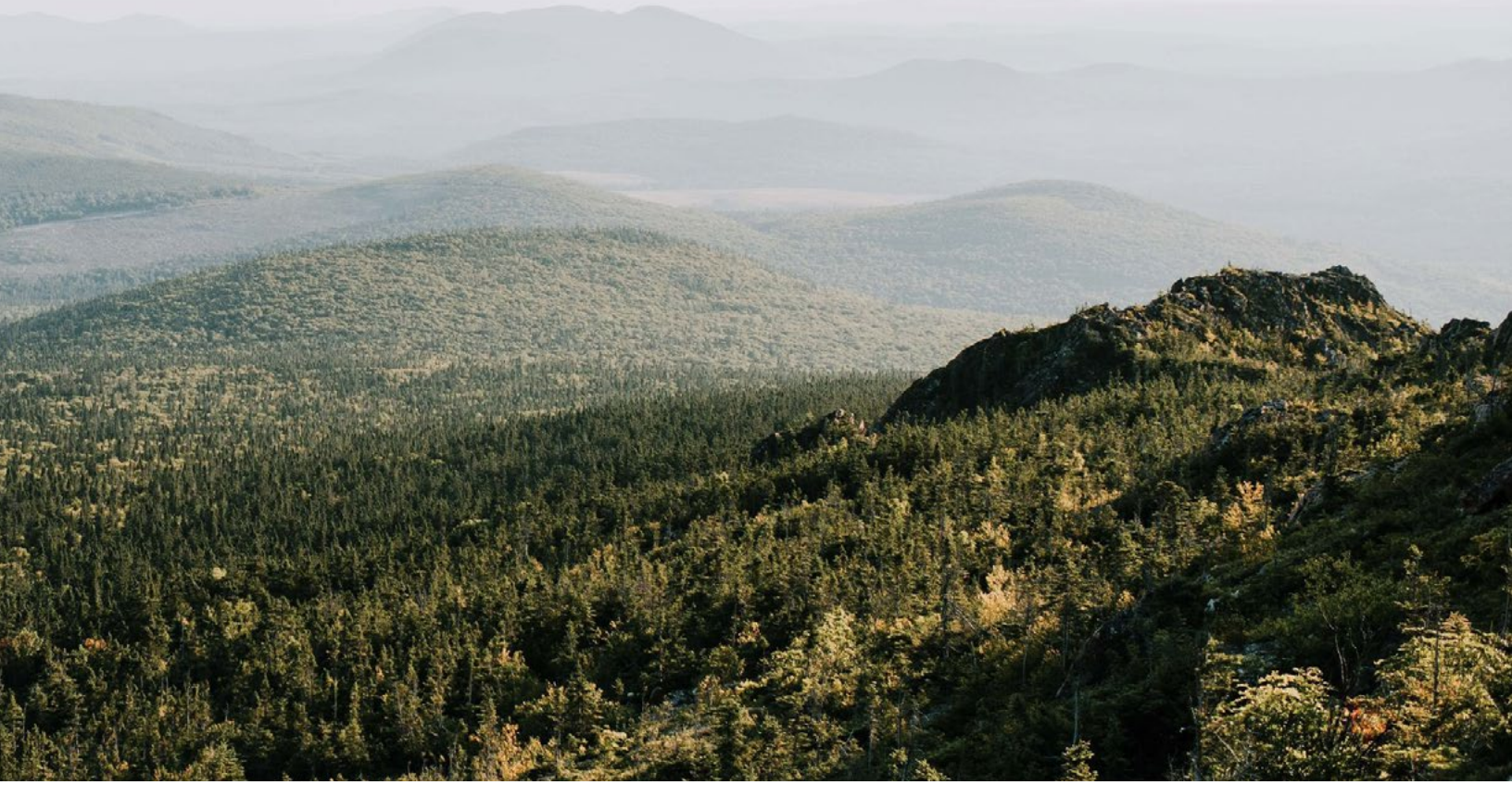
Our Pathway Towards Decarbonization and Climate Resilience

NEW BRUNSWICK'S CLIMATE CHANGE ACTION PLAN

2022-2027



New Nouveau Brunswick

Our Pathway Towards Decarbonization and Climate Resilience

NEW BRUNSWICK'S CLIMATE CHANGE ACTION PLAN 2022-2027

Province of New Brunswick
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A Message from The Minister

HONOURABLE GARY CROSSMAN

Climate change is already affecting New Brunswick. From our coastlines to our rivers, our agricultural land, and our forests, climate change is impacting the health of our environment and the well-being of all of New Brunswick.

When it comes to climate change action, the province has achieved a lot over the past five years, but we have more work to do. We need to build on our progress to date.

New Brunswickers have told us they want healthy and resilient communities, sustainable natural environments, and clean growth in the low-carbon economy.

Our province has the resources and expertise needed to make this happen.

New Brunswickers must continue working together to address the urgent challenges posed by climate change and successfully act on opportunities presented by decarbonization while at the same time supporting the managed transition for our existing sectors. Our new Climate Change Action Plan builds on our progress and lays out the next steps to ensure our province has what it needs to thrive in a resilient, low-carbon economy.

We will continue to act on opportunities to achieve our greenhouse gas reduction target for 2030, which will put us on the path to being net-zero by 2050. We will also continue to take action to address the impacts of climate change and build resiliency in our communities, businesses, infrastructure, and natural resources.

Thank you to all who shared your thoughts and ideas to help inform the development of our new plan. I am excited about what New Brunswickers will achieve over the years ahead.

Honourable Gary Crossman
MINISTER OF ENVIRONMENT AND CLIMATE CHANGE

Our plan and its purpose

Since our first Climate Change Action Plan was released in 2007, and through subsequent renewed plans, New Brunswick has successfully built a strong foundation for climate action. However, it has never been clearer that to limit global warming to 1.5 degrees Celsius and prevent the most catastrophic impacts of climate change, New Brunswick must do more to contribute to global efforts to combat the impacts of climate change and accelerate our transition to a low-carbon economy.

The Intergovernmental Panel on Climate Change, comprised of the world's leading climate scientists, has stated that human-induced climate change is now causing dangerous and widespread disruption in nature and the daily lives of people worldwide.

New Brunswickers are experiencing the impacts of climate change firsthand. We are experiencing more extreme precipitation events that increase the risk of flooding and erosion and cause significant damage to our properties and infrastructure. Sea levels continue to rise, impacting the safety of coastal communities. In recent years, we have experienced many extreme weather events, such as severe winter storms, record-setting flooding, and post-tropical storms, that have taken a substantial toll on the province. As well, temperatures are rising, creating more heat stress among the most vulnerable.

Climate change has become an increasingly dominant concern among businesses and industries worldwide as a result of climate-related disruptions to business operations, supply chains, infrastructure and property – all leading to increased costs of maintenance, materials and rising prices. New Brunswick is not immune to these concerns, and action is needed to mitigate the impacts of climate change on New Brunswick's businesses.

Recognizing that accelerated action is necessary to avoid the worst impacts of climate change, New Brunswick is joining jurisdictions worldwide by committing to achieving net-zero greenhouse gas (GHG) emissions by 2050. This means doing our fair share to reduce GHG emissions to as close to zero as possible and counter-balancing any remaining emissions through removals.

Reaching net-zero by 2050 and building resiliency to a changing climate will be challenging and requires strong and continued action. Although the provincial government has a key role to play, climate action is a shared responsibility, and our success will depend on the collaborative and coordinated action of all New Brunswickers. Addressing climate change provides an opportunity to build on New Brunswick's broader social, environmental, and fiscal priorities. It is imperative that New Brunswick aligns its response to climate change with efforts that enable sustainable development, protect vulnerable citizens, businesses, and communities, and support an equitable, diverse, and inclusive future for all New Brunswickers.

Our plan presents the actions New Brunswick believes are necessary to address our climate change priorities and contribute our province's share towards broader national and international commitments. It sends a clear signal to New Brunswickers, Canadians, and domestic and global markets that the province is committed to addressing climate change head-on and, in doing so, transforming our economy into a clean, prosperous, and resilient economy for the betterment of all. Recognizing that the federal government has a very robust suite of climate actions, the intention is not to repeat all the federal commitments in our plan but to provide New Brunswick specific commitments and complement federal policies where necessary.

Our actions

The 2016 Climate Change Action Plan, *Transitioning to a Low-Carbon Economy*, is the foundation upon which our new plan is built. The 2016 plan served as the template for climate action in New Brunswick over the past five years and the continued collaboration between provincial government departments, external stakeholders, and Indigenous communities. While the plan achieved significant results (e.g. increase in preparedness for climate change impacts, electric vehicle sales, energy efficiency programming, tools to address climate change and public health, energy from renewable sources and a decrease in overall GHG emissions), the challenges and opportunities associated with climate change are immense and underscore the need for New Brunswick's continued commitment and decisive action.

Our new plan, *Our Pathway Towards Decarbonization and Climate Resilience*, presents a clear, overarching path forward for climate change action in New Brunswick through three pillars:

1. Government leadership and accountability

2. Reducing GHG emissions

3. Preparing for climate change

Each pillar includes new incremental actions the provincial government is committing to undertake, and an overview of the ongoing work government will be doing. Ongoing items are included to give an idea of the full scope of the work being undertaken but will not be included as part of annual progress reporting. The 30 new actions[1] focus on the priority commitments needed to move climate action forward in New Brunswick. It is understood that the breadth of the work required on climate change extends beyond these 30 new actions, but these are the most critical and necessary measures for success. For each action, a lead government department or agency has been identified to support implementation (Appendix A).

