CANADA'S 2035 NATIONALLY DETERMINED CONTRIBUTION

Introduction

Canada is facing more frequent and severe weather events that impact the daily lives of Canadians – damaging homes, increasing grocery prices, affecting health, and raising insurance costs. Building a cleaner economy is not only an environmental imperative but also an economic opportunity to create good jobs and save money for Canadian families.

Canada is committed and determined to achieve net-zero emissions by 2050 and contribute to global efforts to limit global temperature increase to well below 2° C above pre-industrial levels and pursue efforts to limit it to 1.5° C. To that effect, the Government of Canada is pleased to submit its 2035 nationally determined contribution (NDC) under the Paris Agreement. Canada's 2035 NDC is to reduce emissions by 45-50% below 2005 levels by 2035, building on the 2030 target of 40-45% below 2005 levels.

Canada's commitment to net-zero by 2050 is codified in law through the *Canadian Net-Zero Emissions Accountability Act* (the Act). The Act requires the Government of Canada to set five-year national emissions reduction targets, ten years in advance, to keep Canada on track to achieving net-zero emissions by 2050. The 2035 target is a key milestone in Canada's path to net-zero emissions by 2050 and will guide the next decade of climate action in Canada.

Since 2015, Canada has implemented economy-wide climate plans that have successfully reduced national emissions while strengthening the economy, with the most recent being the 2030 Emissions Reduction Plan (2030 ERP). Through these plans, Canada has put forward market-based measures, regulations, investment tax credits, and funding programs to support emissions reduction. The results of these actions are clear and Canada's climate plan is working. Through these measures, Canada has successfully bent the emissions curve, has decoupled economic growth from emissions and is tracking towards significant emissions reductions by 2030. In 2015, Canada was trending to exceed 2005 emissions levels by 9% in 2030. Today, Canada is on track to achieve a 34% reduction below 2005 levels by 2030. These positive outcomes lay the foundation for Canada to achieve its 2035 target and net-zero emissions by 2050.

Looking ahead, Canada remains determined to continue implementing existing policies and sustaining leadership efforts to spur international action and cooperation. The Government will be exploring new ways to further reduce emissions, aiming to position Canada as a global leader in the clean economy of the 21st century, pursue reconciliation with Indigenous Peoples, and collaborate with all levels of government and international partners.

2035 target: a milestone to Canada's net-zero objective

When setting emissions targets, the *Canadian Net-Zero Emissions Accountability Act* requires that the Government of Canada considers the best scientific information available, Canada's international commitments related to climate change, Indigenous Knowledge, and advice from Canada's Net-Zero Advisory Body. In addition to the legislative requirements, the Government of Canada also performed significant quantitative and qualitative analysis to inform the target, including economic modelling. Additional detail on how the Government of Canada met each of these requirements, along with economic modelling, is included in Annex 2.

Per the Act, the Government of Canada provided provinces and territories, Indigenous Peoples, the Net-Zero Advisory Body and interested Canadians with the opportunity to make a submission to the 2035 target-setting process. The written submissions received from provinces, territories, Indigenous partners and the NZAB are included in Annexes 3 to 6.

The 2035 target was carefully chosen to advance Canada's transition to net-zero while also reflecting a range of considerations related to international competitiveness, affordability, economic security and wellbeing for Canadians. Careful calibration of Canada's pace to net-zero taking into account a changing North American landscape, Canada's unique circumstances and resource-based economy, and evolving regional dynamics is critical to the sustainability of Canada's approach. Canada's economy is characterized by a small population covering a large geographic area and supported by a significant level of exports – 35 percent of Canada's export goods come from emissions-intensive and trade-exposed sectors. Reducing emissions while maintaining a strong economy is vital to a successful and sustainable shift to a net-zero future that leaves no Canadians behind. Canada's 2035 NDC is aimed at accelerating the domestic energy transition and aligning domestic markets with low-emissions and climate-resilient pathways while avoiding carbon leakage.

Building on progress to date

The strategies and measures the Government of Canada has put in place are successfully bending Canada's emissions trajectory and have set a solid foundation for meeting Canada's 2030 and 2050 targets.

Since 2015, the Government of Canada has put in place over 140 measures across the country[1] , has committed over $160 billion to build Canada's clean economy and reduce emissions[2], and has invested significant additional resources to protect the environment, improve the health of Canadians, and conserve nature. Through climate plans put in place since 2016, including most recently the 2030 ERP, Canada is already implementing many measures that will contribute to emissions reductions in 2030, 2035 and beyond.

These measures not only reduce emissions, but can reduce the long-term economic, environmental and social costs of climate inaction. In recent years, Canadians have seen firsthand the devastating

[1] Canada. 2024 Biennial Transparency Report (BTR). BTR1. | UNFCCC
[2] Budget 2024

impact of wildfires, floods, drought and melting permafrost on communities across the country. Insured losses related to severe weather in Canada now routinely exceed $3 billion annually, with 2024 setting a record with insured losses reaching $8.5 billion[3]. The economic impacts of rising global temperatures are expected to continue to increase, with estimates suggesting that economic losses will rise to roughly 6% of Canada's GDP by the end of the century[4]. Canada is implementing the National Adaptation Strategy to increase the resiliency of households and communities, but sustained action to reduce emissions is required as part of the global effort to reduce the magnitude of climate impacts.

Efforts to date have demonstrated that emissions reductions and economic growth can be achieved together. In Canada, domestic investment in clean energy technology research and development has increased over the past five years. Exports of environmental and clean technology products reached $20.9 billion in 2022[5] - a 2.3% increase from 2021. Investing in a net-zero economy is also creating good, well-paying jobs. According to labour market data from 2022, there were over 327,000 jobs in the environmental and clean technology products sector in 2021, up 10.4% from 2020[6]. The development of a net-zero economy will continue to create economic opportunities for Canada. The International Energy Agency (IEA) World Energy Outlook notes that global investment in clean energy projects is increasing at an unprecedented rate - already almost double investments in new oil, gas and coal supply. To reach net-zero emissions by 2050, the IEA predicts that clean energy investment will need to increase to around USD 4.5 trillion per year in 2030[7]. The Royal Bank of Canada estimates that building a net-zero emissions economy would create between 235,000 and 400,000 new jobs in Canada by the end of the decade alone[8]. Other benefits of climate action include improved household energy security, reduced impacts on biodiversity, better air quality, improved physical and mental health outcomes, and when adaptation actions are added, more resilient infrastructure, communities and households.

Canada's emissions are now consistently below 2005 levels and tracking towards significant emissions reductions by 2030. In 2022, Canada's economic sector GHG emissions, excluding Land Use, Land-Use Change and Forestry (LULUCF), were 708 megatonnes of carbon dioxide equivalent (Mt), down from 761 Mt in 2005. The LULUCF accounting contribution added an additional 12 Mt in 2022, largely due to a drought on the Canadian prairies in 2021 that in turn led to a temporary sharp increase in emissions from Canada's croplands in 2022. In most years, the LULUCF accounting contribution is a net credit (sink) – reducing Canada's overall emissions –rather than a net debit (source).

In 2024, the Government of Canada published its First Biennial Transparency Report (BTR) under the Paris Agreement, providing updated emissions projections, extending out to 2040 for the first time. Based on data from Canada's most recent National Inventory Report (NIR) and projections in the BTR, Canada's emissions peaked in 2007 and have declined since and are projected to continue to do so. This is a significant accomplishment given that projections in 2015 indicated that that peak would be

[3] Insured damage from October storms in Southern BC surpass $110 million
[4] Damage Control: Reducing the costs of climate impacts in Canada.
[5] GDP and trade
[6] The Daily - Environmental and Clean Technology Products Economic Account, 2022
[7] Executive summary – Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach – Analysis - IEA
[8] Green Collar Jobs: The skills revolution Canada needs to reach Net Zero, 2022

temporary[9]. According to the BTR, Canada's emissions are projected to be 502 Mt in 2030, or 34% below 2005 levels. In 2015, annual emissions were projected to reach 815 Mt in 2030, significantly higher than currently projected[10].

The historical emissions results for 2022, which included a notable emissions increase due to a climate related event (drought), further highlights the imperative to take climate action as well as the risk that a changing climate can in turn lead to higher emissions. Despite this, Canada continues to reduce emissions and is on track to exceed the previous climate target of 30% below 2005 levels by 2030 (Figure 1), while recognizing that additional efforts will be required to achieve Canada's 2030 and 2035 targets.

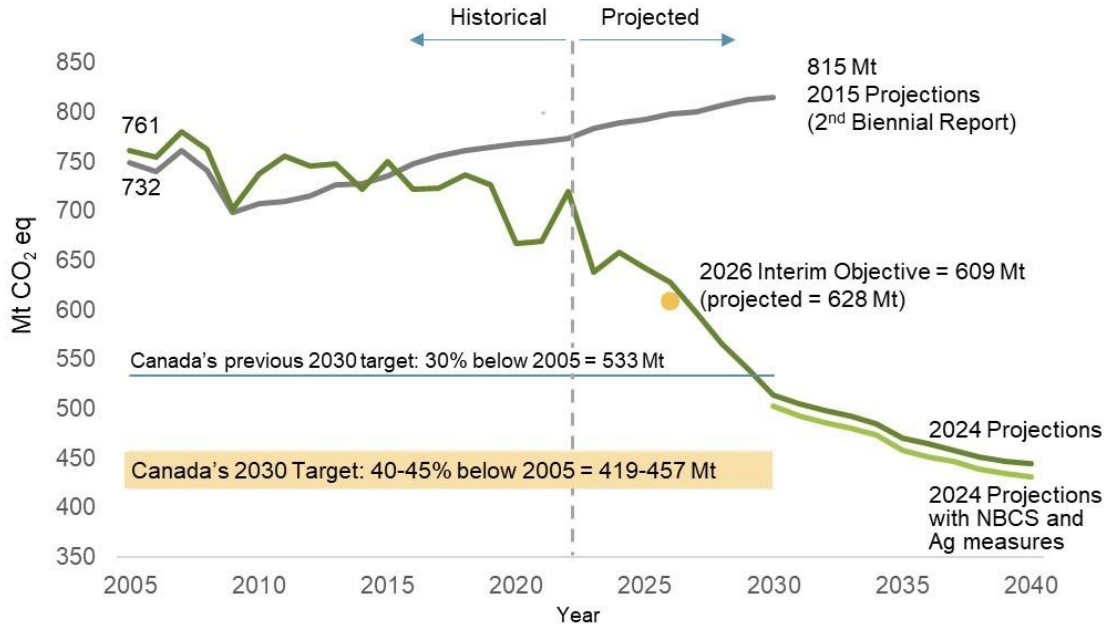

Figure 1: Canada's projected emissions trajectory to 2040. From Canada's First Biennial Transparency Report under the Paris Agreement (2024).

Canada is also successfully decoupling its emissions from GDP growth, primarily through energy efficiency improvements, decarbonization of the electricity grid and structural shifts in its economy. As a result, the emissions intensity for the entire economy (GHGs per GDP) has declined by 30% since 2005[11].

Moving forward, the 2035 target will serve as the next significant milestone after 2030 to guide climate action in Canada. That being said, measures developed in the shorter-to-medium term will need to take into consideration that Canada's ultimate objective is to achieve net-zero emissions by 2050. It will be increasingly important that Canada focuses on putting in place strong foundations and establishing the critical conditions for sustainable and long-term success over the coming decades.

[9] Canada. 2024 Biennial Transparency Report (BTR). BTR1. | UNFCCC
[10] Canada. 2024 Biennial Transparency Report (BTR). BTR1. | UNFCCC
[11] Canada. 2024 Biennial Transparency Report (BTR). BTR1. | UNFCCC

Achieving 2035 and building foundations for 2050

Canada's existing measures are already driving emissions reductions now and into the future. These foundational measures will help Canada put in place the essential conditions needed to meet its 2035 and 2050 targets. The following section provides more detail on the key conditions for success, which include:

1. **Domestic actions:** optimizing and building on Canada's existing suite of domestic measures;
2. **International actions:** pursuing international collaboration and leadership to drive global ambition on climate action; and,
3. **Areas of exploration**: exploring new opportunities to reduce emissions both domestically and internationally.

1. Domestic actions

Over the past decade, since signing on to the Paris Agreement, Canada has made important progress tapping into most short-term and cost-effective measures aimed at specific emissions sources. In submitting this NDC, the Government is looking at the next decade of climate action as an opportunity to calibrate Canada's mitigation approach to changing circumstances. Strengthening and optimizing these foundational measures to reduce emissions is a key condition of success for meeting our 2035 and 2050 targets. Success will also require strategic consideration of the policy ecosystem at home and abroad to ensure it is conducive to long-term decarbonization and ongoing economic prosperity.

Carbon markets

Canada's carbon pricing system is a key part of our national strategy to combat climate change, reducing emissions while fostering innovation and economic resilience. Since 2019, Canada has put in place the building blocks of a robust approach to carbon pricing that factors the cost of carbon pollution into the economy, while spurring the development of new and innovative technologies and services. A clear and predictable price on carbon pollution sends a powerful signal to industries and investors to allocate capital towards economic opportunities that align with our climate objectives. Canada's approach to carbon pricing gives provinces and territories the flexibility to design their own pricing systems as long as they align with minimum national stringency standards; otherwise the federal 'backstop' carbon pricing system applies. The federal system is composed of two parts: a fuel charge on fossil fuels like gasoline and natural gas, and a performance-based emissions trading system for industries, known as the Output-Based Pricing System (OBPS). The minimum price was set at $80 per tonne CO2 eq in 2024 and is currently scheduled to rise by $15 per year to $170 in 2030 – creating certainty for private sector investment and decision-making. The federal carbon pricing system is complemented by the *Greenhouse Gas Offset Credit System Regulations* (GHG Offset Regulations). The GHG Offset Regulations allow municipalities, Indigenous communities, foresters, farmers and other project developers to generate offset credits that can be sold and used for compliance by facilities covered in the federal Output-Based Pricing System, the *Clean Electricity Regulations*, or by others who are looking to meet voluntary climate commitments.

Currently, most industry in Canada is covered by provincial and territorial carbon markets, with the federal OBPS in place in Manitoba, Prince Edward Island, Nunavut and Yukon. The federal fuel charge applies in all jurisdictions aside from British Columbia, Quebec and Northwest Territories.

Moving forward, the Government of Canada will continue to work to ensure carbon pricing systems continue to provide long-term certainty and send impactful decarbonization signals for innovation and investment.

Foundational regulations

Through key regulatory measures, Canada is reducing GHG emissions while ensuring economic prosperity, and driving innovation in emissions-intensive sectors of the economy. Through core regulations, Canada is supporting transformative actions in the transportation sector. For instance, the Clean Fuel Regulations are lowering the carbon intensity of liquid fuels used in Canada. The Electric Vehicle Availability Standard will help increase vehicle choices for Canadians and meet annual zero-emission vehicle sales targets, with the goal of gradually switching to a 100 percent zero-emission future. This is reducing air pollution on our streets and protecting a healthy environment for all.

Canada has one of the cleanest electricity mixes in the world – over 80% of electricity generated is non-emitting. However, Canada is driving towards an even cleaner electricity grid through the Clean Electricity Regulations, while maintainingreliability and affordability for customers. In 2016, Canada became the first country in the world to introduce regulations on coal-fired powerplants and announced a phase-out of coal-fired electricity by 2030. In June 2024, Alberta phased out coal-fired electricity more than five years ahead of schedule. Through Clean Electricity Regulations, Canada will eliminate more than 12 million tonnes (Mt) of greenhouse gases by 2030 and nearly 100 Mt by 2050.

Incentives

While it is true that clean technologies can come with higher upfront costs, they also offer a range of long-term benefits including cost savings for families and businesses and bringing down emissions. To encourage their adoption, Canada has implemented a range of incentives to help businesses and households benefit from technologies that are more energy-efficient and environmentally friendly. These include initiatives to make zero-emission vehicles more affordable, such as the Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles Program and the accelerated capital cost allowance for businesses that purchase zero-emission vehicles. In addition, the Incentives for Zero-Emission Vehicles (iZEV) Program, which ran from 2019 to early 2025, supported the purchase of over 546,000 vehicles and helped Canada reach a new ZEV market share of 11.7% in 2023[12]. The Canada Greener Homes Initiative, which provides grants and loans to homeowners for energy-efficient upgrades, has also been successful. As of January 2025, over 360,000 households have received a grant and completed home energy retrofits, resulting in greenhouse gas emissions reductions equivalent to taking 215,670 cars off the road[13]. Canada is also supporting agricultural and agri-food

[12] Pause of the Incentives for Zero-Emission Vehicles Program - Canada.ca
[13] Canada Greener Homes Grant at a glance

producers to adopt clean technologies and practices through the Agricultural Clean Technology program, the Agricultural Climate Solutions program, the Sustainable Canadian Agricultural Partnership (Sustainable CAP), and Canada's Greenhouse Gas Offset Credit System. Further, the Sustainable CAP introduced the Resilient Agricultural Landscape Program, a $250-million cost-shared program delivered by the provinces and territories to help producers conserve and enhance the resiliency of agricultural landscapes.

Canada is also implementing an array of federal programs and services to support clean technology research, development and demonstration, and de-risking investment in clean technology deployment to guide decarbonization across industries. Examples include the Canada Growth Fund, the Strategic Innovation Fund – Net Zero Accelerator, the Energy Innovation Program and the Low Carbon Economy Fund. Additionally, the suite of Clean Economy Investment Tax Credits, representing $94 billion in federal incentives by 2035, support businesses in seizing the economic opportunities associated with a net-zero future. The tax credits support investments in, among other things, clean hydrogen production, carbon capture utilization and storage (CCUS) including direct air capture (DAC), clean technology manufacturing, non-emitting electricity generation, and critical mineral extraction and processing.

