Climate Change Action Plan 2019-2024

Mid-Term Update

Newfoundland Labrador

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Introduction

Climate change is one of the greatest long-term challenges facing the world. Over 35 billion tonnes of greenhouse gases (GHGs) are released worldwide each year and global temperatures are rising as a result.

Newfoundland and Labrador, which emits about 11 million tonnes of GHGs per year, is currently about 0.5°C warmer than it was 50 years ago. The number of heating degree days, a technical measure of when space heating is required, was lower in 2020 than the average of the past five, 15, and 25 years. Conversely, the number of growing degree days, a technical measure of warmth in soils and waters, was higher than the average of the past five, 15, and 25 years.

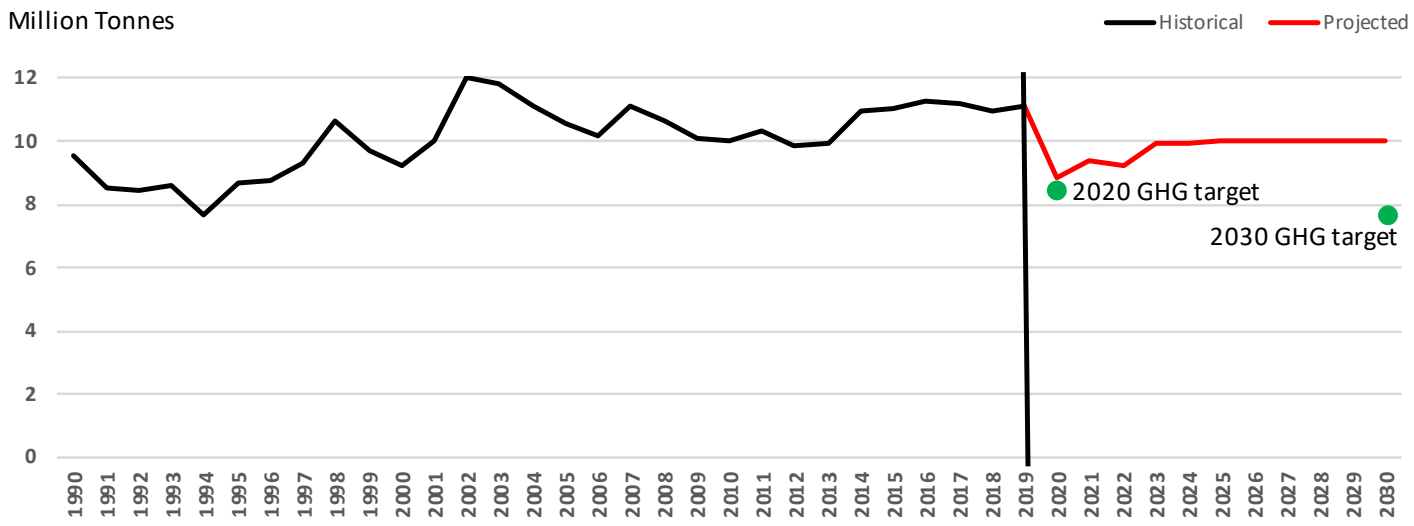
Action to reduce GHG emissions to mitigate further risks, impacts, and vulnerabilities associated with climate change is necessary. This can occur while we continue to grow the economy. Since 1990, real gross domestic product (GDP) has increased by about 75 percent in the province, while GHG emissions have grown by 16 percent.

About 90 percent of the province's GHG emissions are a result of burning fossil fuels. This means that fuel switching to renewable electricity, improving energy efficiency, and advancing technology to support fuel switching and energy efficiency form the basis for action. These actions can be supplemented by actions to reduce other GHG emissions, such as methane emitted at landfills, and improved focus on "negative GHG emissions" through carbon sequestration and storage, such as through silviculture and agricultural practices.

Building on an existing commitment to reduce GHG emissions by 10 percent below 1990 levels by 2020, the action plan commits the Province to reduce provincial GHG emissions by 30 per cent below 2005 GHG emissions level by 2030. The province is expected to approach but not achieve its 2020

Greenhouse Gas Emissions

1990-2019 historical, 2020–2030 projected



GHG reduction target. Best available information suggests that, in the absence of additional actions in the coming years, the 2030 target may not be achieved.

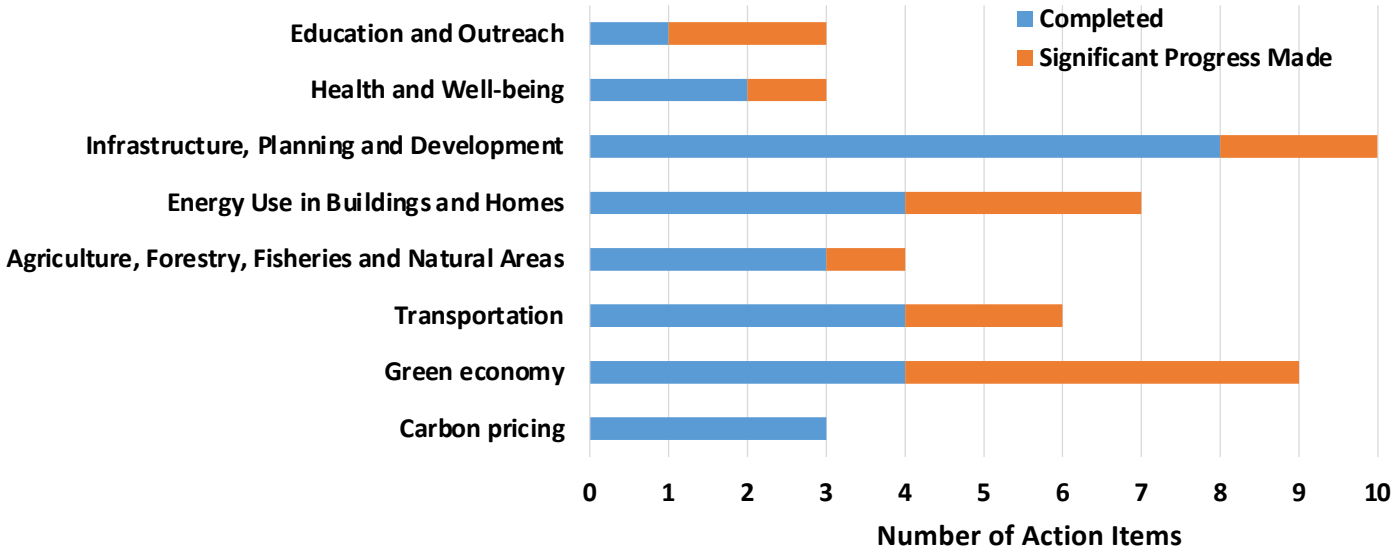
Subsequent to the release of the action plan, the province committed to achieve net-zero GHG emissions by 2050, including through accounting for changes in emissions resulting from land use change such as carbon stored and sequestered in forests, soils, and wetlands. Net zero GHG emissions will be achieved when all GHG emissions released in a year are counterbalanced by removing GHG emissions from the atmosphere in that year.

The provincial government is providing the tools and resources to assist industry, businesses, communities, and individuals adapt to a changing climate. This includes planning for the impacts associated with rising temperatures, increased precipitation, such as more frequent and intense storms resulting in flooding, sea level rise, faster rates of coastal erosion, and increased incidence of invasive species and pests.

The 2019 climate change action plan contains 45 commitments led by 11 different government departments and agencies. The commitments require action in every sector of the economy, from businesses and large industry, to households and transportation, and government. Of the 45 action items, 30 (67 percent) are completed, and the remaining 15 (33 percent) have progress made.

Status of Action Items

2019 Climate Change Action Plan



Progress towards achieving long-term GHG emissions reduction targets and building resilience to climate change requires sustained commitment and action over many years. This action plan focuses on government's current response. Further steps are needed to achieve the desired outcomes, including the net-zero commitment by 2050.

The progress report is divided into two sections: first, action on three key areas is profiled. Second, detail on progress for each of the 45 commitments contained in the plan is provided.