These actions are expected to achieve significant results within and beyond the next five years. They can be grouped into two broad categories: actions where it is clear what needs to be done now, and actions where a plan is required to set the stage for future action.

[1] Action dates align with the fiscal year, and deliverables are expected by March 31 of the noted year.

Pillar 1

GOVERNMENT LEADERSHIP AND ACCOUNTABILITY

The acceleration of New Brunswick's response to climate change requires leadership and sustained action in the years ahead. Although climate change action is a shared responsibility among all New Brunswickers, the provincial government has a specific role in ensuring that ambitious actions are delivered to address the challenges and opportunities presented by climate change.

1.1 Accountability and reporting

Accountability and reporting are fundamental components of New Brunswick's climate change governance structure and connect our long-term climate targets with the actions presented in our plan. Successful implementation requires a focused, whole-of-government approach.

There is an increased focus on the measurability and accountability of actions in our plan. All new incremental actions have a clearly identified deliverable that government will track through implementation and progress reporting. Each new action has been assigned to a government department or agency to ensure its successful implementation.

To ensure transparency through consistent and comprehensive reporting to the public, New Brunswick's *Climate Change Act* commits the provincial government to release an annual progress report on the implementation of actions in our plan.

In addition, New Brunswick, along with all other Canadian provinces and territories, reports on climate change initiatives through the annual Pan Canadian Framework Synthesis Report. New Brunswick also continually tracks, forecasts, and reports on sector-level GHG reduction progress through our role in Canada's emissions projections and annual reporting to the United Nations Framework Convention on Climate Change.

As part of the commitment to accountability and reporting, the provincial government will continue to:

- Publicly release annual public progress reports on the implementation and measuring of actions identified in our plan.
- Regularly report to cabinet on progress towards implementing our plan.
- Share information and implementation updates with the Standing Committee on Climate Change and Environmental Stewardship.

1.2 Education and capacity-building

Collectively growing New Brunswickers' awareness of climate change and building the capacity to respond to the challenges and opportunities posed by a changing climate will be key to our success. It starts with educating children and youth and empowering them to become climate change champions in their homes, schools, and communities.

As part of the commitment to education and capacity-building, the provincial government will continue to:

- Explore opportunities for early learning and K-12 students to participate in climate change projects within the classroom and integrate climate change topics and actions into the K-12 curriculum.
- Support the creation of accessible and meaningful experiential climate change learning opportunities.
- Engage with non-governmental organizations (NGOs), local communities, and Indigenous communities to create partnerships and increase local capacity to participate in climate change actions.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

1. **Promote climate change literacy and professional development to ensure educational staff in K-12 have the tools to communicate climate change, with the goal of having 10-20 percent of educational staff per facility provided with climate change training by 2027.**

1.3 Collaboration with Indigenous communities

Indigenous communities are among the most vulnerable to climate change in New Brunswick. Due to their geographical location, many communities have experienced firsthand the impacts of extreme weather events and flooding.

Indigenous communities are already leading climate solutions in their communities, and the province remains committed to strengthening collaboration and supporting Indigenous communities in advancing their climate priorities.

As part of the commitment to collaborate with Indigenous communities, the provincial government will continue to:

- Build relationships and support opportunities for Indigenous communities to meaningfully reduce GHG emissions and help build resilience to the impacts of climate change.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

2. **Establish a working group with Indigenous communities and organizations by 2024 to identify climate change priority areas and facilitate information sharing.**

1.4 Keeping a price on carbon

Since 2019, every jurisdiction in Canada has been required by the federal government to have a price on carbon.

The carbon pricing system in New Brunswick has two parts: a provincial carbon tax and a provincial Output-Based Pricing System. The carbon tax is a GHG pollution charge applied to select fossil fuels such as gasoline and natural gas, whereas the Output-Based Pricing System is a performance-based system applicable to GHG emissions from the industrial and electricity generation sectors.

New Brunswick will continue to deliver a carbon pricing system that aligns with federal requirements and recognizes the province's unique economic, trade and competitiveness challenges.

As part of the commitment to keeping a price on carbon, the provincial government will continue to:

- Deliver a carbon pricing system that is fair for New Brunswickers.

1.5 Funding for climate change

Dedicated funding for climate change initiatives is essential to ensure accelerated action to address climate change. The Climate Change Fund supports projects that will help reduce GHG emissions in New Brunswick, increase our resilience to the impacts of climate change and foster climate education opportunities. The Climate Change Fund will continue to be a valuable tool to fund climate-related work in New Brunswick that supports the implementation of the province's Climate Change Action Plan.

Carbon pricing generates revenue for climate change initiatives through the carbon tax and the Output-Based Pricing System. Carbon tax revenue is returned to New Brunswickers through various mechanisms, including climate change initiatives funded by the Climate Change Fund. Revenue collected from the Output-Based Pricing System is returned to large emitters in ways that reduce GHG emissions.

As part of the commitment to funding for climate change, the provincial government will continue to:

- Strategically invest carbon tax revenue into climate change initiatives through the New Brunswick Climate Change Fund and provide transparency on expenditures.
- Invest in climate change initiatives through the New Brunswick Environmental Trust Fund to support NGOs and local communities.

Pillar 2

REDUCING GHG EMISSIONS

Although New Brunswick has demonstrated strong progress by being a leader in the country in reducing GHG emissions, more work is needed to achieve our GHG targets for 2030 and 2050.

Figure 1 illustrates the distribution of GHG emissions among the economic sectors in New Brunswick, with industry, transportation, and electricity generation identified as the most significant contributors to GHG emissions.

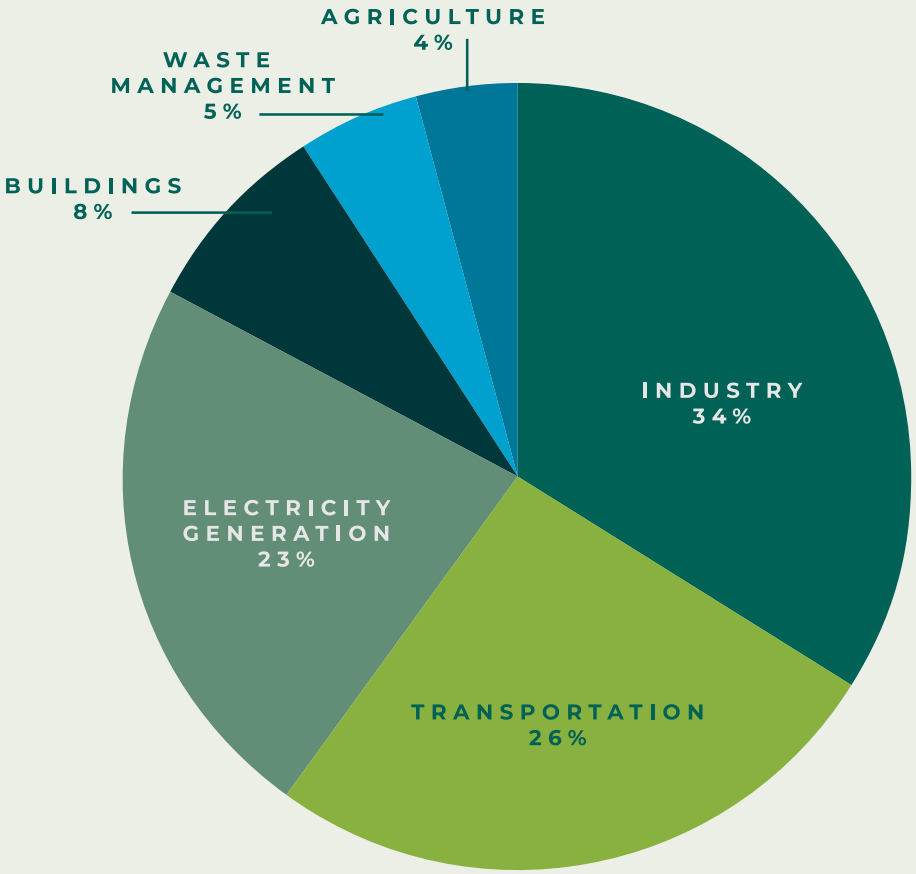
New Brunswick's efforts to decarbonize are about more than simply reducing our GHGs and meeting our GHG targets. Decarbonization efforts are also about positioning the province and our economy to attract new, clean and green investments, and create good jobs and opportunities for business while keeping life affordable. They are also about making sure our companies continue to have access to export markets and taking steps to address their competitiveness.

The new actions outlined in this section represent the key measures within these sectors that are necessary to strategically reduce our GHG emissions and support New Brunswick's meaningful contribution to being part of the solution to this global challenge.

These actions will help ensure that New Brunswick is positioned to take advantage of new opportunities presented by decarbonization while at the same time supporting a managed transition for our communities and economic sectors.

As part of our plan, government has estimated the potential GHG reductions that New Brunswick could achieve by implementing new actions (Appendix B).