Financial sector actions

Achieving net-zero by 2050 will require investments between $125 billion and $140 billion in Canada each year[14]. The Government of Canada cannot do it alone, and the transition to net-zero will require substantial public and private sector investment and expertise. The financial sector, including banks, institutional investors, venture capital firms, and others, have considerable influence over Canada's path to a green economy. Their investment decisions directly shape the pace and scale of the clean technology transformation, job creation, skills development and innovation. Canada has advanced efforts to support the development of a sustainable finance ecosystem that will mobilize capital and accelerate the transition to a cleaner, greener economy. In 2023, Canada launched its Green Bond program, and has since issued three green bonds, investing $11 billion towards projects that support environmental objectives. In 2024, the Government of Canada announced a plan to deliver Made-in-Canada sustainable investment guidelines to help investors, lenders, and other stakeholders navigating the path to net-zero by identifying "green" and "transition" activities. Additionally, the Government of Canada also announced that it proposes to amend the *Canada Business Corporation Act* to mandate climate-related financial disclosures by large, federally incorporated private companies. Moving forward, the Government of Canada will continue to work to ensure investment decisions are informed by climate data and account for climate-related risks.

Along with other G20 countries, Canada is committed to phasing out inefficient fossil fuel subsidies. In July 2023, Canada became the first country to develop a comprehensive framework towards phasing out inefficient fossil fuel subsidies. Canada also committed to develop a plan to phase out domestic public financing of the fossil fuel sector.

[14] Archived - Budget 2022: A Plan to Grow Our Economy and Make Life More Affordable

Support for workers and communities

Building a cleaner, stronger and more resilient economy means investing in Canadians. It means supporting workers and communities that are contributing to Canada's economy in every sector. The shift to a low-carbon economy carries a myriad of benefits, supporting good-paying jobs for Canadians for generations to come. Ensuring Canadians have the necessary tools and supports to thrive in a net-zero economy will be essential as Canada works towards its 2035 target. The Government of Canada is demonstrating global leadership and has taken important steps to support workers and communities as they adapt to the evolving net-zero economy. This includes the adoption of the *Canadian Sustainable Jobs Act* (2024), that will support the creation of sustainable jobs, support industries and communities in every region across Canada, and help the workforce gain the necessary skills, training, and tools to fill these new job opportunities. Canada has committed investments of over $99 million in the Sustainable Jobs Training Fund (SJTF) and $55 million in the Community Workforce Development Program to support workers and communities gain new skills and prepare for the low-carbon economy. Moving forward, the Government of Canada will focus on preparing the workforce to supply the green skills that are already in high demand and prepare for the jobs of the future, while seizing immediate economic opportunities from growing net-zero-ready industries (e.g., batteries, electric vehicles, clean electricity).

Collaboration with provinces, territories and municipalities

Achieving Canada's climate targets requires strong collaboration between federal, provincial and territorial governments and municipalities. Climate change and environmental issues are a shared jurisdiction between federal, provincial and territorial, and municipal governments in Canada. In addition, provinces and territories are at the front lines of climate programming. Each region plays a critical role in shaping policies and implementing initiatives that directly impact emissions reductions, affordability and competitiveness. Given the country's diverse geographic, economic, and social contexts, provinces, territories and municipalities must tailor their approaches to address unique local challenges and opportunities.

The Government of Canada has already implemented several key initiatives to support provincial and territorial efforts. This includes a flexible approach to carbon pollution pricing which allows provinces and territories to design their own carbon pricing systems as long as they align with minimum national stringency requirements ("federal benchmark"). The Government of Canada also regularly engages with provinces and territories through Federal–Provincial–Territorial (FPT) ministerial tables to address topics of mutual interest, such as exploring carbon management and developing indicators for climate adaptation and resilience. The Government of Canada also works with third-party organizations, such as the Federation of Canadian Municipalities, to support municipalities to create resilient, net-zero communities, particularly through the Green Municipal Fund. Moving forward, the Government of Canada will continue to collaborate with other levels of government, including Indigenous Peoples (outlined in the next section) to meet our climate goals.

Canada was also a founding member of the Coalition for High Ambition Multilevel Partnership (CHAMP) for Climate Action launched at COP28 which aims to increase cooperation between countries and subnational governments to limit global temperature rise.

Indigenous Climate Leadership

Indigenous Peoples in Canada are key leaders, partners and drivers of climate action, at local, regional, national, and international levels. The stewardship of First Nations, Inuit, and Métis communities, waters, and lands, the exercise of constitutionally protected Aboriginal and Treaty Rights, and the participation in co-management regimes for natural resources and major infrastructure projects all position Indigenous Peoples as indispensable contributors to climate policy and action. Indigenous governments and communities know where the most urgent and effective action should be taken in their jurisdictions and First Nations, Inuit and Métis organizations, regions, and governments have developed climate change strategies and action plans to lay out priorities. These strategies seek to predict, monitor and address adverse climate impacts; provide scalable Indigenous-led climate solutions; and plan localized mitigation efforts. Importantly, these strategies prove that Indigenous priorities broadly align with federal climate priorities, including adaptation planning, environmental and biodiversity stewardship, emergency preparedness, clean energy transition, air quality and food security. To support Indigenous climate priorities, since 2022, the Government of Canada has invested $29.6 million to work in partnership with over 50 national and regional First Nations, Inuit, and Métis governments and representative organizations to jointly work toward building regional and national climate capacity and progressively vest resources for climate action in the hands of First Nations, Inuit and Métis. Moving forward, the Government of Canada will continue to address barriers to Indigenous climate action and explore options to streamline the delivery of climate funding to Indigenous partners to support Indigenous climate leadership. Canada is also committed to minimizing the adverse impacts on Indigenous communities from essential net-zero industrial projects, notably from mining and clean electricity.

Connections to Adaptation and Biodiversity

Canada is also taking strong action to increase the resiliency of society at large including communities, Indigenous peoples, households, and infrastructure. Canada's first *National Adaptation Strategy* (NAS) was released in 2023 and establishes a whole-of-society framework to build climate resilience in Canada, with goals, objectives and targets in five priority areas to focus efforts: disaster resilience, health and wellbeing, nature and biodiversity, infrastructure, and economy and workers. The *Government of Canada Adaptation Action Plan* is the federal government's contribution to implementing the NAS and will be complemented by action plans with provinces and territories, as well as Indigenous-led action. The NAS promotes accountability through work with partners on reporting and a monitoring and evaluation framework, a critical component of Canada's adaptation policy process that provides the information necessary to learn what is working and adjust the course of action. The first NAS progress report will be published in 2026. Chapters 3 and 4 of Canada's BTR double as Canada's second Adaptation Communication under the Paris Agreement, demonstrating Canada's ongoing commitment to transparency and ambition on adaptation and providing greater detail on the goals, policies, and plans being implemented to reduce the risk of climate impacts.

Canada recognizes the interconnectedness of climate change, biodiversity loss, and pollution, and is taking a holistic approach to address these challenges simultaneously. By leveraging the power of ecosystems, such as wetlands, grasslands, coastlines and forests, initiatives like the Nature Smart

Climate Solutions Fund and Indigenous Guardians program help tackle climate change while advancing resilience and biodiversity goals. Additionally, in 2024, Canada released the 2030 Nature Strategy, which aims to align climate and biodiversity efforts under international agreements, such as the UNFCCC and the Convention on Biological Diversity and minimize the impacts of climate action on biodiversity.

2. International actions

Canada recognizes the importance of international cooperation to meet its climate targets. Canada's economy relies heavily on natural resources, with emissions-intensive sectors driving an important share of exports, with up to 40% of Canada's GHGs are being driven by foreign demand[15]. There is also significant global demand for Canada's natural resources to support the energy transition, which highlights the importance of reducing emissions without compromising Canada's ability to supply critical resources. Achieving a similar level of emissions reductions as international peers, including other G7 countries, without triggering a loss of international competitiveness, capital flight, and risk of carbon leakage will require close collaboration with international partners to ensure we are in lock-step in the transition to a low-carbon economy.

3. Areas of exploration

Canada acknowledges there are significant benefits in a net-zero emissions economy. Transforming Canada's economy needs to be informed by a robust body of research from academics in a variety of disciplines, including physical and social sciences, as well as insights from Indigenous Knowledge Systems. Areas of exploration to support these efforts may include expanding clean energy, building capacity for Canadians to prosper throughout the transition, creating accountability for GHG emissions, and preserving nature's capacity to stabilize the climate. These transformations are not unique to Canada and are indicative of broader changes that are necessary on a global scale.

Canada will also explore new and promising areas that have strong potential and align with a net-zero future, such as international and domestic offset credits that are robust and represent verifiable, additional and permanent GHG reductions and carbon removals. Internationally Transferred Mitigation Outcomes (ITMOs) under the Paris Agreement allow for higher global ambition and other countries are planning to use ITMOs to meet their climate targets. ITMOs facilitate the transfer of emission reductions between nations, potentially enabling a cost-effective and flexible approach that could help Canada achieve its targets while supporting sustainable development abroad and strengthening international co-operation. Canada will continue to explore the transfer and use of ITMOs and other options that can generate incentives for further emission reductions.

Emerging science highlights the importance of carbon dioxide removal (CDR) technologies in achieving net-zero, however, their use carries potential risks that must be carefully managed. Canada has already taken steps in this area through the development of its Carbon Management Strategy, which outlines Canada's priorities for carbon management including key initiatives for advancing CDR technologies. Going forward, Canada will continue to explore the potential for CDR to contribute to emissions reductions while ensuring that it does not discourage other critical mitigation actions. As part of its continued commitment to supporting Canadian businesses and industry to take advantage of the economic opportunities that come with building a clean economy, the Government

[15] Greenhouse gas footprint indicators | OECD

of Canada has communicated its intention to engage with a broad range of partners and stakeholders to examine the role that technologies that permanently remove carbon dioxide can play in this transition. This will support ongoing work to assess the feasibility of different carbon dioxide removal approaches in Canada and explore the benefits and challenges associated with them, including how to most effectively leverage their economic potential.

Canada will work with international partners to align ambition and explore tools to level the playing field as all countries decarbonize. Several countries are exploring trade-related instruments, such as border carbon adjustments and emissions standards, to support continued fairness and competitiveness in a net-zero world and mitigate the carbon leakage and competitiveness risks associated with unilateral mitigation policies. Canada will continue to engage like-minded partners and explore potential measures to continue to mitigate carbon leakage risks.

The high-level transformations and key areas outlined above will serve as a foundation for the development of Canada's 2035 ERP, due in December 2029 as outlined in the Act. These areas will guide the Government of Canada in examining and implementing the necessary measures to achieve its 2035 climate target. Canada aims to ensure a robust and effective strategy that supports both environmental sustainability and economic prosperity on the path to a net-zero future.

Canada's support for international cooperation

Since ratifying the Paris Agreement, advanced economies, including Canada, have led the way with absolute, economy-wide emissions reduction targets covering all greenhouse gases. Canada will continue to demonstrate leadership and cooperation towards global efforts that will help get countries on 1.5 degree-aligned pathways. Examples include Canada's role co-leading the Powering Past Coal Alliance, which strives for the rapid phase-out of unabated coal power worldwide, and its membership in the Global Methane Pledge, which aims to reduce global methane emissions by at least 30% from 2020 levels by 2030. Canada is also a founding partner of the Climate and Clean Air Coalition, which works to reduce emissions of short-lived climate pollutants (SLCPs) that cause significant near-term climate change.

The provision of climate finance to developing countries, many of whom disproportionately bear the impacts of climate change despite contributing fewer emissions, is also essential for Canada to contribute to emission reductions beyond its borders. For this reason, Canada is investing up to 60% of its $5.3 billion International Climate Finance envelope (2021-2026) into support for mitigation actions in developing countries, supporting clean transitions amongst many of the most emissions-intensive economies today.

Canada also remains committed to implementing the mitigation outcomes of the Global Stocktake (GST), agreed at COP28. The first GST affirmed that the international community has made significant progress towards the temperature goal of the Paris Agreement but also recognized that the world is not on track to limit warming to 1.5°C and that the window to achieve this goal is closing. The decision provided benchmarks and guidance for countries to consider in the next round of NDCs due in 2025, including calls to action for the global energy transition. In 2024, the G7 took the first steps to reaffirm and build on these commitments. This includes working towards the tripling of global renewable capacity and doubling of energy efficiency improvements, transitioning away from fossil fuels in energy systems, achieving a fully decarbonized power system in 2035, accelerating the

decarbonization of industrial sectors, and working towards a 35% global reduction of methane emissions in 2035. Canada has already made critical strides in high-impact areas that are important for our collective goals under the GST.

Annex 1. Further information necessary for clarity, transparency, and understanding (ICTU) of Canada's NDC

Para	Guidance in Decision 4/CMA.1	Guidance as applicable to Canada's NDC
1.	**Quantifiable information on the reference point (including, as appropriate, a base year):**	
(a)	Reference year(s), base year(s), reference period(s) or other starting point(s);	Base Year: 2005
(b)	Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year;	The reference indicator will be quantified based on total national economic sector GHG emissions (i.e., Agriculture, Energy, Industrial Processes and Product Use, and Waste sectors, as defined according to IPCC guidelines), excluding land-use, land-use change and forestry (LULUCF) in the base year 2005, as reported in Canada's National Inventory Report (NIR) for 2035 (expected to be published by April 2037). The base year (2005) economic sector emissions level in Canada's 2024 NIR was about 761 Mt CO2 equivalents (CO2e).
(c)	For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information;	Not applicable.
(d)	Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction;	A 45-50% reduction in GHG emissions compared to 2005 levels. The 2005 level is the total national economic sector GHG emissions (excluding LULUCF) in 2005.
(e)	Information on sources of data used in quantifying the reference point(s);	The reference indicator will be quantified based on total national economic sector GHG emissions (excluding LULUCF) in 2005 reported in Canada's NIR for 2035, which is expected to be published by April 2037.
(f)	Information on the circumstances under which the Party may update	Canada will continue to publish a GHG inventory annually in accordance with decision 1/CP.21, paragraph 31. Canada will use accounting guidance adopted by the CMA, and the

	the values of the reference indicators.	reporting guidance for GHG inventories contained in 18/CMA.1. The total national economic sector GHG emissions in 2005 may be updated and recalculated due to continuous methodological improvements. Final accounting towards Canada's 2030 target will take place by 2037, after publication of Canada's NIR for 2035.
2.	**Time frames and/or periods for implementation:**	
(a)	Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);	From 1 January 2031 to 31 December 2035[1].
(b)	Whether it is a single-year or multi-year target, as applicable.	Single-year target in 2035.
3.	**Scope and coverage:**	
(a)	General description of the target;	Reduce GHG emissions in 2035 by 45% to 50% below the total national economic sector GHG emissions in 2005 (excluding LULUCF). Based on Canada's best accounting of its 2005 emissions contained in its 2024NIR, this is equivalent to a target of about 381 to 419 Mt CO_2e. The target covers all of Canada's economic sectors (excluding LULUCF) and all major GHGs not covered by the Montreal Protocol. The accounting contribution of LULUCF to Canada's target is determined as described in 5(e).
(b)	Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	Information will be provided in Canada's NIR that is consistent with the IPCC guidelines. <u>Sectors</u> Agriculture, energy, industrial processes and product use, LULUCF, and waste. <u>Gases</u> Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride (NF3).

[1] *Notwithstanding that implementation of policies and measures to progress towards the 2035 target may begin before this period*.

		For the LULUCF sector, emissions and removals from the following reporting categories are included: forest land, cropland, grassland, wetlands, settlements, harvested wood products, and other lands.
(c)	How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21;	Canada's NDC is an economy-wide target that includes all categories of anthropogenic emissions or removals.
(d)	Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	Not applicable. The NDC does not consist of mitigation co-benefits of adaptation actions and/or economic diversification plans. Any mitigation co-benefits of Canada's national adaptation actions and/or economic diversification plans are reflected in Canada's national inventory and thus covered by its economy-wide emissions reduction target. Hence these co-benefits were not accounted for separately, and no related methodologies were used.
4.	**Planning processes:**	
(a)	Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate;	Canada's 2035 NDC was developed pursuant to the *Canadian Net-Zero Emissions Accountability Act* (the Act). The Act enshrines in legislation the Government of Canada's commitment to achieve net-zero greenhouse gas emissions by 2050, and provides a framework of accountability and transparency to deliver on it. The Act establishes a legally binding process to set five-year milestone targets on the path to net-zero by 2050, at least ten years in advance, and holds the Government of Canada to account by requiring the Minister of Environment and Climate Change to report to Parliament with respect to each target. Under the Act, the 2035 target was required to be set by no later than December 1, 2024, and must represent a progression beyond the previous target of 40-45% reduction below 2005 levels by 2030. The Act sets out several requirements the Government of Canada must abide by when setting the target. These include taking into account the best scientific information available, Indigenous Knowledge, Canada's international commitments related to climate change, and advice from the independent Net-Zero Advisory Body when setting the target. The target was also informed by engagement with provinces and territories, Indigenous Peoples, stakeholders and interested Canadians. The Act requires the Government of Canada to publish a 2035 Emissions Reduction Plan, to describe the measures it will take to achieve the target, by December 1, 2029. To inform this 2035 ERP, the Government of Canada will launch engagement with partners, stakeholders,

		and Canadians to explore what is required to meet the 2035 target and seize economic opportunities as Canada moves towards net-zero by 2050. The Government of Canada will also be required to publish a progress report by the end of 2033 to update on the ongoing implementation of this emissions reduction plan, and an assessment report after 2035 to indicate whether the target has been met and to assess the effectiveness of the measures and strategies described in the 2035 emissions reduction plan.
(a)(i)	Domestic institutional arrangements, public participation and engagement with local communities and Indigenous Peoples, in a gender-responsive manner;	**Domestic institutional arrangements** While the Minister of Environment and Climate Change is responsible for domestic and international climate change policies, the environment is a shared jurisdiction in Canada and a range of federal, provincial, and territorial ministries work together to address this issue. Responsibility for relevant federal policies and measures is shared across the portfolios of 13 federal organizations. The *Canadian Net-Zero Emissions Accountability Act* (the Act) received Royal Assent on June 29, 2021. In addition to formalizing Canada's net-zero by 2050 target, the Act requires Canada to set rolling five-year emissions reduction targets aligning with the NDC cycle. The Act holds the Government of Canada to account by requiring the Minister of Environment and Climate Change to report to Parliament with respect to each national emissions target. These reports must include emissions reduction plans to achieve the targets, interim progress reports to update on the ongoing implementation and effectiveness of reduction plans, and final assessment reports to indicate whether a target has been met and to assess the effectiveness of the associated plan. Given the many different federal departments with varying responsibilities with respect to climate change, a Deputy Ministers' committee was established to oversee the implementation of climate change-related action across government, facilitating coordination and promoting coherence across different departments. The progress of federal actions to address climate change is tracked, as well, to inform senior management governance committees, ministers, and the Prime Minister.