Key Action Area: Carbon Pricing

Newfoundland and Labrador introduced carbon pricing in 2019 in response to the federal requirement to put a price on carbon pollution as a means to reduce GHG emissions while driving innovation. Since 2019, every jurisdiction in Canada has placed a price on carbon pollution.

Under the Newfoundland and Labrador carbon pricing plan, all fossil fuels purchased in the province, unless exempted, are subject to either a carbon tax or a performance standards system. Under the performance standards system, large industrial facilities that meet or exceed the prescribed GHG emission thresholds are subject to a reduction target based on their historical GHG emissions. In 2019, federal data indicates that a carbon tax was applied to about 35 percent of GHG emissions in the province and industrial performance standards were applied to about 45 percent of GHG emissions. The remaining 20 percent of GHG emissions were either exempted from carbon pricing (e.g., heating oil, diesel electricity generation and primary fishing, forestry, and agriculture activities), or were not covered under the carbon pricing plan (e.g., landfill waste, industrial processes, and non-energy agriculture).

The carbon tax was introduced at $20 per tonne of GHG emissions in 2019 (equivalent of about 4.4 cents per litre of gasoline and 5.4 cents per litre of diesel fuel), and will increase by $10 per tonne per year until it reaches $50 per tonne by 2022 (equivalent of about 11.1 cents per litre of gasoline and 13.4 cents per litre of diesel fuel). The price signal complies with the current federal benchmark stringency requirements.

There are early indications that carbon pricing is achieving its objective of reducing energy use and GHG emissions. In 2019, preliminary data from Statistics Canada, the most recent year for which data is available, indicates that for those fuels to which a carbon tax applies, total energy use declined by 1.4 percent from 2018.

In the large industrial sector, 16 facilities reported their GHG emissions in 2019, including seven onshore industrial, three electricity generation, and six offshore petroleum facilities. Of these facilities, 13 were subject to a reduction target in 2019 as their annual emissions were more than 25,000 tonnes. The facilities reported, through a verified reporting process, emissions were reduced about 389,000 tonnes below the reduction target, more than required. In 2020, the total regulated GHG reduction obligation was about 317,000 tonnes, and actual reported GHG emissions were about 970,000 tonnes lower. Performance in 2020 was aided, in part, by COVID-related and other shutdowns.

The carbon pricing system is being reviewed as part of a national process with a view to increasing its rigour starting in 2023. The federal government has committed to raise the minimum carbon tax rate to $170 per tonne by 2030 (approximately 37 cents per litre of gasoline and 45 cents per litre of diesel fuel). The federal government has also signaled it will seek to increase the percentage of fossil fuels regulated by carbon pricing and will increase the federal benchmark for industry GHG performance standards.

This success of the carbon pricing program can be further enhanced in Newfoundland and Labrador through rate mitigation of electricity prices and the continued electrification of all sectors of our economy. Connection of buildings, residents, industrially processes, and transportation to the provincial interconnected electricity grid, powered by renewable hydroelectricity, would result in significant GHG reductions. As rate mitigation efforts enhance the affordability of electricity, combined with a carbon pricing program, the ability and cost benefit to fuel switch to renewable electricity will increase.

Key Action Area: Low Carbon Economy Leadership Fund

The Low Carbon Economy Leadership Fund (LCELF) is a six-year, $89.4 million cost shared federal-provincial initiative, with $86.3 million for mitigation and $3.1 million for adaptation ending March 31, 2024. It includes $44.7 million in federal funding and $41.6 million in provincial funding for GHG emission reduction projects.

Approximately $38 million is allocated for public building upgrades, primarily fuel switching to electricity. Funding is allocated to upgrade 47 provincial government buildings, schools, post-secondary buildings, hospitals, and other medical facilities. The projected GHG emissions reduction per year is 15,100 tonnes.

About $13 million will be spent on improving the energy efficiency of fuel oil heated homes and multi-unit residential buildings, including fuel switching to electricity. Funding includes about: (1) up to $1.6 million for a program delivered by the electric utilities, similar to takeCharge, that improves energy efficiency in oil heated homes; (2) up to $8 million for low income homeowners to improve energy efficiency in oil heated homes, a program delivered by the Newfoundland and Labrador Housing Corporation; (3) up to $0.7 million for energy efficiency upgrades in multi-unit residential buildings owned by the Newfoundland and Labrador Housing Corporation; and (4) up to $2.3 million for an energy efficiency/fuel switching program in the Labrador Inuit Settlement Area. The projected GHG emissions reduction per year is about 4,900 tonnes.

There are two programs for GHG emission reduction projects in other sectors of the economy, including a Climate Change Challenge Fund and Transportation Energy Efficiency Program. Total spending for private, non-profit, municipal, and transportation projects approved to date is $16.3 million. This includes $3.9 million for municipalities and waste management organizations, $6.4 million for commercial and industrial businesses, $3.8 million for public sector bodies and non-profit organizations, and $2.2 million in the transportation sector. The projected GHG emissions reduction per year, based on projects to date, is about 67,000 tonnes.

Remaining LCELF project funding is anticipated to be allocated over the coming months.

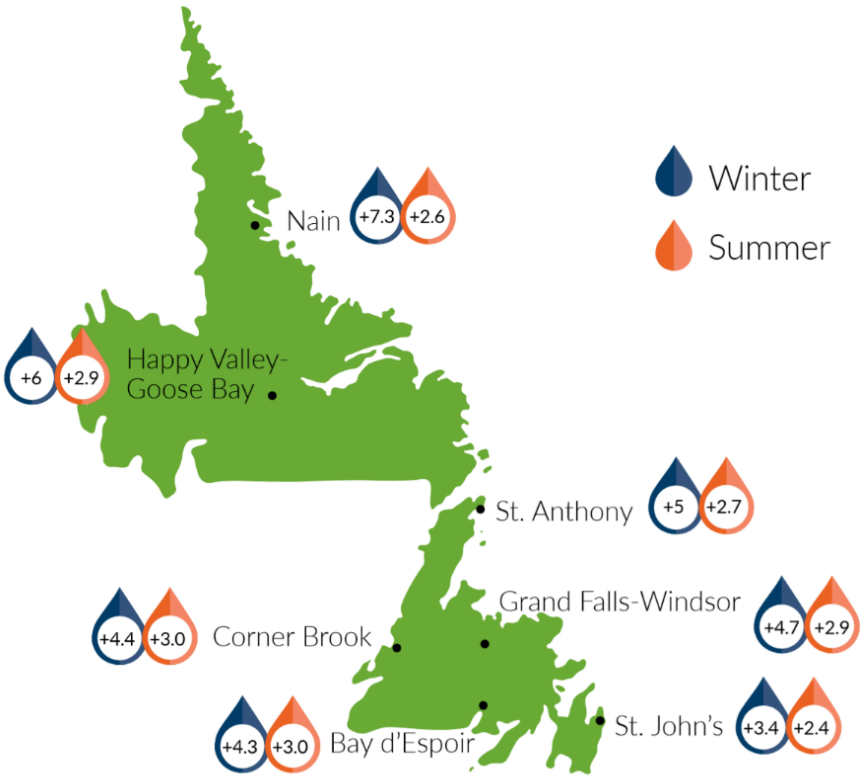
Key Action Area: Building Resilience to Climate Change

The provincial government is taking action to build stakeholder awareness and improve decision-making as it relates to climate change adaptation. This includes, for example, publishing local and more tailored temperature and precipitation projections, improving flood risk mapping, and disseminating coastal erosion and sea level rise information.

To further these efforts, in 2018-19 the province entered into a three-year $1.9 million agreement with the federal government to complete a climate change risk assessment for renewable resource industries (i.e., agriculture, aquaculture, fisheries, and forestry) and municipal operations, and to build capacity in key economic sectors, including renewable resource industries, mining, and tourism. The risk assessment was completed in 2020-21 and the five sectoral initiatives are scheduled to be completed by March 31, 2022. This work is paralleled by an agreement between Memorial University and the federal government to build resilience in public infrastructure decision making. This four-year $0.6 million project includes partnerships with the provincial government, professional engineers and geoscientists, and municipalities, and includes a series of workshops, webinars, and other products. The project is scheduled to be completed by March 31, 2022.