Figure 1. New Brunswick's Current GHG Emissions by Sector (2020 data).
TOTAL GHG EMISSIONS: 12.4MT



Source: Environment and Climate Change Canada (2022), *National Inventory Report.*

2.1 GHG emission reduction targets

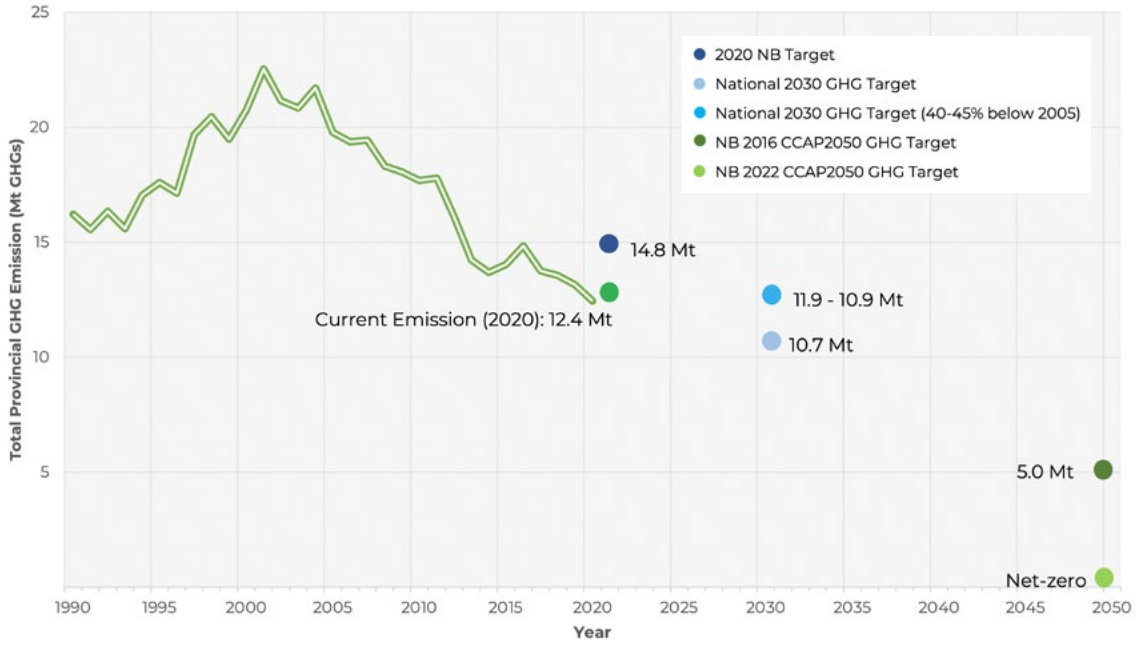
The latest GHG emissions data for New Brunswick from April 2022 shows the province's emissions at 12.4 Mt based on 2020 data. The provincial government remains committed to reaching our 2030 GHG reduction target of 10.7 Mt or 46 percent below our 2005 emission levels. Achieving the 2030 target will require continued effort and focus on the action outlined in our plan.

Both domestically and internationally, governments recognize that more aggressive measures are needed to reduce GHG emissions and limit global temperature rise to 1.5 degrees Celsius. There is an increasing focus on achieving net-zero emissions by 2050, which means reducing GHG emissions to as close to zero as possible and counter-balancing any remaining emissions through removals. This will present a significant challenge, and it will require action well beyond anything New Brunswick has experienced to date. While existing solutions will help put New Brunswick on the path to meeting net-zero emissions, transformative measures, and new and emerging technologies will also be required.

As part of the commitment to GHG emission reduction targets, the provincial government will continue to:

- Work towards achieving our 2030 GHG reduction target of 10.7 Mt, equal to at least 46 percent below 2005 emission levels.
- Measure, forecast and report progress towards the GHG reduction targets.

Figure 2: NB GHG Emissions and GHG Targets



NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

3. **Commit to reach net-zero GHG emissions by 2050 and develop, in consultation with a newly established Expert Advisory Body, a Net-Zero Blueprint by 2025 that includes:**

    a. **A suite of actions needed to achieve net-zero by 2050, focusing on all key sectors and including new low-carbon technologies and nature-based solutions, such as biofuels and clean hydrogen, clean electricity, and natural carbon sinks; and**

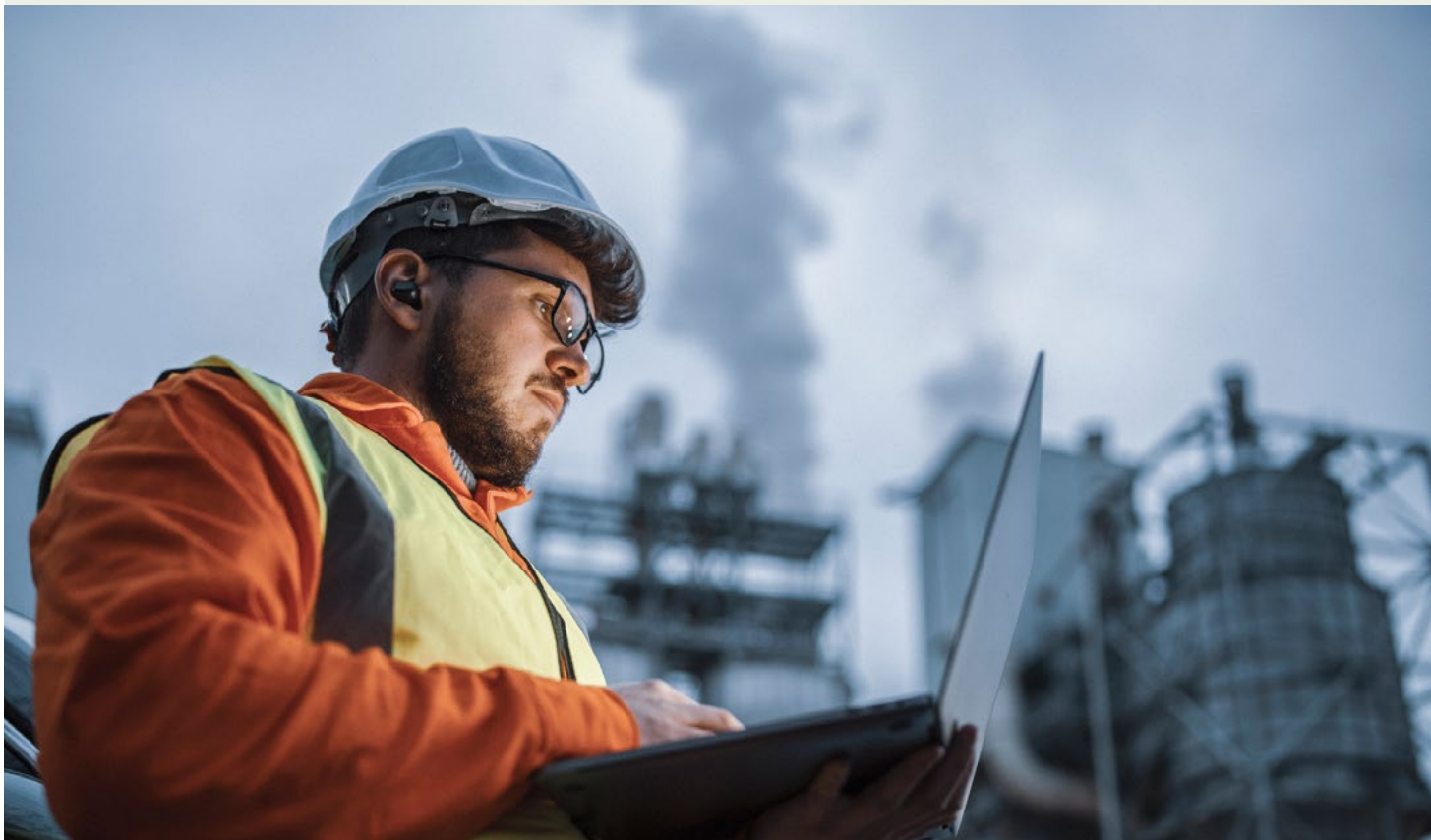
    b. **Establishing five-year interim emission reduction goals.**

2.2 Reducing GHG emissions from industry

Industrial facilities and processes are responsible for approximately 34 percent of our total GHG emissions. Significantly decarbonizing industry is essential to meeting our targets, addressing the impacts of climate change, and helping our companies to remain competitive in export markets. Emissions from industry have decreased due to higher energy costs, investments in energy efficiency and increasingly stringent provincial and federal policies. As part of the plan to decarbonize New Brunswick's industrial sectors, we will need to continue holding large industry accountable for their emissions and support the use of new, cleaner technologies and industrial processes.

As part of the commitment to reduce GHG emissions from industry, the provincial government will continue to:

- Support energy efficiency programs for large industry and explore opportunities for improvements.
- Require large industry to report GHG emissions and submit GHG management plans and work to extend plans to include an energy management plan.
- Administer New Brunswick's Output-Based Pricing System to drive GHG reductions and address the trade-exposed nature of New Brunswick's large industry.



2.3 Transforming how people and goods move around the province

Transportation is the second-largest source of GHG emissions in New Brunswick, accounting for approximately 26 percent of our total GHG emissions. Continued decarbonization of the transportation sector is needed to meet our 2030 and 2050 GHG reduction targets. New Brunswick will achieve the most significant reductions by reducing our reliance on personal vehicles, continuing to support the adoption of electric vehicles, and using alternative forms of transportation. This will be supported by better access to clean, affordable transportation options such as public transit, ridesharing, and bicycling for personal travel. For moving goods around the province, it means transitioning freight transportation to zero-emissions using clean fuels and fuel-saving measures. Although there are significant opportunities, rural and lower-income households face greater challenges in reducing transportation emissions, and programs will need to be designed to reflect this reality.

As part of the commitment to transform how people and goods move around the province, the provincial government will continue to:

- Support the uptake of electric vehicles in the province and the necessary charging infrastructure.
- Explore opportunities to decarbonize rail transportation and multimodal networks and improve efficiency in the movement of goods.
- Promote active and alternative transportation.