		As Canada is still considering the potential of Article 6 towards achieving its NDC, Canada has not yet determined how it will track any internationally transferred mitigation outcomes. **Public participation and engagement** Under the Act, the Minister is required to provide the opportunity for provinces and territories, Indigenous Peoples, the Net-Zero Advisory Body and interested Canadians to make submissions when the government is setting its emissions reduction target under the Act. In early 2024, the Government of Canada launched an online engagement process inviting Canadians and stakeholders to share their thoughts on climate action and the appropriate level of ambition for Canada's 2035 emissions reduction target. The online engagement included a questionnaire and the option to upload a written submission. Around 11,000 participants shared their views and over 100 Canadians and stakeholders uploaded submissions. The Government of Canada also sought input from experts, including the Net-Zero Advisory Body, and from provinces, territories and Indigenous partners through written submissions and a series of senior-level meetings. Nearly all provinces and territories provided a submission, and the Government received eight formal written submissions and several oral submissions from Indigenous partners. The results of this engagement process, and submissions received from provinces, territories, Indigenous peoples, and the Net-Zero Advisory Body are appended to this submission. **Collaboration with Indigenous Peoples** The Government of Canada is committed to achieving reconciliation with Indigenous Peoples through a renewed, nation-to-nation, Inuit-Crown, and government-to-government relationship based on recognition of rights, respect, co-operation, and partnership as the foundation for transformative change.

		In developing Canada's 2035 target, the Minister of Environment and Climate Change and senior officials sent letters in early 2024 inviting written or oral submissions from First Nations, Inuit and Métis governments and representative organizations. Partners were invited to consider a variety of topics in their submission, such as Indigenous Knowledge, including distinctions-based Knowledges and Science; fairness, equity, intersectionality, and gender-based considerations; and legal instruments upholding Indigenous rights, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The Government also hosted virtual and in-person sessions to provide opportunities for First Nations, Inuit and Métis governments and representative organizations and individuals, including Elders, Knowledge-Holders, Land Users, Leadership Representatives and Youth. Eight written submissions were received, as well as numerous oral submissions through the distinctions-based, regionally focused engagement sessions. Some of the key messages from this engagement process include taking a holistic view of how Western Science and Indigenous Knowledge systems identify and address the root causes of climate change; acknowledging the imbalance of human and natural systems, and supporting deeper transformation of social, political, and economic systems and structures; and minimizing socio-economic impacts of measures on Indigenous Peoples.
(a)(ii)	Contextual matters, including, inter alia, as appropriate: a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication; b. Best practices and experience related to the preparation of the nationally determined contribution; and c. Other contextual aspirations and priorities acknowledged when	**National Circumstances** In Canada, about 82% of emissions come from energy in 2022. Canadians use more energy because of our extreme temperatures, vast landscape, and dispersed population. The challenges of transitioning to a lower-carbon energy system are numerous, but they also present opportunities for Canada to be a global leader by supporting innovative technologies in the Energy sector, including promoting our growing renewables and cleantech industries. Large distances between Canada's widespread metropolitan areas and a low population density contribute to high energy demand (and GHG emissions) related to the transportation of people and goods. When observing long-term emission trends, large-scale events (such as COVID-19 in 2020 and 2021) can have a significant impact on a portion of the time-series analyzed and should be considered. Although Canda's extreme climate contributes to making Canada a heavy energy user, particularly to heat and cool buildings (both residential and commercial), energy efficiency

	joining the Paris Agreement;	and energy sources have improved in recent years. In 2022, 85% of Canada's total electricity was produced from non-GHG emitting sources, with hydroelectricity comprising most of this production, followed by nuclear. The share of renewable power from sources other than hydro has been increasing steadily since 1990 while the supply generated from coal has decreased substantially over the same period. Emissions vary significantly by region because of local factors such as population, energy sources, and economic structure. All else being equal, economies based on resource extraction will tend to have higher emissions levels than service-based economies. Likewise, regions that rely on fossil fuels for electricity generation emit higher amounts of GHGs than those that rely more on low-emitting energy sources, such as hydroelectricity. Between 1990 and 2022, Canada's economy grew more rapidly than its GHG emissions. As a result, the emissions intensity for the entire economy (GHG per GDP) has continued to decline, by 42% since 1990 and by 30% since 2005. While the COVID-19 pandemic undoubtedly impacted recent emissions, the sustained decline in emissions intensity over time can be attributed to factors such as fuel switching, increases in efficiency, and the modernization of industrial processes. **Intergovernmental Collaboration** Canada is a federation, and addressing climate change is an area of shared jurisdiction, requiring actions across federal, provincial and territorial governments. Federally, the Minister of Environment and Climate Change leads on Canada's climate change policies. Longstanding mechanisms support inter-jurisdictional coordination on environmental policies. The Canadian Council of Ministers of the Environment (CCME), a federal, provincial, and territorial ministerial council promotes collaborative actions by governments to advance shared climate change objectives, and undertakes studies and analysis to develop best practices and recommendations to enhance governments' climate action. **Other Priorities**

		Canada's NDC is prepared in the context of Canada's firm commitment to respect, promote and consider its respective obligations on human rights, the rights of Indigenous Peoples, gender equality and other cross-cutting priorities, as articulated in commitments such as: • The Pan-Canadian Framework on Clean Growth and Climate Change; • *A Healthy Environment and a Healthy Economy*: Canada's strengthened plan to create jobs and support people, communities and the planet; • The 2030 Emissions Reduction Plan; • Canada's support for the 2030 Agenda For Sustainable Development; • The Government of Canada's Greening Government Strategy; • The *Canadian Charter of Rights and Freedoms*; and • Canada's support for the full and effective implementation of the United Nations Declaration on the Rights of Indigenous Peoples. The *Canadian Charter of Rights and Freedoms* protects basic rights and freedoms that are essential to keeping Canada a free and democratic society, including freedom of expression and the right to equality. It protects the rights of all individuals, including Indigenous People in Canada (First Nations, Inuit, and Métis). The *Canadian Human Rights Act*, passed in 1977, prevents discriminatory practices in the context of employment and the provision of goods, services, facilities or accommodations generally available to the public. In addition, Part II of the *Constitution Act, 1982* recognizes and affirms the existing aboriginal and treaty rights of the Aboriginal peoples of Canada. In 2016, the Government of Canada endorsed the United Nations Declaration on the Rights of Indigenous Peoples (the Declaration) without qualification and committed to its full and effective implementation. In June 2021, Parliament passed legislation to advance the implementation of the Declaration. The legislation requires the Government of Canada, in consultation and cooperation with Indigenous Peoples, to take all measures necessary to ensure that the laws of Canada are consistent with the rights of Indigenous Peoples set out in the Declaration, as well as to develop an action plan to achieve its objectives.
(b)	Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under	Not applicable.

	Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement;	
(c)	How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	The *Canadian Net-Zero Emissions Accountability Act* requires the Government of Canada to take into account its international commitments with respect to climate change mitigation when setting emissions reduction targets. For Canada's 2035 NDC, this includes the outcome of the first global stocktake (GST). Adopted at COP28, this outcome represents an important step for the implementation of the Paris Agreement. Building on the technical dialogue, and reflecting the latest reports from the IPCC, it identifies gaps and challenges and presents a clear call to accelerate global climate action to put the world on track to achieve all the goals of the Paris Agreement. Decision 1/CMA.5, **paragraph 39**, "Encourages Parties to come forward in their next nationally determined contributions with ambitious, economy-wide emission reduction targets, covering all greenhouse gases, sectors and categories and aligned with limiting global warming to 1.5 °C, as informed by the latest science, in the light of different national circumstances." Since ratifying the Paris Agreement, advanced economies, including Canada, have led the way with absolute, economy-wide emissions reduction targets covering all greenhouse gases. Canada's 2035 target is the next milestone to achieving net-zero emissions by 2050, as required in IPCC scenarios to limit warming to 1.5 degrees with no or limited overshoot. This commitment is enshrined in domestic law with transparency and reporting mechanisms to keep the government accountable. Decision 1/CMA.5, **paragraph 28**, calls on Parties to contribute to a series of collective efforts critical to both the global energy transition and the deep, rapid and sustained reductions in greenhouse gas emissions required to put the world on a pathway to limit warming to 1.5 °C.

		Canada is taking action to implement policies and measures across each sub-goal and across our highest-emitting economic sectors (oil and gas, transport and buildings) as part of the domestic energy transition. These efforts, already underway, will contribute materially to the achievement of both Canada's 2030 and 2035 NDCs. New and additional actions may be considered as part of the development of Canada's 2035 Emissions Reduction Plan. A non-exhaustive list of examples includes: • ***Increasing renewable energy capacity.*** Canada has one of the cleanest electricity mixes in the world – over 80% of the electricity generated is non-emitting – and solar photovoltaic and wind energy are the fastest growing sources of electricity in Canada. In 2022, Canada's solar electricity generation capacity grew by 41%. In 2023, Canada's wind, solar and energy-storage sectors grew by 11.2%. Canada is also investing in several programs to deliver more clean and reliable power, such as the Emerging Renewable Power Program (ERPP), the Smart Renewables and Electrification Pathways Program (SREPs), and the Clean Energy for Rural and Remote Communities (CERRC) program. • ***Improving energy efficiency.*** The Canada Green Buildings Strategy includes several aspects important for improving energy efficiency, such as delivering the Canada Greener Homes Affordability Program (CGHAP) to help low- to median-income Canadians, including tenants, upgrade the energy efficiency of their homes, with no cost to recipients; intention to modernize the Energy Efficiency Act to update the suite of legislative tools needed to account for the realities of today's online retail environment for energy-using products and equipment; and developing a suite of common labelling standards, tools, and guidelines to support home labelling initiatives across Canada, building on the existing EnerGuide rating system and in partnership with provinces, territories, municipalities, Indigenous communities, and other housing sector stakeholders. • ***Phase-out of unabated coal power.*** In 2016, Canada announced a phase-out of unabated coal-fired electricity by 2030. In June 2024, Alberta phased out coal-fired electricity more than five years ahead of schedule. Phasing out coal electricity in Canada will eliminate more than 12 million tonnes (Mt) of greenhouse gases by 2030 and nearly 100 Mt by 2050.

		• ***Transitioning away from fossil fuels in energy systems in a just, orderly and equitable manner.*** Canada has developed and is working on a suite of policies and measures to reduce pollution from the oil and gas sector, including Methane Regulations, Clean Fuel Regulations, and a proposed oil and gas emissions cap which would establish a national cap-and-trade system applied to upstream oil and gas activities. Recognizing the significant role of this sector in the Canadian economy, the Canadian Sustainable Jobs Act and the Sustainable Jobs Training Fund will ensure that workers and communities have the necessary tools and supports to thrive in a net-zero economy. • ***Accelerating zero- and low-emission technologies.*** Canada is implementing an array of federal programs and services to support clean technology research, development and demonstration, and de-risking investment in clean technology deployment to guide decarbonization across industries. Examples include the Canada Growth Fund, the Strategic Innovation Fund – Net Zero Accelerator, the Energy Innovation Program and the Low Carbon Economy Fund. Canada's Clean Economy Investment Tax Credits (ITCs), representing $94 billion in federal incentives by 2034-35, will also play an essential role in attracting investment, creating jobs, and driving Canada's economy toward net-zero by 2050. The first four ITCs, passed into law in June 2024, include the Clean Technology ITC, the Carbon Capture, Utilization and Storage (CCUS) ITC, the Clean Technology Manufacturing ITC, and the Clean Hydrogen ITC. • ***Phasing out inefficient fossil fuel subsidies.*** In December 2022, the Government of Canada ended new direct public support for the international unabated fossil fuel energy sector. In July 2023, Canada became the first country to develop a comprehensive framework towards phasing out inefficient fossil fuel subsidies. Canada has also committed to develop a plan to phase out public financing of the domestic fossil fuel sector. • ***Accelerating the reduction of non-CO2 emissions, especially methane.*** Canada released its Methane Strategy in September 2022, with the objective of reducing domestic methane emissions by more than 35% by 2030. As part of the

		Strategy, Canada also committed to a 75% reduction in methane emissions from its oil and gas sector from 2012 levels by 2030. Canada is also developing policies to reduce methane emissions from landfills, such as the offset protocol for "Landfill Methane Recovery and Destruction" under Canada's GHG offset system published in June 2022, and draft regulations to reduce landfill methane emissions published in June 2024. • ***Accelerating the reduction of emissions from road transport.*** Canada is working to decarbonize the transport sector through a range of actions. Canada is investing in charging infrastructure and finalized the Electric Vehicle Availability Standard (regulated targets for zero-emission vehicles) in December 2023, which requires 100% of new light-duty vehicles (LDVs) offered for sale in Canada to be ZEVs by 2035. Canada is also investing in transitory and long-term clean fuels for all transportation modes, including established fuels for small ground transportation, sustainable aviation fuel for air travel, and biofuels for the marine and rail sectors. And in July 2024, the federal government announced the Canada Public Transit Fund (CPTF); starting in 2026-27, the CPTF will contribute an average of $3 billion per year with the aim of providing stable and predictable funding to address active transportation and long-term public transit goals. Decision 1/CMA.5, **paragraph 33**, emphasizes the importance of "conserving, protecting and restoring nature and ecosystems towards achieving the Paris Agreement temperature goal, including through enhanced efforts towards halting and reversing deforestation and forest degradation by 2030, and other terrestrial and marine ecosystems acting as sinks and reservoirs of greenhouse gases and by conserving biodiversity, while ensuring social and environmental safeguards, in line with the Kunming-Montreal Global Biodiversity Framework". Canada supports a synergistic approach to tackling climate change and biodiversity loss together, recognizing that they are deeply intertwined environmental crises. Natural climate solutions will help Canada reach its emissions reduction targets while supporting biodiversity. For example, through the Natural Climate Solutions Fund, Canada is investing over $5B to support efforts to address climate change, benefit biodiversity and human well-being. This includes planting 2 billion trees by 2031, restoring wetlands, grasslands and other

		important ecosystems to help combat climate change. With the release of its 2030 Nature Strategy, Canada has reaffirmed its commitment to protect and conserve 30% of its lands and waters by 2030.
(d)	Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on: i. How the economic and social consequences of response measures have been considered in developing the nationally determined contribution; ii. Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban	Not applicable.

	planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.	
	5. **Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic GHG emissions and, as appropriate, removals:**	
(a)	Assumptions and methodological approaches used for accounting for anthropogenic GHG emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;	Canada will continue to publish a GHG inventory annually in accordance with decision 1/CP.21, paragraph 31 and report on progress towards its NDC in accordance with the Modalities, Procedures, and Guidelines of the Enhanced Transparency Framework. Canada will use accounting guidance adopted by the CMA, and the reporting guidance for GHG inventories contained in 18/CMA.1. For IPCC methodologies and metrics, see 5(d). Final accounting towards Canada's 2035 target will take place by 2037 after publication of Canada's NIR for 2035. Any use of internationally transferred mitigation outcomes will be included in Canada's final accounting.
(b)	Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;	Not applicable.
(c)	If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and	See 5(d-e) below.

	removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate;	
(d)	IPCC methodologies and metrics used for estimating anthropogenic GHG emissions and removals;	Methodologies: 2006 IPCC Guidelines for National Greenhouse Gas Inventories; 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands; and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Metrics: Global warming potential (GWP) values on a 100-year timescale in accordance with IPCC's Fifth Assessment Report will be used to calculate CO2 equivalents. Canada may adjust GWP values in accordance with future IPCC Assessment Reports.