In 2018, the Provincial Government published updated temperature and precipitation projections for 28 locations in the province. This includes mid-21st century and late 21st century projections. Work is ongoing to disseminate the information and build stakeholder capacity to integrate the information into decision-making.

Temperature Change by Mid-Century



Flood risk mapping is a key adaptation initiative. Over the past 12 years, updated 20-year and 100-year flood risk maps that incorporate climate change projections have been developed for Stephenville, Stephenville Crossing, Black Duck Siding, Corner Brook, Petrie's Brook, Bay Roberts, St. John's (Waterford River and Goulds), Portugal Cove-St. Philip's, Logy Bay – Middle Cove – Outer Cove, and Petty Harbour – Maddox Cove. Since 2019, flood risk maps that incorporate climate change projections have been completed for the Humber River Valley, Exploits River Valley, and Lower Churchill River areas. Activities valued at $1.2 million are planned for 2021-22, including flood risk maps for Placentia, Carbonear, Victoria, and Salmon Cove, municipal dam system inundation mapping, and enhanced provincial climate monitoring capacity.

In 2020-21, the provincial government published user-friendly guidance and information about coastal erosion and sea level rise as part of Memorial University's public infrastructure resilience project. The work included a guidance document, website of detailed information for 120 monitoring sites, and three videos.

The Provincial Government supports municipalities in planning for climate change. In recent years, this has included support to the City of St. John's in respect of its 2019 climate emergency declaration, and the Federation of Canadian Municipalities projects in the towns of Portugal Cove – St. Philips, Conception Bay South, Bauline, Baie Verte, Paradise, Torbay, Stephenville, and Channel-Port aux Basques. This support includes the development of flood risk mapping, project funding through the Investing in Canada Infrastructure Program and the Low Carbon Economy Leadership Fund, and participation on local planning committees.

Progress of Action Items

Carbon Pricing

Action Item	Progress on Action
4.1.1 Implement a made-in-Newfoundland and Labrador approach to carbon pricing by January 1, 2019 that has broad coverage of the economy, delivers meaningful greenhouse gas reductions and is tailored to the economic, social and fiscal realities of the province. **Lead:** Environment and Climate Change / Finace **Status:** **COMPLETE**	• A provincial carbon pricing system started on January 1, 2019 comprising a carbon tax on purchased fuel and performance standards for large industrial facilities. Further details on the system are available at: www.gov.nl.ca/ecc/files/publications-nl-carbon-pricing-plan.pdf. • The carbon tax, administered by the Department of Finance through the **Revenue Administration Act**, applies to about 35 percent of GHG emissions in the province. Some fuels, such as home heating fuels, are currently exempted. The carbon tax rate mirrors the federal carbon tax rate. • In 2020, there were 16 industrial facilities regulated by the Department of Environment and Climate Change (ECC) through the **Management of Greenhouse Gas Act**, including seven onshore industrial facilities, three large-scale electricity generation facilities, and six offshore facilities. These facilities account for about 45 percent of total GHG emissions excluding industrial processes. Large industrial facilities are subject to a GHG emission reduction target that is comparable in terms of effort to federal regulations. • Non-energy emissions, such as waste and agriculture, are not subject to carbon pricing.
4.1.2 Implement programs co-funded by the Federal and Provincial Governments through the Low Carbon Economy Leadership Fund to assist industry, businesses, municipalities, Indigenous organizations and governments, not-for-profit organizations and households reduce their GHG emissions. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• A federal-provincial agreement valued at $89.4 million was signed in 2019. The current budget for GHG reduction projects includes $44.7 million in federal funding at $41.6 million in provincial funding (the balance is spent on adaptation programming). About 87 percent of funding has been spent, encumbered or otherwise committed. The agreement ends on March 31, 2024. • Six programs have been established to support GHG emission reduction projects in the residential, commercial, industrial, and transportation sectors as well as for public buildings. The Agreement is delivered by ECC in partnership with the Newfoundland and Labrador Housing Corporation (NLHC) and the Departments of Transportation and Infrastructure (TI) and Health and Community Services (HCS). • Anticipated cumulative GHG emission reductions from these programs is projected to be 832,000 tonnes by 2030. • Further details on the Low Carbon Economy Leadership Fund are available at www.gov.nl.ca/ecc/occ/low-carbon-economy-fund/.

Carbon Pricing

Action Item	Progress on Action
4.1.3 Strengthen capacity of the private sector to understand and effectively respond to carbon pricing, and take advantage of economic opportunities arising from carbon pricing. **Lead:** Welcome to Industry, Energy and Technology **Status:** **COMPLETE**	• Throughout 2017-2020, the Department of Industry, Energy and Technology (IET) collaborated with sector associations and stakeholders to develop strategic work plans and implement initiatives to facilitate sector growth including advancing clean technology opportunities. • Utilizing research, analysis, and industry engagement to identify gaps and opportunities for diversification within sectors, IET established and advanced industry development collaborations among multiple sectors and increased cross-sectoral learning. • IET delivered workshops to provide training to economic development officers to build their capacity to inform the private sector on how to take advantage of economic opportunities arising from carbon pricing. • Funding is available from the Low Carbon Leadership Economy Fund (action 4.1.2) to support private and non-profit sector projects to reduce GHG emissions. • IET provides $100,000 of provincial funding in annual operational support to EcoNext to advance sector development initiatives and activities aimed at building the environmental and clean technology sectors. With this operational support, EcoNext offers a diverse range of programs, training and support services to enhance the capacity and competitiveness of businesses and organizations in the industry.

Green Economy

Action Item	Progress on Action
4.2.1 Develop and implement an environmental procurement policy for application though the **Public Procurement Act** in consultation with external stakeholders. **Lead:** Public Procurement Agency **Status:** **PROGRESS MADE**	• A public engagement plan has been developed by Public Procurement Agency (PPA) for the environmental procurement policy and was launched in 2021. • By the end of the 2021-22 fiscal year, the environmental procurement policy is anticipated to be released.

Green Economy

Action Item	Progress on Action
4.2.2 Build local supplier capacity to take advantage of, and thrive in, procurement processes that incorporate environmental considerations. **Lead:** Industry, Energy and Technology / Public Procurement Agency **Status:** **PROGRESS MADE**	• IET regularly meets with businesses and prospective clients about supplier development/supply chain opportunities. IET will continue to support procurement practices that incorporate environmental considerations with these and other government procurement activities. • After the environmental procurement policy is released (see Action 4.2.1), a trade show will be held with local suppliers for networking purposes and learning opportunities, where further information on the environmental procurement policy will be disseminated.
4.2.3 Build and strengthen early-stage clean technology innovation and research, development and demonstration, and accelerate clean technology commercialization. **Lead:** Industry, Energy and Technology **Status:** **COMPLETE**	• In 2019-20 and 2020-21, IET invested $9.28 million of provincial funding in 26 commercial and non-commercial research and development and innovation projects. These projects leveraged an additional $51.18 million in funding from the federal government, the private sector, and academic institutions. Examples of supported private projects are included in Action 4.2.4.