SOURCE: NB POWER

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

4. **Work to have 6 percent of new light-duty vehicles (e.g. passenger cars, sport utility vehicles, pickup trucks) sales be electric vehicles by 2025 and 50 percent by 2030, using incentives and programs to promote electric vehicles and support charging infrastructure in New Brunswick.**

5. **Support the transition to zero-emission freight transportation by:**

    a. **Implementing an incentive program by 2023 for fuel-saving measures such as aerodynamic features and anti-idling systems;**

    b. **Completing a Zero-emission Freight Strategy by 2024 that will include market research, fleet assessments, targets, and piloting clean fuel and charging infrastructure; and**

    c. **Following the completion of the Zero-emission Freight Strategy, establish a target for zero-emissions freight transportation by 2025.**

6. **Support regional service commissions in developing and implementing regional transportation plans for each region by 2023 to increase accessibility, affordability, and availability of community and public transportation services and work towards integrating regional transportation services.**

2.4 Powering the province with clean and renewable energy

As New Brunswickers, we use energy to power our homes, businesses, and vehicles every day. Generating electricity accounts for approximately 23 percent of New Brunswick's total GHG emissions. To reduce GHG emissions from electricity generation, the province needs to use energy more efficiently and replace carbon-based fuels with clean and renewable energy sources, including clean electricity and decarbonized fuels. Pursuing new technologies and cleaning the electricity sector will help New Brunswick remain competitive with companies pursuing net-zero and clean energy opportunities. It will also allow New Brunswick to take advantage of opportunities in the low-carbon economy and associated supply-chain opportunities. As electricity use increases in our economy, it will be essential to ensure New Brunswick's grid can support the growing demand for clean, reliable, efficient, and affordable clean energy. Although there are significant benefits, the move towards cleaner electricity will also come with its challenges, specifically how the province will meet the growing demand for electricity while mitigating the impacts on electricity ratepayers. It is clear that New Brunswick cannot do this alone and will be looking for the support of the federal government.

As part of the commitment to power the province with clean and renewable energy, the provincial government will continue to:

- Encourage and support innovative technologies and solutions to facilitate greater efficiency savings in the electricity sector.
- Support the increase of economically sustainable renewable energy for both electricity generation and heating homes and businesses.
- Encourage demand-side management opportunities to lessen peak demand and optimize total energy consumption by shifting demand to coincide with renewable generation.

NEW ACTION

THE PROVINCIAL GOVERNMENT WILL:

7. **Develop a Clean Electricity Strategy by 2025 for achieving net-zero electricity emissions by 2035, based on guiding principles that support clean, reliable, efficient, and affordable electricity. The Strategy is expected to:**
    a. **Identify the role of renewable energy, including distributed energy, that may support the electricity grid, lower peak demand, and provide capacity support. This may also include the role of storage, renewable and clean fuels such as clean hydrogen, geothermal, renewable natural gas (RNG) and biomass, in New Brunswick's energy systems in all sectors;**
    b. **Include the development of two first-of-their-kind small modular reactor technologies;**
    c. **Strengthen investments and broaden the scope of energy efficiency and demand-side management initiatives, including improving access to programs for moderate-income families;**
    d. **Set a clear path to transition off coal-fired electricity; and**
    e. **Explore regional opportunities to share clean electricity resources to meet the increasing demand for electrification.**
8. **As interim steps in advance of the Clean Electricity Strategy, and ultimately contributing to the strategy itself:**
    a. **Set clear electricity efficiency performance targets and reporting requirements for NB Power (New Brunswick's all-fuels energy efficiency delivery agency) and provide dedicated annual funding to continue supporting low income and Indigenous programs as well as program participants who use non-electric fuels by 2023;**
    b. **Ensure New Brunswickers have equitable access to energy efficiency programs through long-term financing and/or payment mechanisms by 2024, in collaboration with NB Power. These may include traditional financing programs or new, innovative options; and**
    c. **Review provincial energy legislation by 2024 for opportunities to further enable GHG emissions reductions and investments in new clean fuels, technologies, and resources to be considered in the regulatory process.**
9. **Enable the local production and use of renewable natural gas (RNG) and clean hydrogen to ensure that New Brunswickers have access to decarbonized fuels by 2030 to meet their future energy requirements.**
    a. **By 2025, investigate and, if appropriate, set a minimum proportion of RNG and/or clean hydrogen in the provincial natural gas supply for gaseous fuel distributors.**
    b. **By 2030, support the strategic implementation of RNG and clean hydrogen re-fueling infrastructure while prioritizing co-location with existing fueling stations.**

2.5 Making buildings more energy efficient

The buildings where New Brunswickers live and work are major energy users and are responsible for approximately eight percent of our total GHG emissions. There are many cost-effective measures to improve the energy performance of our homes and businesses and reduce GHG emissions. Constructing and renovating more efficient buildings makes them more comfortable and affordable for New Brunswickers, while accelerated action will create new demand for jobs in construction, clean technology, and manufacturing.

As part of the commitment to make buildings more energy efficient, the provincial government will continue to:

- Support energy savings programs for all sectors and all fuels.
- Expand programs and capacity to support the needs of New Brunswickers.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

10. **Work with the federal government toward the phase out of heating oil use in all buildings (commercial, government and residential). This work will include identifying transition support for heating oil delivery companies. If adequate support can be found to minimize impacts to customers and suppliers, phase out heating oil by 2030.**

11. **Ensure building construction in New Brunswick meets energy performance requirements that are in line with national, neighbouring provinces and New Brunswick's energy efficiency objectives by:**

    a. **Adopting the most current version of the National Energy Code of Canada for Buildings and the National Building Code of Canada within 18 months of being published by the National Research Council of Canada;**
    b. **Progressively and at regular intervals, adopt more stringent tiers within the National Energy Code of Canada for Buildings and the National Building Code of Canada between 2023 and 2030 with the objective of achieving net-zero energy ready construction by 2030; and**
    c. **Ensuring that all building officials receive the necessary training in advance of the adoption of the building code tiers to ensure their professional education and inspection skills stay current.**

12. **Develop and deliver building energy performance labelling and disclosure pilot programs for residential and commercial buildings by 2024 with an aim to develop time of sale energy performance disclosure requirements by 2030.**

2.6 Reducing waste and turning it into a renewable resource

Waste management in New Brunswick is responsible for approximately five percent of our total GHG emissions. The largest source of GHG emissions from current waste management practices is the anaerobic decomposition of organic materials buried in landfills, which produces methane gas, a powerful GHG, more than 25 times as potent as carbon dioxide at trapping heat in the atmosphere. Organic waste also includes animal manure, wastewater biosolids and food production waste.

All six regional landfills that dispose of New Brunswick's solid waste have landfill gas management systems that capture a portion of the methane gas, and five of the six regional landfills use the methane to produce renewable energy. In addition, four of the 12 regional service commissions have organics diversion programs and compost the material.

Reducing emissions from waste can be achieved by: improving the efficiency of the current regional landfill gas management systems; diverting organics from landfilling and using this material as a resource for activities like composting and processes like anaerobic digesters and bioreactors, with the latter producing renewable energy to heat our buildings and fuel transportation; and diverting other recyclable materials from landfills.

As part of the commitment to reduce waste and turn it into a renewable resource, the provincial government will continue to:

- Develop and implement a Solid Waste Management Strategic Action Plan to achieve an overall avoidance of GHG emissions by reducing the regional landfilling of organic material and other recyclable material.
- Assess opportunities to prevent waste, such as reducing food waste.

SOURCE: FREDERICTON REGIONAL SOLID WASTE COMMISSION

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

13. **By 2024, develop a performance standard that will address the required efficiency of existing landfill gas management systems to increase methane capture and reduce overall emissions.**

14. **Support the development of strategic projects (e.g. anaerobic digesters and bioreactors) by 2027 to produce and utilize renewable methane from organic waste, including animal waste and by-products.**

2.7 Supporting climate-smart agriculture, aquaculture, and fisheries

The agriculture, aquaculture, and fisheries sectors are key contributors to New Brunswick's economy with the agriculture sector alone accounting for approximately four percent of our total GHG emissions. In these diverse sectors, agriculture and aquaculture producers and fish harvesters and processors have opportunities to reduce GHG emissions and production costs through new technologies, energy efficiency measures, fuel switching, and the adoption of beneficial management practices. These practices often achieve considerable co-benefits, such as improved biodiversity and soil health and ultimately support reducing GHG emissions and preparing for climate change. In addition, they help sequester carbon on New Brunswick farms while improving water-holding capacity and preventing soil erosion, which will allow farms to be more resilient in the face of climate change. By implementing climate-smart solutions that further reduce GHG emissions, New Brunswick's agriculture, aquaculture, and fisheries sectors will protect the land, water, and air that the sectors depend on for long-term sustainability.