(e)	Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable: i. Approach to addressing emissions and subsequent removals from natural disturbances on managed lands; ii. Approach used to account for emissions and removals from harvested wood products; iii. Approach used to address the effects of age-class structure in forests;	The annual National Inventory Report (NIR) reports national totals with and without emissions and removals from the LULUCF sector. "Total national economic sector emissions" is comprised of emissions from the Agriculture, Energy, Industrial Processes and Product Use, and Waste sectors. For the purposes of reporting on Canada's progress towards its 2035 emissions reduction target, LULUCF emissions are included in the total national emissions through the addition of what is called the "LULUCF accounting contribution". The LULUCF accounting contribution builds on the LULUCF sector data presented in the NIR and is published annually by Environment and Climate Change Canada. For all LULUCF sub-sectors **except** the managed forest and associated HWP, Canada's accounting approach compares net emissions in the reporting year with net emissions in 2005 (often referred to as a "net-net" approach) to determine the accounting contribution. Given the unique characteristics of Canada's managed forest, which is significantly impacted by the effects of past management and natural disturbances (i.e., the age-class structure legacy effect), Canada uses the reference level (RL) approach for its managed forests (also referred to as the Forest Land remaining Forest Land (FLFL)) and the HWP obtained from it. This approach first involves defining the RL, which is a projection of emissions and removals from the managed forests and associated HWP that reflects a continuation of recent forest management policies and practices, while actual or projected emissions are based on historical activity data (or projected activity data, when historical data are not yet available). Accounting then involves calculating the difference between emissions in the reporting year and the pre-defined RL value for that year. For any given year, the difference between the two (i.e., the accounting contribution) reflects the impact of new or recent management activities on emissions relative to the impact of the management assumed in the RL. In this way, the RL approach focuses accounting on the impacts of recent human activities, in line with the principles of accounting agreed under the UNFCCC. i. Canada estimates the emissions and subsequent removals from natural disturbances on managed forest land in the LULUCF sector according to a Tier 3 country-specific method. Reported estimates for the net GHG emissions from managed forest land exclude the impacts (both emissions and subsequent removals) of non-anthropogenic natural disturbances (e.g., wildfires, windthrow and those insect infestations that cause significant (>20%) tree mortality).

		ii. Canada estimates emissions and removals for harvested wood products using the Simple Decay Approach consistent with the IPCC 2006 Guidelines and using country-specific data. iii. Canada's carbon modeling to estimate and report emissions and removals from forest land is based on forest inventory information that includes forest ages and age-dependent growth rates. Changes in forest age-class structures due to management, conservation actions, or natural disturbances are reflected in the estimates of emissions and removals. Canada will continue to monitor developments related to LULUCF accounting.

(f)	Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including: i. How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used; ii. For Parties with nationally determined contributions that contain non greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;	Not applicable. All assumptions and methodological approaches are covered in 5(a)-(e). Not applicable. Not applicable. Not applicable.

	iii. For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated; iv. Further technical information, as necessary;	
(g)	The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	Canada will continue to explore the possible use of cooperative approaches under Article 6 of the Paris Agreement as a way to help meet Canada's targets while supporting sustainable development abroad and strengthening international co-operation. Should Canada engage in cooperative approaches, it will implement the rules and guidance established under Article 6 of the Paris Agreement to ensure robust accounting, environmental integrity, transparency, and the avoidance of double counting. As of February 2025, Canada does not have any agreements in place to use ITMOs under Article 6 towards NDCs under Article 4 of the Paris Agreement.
6.	**How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:**	
(a)	How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;	Canada is committed to doing its part to fight global climate change. Its emissions are going down while the country continues to see economic growth. Canada's 2035 target represents further ambition beyond its 2030 target, and Canada is committed to achieving net-zero emissions by 2050. Canada faces unique challenge in reducing emissions due to its national circumstances, including a large geographic area, extreme hot and cold temperatures, and significant economic activity from hard-to-decarbonize sectors. Thirty-five percent of Canada's goods exports come from emissions-intensive and trade-exposed sectors, which are often the hardest sectors to decarbonize without having significant economic and competitiveness impacts. Advancing domestic and international measures and strategies to strengthen

		Canada's efforts to transition to net-zero emissions while supporting, and remaining economically competitive with, other countries will be essential. As with the 2030 target, it is absolute, economy-wide, and covers all greenhouse gases and sectors, and represents a continued decrease in emissions from the 2005 baseline.
(b)	Fairness considerations, including reflecting on equity;	The Government of Canada is committed to ensuring that the needs of diverse groups of people are considered in the development of all policies, programs, and services, including in developing and implementing its climate targets, plans and initiatives. The Government of Canada has been committed to using gender-based analysis (GBA), and more recently GBA Plus, in the development of policies, programs and legislation since 1995. GBA Plus is an analytical tool to equip federal officials with the means to attain better results for Canadians by being more responsive to specific needs and ensuring that government policies and programs are inclusive, equitable and barrier-free. In setting the 2035 target, the Government of Canada undertook a GBA Plus assessment on the impacts of various levels of climate ambition on diverse groups of people, including Indigenous Peoples, women, youth and future generations, 2SLGBTQIA+ individuals, racialized Canadians, new immigrants, people with disabilities, low-income households, seniors, and those living in rural and remote communities. The assessment found that the pace and scale of the transition will have varying impacts on different groups and sectors in Canada. In general, more ambitious climate action will benefit those who are disproportionally impacted by climate change, including low-income people, seniors, people with disabilities, and Indigenous Peoples, as well as youth and future generations, by alleviating the negative impacts of climate change. The assessment also explored the impacts of decarbonizing specific sectors of the Canadian economy, particularly the oil and gas, heavy industry, and buildings sectors. It found that the transition is expected to generate a mix of positive and negative impacts, which will be disproportionately felt in regions of Canada whose local economies rely on these sectors, such as Alberta, Saskatchewan, and Newfoundland and Labrador. The costs and benefits of workforce changes as a result of the transition are expected to be disproportionately borne by men, who make up the majority of workers in these sectors. At the same time, decarbonization is expected to create more new jobs in the clean technology sector than will be lost in the oil and gas sector. The transition also presents an opportunity to address existing inequalities in the natural resources sectors. Those who are underrepresented in oil and gas, heavy industry and the buildings sectors—

		women, 2SLGBTQIA+ individuals, racialized Canadians, new immigrants, and people with disabilities—could benefit from new job opportunities presented by the transition in these sectors towards clean energy if targeted labour policies are implemented. More ambitious decarbonization is also expected to benefit all Canadians in the long-term through lower electricity bills and lower costs for transportation, relative to fossil-fuel-based alternatives. However, the transition to net-zero by 2050 does present some affordability risks in the near to medium term. Low-income households, which are disproportionately comprised of single parents, those living in rural and remote communities, Indigenous Peoples, persons with disabilities, recent immigrants, racialized Canadians, and seniors, could be disproportionately impacted by such a change, given that energy needs tend to make up a larger portion of income relative to higher-earning households. Canada will need to monitor and address these impacts to ensure the transition doesn't entrench existing inequalities. The Government of Canada also took into account advice from the independent Net-Zero Advisory Body when setting the 2035 target. Fairness was a key consideration in the NZAB's advice, including considerations on Canada's fair share of emissions reductions and equity. More information on this advice can be found in the NZAB's report "Climate's Bottom Line: Carbon Budgeting and Canada's 2035 Target", which is appended to this submission. The Government of Canada is also demonstrating fairness and equity in the implementation of its climate plans. Canada's latest climate plan, the 2030 Emissions Reduction Plan, was informed by a GBA Plus assessment that assessed how climate change overlaps with a range of social issues such as racial or ethnic marginalization, gendered discrimination, urban/rural divides, and poverty. It also looked at which groups are disproportionately impacted and under-represented in the transition to a low-carbon economy. As part of the 2030 Emissions Reduction Plan, Canada reiterated its commitment to develop legislation to enable a just transition that supports workers and communities as the shift to a low-carbon future advances. In 2024, Canada passed the *Canadian Sustainable Jobs Act*, which ensures accountability, transparency, and engagement to support the creation of sustainable jobs for workers and economic growth in a net-zero economy. A just and inclusive transition to sustainable jobs is an opportunity to advance equity, inclusion, and justice, by embedding these principles in policies, programs, frameworks and pathways to 2030 and beyond. The move to a low-carbon economy also represents an opportunity to

		address existing inequalities in the workplace, and to enhance and improve training supports for those facing barriers in the workforce, such as Indigenous Peoples, racialized people, skilled newcomers, youth, women, LGBT+ people and persons with disabilities. The Sustainable Jobs Act will foster the creation of sustainable jobs, support industries and communities in every region across Canada, and help the workforce gain the necessary skills, training, and tools to fill these new job opportunities. The Government of Canada will conduct additional GBA Plus analysis for climate plans, policy and programs moving forward, to maximize positive benefits for those most impacted by the negative effects of climate change, including low-income Canadians, women, racialized Canadians, persons with disabilities, Indigenous communities and people living in rural and remote communities.
(c)	How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;	Canada's 2035 NDC represents a progression of ambition compared to its 2030 NDC communicated in 2021. This is consistent with Article 4, paragraph 3, of the Paris Agreement. See 6(a) for more information.
(d)	How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	Canada complies with Article 4, paragraph 4, of the Paris Agreement by having an economy-wide absolute target.
(e)	How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	Not applicable.
7.	**How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:**	
(a)	How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	Canada considers the Paris Agreement to be in line with achieving the objective of the Convention as set out in its Article 2. Canada's NDC is consistent with the Paris Agreement and its long-term temperature goal. See 6(a) and 6(b) for more information.
(b)	How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	Canada's GHG emissions peaked in 2007 and are projected to be on downward trajectory. Canada's enhanced NDC is in line with Canada's 2050 net-zero emissions target. See 6(a) and 6(b) for more information.

Annex 2. 2035 Target Legislative Requirements and Engagement

Legislative requirements

The following section outlines how the Government of Canada met the legislative requirements of the *Canadian Net-Zero Emissions Accountability Act* (the Act) when setting the 2035 emissions reduction target. The Act requires that the Government of Canada considers the best scientific information available, Canada's international commitments related to climate change, Indigenous Knowledge, and advice from the Net-Zero Advisory Body. In addition to the legislative requirements, the Government of Canada also performed quantitative and qualitative analysis to inform the target, including economic modelling.

Best available science

In assessing the best available science to inform the target, the Government of Canada considered peer-reviewed research, major international and domestic assessment and synthesis documents, and scientific observations and data, including Canada's GHG inventory. The findings included that limiting global warming to below 1.5°C will significantly reduce the risks, adverse impacts, and related losses and damages from climate change. To keep 1.5°C within reach, global CO_2 emissions need to be halved by 2030 and reach net-zero around 2050. The transition to net-zero will require deep emissions cuts across all sectors this decade, and a shift towards low-carbon energy and improved efficiency. Analysis also showed that, while carbon dioxide removal (CDR) will be needed to counterbalance remaining hard-to-abate GHG emissions within Canada to achieve net-zero emissions domestically, as well as to address overshoot of global temperature goals, clarity on the feasibility of these approaches is needed to avoid overdependence and to reduce the risk that they will delay emission reductions through direct mitigation efforts. A holistic approach to decarbonization can maximize co-benefits while mitigating adverse impacts. The Government acknowledges that science is evergreen and will work to improve the process to consider best available science in the future, including the consideration of Indigenous Science.

Indigenous Knowledge

The process to consider Indigenous Knowledge in setting Canada's 2035 emissions reduction target aimed to build on and respect the longstanding relationships between Canada and Indigenous Peoples on climate change, while advancing reconciliation and supporting Indigenous Peoples' self-determined climate priorities and action. First, a framework for Indigenous Knowledge was established on how to ethically and equitably engage with and reflect Indigenous Knowledge Systems in the establishment of the target. This framework included four categories which focused: on values and rights; equity and socio-economic considerations; impacts and lived experiences of climate change; and actions to mitigate climate change. Three engagement processes were then launched, including: an invitation to provide written or oral submissions (Annex 3); an extensive review of self-determined climate plans and recommendations; and distinctions-based regional

engagement sessions with First Nations, Inuit and Métis communities and organizations. Based on the outcomes of these engagement processes, the Government of Canada synthesized six core recommendations on how to ethically and equitably consider Indigenous Knowledge when setting Canada's 2035 target. Recommendations included:

1. Indigenous Knowledge and Western Science should be woven together and given equal standing and validity in decision-making when setting the 2035 target.
2. The target's scope should consider the growth and consumption paradigm shifts needed to restore balance between human and natural systems.
3. The target's ambition should consider a proportionate mitigation response to the rapid increase of climate disruptions and disasters observed and experienced by First Nations, Inuit and Métis.
4. The target's ambition should reflect safeguarding the well-being of at least seven future generations.
5. The target's scope and ambition should consider the responsibility to take care of all living beings.
6. The target's ambition should account for the irreplaceable loss and damage of Indigenous lands, livelihoods, and the erosion of rights and title caused by unabated emissions.

International commitments

In setting the 2035 target, Canada reviewed its international climate commitments. The review highlighted the many opportunities available to Canada as an active participant and leader in international climate change mitigation, as well as its obligations under both binding and voluntary agreements, fora and initiatives. Achieving real progress towards these commitments demonstrates Canada's dedication to action, transparency and collaboration, to promoting inclusive global climate action, and to strengthening partnerships and global cooperation. Shared commitments taken by Canada and other countries can also serve to build a more level trading and economic playing field which directly benefits Canadians. Underpinning these commitments is a recognition of Canada's global responsibility and capacity for climate leadership, including as one of the top fifteen global emitters and a G20 country.

Advice from the Net-Zero Advisory Body

The independent Net-Zero Advisory Body (NZAB), an expert advisory panel, works to recommend pathways for Canada to reach its net-zero by 2050 target. In Fall 2023, the Minister requested the NZAB's qualitative advice for setting the 2035 target, such as key considerations the Government should take into account when setting the target, as well as the assumptions, rationale, and level of effort that would be needed should the NZAB choose to recommend a specific 2035 target. Ultimately, the NZAB provided their advice and recommended that the Government of Canada adopt a Canadian carbon budget, an emissions reduction target of 50-55% below 2005 levels for 2035, and address Canada's existing emissions. The NZAB notes that its recommendation of 50-55% below 2005 levels would require greater ambition not just from the federal government, but also from provinces, territories, municipalities, and the private sector. Per the Act, the Government

of Canada is required to publicly respond to the NZAB's advice; the response is forthcoming and will be published in 2025.

Economic modelling

Canada leveraged economic modelling analysis to provide a better understanding of the level of effort Canada would need to deploy to reach the 2035 target. Using energy-economy models helps to understand how much incremental policy effort would be required to achieve a target given Canada's current economic structure, as well as ensuing socio-economic impacts. Economic modelling was just one line of analysis that informed the setting of the 2035 target.

Engagement on the 2035 target

Per the Act, the Government of Canada provided provinces and territories, Indigenous Peoples, the Net-Zero Advisory Body and interested Canadians with the opportunity to make a submission to the 2035 target-setting process, summarized below.

Provinces and territories

The Minister of Environment and Climate Change sent letters to Ministers of the provinces and territories in early 2024, inviting them to make a submission to the 2035 target-setting exercise, and providing an opportunity for provinces and territories to highlight any considerations they may have related to setting the target. A number of provinces and territories provided submissions. These submissions emphasized a variety of target-setting priorities, including the need to ensure economic security and affordability alongside enhanced ambition.

Indigenous Peoples

The Minister of Environment and Climate Change Canada and senior officials sent letters in early 2024 inviting written or oral submissions from First Nations, Inuit and Métis governments and representative organizations. Partners were invited to consider a variety of topics in their submission, such as Indigenous Knowledge, including distinctions-based Knowledges and Science; fairness, equity, intersectionality, and gender-based considerations; and legal instruments upholding Indigenous rights, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The Government also hosted virtual and in-person sessions to provide opportunities for First Nations, Inuit and Métis governments and representative organizations and individuals, including Elders, Knowledge-Holders, Land Users, Leadership Representatives and Youth. Eight written submissions were received, as well as numerous oral submissions through the distinctions-based, regionally focused engagement sessions. Some of the key messages from this engagement process include taking a holistic view of how Western Science and Indigenous Knowledge systems identify and address the root causes of climate change, including the imbalance of human and natural systems, and supporting deeper transformation of social, political, and economic systems and structures, as well as minimizing socio-economic impacts of measures on Indigenous Peoples.

Interested Canadians

Canada also sought input from interested Canadians: around 11,000 participants shared their views via an online portal, which included over 23,000 comments, and the Government received around 100 written submissions from stakeholders and Canadians (Annex 5). The results highlighted the polarization of views on climate change in Canada, with the majority of respondents (about 2/3) supporting increased action and a minority strongly opposed. In general, written submissions from stakeholders expressed views that Canada was not on track to achieve its 2030 target and called for the implementation of all announced measures, enhanced policy certainty and coherence, and a target that is ambitious, aligned with net-zero, fair, and realistic.

Annex 3. Submissions from provinces and territories

Reference: 408314

April 25, 2024

The Honourable Steven Guilbeault, PC, MP
Minister of Environment and Climate Change Canada
Government of Canada
House of Commons
Ottawa ON K1A 0A6

Sent via email: ministre-minister@ec.gc.ca

Dear Minister:

Thank you for your letter of January 18, 2024, regarding Canada's 2035 greenhouse gas emissions target.

Attached you will find the B.C. Ministry of Environment and Climate Change Strategy's submission outlining B.C.'s efforts, perspectives, ambitions, and advice for charting the course to net zero.

B.C. is making progress towards its climate targets, through the CleanBC plan and the CleanBC Roadmap to 2030 ("Roadmap"). The most recent Climate Change Accountability Report from 2023 indicates that if all CleanBC policies and programs planned today are fully implemented B.C. could achieve 96 percent of its 2030 target. Government is continuing to deliver on commitments in the Roadmap and is looking at ways to recalibrate actions to close this gap.

While many Roadmap actions are expected to lead to continued declines in emissions after 2030, projections beyond 2030 are more uncertain. We are monitoring emissions trends and will consider how climate policy commitments can evolve to help achieve Canada's 2035 target and B.C.'s 2040 target of 60 percent reduction in greenhouse gas emissions. Meeting our targets and achieving our climate commitments can only be realized if we continue to work closely with all partners.