Green Economy

Action Item	Progress on Action
4.2.4 Support private sector capacity to reduce their carbon footprint and transition to a low-footprint and transition to a low-carbon economy, through improved access to funding opportunities and clean technology development to enhance competitiveness in local and export markets. **Lead:** Industry, Energy and Technology **Status:** **COMPLETE**	• In 2019-20 and 2020-21, IET invested $2.2 million of provincial funding in 12 private sector projects. Among others, these projects include: • $60,625 to Innovative Development & Design Engineers Ltd. (IDDEL) to research and develop an online septic system design platform. This will assist IDDEL in developing the final software features needed prior to commercialization of their software platform. This platform will help modernize the septic system design process for designers and regulators, by enabling them to move from manual (paper) process to an online environment, thereby reducing waste. • $342,725 to DuXion Motors Inc., to expand its research and development for testing and demonstration of its electric jet motor prototype. The company's unique electric motor design replaces a traditional jet engine with an electric ducted fan, resulting in comparable thrust, zero GHG emissions and a 90 per cent reduction in maintenance cost. • $148,314 to Pioneer Enterprises Limited for an automated water treatment system for rural communities. This funding will assist Pioneer in developing a simplified water treatment system using ozone, ultraviolet (UV), and media filtration for treatment instead of chlorine. The company also plans to offer real time monitoring and direct support to towns. • $148,314 to Pioneer Enterprises Limited for an automated water treatment system for rural communities. This funding will assist Pioneer in developing a simplified water treatment system using ozone, ultraviolet (UV), and media filtration for treatment instead of chlorine. The company also plans to offer real time monitoring and direct support to towns. • $49,520 to Technip FMC Canada Ltd. to analyze interactions among icebergs, flowlines, and the seabed as climate changes impact presence of ice. The company will also study and analyze the iceberg, pipe, and soil interactions to help with the design of future subsea assets. • $50,000 for 3F Waste Recovery, to support manufacturing of a cod collagen product that would be further refined to meet cosmeceutical industry requirements and reduce waste within the industry. • In 2019-20, $49,037 in support for Wetland Treatment Solutions to support environmental wetland solutions for polluted wastewater, industrial waste, and contaminated land remediation.

Green Economy

Action Item	Progress on Action
4.2.5 Increase the amount of waste diverted to landfills from government buildings and develop metrics to measure and report on progress. **Lead:** Multi-Materials Stewardship Board / Transportation and Infrastructure **Status:** **PROGRESS MADE**	• Baseline work was completed prior to the 2019 action plan. The Multi Materials Stewardship Board (MMSB) completed a waste audit of government buildings in 2015. The report is available at: www.gov.nl.ca/ecc/files/publications-waste-audit-report.pdf. This report provided a baseline of information for existing waste in government buildings to help establish new targets for future years. • The Provincial Government has set a goal to have a waste disposal rate of 40 kg of waste per employee per year. This compares to the 2015 estimate of 57 kg per employee. • A waste diversion pilot project is planned by TI to determine measures that can be implemented to reduce the amount of waste. This will be implemented post-COVID-19.
4.2.6 Seek opportunities to develop renewable and low carbon energy for local and export markets (e.g. hydro, wind, tidal, hydrogen, and smart grid technology). **Lead:** Industry, Energy and Technology **Status:** **PROGRESS MADE**	• IET has developed an inventory of the province's renewable energy resources, including undeveloped hydro resources, wind, biomass and solar maps, export transmission paths (e.g. capacity, commitments, interconnection points); historical climate data, wind studies, a preliminary assessment of renewable energy potential in coastal Labrador; and local market opportunities. • In 2019, IET created an eight-member industry and stakeholder working group to discuss ideas for a provincial renewable energy plan, and to assist IET as it prepared for larger industry and stakeholder consultations. This group had its initial targeted meeting in October 2019, and a subsequent virtual meeting in March 2020. The group's input informed current consultations on a provincial renewable energy plan. • The Federal Government funded the development of a hydrogen energy assessment in 2020-21 (https://oera.ca/sites/default/files/2021-07/a-feasibility-study-of-hydrogen-production-storage-distribution-and-use-in-the-maritimes-nl.pdf). IET will review this assessment in the context of the renewable energy plan. • In 2020 and 2021, IET actively reviewed green hydrogen policies and plans globally, to determine potential opportunities for Newfoundland and Labrador. Further, IET has engaged in multiple meetings with companies interested in pursuing hydrogen opportunities for the province. Given Newfoundland and Labrador's abundance of renewable energy resources and the potential for hydrogen production, IET will continue to explore opportunities

Green Economy

Action Item	Progress on Action
	that are the right fit for the province. IET is currently conducting consultations on a provincial renewable energy plan that will include hydrogen. • Since March 2019, Newfoundland and Labrador has engaged in the development of a Clean Power Roadmap for Atlantic Canada to outline how governments and utilities can collaborate to develop a regional, long-term electricity supply plan to provide affordable, reliable and clean electricity. The process undertook studies to determine electrification impacts and resource options while utilities engaged in system impact studies for new transmission proposals. The Steering Committee concluded that development of an 'Atlantic Loop' comprising transmission upgrades through Quebec, New Brunswick, and Nova Scotia and an expanded Maritime Link was a potential solution. A final report is being prepared and parties are engaged to determine a path forward. An interim report is available at: • www.canada.ca/content/dam/acoa-apeca/documents/Towards%20a%20Clean%20Power%20Roadmap%20for%20Atlantic%20Canada.pdf • In December 2021, 'Maximizing our Renewable Future', the provinces renewable energy plan, was released.
4.2.7 Work with stakeholders, including Indigenous governments and organizations and Newfoundland and Labrador Hydro, to identify opportunities to reduce diesel electricity generation in the province's isolated diesel communities. **Lead:** Industry, Energy and Technology **Status:** **PROGRESS MADE**	• IET and Newfoundland and Labrador Hydro (NLH) are supporting the Nunatsiavut Government's pursuit of renewable energy solutions for its five communities through the Nunatsiavut Energy Security Working Group, including pursuit of a micro-grid wind project in Nain. An engineering study is currently underway. • In 2019 and 2020, IET worked with NLH to pursue a request for proposal process for renewable energy solutions for 14 isolated diesel systems. To ensure due diligence, during spring 2020, IET pursued and facilitated funding from the Natural Resources Canada (NRCan) for NLH to contract a study on options and costs of renewable energy alternatives to diesel. In 2020, NLH subsequently hired a consultant in 2020 to estimate the costs and operational savings of various transmission interconnection scenarios for the Labrador diesel communities, such as connecting to the Labrador interconnected grid and connecting multiple isolated community systems to each other to improve their reliability and better integrate new renewable generation.

Green Economy

Action Item	Progress on Action
	• NLH is working with a private sector company to integrate hydro, solar, and lithium-ion battery storage in Mary's Harbour with the goal of displacing 300,000 litres of diesel (30 percent) in the community. The hydro plant is operational and the solar and battery components are expected to be commissioned by the end of 2021. • IET collaborated with the Nunatsiavut Government to secure 100 percent federal funding and complete the federal due diligence process, to support the purchase and installation of 300 high-efficiency wood stoves in Nunatsiavut communities. This project is ongoing. IET has also applied for federal funding for a feasibility study funding for high-efficiency wood stoves in the province's remaining diesel systems. • IET has provided a letter of support for NCC's application for federal funding to establish a community firewood project that would harvest cordwood in Port Hope Simpson and transport it to homes throughout Southern Labrador communities for wood heat.
4.2.8 Encourage and support the efforts of industry organizations to communicate sustainable tourism development opportunities with operators. **Lead:** Tourism, Culture, Arts and Recreation / Industry, Energy and Technology **Status:** **COMPLETE**	• Through ongoing engagement with tourism stakeholders, the Departments of IET and Tourism, Culture, Arts and Recreation (TCAR) is building awareness of sustainable tourism opportunities in the province. As part of the implementation of the Provincial Tourism Product Development Strategy (2017-2020), TCAR/IET and its tourism partners have offered 44 tourism opportunities sessions, engaging with over 1,800 tourism stakeholders and creating over 100 new experiential tourism businesses. • $350,000 of cost shared funding from ECC and Natural Resources Canada was provided to Hospitality Newfoundland and Labrador to build awareness and knowledge of climate change to tourism operators, identify risks and opportunities as it relates to climate change (e.g., in the outfitting, marine tourism, and winter tourism sectors), and provide training on how to mitigate these risks and avail of the opportunities.