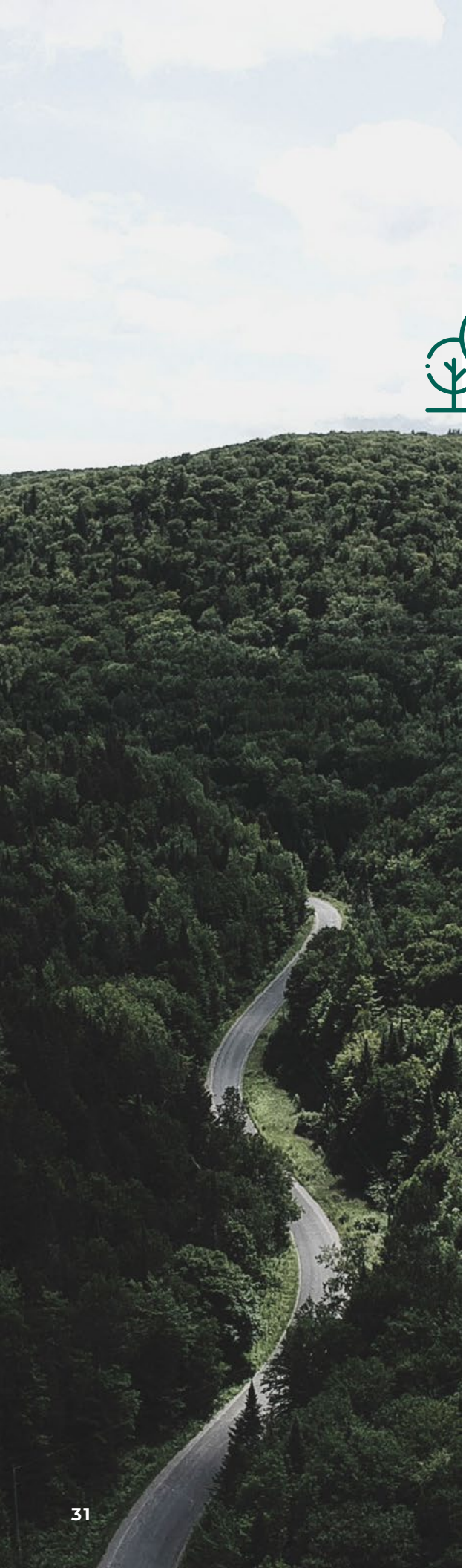
As part of the commitment to support climate-smart agriculture, aquaculture and fisheries, the provincial government will continue to:

- Work with the federal government to design and implement programs that reduce GHGs and improve the resilience of the agriculture sector.
- Work with the aquaculture sector to explore opportunities for accessing commercial kelp sources to use as feed in the agriculture sector which can reduce methane emissions.
- Promote local food and beverage production through the Local Food and Beverages Strategy.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

15. Develop and begin implementation of an Agriculture Climate Change Strategy by 2025 that will support a low-carbon, resilient, and economically sustainable agriculture sector in New Brunswick. The Strategy is expected to:

a. **Identify opportunities to reduce GHG emissions from agriculture and enhance carbon sinks;**
b. **Identify opportunities to strengthen farm resilience by adapting to climate change risks;**
c. **Enhance sustainable economic growth; and**
d. **Develop benchmarks, performance indicators, and report on progress.**



2.8 Recognizing the importance of our natural carbon sinks

Protecting and enhancing New Brunswick's terrestrial and aquatic carbon sinks is paramount as the province moves towards net-zero emissions. Our natural environment – forests, soils, wetlands, and coastal areas – remove carbon from the atmosphere and store it. Improved monitoring and understanding of these carbon stocks are needed to inform conservation and management efforts and enhance their ability to absorb carbon. By doing so, the province will be better equipped to reduce GHG emissions and support resilient ecosystems that help combat climate change.

As part of the commitment to natural carbon sinks, the provincial government will continue to:

- Improve the climate benefits of New Brunswick's forests by planting climate adapted trees.
- Recognize and prioritize high-functioning wetlands for their capacity to sequester carbon.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

16. **Improve the understanding and increase the carbon stocks of New Brunswick's forests and wetlands by:**

    a. **Publishing an assessment of the carbon stock of New Brunswick's forests by 2025 and begin regularly tracking and reporting on the forest's carbon inventory; and**
    b. **Developing and beginning implementation of an assessment tool to quantify the carbon stock of New Brunswick's wetlands and prioritize high-functioning wetlands by 2026. In addition, begin regularly tracking to release a report on the carbon stock of New Brunswick's wetlands by 2030.**

2.9 Greening government

The provincial government owns over 900 buildings and 2,300 fleet vehicles, contributing to New Brunswick's overall GHG emissions. While the provincial government has already made sustained investments in reducing its operational GHG emissions, the government recognizes its leadership role and the need to act further to reduce GHG emissions and green operations. Greening of government operations can include a wide range of initiatives, including energy conservation and efficiency, low-carbon fuels, clean electricity, net-zero buildings, clean-fueled vehicles, green procurement, and measures that recognize the circular economy and minimize all forms of waste.

As part of the commitment to greening government, the provincial government will continue to:

- Maintain and expand a government-wide energy management and reporting system.
- Implement the Green Procurement Policy to support the procurement of goods and services with a reduced environmental impact.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

17. **Prepare an in-depth government GHG reduction plan by 2024 that will detail how the province will achieve emissions reductions in the range of 20-40 percent in its buildings and its fleet by 2030. The plan will include an approach for ensuring sustained and strategic investments in measures such as high-performance building construction, energy efficiency, fuel switching, and cleaner vehicle acquisition, with details around setting baselines, emission reduction targets, and accountability and reporting.**

2.10 Building low-carbon communities

New Brunswick's communities are directly affected by the impacts of climate change and play a fundamental role in helping meet the province's climate action goals. Our communities can influence development decisions, land-use planning, energy, buildings, and transportation. It is important to enable local leadership, as communities are best positioned to understand their unique strengths, values, and capacities and translate them into actions that fit their circumstances.

New Brunswick communities are estimated to influence more than 40 percent of the province's overall GHG emissions. The provincial government is currently supporting communities through funding the development of GHG reduction plans, which are an essential tool to help communities identify opportunities, build awareness, and ultimately reduce their GHG emissions. Continuing to support the development of GHG reduction plans and strategically supporting their implementation is essential in furthering climate action goals in our communities.

As part of the commitment to build low-carbon communities, the provincial government will continue to:

- Support local governments and rural districts in efforts to reduce GHG emissions and share progress and successes.
- Ensure climate change considerations for reducing, avoiding, and capturing GHG emissions are considered in all major projects, plans and funding applications.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

18. **Implement statements of public interest that include climate change under the *Community Planning Act* by 2025 with the objective of assisting communities in implementing mitigation measures to reduce GHG emissions.**

19. **Collaborate with regional service commissions, local governments, and rural districts to ensure that:**

    a. **Beginning April 1, 2024, progress on GHG reduction plan development and implementation is reported annually;**
    b. **GHG reduction plans are updated and completed for 50 percent of all local governments and rural districts by 2025 and 100 percent by 2030; and**
    c. **Beginning April 1, 2025, and each year thereafter, as GHG reduction plans are completed, implementation schedules are developed within one year so that communities can begin the delivery of priority GHG reduction measures.**

2.11 Growing economic opportunities in the low-carbon economy

Global-scale economic decarbonization is underway, and New Brunswick is at a pivotal point along its economic path. How the province's businesses and workforce prepare for this accelerated transition over the next few years will be critical in determining the overall competitiveness of New Brunswick in a global low-carbon economy.

Accelerating the transition to a low-carbon economy will create challenges and opportunities for businesses and consumers. Considering that New Brunswick businesses have traditionally been entrepreneurial and adept at taking measured risks to capitalize on economic and industry developments and that new technology will be needed to achieve our net-zero commitments, New Brunswick businesses are well-positioned to emerge as leaders in the low-carbon economy.

Promoting economic growth within the low-carbon economy will require a more integrated and coordinated approach across government with close alignment between climate and industrial policies. It will require attracting and enabling investment through the products and services needed to achieve greater decarbonization. It will also require looking at the labour market for skills that are in demand now and in the future and preparing our post-secondary institutions to provide New Brunswick's workforce with the tools they need to seize opportunities in the low-carbon economy.

As part of the commitment to grow economic opportunities in the low-carbon economy, the provincial government will continue to:

- Support a culture of innovation to pursue economic opportunities presented by our changing climate.
- Explore opportunities to support the transition of New Brunswick's workforce towards a low-carbon economy.
- Identify and attract low-carbon investment opportunities.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

20. **Develop a whole-of-government Sustainable Economic Development Plan for New Brunswick focused on decarbonization opportunities and barriers, specifically geared toward creating the economic growth conditions that will enable business and industry transition and growth. This plan will be complete by 2024 and will focus on:**

    a. **Ensuring our small and medium enterprises have the appropriate tools and resources to compete in a transitioning economy;**
    b. **Identifying, validating, and pursuing the development of new industrial clusters that will support the decarbonization goals in this plan;**
    c. **Developing a suite of tools to create a pipeline of innovative clean technology, from research to commercialization, and support clean technology adoption;**
    d. **Supporting existing large industry's transition to a net-zero future; and**
    e. **Positioning the province to attract global clean investment.**

21. **Promote workforce and skills readiness by:**

    a. **Conducting a Clean Technology Skills Gap Assessment by 2025 to determine the skills and training programs needed and begin implementation of any new programs identified by 2027; and**
    b. **Identifying the skill and technology gaps, and funding programs necessary to train 300 new and existing tradespeople by 2026 in skills related to residential and commercial high-performance buildings.**

Pillar 3

PREPARING FOR CLIMATE CHANGE

New Brunswick is already experiencing the impacts of a changing climate, and these impacts are predicted to worsen. The current levels of GHGs in the atmosphere are expected to last for decades, and they will continue to affect weather patterns that lead to warmer temperatures, more precipitation, sea-level rise, and more extreme weather events. Preparing and adapting to future climate conditions will be essential for New Brunswick to minimize impacts on our communities, natural resources, and infrastructure, and to ensure the health and safety of the public.