We look forward to collaboratively developing critical climate policies with Canada through our submission on Canada's 2035 greenhouse gas emissions target, in particular:

...2

Ministry of Environment and Climate Change Strategy
Office of the Minister
Mailing Address:
Parliament Buildings
Victoria BC V8V 1X4
Telephone: 250 387-1187
Facsimile: 250 387-1356
Website: www.gov.bc.ca/env

- Working collaboratively to meet our climate policy objectives with a focus on affordability for individuals and the competitiveness of our economy in the pursuit of clean growth opportunities.
- Securing $1.5 billion of federal funding contributions to the North Coast Transmission Line, which we note was not included in the most recent federal budget, expanding the Clean Electricity Investment Tax Credit to include intra-provincial transmission lines to enable new clean growth opportunities within B.C., and exploring federal funding for increased interties between provinces;
- Continuing to work with Canada on carbon pricing and ensuring that B.C. has input into potential federal changes that could impact B.C.'s carbon pricing programs;
- Ensuring Canada's oil and gas emissions cap meets B.C.'s objectives and reduces regulatory and administrative burden;
- Adjusting federal programs that support industrial decarbonization to be suitable to regional contexts.
- Addressing potential impacts of the 2035 target, including changes to emissions accounting and Canada's next nationally determined contribution submission;
- Coordinating supports to individuals and communities to embrace low carbon options (for example, heat pump systems) in alignment with the CleanBC Better Homes program and future building codes and standards and with consideration for unique geographic and cultural needs;
- Coordinating to reduce vehicle kilometers travelled and achieve light-, medium- and heavy-duty ZEV and freight efficiency targets; and
- Continuing investment in infrastructure programs (for example, Investing in Canada Infrastructure Program, Low Carbon Economy Leadership Fund).

The Ministry of Environment and Climate Change Strategy's Climate Action Secretariat will continue to (or will, where engagements have not yet started) engage heavily on ongoing and forthcoming discussion on the oil and gas emissions cap, carbon pricing, methane regulations, National Adaptation Strategy and Article 6 implementation.

Thank you for the opportunity to provide input on steps to achieve our net-zero future. Please do not hesitate to contact me to discuss the details of our submission and how our governments can continue to collaborate on high-ambition climate action.

Sincerely,

George Heyman
Minister

Attachment

B.C. input into Canada's 2035 greenhouse gas emissions target

Current & Planned Efforts
1-2 pages
	An overview of the current and planned efforts on climate mitigation in your region, looking ahead to 2035 and beyond.
	
	CleanBC implementation has been underway since 2018. The CleanBC Roadmap to 2030 ("Roadmap"), released in 2021, sets out a series of pathways and actions to build a cleaner economy while reducing emissions towards meeting B.C.'s 2030 GHG reduction target of 40% below 2007 levels. While many actions are expected to lead to continued declines in emissions after 2030, projections beyond 2030 are more uncertain and will need to be revised with consideration for factors such as post-2030 government policy, economic and population growth, and technology development. B.C. is monitoring emissions trends to adjust measures accordingly.
	
	The annual Climate Change Accountability Report provides an overview of the actions B.C. is taking to reduce emissions and manage risks from climate change. Below is a summary of climate mitigation actions that were completed since CleanBC's release or are ongoing based on the most recent accountability report and categorized based on the Roadmap pathways:
	
	• **Economy-Wide**
	  ○ Raising B.C.'s carbon price to \$170/tCO_2e by 2030, in line with the federal benchmark, while providing the Climate Action Tax Credit and other measures to protect affordability.
	• **Low Carbon Energy**
	  ○ Enhancing B.C.'s Low Carbon Fuel Standard, increasing the carbon intensity reduction requirement to 30% by 2030
	  ○ Establishing a GHG cap for natural gas utilities of approximately 6 Mt of CO_2e per year for 2030
	  ○ Invested in First Nations and community clean energy projects, such as clean energy housing and heating upgrades in the Nazko First Nation and completion of Canada's first standalone renewable diesel refinery in Prince George
	  ○ Updated energy objectives under the *Clean Energy Act* targets 100% of electricity generated in B.C. and supplied to the integrated grid being sourced from clean or renewable resources by 2030
	  ○ BC Hydro has a Clean Electricity Standard requiring the utility to generate and acquire enough clean electricity to meet its retail sales on the integrated grid
	  ○ BC Hydro has announced a call for 3,000 GWh/year of new clean, renewable energy production to meet the potential electrification load associated with the Government of B.C.'s GHG reduction targets. Further calls are expected as demand for electricity increases
	  ○ BC Hydro released an updated 10-year capital plan, Power Pathway: Building B.C.'s energy future, which includes approximately \$36 billion in community and regional infrastructure investments throughout the province between 2024-25 and 2033-34. This is an increase of 50% over the previous capital plan.
	• **Transportation**
	  ○ Increased B.C.'s light-duty zero-emission vehicles (ZEV) sales target, to 90% by 2030 and 100% by 2035

	○ Planning to develop new ZEV targets for medium- and heavy-duty vehicles in alignment with leading jurisdictions such as California ○ Provided rebates for light-duty ZEVs and expanded incentives for clean bus and heavy-duty ZEV purchases ○ Expanding the charging network with home, work and public fast-charging stations and additional hydrogen fueling stations ○ Investing in commercial ZEVs, public transit, and active transportation ○ Preparing B.C.'s workforce for ZEV transition through the Go Electric Training Program ○ Enacting a Clean Transportation Action Plan to map out additional system-wide actions to meet the transportation emission reduction targets ○ Supporting Indigenous and local governments with cost-share funding to develop local active transportation network plans and construct active transportation facilities ○ Providing income-tested rebates for e-bikes and complementary training ○ Providing active transportation education and encouragement programs, including in-school cycling training • **Buildings** ○ Supported energy efficiency upgrades to public buildings and public housing ○ Provided incentives for fuel switching and energy efficiency upgrades or new builds through the CleanBC Better Homes and Better Buildings programs ○ Introduced new carbon pollution standard in BC Building Code, with zero-carbon new construction by 2030 ○ Introducing highest efficiency standards for space and water heating equipment by 2030 at the latest • **Communities** ○ Supporting local community climate action through Local Government Climate Action Program and CleanBC Communities Fund, funded under Investing in Canada Infrastructure Program (ICIP) bilateral agreement ○ Reducing plastic waste through CleanBC Plastics Action Fund and Clean Coast, Clean Waters Initiative Fund ○ Supporting communities to achieve 95% waste diversion for agricultural, industrial and municipal waste by 2030 • **Industry** ○ Introduced Energy Action Framework to ensure oil and gas projects fit within B.C.'s climate commitments and create new opportunities for people in clean energy and technology ○ Established a requirement for new large industrial development to submit plans to achieve net-zero emissions by 2050 and show how they align with 2030 and 2040 targets, and proposed liquefied natural gas facilities would require a plan to be net zero by 2030 ○ Introduced new made-in-B.C. Output-Based Pricing System for large industrial emitters ○ Established single-window regulator for clean energy permitting ○ Enhanced CleanBC Industry Fund, which supports technology advancement and emission reduction projects for large industrial operations ○ Developed research and a regulatory framework to reduce oil and gas sector methane emissions by 75% by 2030 and nearly eliminate all methane emissions (including those from coal, wood waste, oil and gas , and forestry) by 2035 • **Bioeconomy – Forestry and Agriculture**

- Reducing agricultural emissions through Beneficial Management Practices Program
- Encouraging adoption of carbon sequestration practices through Resilient Agriculture Landscape programming
- Invested in reforestation, fertilization, tree improvement and road rehabilitation

- **Public Sector Leadership**
  - Achieved carbon neutrality in all government operations each year since 2010
  - Invested in post-secondary institutions, school districts and health authorities that save energy and reduce emissions

References to regional realities, opportunities, and challenges to reducing greenhouse gas emissions within your province/territory.

Many Roadmap actions are designed to address diverse regional needs, including the Communities pathway that is focused on supporting local climate action. Below is a summary of efforts to address regional considerations, again categorized across Roadmap pathways.

- **Low Carbon Energy**
  - The majority of electricity-sector GHG emissions come from two facilities, both of which have electricity purchase agreements that expire prior to 2030 and are not expected to be renewed
  - Investing in community clean energy projects through the Community Energy Diesel Reduction Program, BC Indigenous Clean Energy Initiative and Innovative Clean Energy (ICE) Fund
  - Providing clean electricity to planned natural gas production in Peace Region
  - Planning for, building and operating additional electricity generation, transmission and distribution at the scale necessary to meet B.C.'s climate targets will be a significant challenge. B.C. established the BC Hydro Task Force to ensure the necessary focus and resources are available.
- **Transportation**
  - Ensuring geographic coverage of public charging stations throughout B.C.
  - Working with Metro Vancouver to reduce light-duty vehicle GHG emissions and transition to low-carbon transit
  - Working with communities across B.C. to address electric vehicle (EV) myths and raise awareness on EVs, including on cold-weather operation, driving distance
  - Supporting Indigenous communities by offering a rolling intake for active transportation infrastructure funding
- **Buildings**
  - Provided heat pump funding top-up for northern residents and businesses, through CleanBC Better Homes and Better Buildings programs
- **Communities**
  - B.C. Climate Action Charter was signed by every community in the province
  - Invested in community climate action planning and infrastructure projects through Local Government Climate Action Program and CleanBC Communities Fund
  - Supporting waste removal and diversion in coastal communities through the Clean Coast, Clean Waters Initiative Fund and implementing the CleanBC Plastics Action Plan

	○ BC Hydro's 2024 10-Year capital plan contains $36 billion in community and regional infrastructure investments in support of electrification to meet CleanBC emissions reductions targets • **Industry** ○ Supporting regional industry decarbonization projects, noting challenges and opportunities that exist depending on both the sector and the region, such as expanding the electricity grid in the Northeast, planning grid upgrades to service the North Coast, electrifying mining equipment in the Thompson-Okanagan region and enhancing carbon capture opportunities in the Northeast ○ Released Northeast BC Geological Carbon Capture and Storage Atlas in partnership with GeoscienceBC and the B.C. Centre for Innovation and Clean Energy, to provide detailed information about geological carbon storage capacity in Northeast B.C. ○ Staying focused on ensuring B.C.'s industries remain competitive internationally. • **Bioeconomy – Forestry and Agriculture** ○ There is a critical need for a flexible approach to agriculture emissions reductions that recognizes regional differences across the country. In B.C., the agriculture sector is considered in the emergent stage of decarbonization in which government support is needed to increase the development and adoption of beneficial practices and technologies. ○ B.C. agriculture accounts for only 3.4% of B.C.'s total GHG emissions (5.3% if on-farm stationary combustion and transportation are included) and has a larger proportion of smaller farms than in other provinces. ○ The B.C. agricultural sector faces high abatement costs for small GHG reductions because emission sources are spread across around 20,000 farms producing many diverse agricultural commodities. ○ Opportunities relate to increasing the adoption of Beneficial Management Practices that reduce GHG emissions or sequester carbon such as riparian and silvopasture management, soil management, grazing management, nitrogen and manure management (including anaerobic digestion). • **Government collaboration** ○ In June 2023, the Canada-British Columbia Regional Energy and Resource Table released a Framework for Collaboration on the Path to Net-Zero (Collaboration Framework) through which the provincial and federal governments and the First Nations Leadership Council (FNLC) will work together to build a net-zero economy. ○ Continuing to foster partnerships and champion global climate action through membership in international climate groups, including the Pacific Coast Collaborative, Under2 Coalition, Transport Decarbonisation Alliance, Ocean Acidification Alliance, Carbon Pricing of the Americas, and International Zero-Emission Vehicle Alliance.
Partner & Stakeholder Perspectives 1 page	***A summary of what your government has heard from partners and stakeholders on climate action and ambition within your region. This could include perspectives from Indigenous partners, environmental non-governmental organizations, industry, businesses, municipalities, and civil society.*** B.C. has consistently engaged with Indigenous leaders and communities, stakeholders, and other levels of government as it develops, implements and refines its climate action initiatives. The Climate Solutions Council, a legislated climate advisory committee

representing diverse perspectives of subject matter experts, has written several letters of advice and produced its annual report with recommendations to government for climate mitigation. These are made public and can be accessed here

Feedback from Indigenous Peoples

B.C. is working together with First Nations as we develop legislation, policy and programs. B.C. also works closely with Indigenous organizations such as the FNLC and the First Nations Energy and Mining Council on the Indigenous Clean Energy Opportunities program to foster Indigenous participation in the clean energy sector, as well as to align the Province's clean energy policy and legislation with the United Nations Declaration on the Rights of Indigenous peoples.

In spring 2022, the BC First Nations Climate Strategy and Action Plan was released by the FNLC with funding provided by B.C. The Strategy combines input and feedback from First Nations leadership, staff, Elders, Knowledge Holders, youth, women, First Nations institutions and organizations, and climate experts and advocates. Four priority pathways for climate action are identified: Inherent Title and Rights, Capacity and Leadership, Land and Water Protection, Climate Response and Preparedness. Government is working with the FNLC Technical Working Group on Climate Change to identify and update priority areas of alignment and cooperation between the BC First Nations Climate Strategy and Action Plan, the Roadmap and the Climate Preparedness and Adaptation Strategy.

The Ministry of Environment and Climate Change Strategy has also been engaging with Indigenous peoples on climate policies and B.C.'s net-zero targets. Below is a summary of feedback received from Indigenous peoples across Roadmap pathways:

- Indigenous peoples expressed the need to target net zero sooner than 2050 while highlighting affordability issues, energy availability and practicality issues for remote and rural communities
- There was interest from Indigenous groups in economic development opportunities in the clean energy sector; they requested more financial and capacity support
- Indigenous groups suggested ensuring reliable and low-carbon active transportation within and between First Nations communities, and supporting First Nations in reducing reliance on fossil fuels including increasing their ability to access ZEVs and expanding opportunities for Indigenous economic development in the ZEV sector including in charging infrastructure
- Indigenous peoples highlighted challenges with heating low-carbon buildings, costs of upgrading and instability of power grids in rural and remote communities
- Indigenous communities face significant challenges and expenses to transport recycling and waste
- Anxiety was expressed over economic ramifications and the ability to recover from climate disasters; they emphasized importance of being involved at all stages of decision making
- Indigenous partners, including the First Nations Energy and Mining Council, have indicated a desire for specific percentage set asides for First Nations owned and controlled energy projects within the BC Hydro call for power and subsequent calls for power
- Indigenous peoples highlighted the importance of holding industry accountable, keeping compliance payments local and incentivizing positive behaviour
- Bioeconomy development should balance environmental and economic benefits, and there was interest in pursuing carbon offset projects

Feedback from additional groups by Roadmap pathway

- **Economy-Wide**
  - There is interest in updates related to emissions modelling and the role of regulations and policies in reducing emissions
  - Several local governments and the Climate Solutions Council support raising the carbon tax in line with the federal benchmark
  - Industry supports carbon pricing but had significant concerns about competitiveness and carbon leakage
  - Industry, Indigenous peoples, businesses, clean tech companies and others encouraged government to explore negative emissions technologies (NETs)
  - Youth expressed interest in more rapid deployment of climate action and a focus on equity in policy development
  - There is concern across several groups that CleanBC will increase costs for British Columbians already facing a high cost of living.
- **Low Carbon Energy**
  - Industry supports low carbon fuels as a near-term substitute for natural gas but sees a need to address barriers such as biomass supply, transportation fuel costs, and partnerships to implement the B.C. Hydrogen Strategy
- **Transportation**
  - Many groups supported accelerating and expanding zero-emission vehicle targets and enhancing funding and supports for active transportation
  - The commercial transportation industry supports measures to predictably reduce emissions from medium- and heavy-duty fleets
  - Youth supported reliable and expanded public transit and a focus on community planning, active transportation, and affordability
- **Buildings**
  - A wide range of groups identified opportunities to decarbonize buildings such as regulating carbon in the building code, accelerating highest efficiency heating equipment standards, addressing affordability, integrating climate resilience, considering unique Indigenous geographic and cultural needs, and aligning program incentives with future building codes and standards
  - Government has heard concerns from some groups about costs associated with switching from fossil fuels to electricity.
- **Communities**
  - Local government priorities include climate action funding, supporting the ability to regulate, addressing capacity constraints, integrating climate action into Official Community Plans, and increasing ZEV targets, carbon tax and the Low Carbon Fuel Standard
  - There is broad support from leading local governments, industry innovators, and First Nations for developing a circular economy but there are also concerns that Canada has insufficient education and awareness on what it is
  - Challenges include transporting recycling and waste from remote communities and managing compostable plastics
  - The public and businesses identified opportunities for greater use of reuse and refill systems
  - Youth support the building of community resilience to improve responses to climate related disasters, and longer-term planning after disasters rather than a return to the status quo
- **Industry**
  - Industry stressed that low carbon growth opportunities should leverage industry's low carbon advantage and build on our natural resources