Green Economy

Action Item	Progress on Action
4.2.9 Work with the Federal Government to improve the energy efficiency of product standards and codes. **Lead:** Environment and Climate Change / Municipal and Provincial Affairs / Digital Government and Service NL **Status:** **COMPLETE**	• Through various federal-provincial-territorial working groups, the Departments of ECC and IET, and NLH review proposed energy efficiency changes to product standards. • Through various federal-provincial-territorial working groups, the Department of Digital Government and Service NL (DGSNL) and ECC represent the province on federal-provincial-territorial working groups to develop enhanced building codes (e.g., National Building Code and National Energy Code for Buildings).

Transportation

Action Item	Progress on Action
4.3.1 Develop a comprehensive long-term strategy to increase electric vehicle penetration in consultation with the electric utilities, municipalities and industry. **Lead:** Environment and Climate Change / Industry, Energy and Technology / Immigration, Population Growth and Skills **Status:** **PROGRESS MADE**	• The Departments of ECC, IET, and Immigration, Population Growth and Skills (IPGS), in partnership with the electric utilities, industry, and the cities of St. John's and Mount Pearl have established a working group to advance policy work. Actions to date include: • the installation of 14 high speed electric charging stations by Newfoundland and Labrador Hydro along the Trans Canada Highway using federal, provincial, and utility funding (Additional information is available at: https://nlhydro.com/electricvehicles/plan-your-route/); • approval to install 19 additional high speed charging stations, in locations such as Labrador, Great Northern Peninsula, Bonavista Peninsula, and Burin Peninsula in 2022, using federal and utility funding; • inclusion of electric vehicle incentives in the utilities' 2021-25 conservation and demand management plan (currently being reviewed by the Public Utilities Board); • a provincial funded rebate program of $0.5 million in 2021-22 to accelerate electric vehicle take-up (Additional information is available at: https://nlhydro.com/electricvehicles/); • a review of post-secondary training by IPGS for electric vehicle maintenance, which led to a $974,003 in provincial funding from IPGS to the College of the North Atlantic to support the development of electric vehicle specialized training for journeypersons and first responders.

Transportation

Action Item	Progress on Action
4.3.2 Explore opportunities to electrify marine ports, truck stops and public transit, in consultation with stakeholders, to reduce GHG emissions. **Lead:** Industry, Energy and Technology / Environment and Climate Change / Transportation and Infrastructure **Status:** **PROGRESS MADE**	• The Departments of ECC, IET, and TI are seeking to identify opportunities for electrification of marine ports, truck stops, and public transit. This would result in reduced GHG emissions. • Funding is available from the Low Carbon Economy Leadership Fund (action 4.1.2) to support private, non-profit, and public sector projects to reduce GHG emissions. • IET collaborated on a feasibility study regarding Memorial University (MUN) transitioning from diesel boilers to electric boilers and is continuing to support MUN through the next stages of the decision making process.
4.3.3 Establish a program to support energy efficiency retrofits to heavy duty trucks and trailers with provincial investments and federal funding through the Low Carbon Economy Leadership Fund. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• This program was established in 2019 (see action 4.1.2) under the cost shared federal-provincial Low Carbon Economy Leadership Fund and is implemented by ECC. • To date, approximately $1 million has been allocated to install energy savings technologies on snowplows. • Annual GHG emission reductions from the project is expected to total 480 tonnes.

Transportation

Action Item	Progress on Action
4.3.4 Reduce GHG emissions from Provincial Governments' vehicle fleet through incorporating fuel economy specifications into the procurement of vehicles, right-sizing for their intended use and function. **Lead:** Transportation and Infrastructure **Status:** **COMPLETE**	• TI introduced a requirement to evaluate fuel consumption rates in vehicle procurement processes. As of August 2021, 122 vehicles have been purchased using this evaluation requirement. • In addition, 342 older, less efficient vehicles have been removed from the fleet. • TI is replacing high-consumption vehicles with more fuel efficient options, where practical, and has adopted the use of shared vehicle pools in regional centres across the province. The introduction of vehicle pools has allowed government to reduce the number of vehicles required to meet demand. • In 2021, two new, electric vehicles were added to the vehicle pool fleet.
4.3.5 Maximize travel efficiencies among government employees by providing education and outreach on fuel efficient driving techniques, and promoting increased uptake of teleconference and videoconferencing services. **Lead:** Public Service Commission / Environment and Climate Change **Status:** **COMPLETE**	• Maximizing travel efficiencies among government employees has been exacerbated by COVID-19. Since 2020, there has been a significant uptake in teleconference and videoconference services. This, paired with remote working arrangements, has reduced the amount of GHG emissions that would have resulted from commuting to work and to other in-person engagements. • GHG emissions reductions related to travel will continue in 2021-22 as Government promotes continued use of teleconference and videoconference services for which this is effective.

Transportation

Action Item	Progress on Action
4.3.6 Work with stakeholders to promote active modes of transportation within municipal and provincial government policies, practice and planning guidelines to enhance healthy, active communities. **Lead:** Tourism, Culture, Arts and Recreation **Status:** **COMPLETE**	• TCAR provided funding to Bicycle Newfoundland and Labrador to develop a Cycling Safety Awareness Campaign. The initiative involved developing videos on various topics, including benefits of cycling, cycling on multi-use trails, tips for safe cycling, and information on the one meter rule ((https://www.youtube.com/channel/UCUBcuBnC2F7HD0_35OBhzsg). The reach of the Cycling Safety Awareness Campaign totaled over 559,000 impressions on various social media platforms. Bicycle Newfoundland and Labrador has engaged Municipalities Newfoundland and Labrador, Association for New Canadians, School Sports Newfoundland and Labrador, Recreation Newfoundland and Labrador, and Regional Health Authorities in this work. • Through TCAR's partnership with ParticipACTION, targeted social and digital media campaigns for adults and families continue to promote active modes of transportation as a means of increasing physical activity and reducing sedentary living. • In 2020-21, TCAR has approved provincial funding in excess of $51,000 to communities and non-profit groups to support projects that encourage active modes of transportation such as walking trail development / repairs and upgrades.

Agriculture, Forestry, Fisheries and Natural Areas

Action Item	Progress on Action
4.4.1 Support the development and utilization of biofuels in the province. **Lead:** Fisheries, Forestry and Agriculture **Status:** **COMPLETE**	• Mechanisms have been implemented by the Department of Fisheries, Forestry and Agriculture (FFA) to facilitate easier access to firewood for homeowners to reduce reliance on fossil fuels for home heating. For example, the application process for domestic cutting permits is now available online, and a domestic permit holder can now have up to 10 helpers listed on a permit (up from 1 to 2 helpers in previous years). • FFA has amended the **Cutting of Timber Regulations** to allow for gifting of wood to increase accessibility to fuelwood, and amended the **Forestry Act** to better enable the removal of timber from agricultural Crown land to make it easier for farmers to clear land for agriculture purposes. • FFA supported the NunatuKavut Community Council's call for proposals from the private sector to harvest and process 75 cords of firewood for Black Tickle (see action 4.2.7). • FFA announced that timber salvaged from the Muskrat Falls construction project is available for public use. A permit (free) is required from the department to access the wood. The wood was suitable for firewood and sawlogs, and is to be used for domestic purposes.
4.4.2 Support the agriculture, aquaculture and fishing industries to increase food production in a manner that takes into consideration GHG emissions. **Lead:** Fisheries, Forestry and Agriculture **Status:** **COMPLETE**	• FFA implements an Environmental Sustainability and Climate Change Program. It has supported 27 projects that focused on environmental beneficial management practices such as conservation tillage, pest management, pesticide application, wildlife damage prevention, sustainable irrigation management, manure storage and handling, and waste management. • FFA funds the federal-provincial Atlantic Fisheries Fund that has supported projects such as organic waste reduction and trawl monitoring technology to improve trawl efficiency and reduce fuel use. • FFA provided funding to Grenfell College to study GHG emissions of fishing fleets in Atlantic Canada. • FFA also supported industry projects that leveraged funding from the Federal Government's Fisheries and Aquaculture Clean Technology Adoption Program, such as the purchase and installation of oil filtration systems and hydraulic generators to replace diesel generators. • In July 2021, FFA hosted a Climate Change Virtual Workshop for the agriculture industry. The purpose of the workshop was to promote