SOURCE: NB POWER

The actions outlined in this section will strengthen New Brunswick's capacity to prepare and adapt to future climate conditions. These actions build on extensive climate adaptation work completed to date and will be critical in minimizing the impacts of climate change. Building resilience and thriving in a changing climate will require all communities, businesses, individuals, and governments to be proactive in understanding their risk to climate change, planning accordingly, and taking appropriate adaptation action. We all have a role to play, and by working together to plan and act early, we can be ready for the challenges and opportunities climate change is expected to bring.

3.1 Understanding and communicating climate change risks and opportunities

Understanding climate change risks and how best to adapt to the new climate realities will be important for all New Brunswickers. Having access to the most up-to-date and regionally relevant climate information and projections is critical to ensuring that decisions are made based on the best available information. The newly created Climate Change Services Centre for Atlantic Canada, CLIMAtlantic, will play a vital role in these efforts by engaging clients, stakeholders, and partners in multiple sectors, to deliver the latest climate change data, climate change education and awareness, training, and climate tools and products that are essential in raising awareness and ensuring climate considerations and expertise informs decision-making. Meanwhile, the implementation of enhanced monitoring systems will further our understanding of New Brunswick's changing climate and inform decision-making and the implementation of adaptation actions. Improving our understanding of climate change and how it will influence our lives is the first step to preparing New Brunswick for future changes.

As part of the commitment to understand and communicate climate change risks and opportunities, the provincial government will continue to:

- Share with New Brunswickers up-to-date localized climate information and raise awareness of climate science and projected impacts.
- Update flood hazard mapping as new climate information and projections become available.

- Consider future climate conditions when making decisions about replacing or repairing infrastructure (i.e. building back better).
- Promote and support opportunities to share information amongst adaptation practitioners, academia, emergency management officials, public health officials, and the public to increase our collective resilience to climate change.
- Identify research priorities into the impacts of climate change and develop a research network and share information across partners.
- Increase awareness of sea-level rise and erosion through public education.
- Explore opportunities to expand freshwater quality monitoring to improve understanding of climate change impacts on freshwater quality.
- Monitor changes in the physical environment.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

22. Improve New Brunswickers' understanding and awareness of climate change risks to ensure preparedness by:

a. Developing and beginning implementation of a New Brunswick flood education and awareness program by 2025 to provide local governments and individuals with the tools necessary to better understand and plan for the risks associated with flooding;

b. Designing and beginning implementation of an environmental health monitoring program by 2027 to understand and communicate the environmental health risks associated with a changing climate in New Brunswick;

c. Establishing a FireSmart program by 2025 for communities deemed at risk to wildfires to support improvements in emergency planning, preparation and response while increasing overall resilience to the impacts of wildfire;

d. Establishing a drought index and public advisory reporting system by 2026 to inform the public and local governments when water conservation strategies should be implemented; and

e. Releasing the most up-to-date predictive climate change information for all regions of the province by 2025.

3.2 Adaptation planning and implementation

Adaptation planning has significantly increased in recent years due primarily to work achieved under the 2016 Climate Change Action Plan, helping to build our collective resilience to the impacts of climate change. As part of our comprehensive plan to address climate change, a more ambitious, strategic, and collaborative approach is required to move from adaptation planning to implementation across a broader suite of sectors.

New Brunswickers need a clear understanding of the greatest risks posed by climate change. A province-wide risk assessment will build on several existing assessments to identify key risks to infrastructure, public safety, natural ecosystems, heritage and culture, marine and terrestrial environments, and economic sectors. Informed by the provincial risk assessment, a provincial climate change adaptation plan will help prioritize the adaptation measures required to prepare for and reduce identified risks.

As part of the commitment to adaptation planning and implementation, the provincial government will continue to:

- Support local governments, rural districts, key sectors, and NGOs in efforts to prepare for a changing climate and share progress and successes.
- Ensure that climate change vulnerabilities are integrated into municipal asset management strategies.
- Incorporate climate change considerations into provincial park management planning.
- Improve the resiliency of Crown road infrastructure to climate change.
- Ensure climate change and extreme weather events are considered in all major projects, plans and funding applications.
- Partner with the federal government's Ocean Program on climate-related impacts to the aquaculture and fisheries sectors such as eutrophication, anoxic events, harmful algal blooms, and associated biodiversity loss.
- Enhance the Road Weather Information System by identifying gaps in the existing system, upgrading current sites, and expanding the network coverage.

NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

23. **Conduct and release a comprehensive provincial climate change risk assessment by 2025 to identify risks, set priority areas for adaptation action and inform decision-making across New Brunswick.**

24. **In response to the priority vulnerabilities identified in the provincial climate change risk assessment, develop a provincial climate change adaptation plan by 2026, followed by climate change adaptation plans for priority government departments by 2027.**

25. **Implement statements of public interest that include climate change under the *Community Planning Act* by 2025 with the objective of assisting communities in adapting to a changing climate.**

26. **Collaborate with regional service commissions, local governments, and rural districts to ensure that:**

    a. **Beginning April 1, 2024, progress on climate change adaptation plan development and implementation is reported annually;**
    b. **Adaptation plans are updated and completed for 50 percent of all local governments and rural districts by 2025 and 100 percent by 2030; and**
    c. **Beginning April 1, 2025, and each year thereafter, as adaptation plans are completed, implementation schedules are developed within one year so that communities can begin the delivery of priority adaptation measures.**

27. **Increase the resiliency of the provincial transportation network to future climate conditions by:**

    a. **Developing a Long-Term Flood Mitigation Plan by 2024 to establish priority locations for infrastructure upgrades;**
    b. **Completing a Large Culvert Assessment Study by 2024 to prioritize at-risk infrastructure for replacement; and**
    c. **Developing an Infrastructure Decision Guideline by 2024 to ensure the impacts of climate change and extreme weather events are considered in infrastructure decisions.**

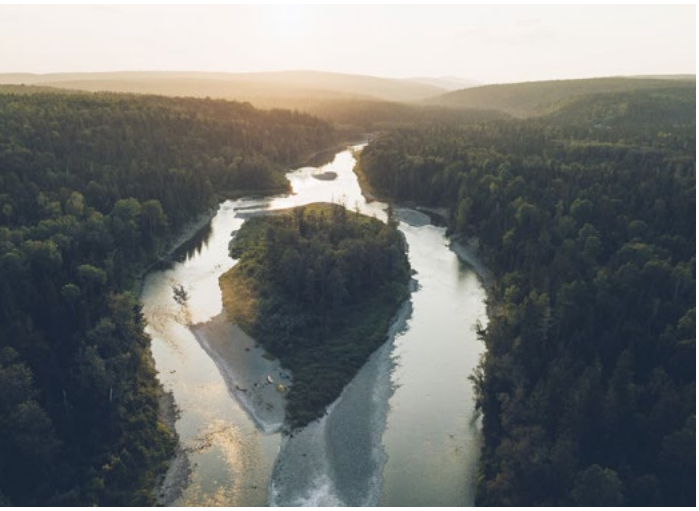
28. **By 2024, evaluate options to optimize available disaster financial assistance so that New Brunswick property owners have increased access to funds needed to implement proactive measures that reduce the impacts of future climate conditions and extreme weather events.**

3.3 Biodiversity and nature-based solutions

Nature offers some of the best solutions to strengthen our response to climate change. Nature-based solutions are actions that can protect, sustainably manage, and restore ecosystems in ways that benefit people while also maintaining and enhancing biodiversity and ecosystem function. Using nature-based solutions to manage the impacts of climate change will help conserve the natural diversity and functions of New Brunswick's forests, wetlands, watersheds, and coastal features. Nature-based solutions will also allow New Brunswick to become more resilient to climate change while avoiding future costs related to climate-induced clean-up and restoring impacted natural ecosystems along with the services they provide.

As part of the commitment to biodiversity and nature-based solutions, the provincial government will continue to:

- Recognize and promote the importance of ecosystems and natural infrastructure to buffer against climate change impacts.
- Identify climate-vulnerable species, habitats, and landscapes as targets for adaptation action and manage landscape connectivity to allow for species migration.
- Support nature-based solutions as an approach to adapt to climate change through training and knowledge-exchange activities to build capacity among stakeholders.



NEW ACTION
THE PROVINCIAL GOVERNMENT WILL:

29. **Maintain biodiversity and increase resilience through nature-based solutions by:**

    a. **Developing a renewed Biodiversity Strategy by 2025 that recognizes the sensitivity of biodiversity to climate change, the need to adapt the way New Brunswick manages and uses the natural environment, and the role that nature can play in climate solutions. As an interim measure, the provincial government will publish a list of climate-sensitive species by 2023 and update the list as new information becomes available.**

    b. **Setting a new target for protected areas by 2024, which will take New Brunswick beyond protecting 10 percent of the province's land and freshwater.**

30. **Implement a Living Shorelines program by 2026 that promotes natural adaptation approaches and nature-based solutions through training, science-based tools, and best practices made available to New Brunswick property owners.**

Moving forward

The need for accelerated action is clear. New Brunswick remains committed to ensuring our province does as much as possible to combat climate change and transition to a resilient, low-carbon economy.

The provincial government has listened to what was heard from New Brunswickers and is delivering an ambitious plan to achieve our commitments.

Significant achievements have already been accomplished with the help of all New Brunswickers, all levels of government, Indigenous communities, businesses, educational institutions, and researchers and are reasons for optimism as we face the global challenge of climate change.