	○ Opportunities include forward-looking policy, protection for emissions-intensive trade-exposed industry, clarifying requirements for carbon capture, utilization and storage projects, supporting electrification infrastructure through renewed funding programs such as ICIP, and advancing low carbon fuel production ○ Several industries have told government that an increasing carbon price significantly impacts their ability to grow in B.C. Government recalibrated its B.C.-OBPS stringency in response to these concerns. • **Bioeconomy – Forestry and Agriculture** ○ Multiple groups identified the need for a competitive carbon policy that incentivizes GHG reduction and sector investment, with investment and further engagement to support commercialization of new bioproducts ○ People from the agriculture and aquaculture sectors want a clear and continued role in program and policy development. Priorities include financial support, ensuring producer buy-in, and developing the research and monitoring needed to establish benchmarks and track GHG reductions ○ Agricultural producers have emphasized that the adoption of environmental practices or technologies need to make economic sense for their businesses. The sector faces economic challenges, and GHG reductions must support productivity, profitability, competitiveness, and producer livelihoods.
Climate Ambition & Advice 1-2 pages	***An outline of your government's current climate targets and any intentions of increasing ambition or setting new targets.*** B.C.'s Climate Change Accountability Act establishes province-wide GHG targets to reduce emissions by 40% in 2030, 60% by 2040, and 80% by 2050 - all below 2007 levels. Additionally, B.C. has set an interim provincial reduction target of 16% by 2025, as well as sectoral targets for 2030 to reduce emissions below 2007 levels by 27-32% from transportation, 33-38% from oil and gas, 38-43% from industry, and 59-64% from buildings and communities. As part of legislated requirements, government will review these targets by December 31, 2025. B.C. has also committed to establishing a 2050 net-zero target. As mentioned in Current & Planned Efforts above, B.C. is monitoring emissions trends to adjust measures accordingly. ***Key considerations that the Government of Canada should take into account when setting its 2035 target. This could consider national and regional circumstances; international obligations; the respective roles and responsibilities of the federal government and provinces and territories; economic competitiveness and the transition to a clean economy; climate innovation and the role of clean technology; and, fairness, equity and inclusion considerations.*** B.C. is making progress towards its Roadmap commitments through setting ambitious targets, testing novel approaches and implementing innovative policies. To support Roadmap actions already underway, Canada's 2035 target should address the following considerations, again categorized based on the Roadmap's pathways: • **Economy-wide** ○ Ensure that Canada's actions regarding the federal carbon tax are aligned with B.C. carbon pricing programs, and that B.C. has the opportunity to discuss in advance any federal changes or requirements (e.g., small business rebates, carbon credit markets) that could impact B.C.'s well-developed program

	○ Develop additional tools to support industrial competitiveness while carbon pricing increases, such as Border Carbon Adjustments, and strongly engage Provinces in the development of those tools ○ Implement Article 6 in partnership with provinces and territories (PTs) to support subnational participation in voluntary and compliance carbon markets ○ Develop and launch the National Low Carbon Energy Registry and confirm how accounting for the 2035 target will work, including how notional renewable energy purchases, linked carbon trading systems, and negative emission technologies will be represented ○ Establish mandatory recycled content in plastic and paper products, where appropriate, through procurement or other measures ○ Collaborate with PTs in developing the High-Level Description and Canada's NDC submission, in alignment with the CHAMP pledge signed at COP 28, and ensure that B.C. has the opportunity to discuss in advance elements that may impact the province's climate policy • **Low Carbon Energy** ○ Expand support for clean energy innovation programs, including through the BC ICE Fund in partnership with Sustainable Development Technology Canada ○ Provide $1.5 billion of federal funding to the North Coast Transmission Line, expand the Clean Electricity Investment Tax to include intra-provincial transmission lines to enable new clean growth opportunities within B.C., and explore federal funding for increased interties between provinces ○ Support national development of a full value chain for a low carbon hydrogen industry, including development of export infrastructure ○ Provide direct support and investment in carbon capture and fuel synthesis technologies and commercial-scale projects ○ Support energy utility collaboration across the electricity and gas systems to reduce emissions by maximizing the benefits that each system offers ○ Expand financial and capacity support for Indigenous-led clean energy development, including for grid-connected and remote communities • **Transportation** ○ Work directly with B.C. on regulations for ZEVs, including on-road (light-, medium- and heavy-duty) and non-road (including off-road, rail, marine, air) ○ Identify federal actions to eliminate light-duty and heavy-duty vehicle emissions control tampering ○ Continue partnership and co-funding for electric vehicles and charging stations; invest in B.C.'s electric charging and hydrogen fueling infrastructure to ensure geographic coverage; work with B.C. to expand funding partnerships and streamline federal funding administration through the CleanBC Go Electric program (i.e., in lieu of separate federal funding calls, enter into a bilateral agreement with B.C. on ZEV infrastructure funding) ○ Work with B.C. to identify further federal actions to support B.C.'s Clean Transportation Action Plan, transportation energy intensity, mode share, and vehicle kilometre travelled targets ○ Explore prioritizing transportation infrastructure planning and investment to the most energy efficient modes. Ensure transportation and land use considerations in ICIP investments include increasing eligibility of tactical urbanism projects

	○ Provide funding for investments in clean infrastructure and low carbon transportation options such as active transportation and public transportation ○ Continue to work with B.C.'s public transit agencies as they transition to low carbon fleets through BC Transit's Low Carbon Fleet Program and TransLink's Low Carbon Fleet Strategy • **Buildings** ○ Collaborate on development of technical standards for hybrid heat pumps and other heat pump systems ○ Develop regulatory plan to introduce regulations requiring all space and water heating equipment, including equipment installed as a system, to have an efficiency of at least 100% significantly reducing emissions compared to conventional combustion technology ○ Align the existing building alteration code with the forward regulatory plan for space and water heating equipment, including provisions to allow early adoption of space and water heating standards by local jurisdictions ○ Collaborate with B.C. on development of a virtual home-energy rating tool based on EnerGuide ○ Work with B.C. to expand program incentives in alignment with the CleanBC Better Homes program and future building codes and standards and with consideration for unique geographic and cultural needs • **Communities** ○ Increase awareness of and provide funding for local government action that supports the ability to regulate, the inclusion of climate action in community plans and capacity requirements ○ Continue to improve guidance on calculating GHG impacts of infrastructure through further development of climate lens resources ○ Invest in programs and funding to increase organics diversion from landfills ○ Collaborate to support and fund Indigenous community capacity to plan for and reduce community emissions, including through reducing diesel's use in electricity generation, solid waste management, and the implementation of zero waste systems within communities ○ Work collaboratively to develop a circular economy, including promoting greater use of reuse and refill systems • **Industry** ○ Ensure Canada's oil and gas cap can meet B.C.'s objectives and minimize the regulatory and administrative burden to industry ○ Invest in innovative industrial decarbonization projects that leverage the industry's low carbon advantage and B.C.'s natural resources ○ Fund methane detection and monitoring on a national scale and collaborate with PTs on enhancing the measurement and monitoring approach to methane emissions to improve inventories, target tracking and further policy development. ○ Collaborate on an integrated, national methane detection and quantification program leveraging data collected through industry reporting requirements of the methane regulations, B.C.-based methane detection research and future government-led monitoring efforts ○ Develop and implement supporting programs for common industrial infrastructure (e.g., electricity transmission, pipelines for CO_2, hydrogen infrastructure) needed to support industry on a path towards net-zero emissions

	○ Continue collaboration and coordination to establish an enabling environment for the wide-scale deployment carbon capture, utilization and storage, and for supporting low carbon fuel production including hydrogen • **Bioeconomy - Forestry and Agriculture** ○ Establish a bioeconomy acceleration program to bring new bioproducts to market ○ Support the shift from bioenergy and biofuels to higher value bioproducts such as advanced biomaterials, biochemicals, composite materials ○ Engage partners and invest in developing an integrated approach to bioproduct commercialization that balances environmental and economic benefits ○ Increase domestic manufacture of engineered wood products (e.g. glulam, cross laminated timber) ○ Incentivize bioproduct development through government procurement policies (e.g., Wood First Act in B.C. and USDA BioPreferred Program) ○ Improve international collaboration and knowledge transfer (e.g., from Scandinavia to B.C.) ○ Provide support for Indigenous communities to develop bioeconomy projects ○ Explore the establishment of a national carbon labelling or sustainable biomass content system to allow consumers to make informed choices regarding the carbon life cycle and/or impact of the goods they purchase ○ Improve the measurement, verification, and reporting of GHG emissions and carbon sinks in agriculture and aquaculture to create the enabling conditions of scaling-up investment in climate-smart practices ○ Collaborate to enhance supports for regenerative agriculture practices and technologies

Government
of
Saskatchewan
Minister of Environment
Legislative Building
Regina, Canada S4S 0B3

APR 1 6 2024

2024-17

The Honourable Steven Guilbeault, P.C., M.P.
Minister of Environment and Climate Change
Government of Canada
ministre-minister@ec.gc.ca

Dear Minister:

Thank you for your letter of January 18, 2024, seeking input on development of Canada's 2035 greenhouse gas emissions target.

The Government of Saskatchewan is committed to sustainably producing the food, fuel, and fertilizer that Canada and the world needs. We have made strategic investments in the development of carbon capture, utilization and storage (CCUS) technology and provide ongoing support for agricultural research and innovation. We are pursuing a net-zero electricity grid by 2050 and exploring opportunities for the sustainable development of helium and critical minerals to support the transition to a lower carbon economy. In addition, Saskatchewan's Technology Fund provides funding for our industrial emitters to implement innovative projects that further reduce provincial emissions.

These and other initiatives show that the Government of Saskatchewan is committed to supporting national and international efforts to address the effects of a changing climate. However, our ability to contribute to this work is challenged by the Government of Canada's approach to climate change policy and its greenhouse gas emissions targets.

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Saskatchewan believes the federal government should focus its attention on promoting sustainable economic growth and strengthening Canada's ability to compete in the global market while contributing to global efforts to reduce emissions.

To achieve this objective, the Government of Saskatchewan calls on the federal government to do the following:

Respect Provincial Jurisdiction:

The current Government of Canada has introduced a series of climate policies, including the Clean Electricity Regulations and proposed cap on oil and gas emissions, that are clearly areas of exclusive provincial jurisdiction. The Supreme Court echoed this concern in two recent cases, including its finding that the federal *Impact Assessment Act* steps into provincial jurisdiction and is therefore unconstitutional. As Chief Justice Wagner notes, "Parliament has clearly overstepped its constitutional competence . . ."

Going forward, the Government of Saskatchewan expects the federal government to refrain from intruding into Saskatchewan's exclusive constitutional right to develop its natural resources and grow its economy.

Eliminate Policy Stacking:

Since 2015, the Government of Canada has stacked increasing number of regulations and policies, including the federal carbon tax, *Clean Fuel Regulations*, *Clean Electricity Regulations*, Oil and Gas Emissions Cap, and an increasingly stringent methane reduction mandate. The federal government is now committed to reducing Canada's greenhouse gas emissions by 40 to 45 per cent below 2005 levels by 2030 and reaching net-zero emissions by 2050.

The federal government's overlapping regulatory frameworks increase the risk that climate policy will stifle investment and job creation. Applying excessively stringent climate policies to reduce emissions in a resource-producing jurisdiction such as Saskatchewan will not impact climate change if those reductions occur due to curtailed economic production. Rather, this production and the associated emissions will simply be displaced by competing jurisdictions with less stringent policies, undermining Canada's economy while generating an increase in overall global emissions.

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Pause Carbon Tax Increases:

Since the carbon tax's inception, Saskatchewan has consistently indicated how such an instrument is impractical for our province. Our population is dispersed, necessitating travel that has become more expensive due to the carbon tax.

The cost of doing business in Saskatchewan has also risen due to increased costs of inputs and transportation of goods. Despite assurances that the carbon tax is revenue neutral, the federal government failed to return proceeds to our province as required by the *Greenhouse Gas Pollution Pricing Act*. Indeed, $153.6 million collected in Saskatchewan between 2019-20 and 2021-22, and an estimated $82.3 million collected in 2022-23, is not expected to be fully returned until March 2025.

If the federal government continues to increase the carbon price, the direct compliance costs to Saskatchewan residents and businesses not eligible for Saskatchewan's Output-Based Performance Standards Program could be as high as $24.7 billion between 2023 and 2035. Given the federal government's failure to return carbon pricing proceeds promptly, this represents a significant ongoing cost to our households and small businesses.

Halt the Cap on Oil and Gas:

Saskatchewan's upstream oil and gas sector will face significant costs to comply with carbon pricing, Canada's oil and gas Methane 75 mandate and the proposed Oil and Gas Emissions Cap. Technical challenges and economic realities facing Saskatchewan's oil and gas companies limit their capacity to comply with these policies cost-effectively. As was highlighted in a letter from the Honourable Jim Reiter, Minister of Energy and Resources to you on February 5, 2024, Saskatchewan estimates compliance with the proposed oil and gas emissions cap will cost our oil and gas sector between $7 billion and $9 billion by 2030.

When the oil and gas cap is combined with the proposed Methane 75 mandate, an estimated 100,000-150,000 barrels per day of production (20-30 per cent of total production) will be shut in or lost due to reduced investment in drilling.

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The lost production coming from Saskatchewan will be filled by other global suppliers to meet demand, resulting in similar emissions being released into the shared global atmosphere bringing the overall intent of the policy into question. Further, the increase in flaring emissions expected to occur in response to the Methane 75 mandate may increase compliance costs under Saskatchewan's carbon pricing program.

Revise the *Clean Fuel Regulations* and *Clean Energy Regulations*:

The federal *Clean Fuel Regulations* will increase costs throughout the gasoline and diesel fuel value chain, with costs passed on to customers at the fuel pump, compounding the added expense already incurred owing to the federal carbon tax on fuel. While the *Clean Fuel Regulations* are intended to target refineries and upgraders, there will be indirect costs for the upstream oil and gas sector. Saskatchewan estimates the cost of complying with the *Clean Fuel Regulations* – accounting for reduced fuel demand owing to the federal Zero Emission Vehicle mandate – will be $34.9 billion from 2023 to 2035.

The federal *Clean Electricity Regulations* also threaten the province's economic well-being. As proposed, the *Clean Electricity Regulations* will cost Saskatchewan approximately $40 billion by 2035, doubling power rates for customers, and impacting low-income households and many of Saskatchewan's industries as price takers on international markets for their goods.

The federal government also underestimates the scale of change required for Saskatchewan to achieve a net-zero power grid. As the Honourable Dustin Duncan, Minister of Crown Investment Corporations communicated to you on November 2, 2023, projects are underway to replace coal-fired units with baseload natural gas-fired units to support the continued adoption of non-emitting sources of power. These projects will allow Saskatchewan to bridge the gap between the retirement of our coal units in 2030 and the maturation of Saskatchewan's long-term clean power supply, allowing the province to achieve a net-zero power grid by 2050.

Achieving a net-zero power grid by 2035 is unrealistic in this province.

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Provide Adequate Federal Funding:

Several jurisdictions including Saskatchewan have noted that federal targets need to be supported with adequate funding.

On May 16, 2023, the Honourable Donna Harpauer, Minister of Finance wrote to Deputy Prime Minister Chrystia Freeland to discuss how federal funding can support provincial priorities, including:

- The federal government contributing 75 per cent of the cost of Saskatchewan's first small modular reactor and 50 per cent of the cost for renewable electricity technologies or low-emitting power generation;
- Flexible and fair criteria within the Strategic Innovation Fund to ensure that critical mineral projects in Saskatchewan qualify for funding;
- $200 million for the Saskatchewan Research Council Rare Earth Processing Facility;
- Expanding the eligibility of the CCUS tax credit to include enhanced oil recovery; and
- 50 per cent of the project costs for the Lake Diefenbaker Irrigation Expansion Project.

If the federal government expects provinces and territories to contribute to federal climate targets, the Government of Canada must provide commensurate funding.

Improve Federal Modelling:

To date, the federal modelling that informs federal climate policies has not been transparent. Provincial and territorial governments have not been afforded the opportunity to provide input. While federal regulations are accompanied by regulatory impact assessment statements, this analysis often fails to break down the impacts to the provincial/territorial level. As a result, federal policies fail to reflect the costs imposed on individual jurisdictions and the potentially disproportionate effect those policies will have across the federation.

The federal government has not prioritized publishing details on the modelling that informs its policies. This lack of transparency inhibits provinces and territories from providing informed feedback when developing federal climate policies and emission reduction targets. A more open approach, in which provinces and territories have more input into the assumptions made and

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the data used in the federal models, would significantly improve Canada's ability to develop fair, achievable climate policies. For example, provinces and territories with expertise in specific technologies or economic sectors can inform assumptions, including the uncertainty of when novel emission reduction technology will be fully distributed and applied in Canada.

Saskatchewan recommends the Government of Canada expedite its action plan in response to the recommendations made in the Independent Modelling Review Report provided to Environment and Climate Change Canada. The federal government must increase transparency and engagement in federal modelling and better reflect the uncertainty inherent in attempting to fundamentally change the way our economy functions in pursuit of a net-zero future.

In closing, our governments can partner in this, but the federal government must do its part to develop climate policies that account for provincial circumstances, are informed by meaningful engagement, and are supported by adequate funding. In our view, Canada can make significant progress in reducing our emissions in a manageable and affordable way that enables our industry to provide the world with reliable, high quality sustainable products that advance our economic interests while contributing to lower global emissions.

Sincerely,

Christine Tell
Minister of Environment

cc: Honourable Scott Moe, Premier of Saskatchewan
Honourable Donna Harpauer, Minister of Finance
Honourable Jim Reiter, Minister of Energy and Resources
Honourable Dustin Duncan, Minister of Crown Investments Corporation

Manitoba provided a submission on April 30, 2024. The amended submission below was provided on November 14, 2024

MANITOBA'S SUBMISSION TO CANADA'S 2035 GHG REDUCTION TARGET AND NATIONALLY DETERMINED CONTRIBUTION (NDC)

CURRENT AND PLANNED EFFORTS

An overview of the current and planned efforts on climate mitigation in your region, looking ahead to 2035 and beyond.