Agriculture, Forestry, Fisheries and Natural Areas

Action Item	Progress on Action
	environmental sustainability and climate change challenges on farms as well as create awareness of opportunities to provide benefits to the water, soil, air and biodiversity in the agriculture sector within the province. • FFA supports the agriculture industry in reducing GHG emissions by conducting research and providing advice on best management practices such as, the 4R's of nutrient management (right time, right place, right rate and right source), conservation and no till practices, and crop rotation.
4.4.3 Enhance carbon sequestration in the forestry and agriculture sectors. **Lead:** Fisheries, Forestry and Agriculture **Status:** **PROGRESS MADE**	• FFA established a Climate Change Modeling Working Group with Corner Brook Pulp and Paper and the Centre for Forestry Services at Grenfell College. The 2021 work plan includes actions to outline goals, objectives, and the carbon modeling required to report on carbon sequestration opportunities. • FFA participates on the federal-provincial-industry-academic Atlantic Tree Improvement Working Group (AlanTIC), established in 2020, to improve the genetic quality and diversity associated with seedlings grown for reforestation by manipulating a tree species' gene pool. The AlanTIC is anticipated to add additional genetic diversity to adopt to climate change. • In the agriculture sector, FFA is evaluating the potential benefits of adding natural resource waste products to agricultural soils as amendments to enhance soil quality/health and crop production.
4.4.4 Work with agriculture, forestry, fisheries and aquaculture industries to increase knowledge and build resilience to changing climatic conditions, including increased precipitation and temperature, and invasive species and pests.	• ECC, cost shared with Natural Resources Canada, provided $241,312 to the Newfoundland and Labrador Federation of Agriculture, $304,600 to the Newfoundland and Labrador Forestry Industry Association, and $423,777 to the Fish, Food and Allied Workers union to work with their members to identify climate change adaptation issues and develop training resources. ECC also completed a risk assessment in the agriculture, fisheries, forestry, and aquaculture industries. This study is available at: www.gov.nl.ca/ecc/files/CBCL_CC-Risk-Assessment_Final-Report.pdf. • FFA participates on Newfoundland and Labrador Climate Network Owners workshop (which is facilitated by ECC) and supports ECC's efforts to locate sites and upgrade its climate monitoring network. This includes a request by FFA to Environment and Climate Change

Agriculture, Forestry, Fisheries and Natural Areas

Action Item	Progress on Action
Lead: Fisheries, Forestry and Agriculture / Environment and Climate Change **Status:** **COMPLETE**	Canada to install a state-of-the-art climate monitoring station in a strategically important mussel production region. • FFA provided a $15,000 provincial grant to the 2019 Students on Ice Expedition in support of the organization's 2019-20 programming. • FFA provided $30,000 in provincial support for a community focused two-year pilot project by the Town of Harbour Breton, bringing together community leaders, the public, Memorial University, and government researchers to control the impact the invasive species Green Crab have on the lobster and the environment in Fortune Bay. The project is focused on coastal and near shore Green Crab removal in Harbour Breton and surrounding areas, and is exploring composting and utilizing Green Crab as a fertilizer on a community scale. It includes academic research on interactions between Green Crab and lobsters to determine their distribution and movements, potential effects on the lobster fishery, as well as mechanisms to enhance lobster capture while reducing that of Green Crab. In addition, the project will provide support for community education and awareness activities to help mitigate the spread of green crab and to create awareness of AIS in the K-12 school system. These project objectives will be completed over a two-year period (2021 & 2022). • FFA provided $12,500 of provincial funding to ACAP Humber Arm to support the delivery of a destructive sampling program to be conducted on the Great Northern Peninsula. This program is in effort to investigate the presence and potential spread of European green crab in this region of the province. • FFA provided $24,000 in provincial support to ACAP Humber Arm for a destructive Green crab sampling project in additional locations in Western Newfoundland in an effort to investigate the presence and potential spread of green crab in this region. • A total of 140,000 hectares of forest was treated for Spruce Budworm through an aerial spray program in summer 2021. • FFA participated in a silviculture initiative to plant additional trees throughout the province. During the 2020 season, an additional 1.216 million seedlings were planted on 553 hectares on Crown land. • FFA has worked with Corner Brook Pulp and Paper Limited in supporting timber exchanges that reduce the transportation distance for timber (reducing carbon emissions), and exploring trailer configurations that can haul larger loads, again reducing the fuel and associated emissions required to transport timber.

Agriculture, Forestry, Fisheries and Natural Areas

Action Item	Progress on Action
	• FFA continually monitors pest and disease occurrence and prevalence throughout the province's agricultural industry and provides advice on best management and adaptive practices to address issues with a changing climate.

Energy Use in Buildings and Homes

Action Item	Progress on Action
4.5.1 Continue to implement the Energy Efficiency Loan Program to make low-interest financing available to households for energy efficiency upgrades. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• ECC, through Newfoundland Power, implemented the Energy Efficiency Loan Program from 2017-18 to 2019-20. The program assisted 482 participants cover approximately $2.7 million provincial funding in upfront costs related to home energy assessments, insulation, and heat pumps. Collectively, the upgrades are projected to save participants 24.1 gigawatt hours of electricity and $2.9 million in electricity costs over the lifetime of the technologies installed, and save participants about $175,000 in loan interest. • In 2019, Newfoundland and Labrador Hydro, on behalf of ECC, implemented a one-year, provincially funded, $1 million heat pump rebate program. About 850 rebates of $1,000 each were provide to homeowners to purchase and install a heat pump. • In 2021, Newfoundland and Labrador Hydro, on behalf of ECC, is implementing a one-year, provincially funded, $1 million program to facilitate fuel switching from heating oil to electricity. Funding is available for about 365 rebates of $2,500 each. • Additional information is available at: https://nlhydro.com/customer-service/energy-savings/oil-to-electric-rebate/.

Energy Use in Buildings and Homes

Action Item	Progress on Action
4.5.2 Expand the home energy savings program to low-income households who rely on heating oil to improve the energy efficiency of their homes, with provincial investments and federal funding through the Low Carbon Economy Leadership Fund. **Lead:** Newfoundland and Labrador Housing Corporation **Status:** **COMPLETE**	• Under the cost shared federal-provincial Low Carbon Economy Leadership Fund this program was established in 2019 (see action 4.1.2) and is implemented by the NLHC. The budget is $8.1 million to 2023-24. • As of March 31, 2021, $1.43 million has been committed to 296 clients to make their homes more energy efficient. The average client will save approximately 400 litres of oil annually (average projected annualized GHG reduction is 1.18 tonnes). • Under the cost shared federal-provincial Low Carbon Economy Leadership, an additional $807,000 has been provided to upgrade the energy efficiency of NLHC multi-unit residential buildings. • Additional information is available at: www.gov.nl.ca/ecc/occ/low-carbon-economy-programs/homeenergysavings/.
4.5.3 Implement a program to provide incentives to households who rely on heating oil to improve energy efficiency of their homes, with provincial investments and federal funding through the Low Carbon Economy Leadership Fund. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• Under the cost shared federal-provincial Low Carbon Economy Leadership, this program was established in 2019 (see action 4.1.2) and is implemented by the electric utilities through a contract with ECC. The budget is $1.6 million to 2023-24. The program provides similar incentives to homeowners as are available to electrically-heated homes through the utilities' takeCharge program. • As of March 2021, the program has helped 679 applicants with insulation and thermostat rebates totaling $394,044 resulting in projected savings of 312,411 litres of oil savings each year and a reduction of GHG emissions by 862 tonnes annually. • Additional information is available at: www.gov.nl.ca/ecc/occ/low-carbon-economy-programs/oilheatedhomes/.

