)

[Nova Scotia Parks and Protected Areas](#)

[News Release on Green Hydrogen Development](#)

[Nova Scotia Environmental Assessment Process](#)

Programs and Resources for Individuals and Homeowners

[FloodSmart Canada – Flood Plain Maps](#)

[Energy Assist](#)

[HomeWarming](#)

[Affordable Multifamily Housing Program](#)

[Home Energy Assessment Program](#)

[Mi'kmaw Home Energy Efficiency Project](#)

[SolarAssist](#)

[Solar Power Rebate Programs](#)

[EVAssist- Electric Vehicle Rebate Programs](#)

[Next Ride](#)

[Clean Foundation Workforce Development Programs](#)

[NSCC Solar Photovoltaic Panel Installation Training program](#)

Programs and Resources for Businesses, Municipalities, and Organizations

[Presentation to the Canadian Institute of Planners \(November 25, 2020\) on the Flood line Mapping Project \(PDF\)](#)

[FloodSmart Canada – Flood Plain Maps](#)

[Maritime Coastal Flood Risk Map](#)

[SolarAssist](#)

[Solar Power Programs](#)

[Nova Scotia Power Self-generation Options](#)

[Nova Scotia Rate Base Procurement \(372 MW of new wind\)](#)

[Green Choice Program](#)

[EVAssist](#)

[Next Ride](#)

[Sustainable Communities Challenge Fund](#)

[Low Carbon Communities Funding Program](#)

[Halifax Climate Investment, Innovation, and Impact Fund \(HCi3\)](#)

[Innovation Rebate Program](#)

[Nova Scotia Clean Technology for Agriculture Program](#)

For More Information

[Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy](#)

[Canadian Climate Institute](#)

[CLIMAtlantic](#)

[A Healthy Environment and a Health Economy – Canada's Strengthened Climate Plan](#)

[2030 National Emissions Reduction Plan: Clean Air, Strong Economy](#)
[Canadian Energy Regulator – Nova Scotia Energy Profile](#)
[Efficiency Canada & the Canadian Energy Scorecard](#)
[Nova Scotia Power – How We Produce Electricity](#)
[Solar Nova Scotia](#)
[Bicycle Nova Scotia](#)
[Nova Scotia Blue Route](#)
[Efficiency Nova Scotia](#)
[Clean Foundation](#)
[Passive House Canada](#)
[Canada Green Buildings Council](#)
[ReCover Initiative](#)
[Dalhousie Energy Leaders in Sustainability program](#)
[Verschuren Centre for Sustainability in Energy and Environment](#)

Referenced Reports and Data Sources

[Climate Data Canada](#)
[2022 Environmental Goals and Climate Change Reduction Act – Progress Report](#)
[2020/21 Annual Green Fund Report \(PDF\)](#)
[2021/22 Annual Green Fund Report \(PDF\)](#)
[Clean Power Road Map for Atlantic Canada](#)
[Efficiency One Demand Side Management Plan](#)
[2020 National Energy Code for Buildings](#)
[Canadian Centre for Climate Services](#)