As of November 1, 2024 the Government of Manitoba has:

- Established a mandate to create a roadmap to meet net-zero targets by 2050.
- Established a mandate to work toward making Manitoba's electricity grid net-zero by 2035 and to attract new low-carbon industries.
- Issued an Affordable Energy Plan that:
    - Aligns Manitoba Hydro with a net-zero energy grid by 2035 and supports net-zero targets by 2050.
    - Prioritizes the development of a hydrogen strategy with focus to generate hydrogen during off-peak to use during peak hours.
    - Directs Manitoba Hydro to support options for expanding the EV charging network in Manitoba.
    - Incorporates partnerships for Indigenous wind projects with a target of 600MW.
- Enhanced demand side management through Efficiency Manitoba's residential, commercial, and industrial energy efficiency programmes and enhanced mandate.
- Implements the Affordable Home Energy Program to help families make the switch to geothermal home heating.
- Adopted and enforced the most recent 2020 edition of the national model building and energy codes.
- Introduced an electric vehicle (EV) $4,000 rebate for new and $2,500 for used EVs and plug-in hybrid vehicles.
- Continues to require biodiesel content in fuels including ethanol content in gasoline is set to 10%, and biodiesel to 5%.
- Expands Manitoba's clean energy economy and implement the Critical Minerals Strategy.
- Directed investments to improve public transit.
- Invested in New Flyer Inc.'s All Canadian Build facility to manufacture more electric buses in Manitoba and to establish a National Heavy Equipment Vehicle Innovation Centre of Excellence.
- Undertook agricultural initiatives that support GHG reductions and sequestration, such as Environmental Farm Plans, livestock GHG calculator, training on nitrogen management and cover crops, the sustainability-driven Manitoba Protein Advantage Strategy, ag-environmental Beneficial Management Practices, Growing Outcomes in Watersheds.
- Invested 12.5 per cent of the S-CAP envelope will be directed to the Resilient Agricultural Landscapes Program (RALP) providing funding for projects that reduce Greenhouse Gas Emissions, as well as expanded eligibility under the carbon sequestration and grasslands resilience stream to

primary producers, community pastures, agricultural Crown land forage lease holders and Indigenous primary producers and communities.
- Invests in recycling, composting and waste diversion from landfill initiatives.
- Ongoing delivery of a competitive grant program for climate related projects that incorporates actions to combat and adapt to climate change and protect the environment.
- Invested in advancing the shift to a low carbon economy with the Efficient Trucking Program Leveraging the federal Low Carbon Economy Fund. As of March 31, 2023, the program amounted to over 25,000 tonnes of reduced emissions, with over 121 kilotonnes CO2e reductions expected by 2030.
- Launched the Manitoba Merit-based Program that facilitates fuel-switching projects and energy improvements for diesel and propane fuel systems, that aims to reduce greenhouse gas emissions by 49,000 tonnes by 2030.

References to regional realities, challenges, and opportunities to reducing greenhouse gas emissions within your province.

Approximately 39% of Manitoba`s emissions come from transportation, 29% from agricultural sources, and 14% from buildings (2021). Manitoba's electricity generation is comprised of hydroelectricity (96%) wind (3%) and some solar. Manitoba's communities are spread across a landmass covering over 647,000 km^2 requiring an extensive transportation infrastructure, and annual temperature ranges from -30°C to +30°C, with the number of very cold days decreasing and very hot days increasing.

Long distances between communities, a robust heavy-duty transportation sector, off-road equipment requirements in Manitoba's agricultural sector, and cold climate energy demands, underlie the high proportion of emissions from transportation.

Agriculture is an important economic sector in the province and supports many rural communities. Soils, mainly due to the application of artificial fertilizers, and enteric fermentation from livestock are main sources of GHG emissions from this sector. Agriculture also helps to slow climate change by storing carbon in agricultural soils. Manitoba has implemented an expanding portfolio of beneficial management practices in the sector and actively works to balance its role as a global food supplier while at the same time minimizing climate impacts.

Building stock in general will benefit from increased envelope efficiency. There is significant opportunity for fuel switching to renewable sources such as heat pumps at a household and district scale. Federal funding programmes that are be tailored to recognize not only GHG emissions reductions, but also practices that enable beneficial electrification (e.g. from electrical resistance heating to geothermal heat pumps) will support emissions reductions in this sector. Saving electricity enables additional downstream conversion away from fossil-based heating systems.

PARTNERS AND STAKEHOLDER PERSPECTIVES

The Expert Advisory Council to the Minister of Environment and Climate Change has presented advice and recommendations on relevant topics based on extensive stakeholder input. In general, the recommendations seek a whole-of-government and economy-wide approach.

A Second Carbon Savings Account for Manitoba

- Set an ambitious but achievable GHG reduction goal.
- Establish a path to net-zero by 2050.
- Strive to achieve deeper emission reductions.
- Take action across all sectors.
- Be prepared to increase ambition.
- Set in place policies, programmes, and measures that may require significant lead time, but that will eventually deliver measurable GHG reductions.

CLIMATE AMBITION AND ADVICE

An outline of your government's current climate targets and any intentions of increasing ambition or setting new targets.

Manitoba is required through legislation to establish a greenhouse gas reduction goal every five years. The current Carbon Savings Account goal is a 5.6 Mt CO2e cumulative GHG reduction between 2023-2027. The Minister of Environment and Climate Change has a mandate to create a roadmap to meet net-zero targets by 2050. The minister's mandate is also to work toward making Manitoba's energy grid net-zero by 2035.

Manitoba has a credible path to our commitment to net-zero emissions by 2050 thanks to investments in the province's low-carbon hydro-electricity grid over the past 50 years. In addition, new measures in Manitoba Budget 2024 will put Manitoba on track to meet this target:

- $5.4-million in rebates for new and used electric vehicles and plug in hybrids.
- $10-million to support plans to meet Manitoba's emissions reduction commitments under the Pan-Canadian Framework on Clean Growth and Climate Change.
- $6.4-million for initiatives under Manitoba's plan for climate and sustainability priorities and to restore funding to environmental organizations that are engaged in strategic greenhouse gas mitigation and climate change adaptation programmes across all sectors.
- partnering with the Federal government to deliver heat pumps to Manitoba homes, reducing emissions and saving families money.

Key considerations that the Government of Canada should take into account when setting its 2035 target.

Manitoba supports Canada establishing an ambitious, achievable, and measurable 2035 national target that is on a path to net-zero GHG emission reductions by 2050. The emissions reduction target should meet Canada's international commitments and support a just transition to a clean economy. Economy-wide policies and programmes are required to support successful climate innovation, clean technologies, the creation of and training for low-carbon jobs, and alternative finance options. Canada should tailor its policies and programmes to be flexible to the particular realities, challenges, opportunities, and priorities in the individual provinces and territories.

Manitoba is developing a roadmap to net-zero by 2050. To help meet federal and provincial targets, national policies and programmes will need to provide Manitoba with:

- Equitable access to federal funding given Manitoba's low GHG reduction/$ return on investment due to an already clean energy grid.

- Support for addressing transportation GHG emissions due in part to widespread geography, limited public transportation alternatives, and its central role as a North American transportation hub.
- Support for addressing the inherent difficulty in reducing agricultural GHG emissions.
- Support for improving building energy efficiency and fuel switching.
- Support for transitioning the private sector to a clean, low-carbon economy.
- Support for the development and distribution of renewable energy sources, e.g. hydrogen, biofuels, wind.
- Collaboration in addressing reconciliation with Indigenous people.
- Integrated policies and programmes that support a just transition that address affordability and climate change resilience.

QUEBEC

Quebec has submitted its comments to the federal government on the launch of the process to determine Canada's greenhouse gas emissions reduction target for 2035. The fight against climate change is a shared priority for the Government of Quebec and the Government of Canada. Quebec is proactive in meeting its own GHG reduction target for 2030, which aims to reduce GHG emissions by 37.5% below 1990 levels. To achieve this, in November 2020 Quebec unveiled its framework policy on climate change, the 2030 Plan for a Green Economy (2030 PGE). Quebec supports the federal government's ambitious 2035 GHG reduction target, but would like to point out that the implementation of the next federal target must be complementary to the actions Quebec has already taken to reduce GHGs, and that Quebec remains bound only by its own target.

New Brunswick's Submission to Environment and Climate Change Canada

Setting Canada's 2035 GHG Target **April 15, 2024**

New Brunswick is pleased to take this opportunity to provide input into the development of Canada's 2035 greenhouse gas emissions target, pursuant to the *Canadian Net-Zero Accountability Act*.

We value collaborating with the federal government in establishing the path forward to achieving Canada's transition to net-zero. We trust that the federal government will design a fair, affordable and achievable 2035 target as an important milestone on our journey to net-zero emissions in 2050.

Introduction

New Brunswick is a national leader in greenhouse gas (GHG) emission reductions and continues to demonstrate strong progress in reducing GHG emissions by 39% since 2005[i]. New Brunswick's GHG targets for 2020, 2030 and 2050 are enshrined in the *Climate Change Act*. New Brunswick surpassed its 2020 target of 14.8 Mt and, with the completion of actions in the 2022 Climate Change Action Plan, is expected to meet its 2030 target of 10.7 Mt (approximately 47% reduction below 2005 levels).

Beyond 2030, New Brunswick has joined Canada and other jurisdictions across the nation and world, and in 2022 made the commitment to reach Net-Zero GHG emissions by 2050.

Although we have reduced our GHGs more than any other province in the country since 2005, New Brunswick has an energy intensive and trade exposed economy, with relatively weak economic performance[ii]. These and other unique circumstances require a tailored GHG reduction and clean energy approach to meet our 2035 goals that help us reach our 2050 net-zero target.

Current and Planned Efforts

In September 2022, the provincial government released Our Pathway Towards Decarbonization and Climate Resilience: New Brunswick's Climate Change Action Plan 2022-2027 (2022 CCAP). The 2022 CCAP follows the 2016 CCAP Transitioning to a Low-Carbon Economy and pursuant to New Brunswick's *Climate Change Act* that requires the Action Plan be reviewed/renewed every five years. The 2016 CCAP included 118 actions, 75 per cent of which were completed in the plans 5-year period. The 2022 CCAP includes 30 additional actions. GHG reduction potential analysis suggests that New Brunswick could achieve 2.3 – 3.1 Mt emission reduction in 2030 if the plan is fully implemented[iii]. The latest 2023 Annual Progress Report was released in September 2023 and covers progress in the initial period of the 2022 CCAP implementation.

New Brunswick has committed to being Net-Zero by 2050 and is preparing a Net-Zero Blueprint by 2025, that includes a suite of actions focusing on gaps in key sectors and including new low-carbon management technologies and nature-based solutions and establishing five-year interim emission reduction goals. While existing and planned policies and our 2022 CCAP will make it possible for New

Brunswick to achieve our 2030 GHG emissions target, achieving GHG emissions reductions targets beyond 2030 will require strong additional policy measures and significant investments to close the gap and become net-zero by 2050.

The 2022 CCAP is New Brunswick's plan to achieve its 2030 target whereas the forthcoming Net-Zero Blueprint will capture the opportunities and pathways to achieving Net-Zero Emissions by 2050. That said, the 2022 CCAP called for the development of a Clean Electricity Strategy. New Brunswick has chosen to go even further and in 2023 released our Clean Energy Strategy; Powering our Economy and the World with Clean Energy – Our Path Forward to **2035** which furthers our proven GHG reduction progress and enables our province to progressively move forward in the clean energy environment. The strategy emphasizes the importance of focusing on both a secure energy supply and affordability when developing diverse energy sources and technologies that meet the clean energy needs and demands across the province. Three critical constraints of sustainability, affordability and reliability will guide the development of a New Brunswick energy transition strategy and detailed action planning.

Despite our ambitious goals, we recognize that this transition cannot happen at any cost. Recent studies at McGill University have concluded that approximately 40% of Atlantic Canadians are dealing with Energy Poverty today[iv]. Any increase in energy prices can have a significant impact on the daily lives of New Brunswickers.

Partner and Stakeholder Perspectives

The government of New Brunswick engages with partners and stakeholders both formally and informally.

In establishing New Brunswick's 2022 CCAP, the prevailing perspective of partners and stakeholders was the need to transition away from fossil fuels, recognizing that green, sustainable energy is a must for the future. Among suggestions given, was a greater desire for renewable wind, solar, and tidal energy. The transition from internal combustion engines to zero emission vehicles was prominent, indicating the need to expand the availability of electric vehicles and charging infrastructure. Overall, respondents recognized that the transition from fossil fuels in all facets of life is crucial to reaching greenhouse gas emission reduction goals.

In addition to the stakeholder perspective above, beginning in 2015, the legislative Standing Committee on Climate Change and Environmental Stewardship[v], henceforth referred to as the Committee, has played a key role in receiving perspectives and advice from Indigenous and climate change experts on matters related to climate change and implementing New Brunswick's Climate Change Action Plan. For the renewal of the 2022 CCAP, perspectives from the Committee's deliberations as well as stakeholder input were utilized.

Expert perspectives heard by the 2022 Committee process[vi] included:

- Acknowledgment that achieving net-zero emissions by 2050 may seem daunting due to the sheer scope and scale of the task.
- A need to set clear targets with timelines that reflect current federal and global policy - with progressively higher targets every 5 years after 2030 leading to a target of net-zero emissions in 2050.

- The need for more coordination and collaboration toward common climate change objectives to reduce duplication, promote knowledge-sharing and help build capacity.
- The need to collaborate with the federal government to develop transitional support programs that are geared specifically to the issues and challenges facing this region.
- The need to embrace the transition phase and invest in innovative solutions, new technologies and alternate sources of energy to achieve GHG reductions. But any new technologies adopted must prove to be safe, reliable, affordable, and clean.
- The transition phase will affect a wide variety of industries and economic sectors including small and medium sized businesses.
- The need to apply a competitive economic lens to policy making and government investment decisions so they are comparable to other jurisdictions in Canada and internationally.
- Recognition that public buy-in will help ensure the success of the transformational projects required to transition to a low-carbon future.

In late 2023 the Committee called upon experts and Indigenous perspectives about how transformative measures and new technologies in the energy sector could help achieve the province's 2030 and 2050 emissions reduction targets through a Clean Energy Strategy[vii].

Additional expert perspectives heard by the Committee included:

- We are embarking on the most profound transformations that has ever occurred to the global economy. Over the next decades, jurisdictions around the world will be undertaking a significant overhaul of the energy systems that power their industries, businesses, homes, and vehicles. This transformation is driven by a sense of urgency. The shift needs to come quickly and affordably. This will create new challenges and opportunities, requiring jurisdictions to embrace both change and uncertainty.
- New Brunswick has advantages for advancing clean energy projects, including an abundance of natural resources, key connectivity to other regional power grids in Canada and the United States, strong supply chains, and R&D capacity through post-secondary institutions.
- While economic development should not be the primary goal of the province's energy transition, it can be the by-product of good planning and execution.
- A clean energy strategy can help guide the process of navigating the transition away from fossil fuels, while drawing connections between the government's approach to energy policy and economic development.
- The predicted increase in demand for electricity combined with the expense of new energy technologies will result in higher electricity rates. This presents a challenge for public acceptance, with the Atlantic region having the highest energy poverty in Canada. Those who are most vulnerable and who can least afford to invest in energy-saving technology or alternate fuels in their home may be affected most.

Climate Ambition and Advice

Regional Circumstances

- When it comes to economic growth and competitiveness, since 2005, New Brunswick has experienced weak economic growth[viii]. This may be attributed to weak capital investments and

further exacerbated due to New Brunswick's extremely high trade exposure[ix]. There is a real risk that national climate policies and related targets could exacerbate New Brunswick's competitiveness risk and lead to increased carbon leakage. Climate policy and targets must not be achieved through carbon leakage and economic hardship.

- New Brunswick, along with other Atlantic provinces, faces one of the highest marginal abatement costs for deep decarbonization in Canada[x]. This means it will increasingly cost us more for each tonne of GHG reduction than other jurisdictions.
- Canada is made up of a mosaic of provincial and territorial economies – all with unique strengths, weaknesses, opportunities, and threats. While Canada's nationally determined contribution (NDC) target and enabling policies are established by the Federal Government at the national level, the policy impacts are felt at the sub-national level. National policies that make sense for Canada as a whole, lead to winners and losers at the sub-national level, with New Brunswick often in the latter.
- Larger and more robust economies are more likely to gain access to funding and capital and the economic benefits of climate policy. Revenue recycling is a typical mitigation measure that attempts to correct market distortions and negative distributional outcomes. However, national recycling policy and program design seems to perpetuate the same disparities resulting in less revenue getting in the hands of those sub-national jurisdictions, like New Brunswick, that need it most.
- While New Brunswick has a smaller carbon footprint, we also have a weaker economy, with more going towards expenditures and less available for capital. This is the same at the household level. New Brunswickers are less wealthy than other regions[xi] and spend more of their income on basic necessities like energy, food and housing, and thereby putting a substantial strain on households.

Key Considerations When Setting Canada's 2035 Target.

- Policy design, including target setting, must always strive to be equitable, fair, affordable, and achievable for all jurisdictional, sectors, communities and citizen.
- Predicting the impact of each individual policy in a complex multiple-policy ecosystem is inherently flawed due to policy overlap; each competing for the same GHG emission savings.
- Although well intentioned, national targets and policy measures, have disproportionate impacts across jurisdictions, with potentially significant impacts to New Brunswick's already weak economy. Due consideration and incorporation of the unique economic circumstances of New Brunswick is needed prior to adopting new policies and targets.
- Complex climate policies can lead to unanticipated negative consequences. Unintended consequences may rapidly become apparent or not recognized for many years. Addressing these issues requires systems thinking and comprehensive assessment of potential impacts prior to implementation, as well as ongoing monitoring, combined with policy flexibility that enables adjustment as new information on the full consequences becomes available.
- As we move to more aggressive policies and targets, carbon leakage becomes a more likely consequence, affecting some jurisdictions, like New Brunswick, more than others. Great care must be taken to prevent leakage. We must not reach our targets by transferring our industrial emissions elsewhere. As a result, we strongly urge the federal government to consider

implementing Border Carbon Adjustments so that domestically produced goods can compete on equal footing in foreign markets.