This plan builds on initiatives already in place and is pivotal to reaching our 2030 target and setting the foundation for New Brunswick to achieve net-zero emissions by 2050. It will help us use the resources and expertise we have to achieve clean economic growth in the short-, medium- and long-term. It will take time, but with participation from all New Brunswickers, we can accelerate our transition to a strong, healthy, and resilient economy that is equitable, diverse, and inclusive.

Appendix A

SUMMARY OF ACTIONS AND LEAD DEPARTMENTS OR AGENCIES

Pillar 1: Government leadership and accountability

EDUCATION AND CAPACITY-BUILDING	LEAD DEPARTMENT OR AGENCY
1. Promote climate change literacy and professional development to ensure educational staff in K-12 have the tools to communicate climate change, with the goal of having 10-20 percent of educational staff per facility provided with climate change training by 2027.	Education and Early Childhood Development
COLLABORATION WITH INDIGENOUS COMMUNITIES	**LEAD DEPARTMENT OR AGENCY**
2. Establish a working group with Indigenous communities and organizations by 2024 to identify climate change priority areas and facilitate information sharing.	Environment and Climate Change

Pillar 2: Reducing GHG emissions

GHG EMISSION REDUCTION TARGETS	LEAD DEPARTMENT OR AGENCY
3. Commit to reach net-zero GHG emissions by 2050 and develop, in consultation with a newly established Expert Advisory Body, a Net-Zero Blueprint by 2025 that includes: a. A suite of actions needed to achieve net-zero by 2050, focusing on all key sectors and including new low-carbon technologies and nature-based solutions, such as biofuels and clean hydrogen, clean electricity, and natural carbon sinks; and b. Establishing five-year interim emission reduction goals.	Environment and Climate Change
TRANSFORMING HOW PEOPLE AND GOODS MOVE AROUND THE PROVINCE	**LEAD DEPARTMENT OR AGENCY**
4. Work to have 6 percent of new light-duty vehicles (e.g. passenger cars, sport utility vehicles, pickup trucks) sales be electric vehicles by 2025 and 50 percent by 2030, using incentives and programs to promote electric vehicles and support charging infrastructure in New Brunswick.	Natural Resources and Energy Development
5. Support the transition to zero-emission freight transportation by: a. Implementing an incentive program by 2023 for fuel-saving measures such as aerodynamic features and anti-idling systems; b. Completing a Zero-emission Freight Strategy by 2024 that will include market research, fleet assessments, targets, and piloting clean fuel and charging infrastructure; and c. Following the completion of the Zero-emission Freight Strategy, establish a target for zero-emissions freight transportation by 2025.	a. NB Power b. NB Power c. Environment and Climate Change
6. Support regional service commissions in developing and implementing regional transportation plans for each region by 2023 to increase accessibility, affordability, and availability of community and public transportation services and work towards integrating regional transportation services.	Regional Development Corporation

POWERING THE PROVINCE WITH CLEAN AND RENEWABLE ENERGY	LEAD DEPARTMENT OR AGENCY
7. Develop a Clean Electricity Strategy by 2025 for achieving net-zero electricity emissions by 2035, based on guiding principles that support clean, reliable, efficient, and affordable electricity. The Strategy is expected to: a. Identify the role of renewable energy, including distributed energy that may support the electricity grid, lower peak demand, and provide capacity support. This may also include the role of storage, renewable and clean fuels such as clean hydrogen, geothermal, renewable natural gas (RNG) and biomass, in New Brunswick's energy systems in all sectors; b. Include the development of two first-of-their-kind small modular reactor technologies; c. Strengthen investments and broaden the scope of energy efficiency and demand-side management initiatives, including improving access to programs for moderate-income families; d. Set a clear path to transition off coal-fired electricity; and e. Explore regional opportunities to share clean electricity resources to meet the increasing demand for electrification.	Natural Resources and Energy Development
8. As interim steps in advance of the Clean Electricity Strategy, and ultimately contributing to the strategy itself: a. Set clear electricity efficiency performance targets and reporting requirements for NB Power (New Brunswick's all-fuels energy efficiency delivery agency) and provide dedicated annual funding to continue supporting low income and Indigenous programs as well as program participants who use non-electric fuels by 2023; b. Ensure New Brunswickers have equitable access to energy efficiency programs through long-term financing and/or payment mechanisms by 2024, in collaboration with NB Power. These may include traditional financing programs or new, innovative options; and c. Review provincial energy legislation by 2024 for opportunities to further enable GHG emissions reductions and investments in new clean fuels, technologies, and resources to be considered in the regulatory process.	Natural Resources and Energy Development
9. Enable the local production and use of renewable natural gas (RNG) and clean hydrogen to ensure that New Brunswickers have access to decarbonized fuels by 2030 to meet their future energy requirements. a. By 2025, investigate and, if appropriate, set a minimum proportion of RNG and/or clean hydrogen in the provincial natural gas supply for gaseous fuel distributors. b. By 2030, support the strategic implementation of RNG and clean hydrogen refueling infrastructure while prioritizing co-location with existing fueling stations.	a. Natural Resources and Energy Development b. Environment and Climate Change
MAKING BUILDINGS MORE ENERGY EFFICIENT	**LEAD DEPARTMENT OR AGENCY**
10. Work with the federal government toward the phase out of heating oil use in all buildings (commercial, government and residential). This work will include identifying transition support for heating oil delivery companies. If adequate support can be found to minimize impacts to customers and suppliers, phase out heating oil by 2030.	Natural Resources and Energy Development
11. Ensure building construction in New Brunswick meets energy performance requirements that are in line with national, neighbouring provinces and New Brunswick's energy efficiency objectives by: a. Adopting the most current version of the National Energy Code of Canada for Buildings and the National Building Code of Canada within 18 months of being published by the National Research Council of Canada; b. Progressively and at regular intervals, adopt more stringent tiers within the National Energy Code of Canada for Buildings and the National Building Code of Canada between 2023 and 2030 with the objective of achieving net-zero energy ready construction by 2030; and c. Ensuring that all building officials receive the necessary training in advance of the adoption of the building code tiers to ensure their professional education and inspection skills stay current.	Justice and Public Safety

12. Develop and deliver building energy performance labelling and disclosure pilot programs for residential and commercial buildings by 2024 with an aim to develop time of sale energy performance disclosure requirements by 2030.	NB Power
REDUCING WASTE AND TURNING IT INTO A RENEWABLE RESOURCE	**LEAD DEPARTMENT OR AGENCY**
13. By 2024, develop a performance standard that will address the required efficiency of existing landfill gas management systems to increase methane capture and reduce overall emissions.	Environment and Climate Change
14. Support the development of strategic projects (e.g. anaerobic digestors and bioreactors) by 2027 to produce and utilize renewable methane from organic waste, including animal waste and by-products.	Environment and Climate Change
SUPPORTING CLIMATE-SMART AGRICULTURE, AQUACULTURE AND FISHERIES	**LEAD DEPARTMENT OR AGENCY**
15. Develop and begin implementation of an Agriculture Climate Change Strategy by 2025 that will support a low-carbon, resilient, and economically sustainable agriculture sector in New Brunswick. The Strategy is expected to: a. Identify opportunities to reduce GHG emissions from agriculture and enhance carbon sinks; b. Identify opportunities to strengthen farm resilience by adapting to climate change risks; c. Enhance sustainable economic growth; and d. Develop benchmarks, performance indicators, and report on progress.	Agriculture Aquaculture and Fisheries
UNDERSTANDING OUR NATURAL CARBON SINKS	**LEAD DEPARTMENT OR AGENCY**
16. Improve the understanding and increase the carbon stocks of New Brunswick's forests and wetlands by: a. Publishing an assessment of the carbon stock of New Brunswick's forests by 2025 and begin regularly tracking and reporting on the forest's carbon inventory; and b. Developing and beginning implementation of an assessment tool to quantify the carbon stock of New Brunswick's wetlands and prioritize high-functioning wetlands by 2026. In addition, begin regularly tracking to release a report on the carbon stock of New Brunswick's wetlands by 2030.	a. Natural Resources and Energy Development b. Environment and Climate Change
GREENING GOVERNMENT	**LEAD DEPARTMENT OR AGENCY**
17. Prepare an in-depth government GHG reduction plan by 2024 that will detail how the province will achieve emissions reductions in the range of 20-40 percent in its buildings and its fleet by 2030. The plan will include an approach for ensuring sustained and strategic investments in measures such as high-performance building construction, energy efficiency, fuel switching, and cleaner vehicle acquisition, with details around setting baselines, emission reduction targets, and accountability and reporting.	Transportation and Infrastructure
BUILDING LOW-CARBON COMMUNITIES	**LEAD DEPARTMENT OR AGENCY**
18. Implement statements of public interest that include climate change under the *Community Planning Act* by 2025 with the objective of assisting communities in implementing mitigation measures to reduce GHG emissions.	Environment and Local Government
19. Collaborate with regional service commissions, local governments, and rural districts to ensure that: a. Beginning April 1, 2024, progress on GHG reduction plan development and implementation is reported annually; b. GHG reduction plans are updated and completed for 50 percent of all local governments and rural districts by 2025 and 100 percent by 2030; and c. Beginning April 1, 2025, and each year thereafter, as GHG reduction plans are completed, implementation schedules are developed within one year so that communities can begin delivery of priority GHG reduction measures.	Environment and Climate Change