Energy Use in Buildings and Homes

Action Item	Progress on Action
4.5.4 Invest in energy efficiency and fuel switching in buildings owned by the Provincial Government and its agencies, boards and commissions, with provincial investments and federal funding through the Low Carbon Economy Leadership Fund. **Lead:** Transportation and Infrastructure / Health and Community Services / Fisheries, Forestry and Agriculture (biomass) **Status:** **PROGRESS MADE**	• Under the cost shared federal-provincial Low Carbon Economy Leadership, this program was established in 2019 (see action 4.1.2) and is implemented by TI and HCS. The budget is $38 million to 2023-24. • In total, 47 public buildings, schools, College of the North Atlantic campuses, hospital, and other health facilities are being upgraded. • Total energy savings are projected at 5.5 million litres per year and projected GHG emission reductions are 15,131 tonnes per year.
4.5.5 Construct provincially-funded buildings to high energy efficiency and environmental standards, consistent with Government's commitment to build better buildings. **Lead:** Transportation and Infrastructure **Status:** **COMPLETE**	• Since January 2019, five provincial buildings have been registered with the Leadership in Energy and Environmental Design (LEED) program, building on the 52 provincial and municipal buildings that were registered between 2008 and 2018. This includes the construction of two new schools - Copper Ridge Academy in Bay D'Espoir, and Paradise Intermediate in Paradise - as well as new P3 infrastructure projects including the, Corner Brook Acute Care Hospital, Gander and Grand Falls-Windsor Long Term Care facilities, and the New Adult Mental Health and Addictions facility.

Energy Use in Buildings and Homes

Action Item	Progress on Action
4.5.6 Ensure that government owned buildings are energy efficient and environmentally sound by pursuing appropriate third-party certification. **Lead:** Transportation and Infrastructure **Status:** **PROGRESS MADE**	• Since January 2019, three provincial buildings and one municipal building have achieved LEED certification, including the Carbonear and Corner Brook Long Term Care facilities and Copper Ridge Academy in Bay D'Espoir. • To date, 19 of the 53 provincial and municipal projects that were registered with LEED prior to 2019 have been certified and a further four buildings (all schools) are in the process of being certified at this time. There is generally a significant time delay between registration date, construction, commissioning, and the start of the certification process. • In the next 2.5 years, government will dedicate staff that will be responsible for the energy performance of government buildings, and will work towards pursuing third-party certification of existing infrastructure.
4.5.7 Establish minimum energy efficiency requirements for commercial and institutional buildings. **Lead:** Environment and Climate Change / Municipal and Provincial Affairs **Status:** **PROGRESS MADE**	• Cost-benefit analysis has been completed for the 2011 and 2015 National Energy Code for Buildings. • The Department of Municipal and Provincial Affairs (MAPA) is considering possible mechanisms to adopt energy efficiency requirements for commercial and institutional buildings.

Infrastructure, Planning and Development

Action Item	Progress on Action
4.6.1 Widely disseminate climate projections for Newfoundland and Labrador, which take into account most recent global and regional climate trends. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• The 2018 climate projections, developed in conjunction with Memorial University using globally-recognized resources, are made publicly available by the Government of Newfoundland and Labrador. This accounts for temperature and precipitation projections, as well as intensity-density-frequency curves. • Additional information is available at: www.gov.nl.ca/ecc/occ/climate-data/. • Since the projections have been released, they have been incorporated in ongoing work across the Government of Newfoundland and Labrador, including divisions responsible for managing water resources , environmental assessment, and monitoring sea level rise and coastal erosion. They are also used by Memorial University as part of its federally-funded Building Resilience in Public Infrastructure project. • Public dissemination on the latest projections has taken place and is ongoing. This includes providing webinars (with recordings made publicly available) about the climate projections. Tailor-made presentations to specific sectors also took place, ranging from audiences including municipalities, tourism operators, agriculture and forestry sectors, fisheries, energy, as well as various other industries.
4.6.2 Continue to implement and enhance the coastal erosion and monitoring program. **Lead:** Industry, Energy and Technology **Status:** **COMPLETE**	• IET conducts monitoring at 120 sites as of 2019. • Since 2019, IET has conducted numerous webinars to public and municipal stakeholders, averaging three major events/year. IET has supported NunatuKavut Community Council with hands on training and knowledge transfer and works with the Nunatsiavut Government on sites in northern Labrador. • A user-friendly guide to coastal erosion, including videos, was developed by the Departments of ECC and IET in 2020 to help clients better understand the data and how to use it. This puts geoscience information directly into the hands of the public, and empowers clients and municipalities to make informed decisions about living safely in areas prone to coastal erosion hazards. This information is available at: www.gov.nl.ca/ecc/files/Handbook_Sept21_2020.pdf

Infrastructure, Planning and Development

Action Item	Progress on Action
4.6.3 Support the development and dissemination of climate research, analysis and information to improve understanding of climate impacts. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• ECC established the Newfoundland and Labrador Climate Network Owners Working Group was established in 2018 with 11 federal, municipal, and industry members. A workshop is held annually to share climate research being developed in various government departments. • ECC entered into a cost-sharing agreement in 2019 with Natural Resources Canada valued at approximately $2 million to build capacity in the agriculture, fisheries, forestry, mining, and tourism sectors to mitigate the negative impacts and avail of the opportunities associated with climate change. • An MOU was signed in 2020 to establish an 'Atlantic Hub' Atlantic Climate Expert Organization with each Atlantic Province and the federal government. This organization is to be operational in late 2021. • Memorial University entered into an agreement with Natural Resources Canada in 2018 to increase awareness of the need for resilience in public infrastructure design. Project partners include ECC, Municipalities Newfoundland and Labrador, and Professional Engineers and Geoscientists of Newfoundland and Labrador. Three workshops with stakeholders have been held to date.
4.6.4 Continue to integrate climate change into flood risk maps, implement the hurricane season flood alert system and strengthen climate monitoring. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• New flood risk maps are being developed by ECC that include climate projections. Since the 2019 action plan was released, flood risk mapping studies have been funded for the Exploits River, Humber River, and Lower Churchill River. Briefings on climate change flood risk maps have been provided to residents of Happy Valley-Goose Bay and Mud Lake. Further work is planned for 2021-22. • ECC's Hurricane Season Flood Alert System generates over 9,630 precipitation forecasts for 45 communities/areas from July to December annually. The system provides advance notice to municipalities and stakeholder to allow them to prepare for high precipitation events.

Infrastructure, Planning and Development

Action Item	Progress on Action
4.6.5 Raise awareness, increase understanding and build capacity of external stakeholders and governments to integrate climate change into decision making on infrastructure and planning. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• See action 4.6.3.
4.6.6 Support disaster mitigation through updates to municipal emergency management plans, and identifying and implementing prevention and mitigation opportunities in partnership with communities. **Lead:** Justice and Public Safety **Status:** **COMPLETE**	• The Department of Justice and Public Safety (JPS) recently released a new Municipal Emergency Management Plan template that is more holistic in nature and adds new hazards such as pandemics. In consultation with HCS, JPS is creating a pandemic 'Warming Shelter Guide' for municipalities. JPS is working with municipalities to update municipal emergency plans. • JPS and the Departments of ECC, TI, and MAPA are working with municipalities and other infrastructure owners to take identify opportunities to take advantage of funding available under the federal Disaster Financial Assistance Arrangements to 'build back better'.

Infrastructure, Planning and Development

Action Item	Progress on Action
4.6.7 Ensure climate change is a core consideration in the development and implementation of asset management. **Lead:** Transportation and Infrastructure **Status:** **PROGRESS MADE**	• TI is developing an MS Excel-based asset management program that will be made available to municipalities. The program will provide guidance for assessing the condition of municipal infrastructure, tracking maintenance and upgrades, and for including climate change considerations. Launch of the program will be accompanied by training and guidance materials for municipalities. • TI and partner organizations are working with stakeholders to build climate change capacity in the area of asset management, including through Memorial University's public infrastructure project (see action 4.5.3). TI also collaborates with Municipalities Newfoundland and Labrador on its Municipal Asset Management Program.
4.6.8 Apply a climate lens to the Environmental Assessment review process, to ensure that climate change considerations are appropriately taken into account. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• A climate lens is provided for every environmental assessment reviewed by the Province. A climate lens assessment addresses both climate change mitigation and adaptation, and references the **Management of Greenhouse Gas Act** and its regulations (e.g. requirements for large industrial facilities), energy efficiency requirements for new buildings, climate projections for extreme precipitation events, flood risk mapping, sea level change, and coastal erosion. • Over 60 projects undergoing environmental assessments underwent a climate lens in 2019 as well as over 40 in 2020.

Infrastructure, Planning and Development

Action Item	Progress on Action
4.6.9 Integrate climate change considerations and factor climate change projections into government infrastructure development decisions. **Lead:** Transportation and Infrastructure **Status:** **PROGRESS MADE**	• Municipalities receiving federal-provincial funding through the Investing in Canada Infrastructure Progam may be required to complete a federal climate lens assessment depending on project value and the particular funding stream being accessed. Included in the climate lens is an assessment of a project's GHG emissions and/or resilience to the impacts of climate change. • The Climate Change Branch held a stakeholder webinar on the lens in 2020 and can support users develop a lens, as appropriate. • The climate lens was completed for the following ten projects in 2020 and 2021 (to date): armour stone protection projects for the communities of Hampden, Terrenceville, and Port au Choix; an ice wall replacement for Rushoon; shoreline protection for Harbour Road in Witless Bay; a slope stabilization/road rehabilitation for Church Road in Bryant's Cove; an industrial park wastewater treatment plant in Wabush; a flood protection berm at Leary's Brook, and two Goulds sewer/wastewater projects in St. John's. A climate lens is pending for 11 more projects. • Municipalities applying for provincial infrastructure funding are required to complete the provincial climate lens for all projects. This helps ensure that climate change considerations are integrated into the planning, design and development of these projects, including project budgets and work plans.
4.6.10 Work with the Federal Government and Indigenous governments and organizations to support the development and implementation of a Northern Adaptation Strategy that includes Labrador. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• As part of the national Northern Adaptation Strategy, the Government of Canada established the Climate Change Preparedness in the North program to help build resilience in Northern Canada, including Labrador. ECC is an active participant on the Climate Change Committee with the Nunatsiavut Government, which serves as a steering committee to allocate funds gained through this program. Examples of funded projects to date include permafrost melt, mitigating pollution, and address changes in sea ice related to climate change. • Various representatives from several government departments also served on the steering committee for the Northern Transportation Adaptation Initiative. This federally funded program assess transportation assets in Northern Labrador and its susceptibility to climate change. The project concluded in March 2021 and a final report provide recommendations for mitigating the impacts of climate change on the transportation sector in Northern Labrador is publicly available.

Health and Well-being

Action Item	Progress on Action
4.7.1 Implement a surveillance program for the province to monitor the incidence and spread of ticks and Lyme disease, resulting from changing climatic conditions. **Lead:** Health and Community Services **Status:** **COMPLETE**	• In 2019-20, HCS implemented a Tick and Lyme Disease Surveillance project, funded through the Public Health Agency of Canada's Infectious Diseases and Climate Change Fund. The project found that seven out of 91 (8 percent) dog blood samples showed prior exposure to Lyme disease. All positive results were in southwestern Newfoundland. No ticks were able to be collected during the active surveillance portion of the project; therefore, no conclusions could be drawn regarding the potential presence of a resident population of infected ticks. Future tick and Lyme disease surveillance efforts may include a particular focus on southwestern Newfoundland.
4.7.2 Incorporate climate change considerations into health related planning, health system emergency planning, and the health alert system. **Lead:** Health and Community Services **Status:** **COMPLETE**	• HCS works with partners on all health hazards emergency planning that includes specific initiatives relating to the impacts and consequences of climate change. Work is ongoing with Environment and Climate Change Canada for alerts and notifications for potential severe weather events that are disseminated to the health system to inform preparedness measures. There is ongoing collaboration and planning with JPS on communication outage protocols and also guidance for municipalities on warming centres.
4.7.3 Apply a climate change lens to implementing Indigenous commitments in the Mental Health and Addictions Action Plan in developing programming in Indigenous communities. **Lead:** Health and Community Services **Status:** **PROGRESS MADE**	• HCS co-led consultations with Indigenous partners to inform the provincial Life Promotion Suicide Prevention Strategy in Sheshatshiu, Happy Valley-Goose Bay, Port Hope Simpson, Flat Bay/Bay St. George, Conne River, and virtually with Nunatsiavut Government's Mental Wellness and Healing Staff, and with Mushuau Innu First Nation mental health staff. • HCS has developed a Life Promotion Suicide Prevention Strategy with Indigenous partners to ensure resources are provided for Indigenous partners to support community-led land-based wellness programming; raise awareness of historical trauma and social, cultural contexts of communities; and embed culturally safe and accessible wellness services.

Education and Outreach

Action Item	Progress on Action
4.8.1 Increase public awareness to deepen understanding of climate change. **Lead:** Environment and Climate Change **Status:** **PROGRESS MADE**	• See actions 4.6.1 to 4.6.6. • In 2020-21, ECC contributed $100,000 of provincial funding towards Memorial University's Harris Centre's 18 month Climate, Economy and Society Initiative, which is exploring how the province should address climate change as it recovers from the impacts of COVID-19. Additional information is available at: www.mun.ca/harriscentre/whatwedo/publicpolicy/climateeconomysociety.php. • Information on climate change actions are shared through ECC's social media accounts, ministerial speeches, and news releases.
4.8.2 Build awareness and a culture of environmental sustainability within the Provincial Government that facilitates understanding of how government employees can contribute to action on climate change. **Lead:** Public Service Commission / Environment and Climate Change / Multi-Materials Stewardship Board **Status:** **PROGRESS MADE**	• The Greening Government Action Plan was launched in 2015 and implemented over a five-year period. The was widely successful with a total of 873 actions implemented across government, including 317 actions for waste diversion, 93 actions for sustainability of government buildings, 107 actions for transportation, 122 actions for procurement, and 234 actions for engaging staff. • Following the completion of the Greening Government Action Plan, the Province is reviewing opportunities to build upon the success of the Plan and to continue building awareness and a culture of environmental sustainability with Provincial staff. A shortlist of activities has been proposed and will be implemented over the next 2.5 years.
4.8.3 Raise awareness and build capacity of municipalities to enhance integration of climate change into their operations and community outreach. **Lead:** Environment and Climate Change **Status:** **COMPLETE**	• Please see actions 4.6.1 to 4.6.10. • ECC works bilaterally with municipalities in the development of climate change plans. Examples include St. John's, Conception Bay South, Portugal Cove-St. Philips, and Deer Lake. In addition, ECC works with the Miawpukek First Nation on a plan for Conne River.

Conclusion

This plan takes a whole-of government approach to addressing climate change, and, as such, actions within this plan will be led by departments and agencies across the Provincial Government, in collaboration with partners.

To ensure continued transparency and accountability of this plan, and provincial action on climate change, we will report on progress again at the end of the plan's duration. While the majority of the actions outlined are intended to be completed within the timeframe of this plan, some items are longer-term initiatives that will continue to be implemented beyond the five-year period.

Best available information suggests that, in the absence of additional actions in this decade, the 2030 target may not be achieved and our ability to achieve net zero GHG emissions by 2050 will be challenged. Over the next 2.5 years, we will continue to make progress toward completing the action plan as this sets out a course for immediate steps; however, we know additional action will be needed. We have and will seek new, more ambitious opportunities to further GHG emission reduction and transition Newfoundland and Labrador towards a green economy over this decade. In October 2021, we announced we would establish a Net Zero Advisory Council to inform ongoing and future decision making related to Greenhouse Gas Emission Reduction programs and policies. In December 2021, the membership of the Council was announced.

We recognize the urgent work required to address climate change and mitigate its impacts. As we continue to work on addressing climate change in our province, every action we individually and collectively take to protect our environment and lower GHG emissions matters.


Newfoundland
Labrador