GROWING ECONOMIC OPPORTUNITIES IN THE LOW-CARBON ECONOMY	LEAD DEPARTMENT OR AGENCY
20. Develop a whole-of-government Sustainable Economic Development Plan for New Brunswick focused on decarbonization opportunities and barriers, specifically geared toward creating the economic growth conditions that will enable business and industry transition and growth. This plan will be complete by 2024 and will focus on: a. Ensuring our small and medium enterprises have the appropriate tools and resources to compete in a transitioning economy; b. Identifying, validating, and pursuing the development of new industrial clusters that will support the decarbonization goals in this plan; c. Developing a suite of tools to create a pipeline of innovative clean technology, from research to commercialization, and support clean technology adoption; d. Supporting existing large industry's transition to a net-zero future; and e. Positioning the province to attract global clean investment.	Opportunities NB
21. Promote workforce and skills readiness by: a. Conducting a Clean Technology Skills Gap Assessment by 2025 to determine the skills and training programs needed and begin implementation of any new programs identified by 2027; and b. Identifying the skill and technology gaps, and funding programs necessary to train 300 new and existing tradespeople by 2026 in skills related to residential and commercial high-performance buildings.	Post-Secondary Education, Training and Labour

Pillar 3: Preparing for climate change

UNDERSTANDING A COMMUNICATING CLIMATE CHANGE RISKS AND OPPORTUNITIES	LEAD DEPARTMENT OR AGENCY
22. Improve New Brunswickers' understanding and awareness of climate change risks to ensure preparedness by: a. Developing and beginning implementation of a New Brunswick flood education and awareness program by 2025 to provide local governments and individuals with the tools necessary to better understand and plan for the risks associated with flooding; b. Designing and beginning implementation of an environmental health monitoring program by 2027 to understand and communicate the environmental health risks associated with a changing climate in New Brunswick; c. Establishing a FireSmart program by 2025 for communities deemed at risk to wildfires to support improvements in emergency planning, preparation and response while increasing overall resilience to the impacts of wildfire; d. Establishing a drought index and public advisory reporting system by 2026 to inform the public and local governments when water conservation strategies should be implemented; and e. Releasing the most up-to-date predictive climate change information for all regions of the province by 2025.	a. Environment and Climate Change b. Environment and Climate Change c. Natural Resources and Energy Development d. Environment and Climate Change e. Environment and Climate Change
ADAPTATION PLANNING AND IMPLEMENTATION	**LEAD DEPARTMENT OR AGENCY**
23. Conduct and release a comprehensive provincial climate change risk assessment by 2025 to identify risks, set priority areas for adaptation action and inform decision-making across New Brunswick.	Environment and Climate Change
24. In response to the priority vulnerabilities identified in the provincial climate change risk assessment, develop a provincial climate change adaptation plan by 2026, followed by climate change adaptation plans for priority government departments by 2027.	Environment and Climate Change

25. Implement statements of public interest that include climate change under the *Community Planning Act* by 2025 with the objective of assisting communities in adapting to a changing climate.	Local Government and Local Governance Reform
26. Collaborate with regional service commissions, local governments, and rural districts to ensure that: a. Beginning April 1, 2024, progress on climate change adaptation plan development and implementation is reported annually; b. Adaptation plans are updated and completed for 50 percent of all local governments and rural districts by 2025 and 100 percent by 2030; and c. Beginning April 1, 2025, and each year thereafter, as adaptation plans are completed, implementation schedules are developed within one year so that communities can being delivery of priority adaptation measures.	Environment and Climate Change
27. Increase the resiliency of the provincial transportation network to future climate conditions by: a. Developing a Long-Term Flood Mitigation Plan by 2024 to establish priority locations for infrastructure upgrades; b. Completing a Large Culvert Assessment Study by 2024 to prioritize at-risk infrastructure for replacement; and c. Developing an Infrastructure Decision Guideline by 2024 to ensure the impacts of climate change and extreme weather events are considered in infrastructure decisions.	Transportation and Infrastructure
28. By 2024, evaluate options to optimize available disaster financial assistance so that New Brunswick property owners have increased access to funds needed to implement proactive measures that reduce the impacts of future climate conditions and extreme weather events.	Justice and Public Safety
BIODIVERSITY AND NATURE-BASED SOLUTIONS	**LEAD DEPARTMENT OR AGENCY**
29. Maintain biodiversity and increase resilience through nature-based solutions by: a. Developing a renewed Biodiversity Strategy by 2025 that recognizes the sensitivity of biodiversity to climate change, the need to adapt the way New Brunswick manages and uses the natural environment, and the role that nature can play in climate solutions. As an interim measure, the provincial government will publish a list of climate-sensitive species by 2023 and update the list as new information becomes available. b. Setting a new target for protected areas by 2024, which will take New Brunswick beyond protecting 10 percent of the province's land and freshwater.	Natural Resources and Energy Development
30. Implement a Living Shorelines program by 2026 that promotes natural adaptation approaches and nature-based solutions through training, science-based tools, and best practices made available to New Brunswick property owners.	Environment and Climate Change

Appendix B

POTENTIAL GHG EMISSION REDUCTIONS

Potential GHG emission reductions were estimated based on the actions, assumptions assigned to each, and a business-as-usual scenario. Table B1 presents the estimated total potential GHG emission reductions that could occur by 2030 as a result of implementing the actions in our plan. Results are shown by sector and include all new actions related to each individual sector.

Potential GHG emission reductions in 2030 were aggregated by sector and compared to a GHG impact scale (Table B2) to determine the qualitative impact of the actions with respect to the current total provincial GHG emissions and their sector's current GHG emissions. Results show the relative importance of actions on current total provincial and sectorial GHG emissions.

These results represent the current best estimates of potential GHG emission reductions and are subject to change over time as more information and data become available.

Based on the results of this analysis, by implementing the actions in this plan, it is estimated that the total provincial GHG emissions could be between 8.73 – 9.54 Mt in 2030. The province would meet and exceed the 2030 GHG target of 10.7 Mt and would be on track to meeting the provincial net-zero commitment for 2050.

Table B1

SUMMARY OF POTENTIAL EMISSION REDUCTIONS IN 2030 FROM ACTIONS.

SECTOR	TOTAL POTENTIAL GHG EMISSION REDUCTIONS IN 2030	IMPACT ON PROVINCIAL GHG EMISSIONS	IMPACT ON SECTOR GHG EMISSIONS
INDUSTRY	TBD[1]	TBD[1]	TBD[1]
TRANSPORTATION	265 – 400 kt GHGs	High	Very High
ELECTRICITY	1,555 – 1,870 kt GHGs	Very High	Very High
BUILDINGS	330 – 610 kt GHGs	High	Very High
WASTE	160 – 200 kt GHGs	Medium	Very High
AGRICULTURE	40 – 80 kt GHGs	Medium	Very High
NATURAL CARBON SINKS[2]	TBD[2]	TBD[2]	TBD[2]
GREENING GOVERNMENT[3]	15 – 65 kt GHGs	Medium	Very High
LOW-CARBON COMMUNITIES[3]	120 – 165 kt GHGs	Medium	Very High
BUSINESS & INNOVATION[3]	40 – 50 kt GHGs	Medium	Medium
TOTAL	2,350 – 3,160 kt GHGs	Very High	-

[1] To be determined based on approval of NB Output-Based Pricing System for 2023-2030.

[2] For natural carbon sinks, potential GHG reductions are to be determined as the actions are implemented.

[3] Numbers are not included in the total to avoid potential double-counting of emission reductions.

Table B2

GHG IMPACT BY RANGE OF ESTIMATED GHG EMISSION REDUCTIONS.

RANGE OF ESTIMATED GHG EMISSION REDUCTIONS	GHG IMPACT
1,000,000+ TONNES GHGS	Very High
250,000 – 1,000,000 TONNES GHGS	High
50,000 – 250,000 TONNES GHGS	Medium
5,000 – 50,000 TONNES GHGS	Modest
0 – 5,000 TONNES GHGS	Minor

Appendix C

GLOSSARY OF TERMS AND ACRONYMS

Adaptation: The process of adjusting to actual or expected climate and its effects to moderate harm or exploit beneficial opportunities.

Biodiversity: Biodiversity or biological diversity means the variability among living organisms from all sources, including among other things, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

Climate change: A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or land use.

Decarbonization: The process of reducing and removing carbon dioxide or other greenhouse gases from being released into the atmosphere. It involves shifting from energy systems that produce and release carbon dioxide and other GHG emissions toward clean energy production and utilization.

Greenhouse gas (GHG): Any gas that has the property of absorbing infrared radiation emitted from the earth's surface and reradiated back to earth, thus contributing to the greenhouse effect. Carbon dioxide, methane and nitrous oxides are the most important.

Clean hydrogen: Hydrogen produced in a manner which results in no GHG emissions being emitted into the atmosphere. This may include hydrogen produced using clean or renewable energy, or hydrogen produced in combination with carbon capture, utilization and storage.

kt: kiloton

Mt: Megatonnes

Natural carbon sinks: Forests, wetlands, oceans, plants and soils – that absorb more carbon dioxide from the atmosphere than they release.

Nature-based solutions: Actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

Net-zero emissions: Reducing GHG emissions to as close to zero as possible and counter-balancing any remaining emissions through removals such as natural carbon sinks or emerging technologies.

Net-zero energy ready construction: Buildings and homes that are built to the highest energy efficiency standards, and when combined with renewable energy generation, consume only as much energy as can be produced onsite through renewable resources.

NGO: Non-governmental organizations

Renewable Natural Gas (RNG): Biogas that has been upgraded to a quality similar to fossil natural gas and is comprised mostly of methane. Biogas comes from the decomposition of organic matter under anaerobic conditions. The biogas can come from various sources, including municipal solid waste landfills, wastewater treatment plants, livestock farms and food production facilities.

Resilience: A capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.