- Setting climate targets involves establishing a frame of reference for structuring mitigative measures across the entire economy. To understand the required measures, the federal government must benchmark all emissions across all sectors, including biogenic emissions. The federal government is urged to officially report on the national and subnational gross emissions, including LULUCF net GHG flux in economy-wide emissions, which will help to better assess the trajectory towards achieving climate targets and ultimately net-zero in 2050.
- We need private-sector growth to back up our low-carbon ambitions. In 2023, The Business Council of Canada's submission on Measures to grow Canada's clean economy[xii] identified the importance of bold economic investment policy. Investment policy should be designed to be broad, simple, with long-term predictability in order to drive sustainable economic growth and improve the competitiveness of Canadian firms. We urge the federal government to unleash Canada's and specifically New Brunswick's clean economy investment potential.

Respective Roles and Responsibilities

While we recognize Canada's role as party to the Paris Agreement, including establishing Canada's NDC, Canada is a federation and that means that each jurisdiction will need to do their part based on their unique circumstances, attributes, and transformational opportunities. The federal government should exercise cooperative governance and only intervene where there is a very real need that cannot be solved with greater F/P/T collaboration vs federal regulations that duplicate and undermine the good will and work already being conducted at the sub-national level. Particularly, subnational jurisdictions who have legislative GHG reduction targets and related enabling legislation that is in line with Canada's targets, should be given greater autonomy to do what's best for their region, with the federal government lending financial support rather than regulatory intervention.

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[i] Canada. 2023 National Inventory Report (NIR). | UNFCCC
[ii] Table: 36-10-0402-01 (formerly CANSIM 379-0030), Statistics Canada
[iii] climate-change-action-plan.pdf (gnb.ca)
[iv] Energy poverty in Canada | Newsroom - McGill University
[v] Standing Committee on Climate Change and Environmental Stewardship - Legislative Assembly of New Brunswick (legnb.ca)
[vi] legnb.ca/content/committees/climate_change_and_environmental_stewardship/reports/60-1/Climate Change - Second Report - final 31 March 2022 EN.pdf
[vii] 20231208ClimateChangeReport1.pdf (legnb.ca)
[viii] Table: 36-10-0402-01 (formerly CANSIM 379-0030), Statistics Canada
[ix] Table: 36-10-0402-01 (formerly CANSIM 379-0030), Statistics Canada
[x] Navius Canada energy dashboard (Available at: https://canadaenergydashboard.com/index.html).
[xi] Table 36-10-0663-01 Distributions of household economic accounts, income, consumption and saving, Canada, provinces and territories, quarterly (x 1,000,000)
[xii] Measures to grow Canada's clean economy | Business Council of Canada (thebusinesscouncil.ca)

Current & Planned Efforts	**Canada's 2035 Greenhouse Gas Emissions Target: PEI Perspectives** Prince Edward Island (PEI) has a unique and holistic approach to climate action across government. PEI goes beyond any other government in Canada in legislating climate change as a whole-of-government priority. The Net-Zero Carbon Act (2020) makes it a duty of the government to adopt policies that are aligned with climate goals and requires "sustainable prosperity"—a concept that encompasses environmental stewardship—to be included in the mandate of every department. • In practice, this is achieved through the presence of a at least one (1) "climate change coordinator" in every government department. In this role, the Coordinator acts as a "point person", including to provide advice on the Climate Change Lens portion of Cabinet submissions. As an inter-departmental group, the coordinators meet regularly to discuss how climate change intersects with their work, attend climate related training and learning sessions, and collect and share climate related data for progress reporting. This approach to climate action across government de-centralizes the responsibility of climate action and progress and has been a significant factor in PEI's ability to mitigate and adapt to climate change. PEI's first 5-year mitigation action plan is currently in development. The Net-Zero Carbon Act requires annual reporting on emissions, climate risks, and mitigation and adaptation initiatives in the Ministers Annual Report on Climate Change Risks and Progress Toward Targets. Complete and up-to-date information on PEI's current mitigation initiatives can be found here: Current and planned efforts. Significant efforts are currently targeting the highest emitting sectors in PEI: • **Transportation (41%):** o Progress towards electrification of the school bus fleet. o Electric Vehicle (EV) Incentive coupled with a ~~drastic~~ major expansion of EV charging network throughout the province. o Continued investment in both urban and rural transit. o Examining the feasibility of a medium/heavy fleet EV rebate, looking at sector-specific programing such as fisheries and aquaculture.

	• **Buildings (18%):**
	  ○ Expansion of eligibility for free programs through Oil-to-Heat-Pump Affordability Program, including for free heat pumps and insultation.
	  ○ Increased focus on government buildings and deep energy retrofits in social housing.
	  ○ Renewed focus on targeting commercial sector.
	• **Agriculture (24%):**
	  ○ Sustainable Canadian Agricultural Partnership (CAP) programming updated with increased focus on CC mitigation (Ag Stewardship, Alternative Landuse Services Program (ALUS), Perennial Crop Development).
	  ○ New pilot programming efforts to provide technical expertise and cost-share support with adopting projects to reduce emissions (Agriculture Energy Systems Pilot Program)
	  ○ Supporting the PEI Federation of Agriculture to develop a carbon market access strategy for either voluntary or regulated offset markets.
	  ○ Partnering with industry associations and academic institutions on research to mitigate GHG in agriculture.
	Recognizing that reducing emissions in these sectors require expanded investment in innovation and other sources of renewable energy, current efforts are targeting:
	• **Clean Tech:**
	  ○ The Georgetown Clean Tech Park will be a 60-acre tax-free zone to attract current and future leaders in clean technology growth. The first building in the park will house the Clean Tech Academy and offer programs in Clean Tech leadership, through a joint initiative with Holland College and the University of Prince Edward Island. New programs to upskill tradespeople are also in development through these institutions.
	• **Renewable Energy**
	  ○ Generation from on-island wind farms is around 20% currently.
	  ○ The PEI Energy Corporation is developing further investment in wind through the Eastern Kings 30MW expansion. The pending

	Energy Strategy will include more updated targets for renewable energy integration, which will include future near-term buildouts. o Slemon Park Microgrid Project which includes a 10MW solar array is complete and operational. **References to regional realities, opportunities, and challenges to reducing greenhouse gas emissions within your province/ territory.** As a province, PEI is growing at its fastest rate in history, with a growth rate that has exceeded the Canadian average since 2016. Despite this rapid growth, the most recent National Inventory Report shows PEI's GHG emissions have decreased by 1.9%. In 2023, PEI's total emissions were 1.6 Mt which is relatively low in comparison to the rest of Canada. Per capita/household emissions are higher than the Canadian average due to compounding factors such as a high reliance on home heating fuel due to limited other options (no natural gas), high passenger vehicle transportation emissions, low density and wide geographic distribution with a high percentage of rural vs. urban dwellings. In response to these challenges, the government has made efforts to improve the transit system, introduce rural transit options, increase active transportation infrastructure and projects, and enhance the universal EV incentive program. Challenges: o Agriculture emissions disproportionally impact PEI's profile when compared nationally. o ECCC projection consultation questionnaire minimum policy impact of 100kt automatically disqualifies most of PEI's mitigation programs and policies from being considered. o Impacts of extreme weather events e.g. significant loss of forested land due to Hurricane Fiona (2023). o Seasonal economy o The province of PEI faces many inherent vulnerabilities of being an Island (both mitigation and adaptation implications) o Private ownership of over 80% of land is a major challenge for land use policy and planning and has implications for forestry, agriculture, and achieving net zero. o PEI's energy profile is linked with New Brunswick; therefore, any NB policy changes could impact the feasibility of PEI's net zero energy target. PEI also has fewer energy options- no natural gas, no hydro or nuclear.

Partner & Stakeholder Perspectives	• **A summary of what your government has heard from partners and stakeholders on climate action and ambition within your region. This could include perspectives from Indigenous partners, environmental non-governmental organizations, industry, businesses, municipalities, and civil society.** ○ In the most recent Efficiency Canada scorecard (2022), PEI was ranked 4th overall, 2nd for electricity program savings and 3rd for fossil fuel program savings. The organization recognized that PEI is ahead of most other provinces in prioritizing fuel-switching to clean electricity and helping low-income households. ○ Sandra Moore, Director of the CleanTech Academy and Innovation Center, highlighted the goal of merging industry, business, and communities through educational opportunities and innovation in comments here. PEI Federation of Agriculture has developed a proposed pathway to reduce emissions to achieve PEI's 2040 targets (https://peifa.ca/pathway/) ○ Significant community/stakeholder engagement will be integrated into the upcoming development of the Net Zero 5-Year Action Plan which is at the RFP phase. This will include a 'what we heard report' with various perspectives on climate change progress and future direction. ○ Climate Change Risk Assessment (2021), which summarizes our process and results for identifying priority climate hazards, scenarios, and adaptive capacity among partners and stakeholders, and which also summarizes Indigenous perspectives on climate risk on PEI (https://www.princeedwardisland.ca/sites/default/files/publications/pei_ccra_2021.pdf) ○ What We Heard document (2022), which summarizes our public/stakeholder engagement which informed the development of the Provincial Climate Adaptation Plan (https://www.princeedwardisland.ca/sites/default/files/publications/climate_adaptation_plan_what_we_heard.pdf)
Climate	• **An outline of your government's current climate targets and any intentions of increasing ambition or setting new targets.**

Ambition & Advice	○ PEI has some of the most ambitious targets in the Country. The Net-Zero Carbon Act (2020) committed PEI to achieving Net-Zero Energy by 2030 and Net-Zero (emissions from all sources) by 2040. ○ High-level mitigation targets are outlined in the Net-Zero Framework (2022): • Pillar 1: Transform the way people and goods move. Target: Reduce transportation emissions by 25-30% by 2030. • Pillar 2: Transition to Efficient and Cleaner Buildings. Target: Reduce building emissions by 65-70% by 2030. • Pillar 3: Shape Agriculture for PEI's Transition to Net Zero. Target: Reduce agriculture related emissions by 10-15% by 2030. • Pillar 4: Remove carbon through forestry. Technologies and Emerging Opportunities. Target: Increase carbon sequestration by 10-15% by 2030. • Pillar 5: Create a Clean Industry and Waste. Target: Reduce emissions related to industry and waste by 85-95% by 2040. • **Key considerations that the Government of Canada should take into account when setting its 2035 target. This could consider national and regional circumstances; international obligations; the respective roles and responsibilities of the federal government and provinces and territories; economic competitiveness and the transition to a clean economy; climate innovation and the role of clean technology; and, fairness, equity and inclusion considerations.** **Regional Circumstances:** ○ Balancing emissions reductions against economic output: In agriculture, agronomic advancements and climate change make possible crop diversification, extended growing seasons, and increasing yields. These opportunities are challenging to realize while decreasing emissions. ○ Agriculture industry needs federal leadership in developing appropriate and manageable data collection and management systems to capture agriculture's change of practice in a way that

	can be reflected in the NIR, without creating onerous reporting obligations of farmers. ○ Lack of skilled trades as we move towards a low-carbon economy ○ Mitigation program development should be proactive rather than reactive to input from jurisdictions. ○ Regional disparity in program funding: Minimum thresholds for program eligibility have undue impacts on smaller jurisdictions. ○ 26% of PEI households are at risk of or are experiencing energy poverty[1]. PEI is tied with New Brunswick for the 3rd highest rate of household energy poverty risk in Canada. This is not factoring in the energy cost burden associated with transportation which would be even higher in Prince Edward Island due to the aforementioned factors such as high percentage of rural vs. urban dwellers. In response to this, PEI will continue to target low-income households with provincial energy efficiency programming and rebates, but more work needs to be done to understand the social dimensions of federal and provincial decarbonization efforts. The development of the PEI Net Zero Action Plan will incorporate research and engagement efforts to understand the experience of energy poverty on Prince Edward Island and the province will use this information to prioritize mitigation actions and program delivery methods that benefit individuals who are the most at risk. Federal funding and support for research and projects that seek to understand the societal co-benefits of energy efficiency and mitigation efforts is needed. PEI is well positioned to deliver on and pilot these types of projects because of its well-established whole-of-government approach to climate action. **Climate Innovation and the Role of Clean Technology:** ○ The Cleantech Park is PEI's future home for clean tech innovation, business, energy and education. ○ This park will seek to grow PEI's expertise and demonstrate ecological and economical practices as a baseline for sustainable futures.

[1] A household is considered at risk of energy poverty when they spend a disproportionate portion (6%) of their income on energy bills, >3X as much as the median Canadian household spends (2%) on energy.

	○ The 60-acre business park to be developed in phases and includes a Cleantech Learning and Innovation Centre which will be a destination for students, industry and government to collaborate, learn and innovate. ○ The 44,000 sq. ft. building will house the Cleantech Academy, graduate pods and incubation space as well as collaborative space. ○ Recognizing that tackling climate change now and in the future will require our best ideas, ingenuity and enterprise, PEI is developing a new Cleantech Academy that will offer a certificate and a master's degree in Cleantech Leadership through a joint initiative of Holland College and the University of Prince Edward Island. ○ The PEI Energy Academy will extend applied training, research, and early-stage development in energy innovation. ○ The Cleantech Park will be connected to local and regional industry, education, and culture. Together, the Academy and the Innovation Centre will foster a community dedicated to innovation and collaboration by accommodating a range of education and enterprises in eco-centered research, development, and manufacturing. **Fairness, Equity and Inclusion:** ○ Focus on partnership and co-delivery. ○ Program development with an equity lens: • Increase emphasis on low-barrier service delivery for programming, a focus on income-qualified recipients, and incorporating the societal dimensions of decarbonization. • Programs should aim to foster trust in the public service by making efforts to achieve co-benefits that improve the wellbeing of Canadians, including in poverty-reduction and health outcomes. This incorporates understanding of the disproportionate impacts of climate change on Canadians who are marginalized. ○ Increased programming for mitigation efforts that increase adaptive capacity and resilience. ○ Increase accountability reporting across the country to measure success and progress towards climate action, drawing on PEI's

		ambition and action in this regard. Federal support and investigation into developing clear and meaningful key performance indicators related to climate action (both mitigation and adaptation) would be useful for the provinces to evaluate their progress and ensure we are all working towards shared goals.

NOVA SCOTIA

Environment and Climate Change
Office of the Minister

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File No. PNS-41836-N8S8Q8

April 12, 2024

The Honourable Steven Guilbeault, P.C., M.P.
Minister of Environment and Climate Change Canada
Environment and Climate Change Canada
ECD-DEC@ec.gc.ca

Dear Honourable Steven Guilbeault:

Thank you for providing Nova Scotia the opportunity to provide input on the establishment of a national greenhouse gas emissions target for 2035. It is essential that the needs of our people, environment, and industry be carefully considered in the formulation of significant federal environmental legislation and targets.

Engagement with Nova Scotians has revealed a deep concern regarding our changing climate and what it means for them, their communities, and generations to come. Nova Scotians want ambitious and effective action to reduce emissions and to ensure there is support for communities and businesses to adapt to a changing climate.

We have made significant progress to respond to Nova Scotians and request that **any target set by the federal government and subsequent legislation takes into account the work that Nova Scotia has already done independently** to lower greenhouse gas (GHG) emissions. We also request that the scale and costs of these efforts, especially given our historical reliance on coal, must be considered when developing federal emissions reduction policies.

Nova Scotia is a national leader in reducing emissions, with a **36% decrease compared to 2005 levels**. Our emissions are **16% below the national per capita average**. The measures outlined in our Clean Power Plan, including **transitioning to at least 80% renewable energy, will make Nova Scotia a leader in emission reduction across all of North America.**

In 2021, Nova Scotia passed the *Environmental Goals and Climate Change Reduction Act* (EGCCRA). This legislation set **the most ambitious 2030 greenhouse gas emissions reduction target in the country: to be 53% below 2005 levels by 2030.** It also set a target to be net-zero emissions by 2050.

To further support these goals, the Government of Nova Scotia released a comprehensive climate change plan, *Our Climate, Our Future: Nova Scotia's Climate Change Plan for Clean Growth*. This plan includes **68 actions to help Nova Scotians prepare for climate risks, reduce emissions, and find new ways to equitably participate in the clean economy.**

Our electricity sector is the largest emitter in the province, but we're taking decisive action. We have legislated the phaseout of coal by 2030 under EGCCRA, and our new *Clean Power Plan* outlines how this will be achieved along with a pathway to position Nova Scotia to become a net-zero economy by 2050 in a manner that is affordable for all Nova Scotians. Highlights of the Clean Power Plan include:

- Developing new energy sources by **adding more than 1,000 MW of new onshore wind** and **more than 300 MW of large scale solar**.
- **Implementing smart grid management tools**, including 300-400 MW of batteries as well as peak management, demand response and efficiency investments to manage 150 MWs of peak load growth.
- **Integrating resilience and reliability**, including a new NS-NB reliability tie transmission line; 300-600 MW hydrogen capable/flex-fuel generators; and more than 450 MW of emergency/back-up oil generators using existing plants.

Nova Scotia's Output-Based Pricing System, launched in 2023, provides strong incentives for Nova Scotian industrial facilities to make investments in transformational emissions reduction technologies and processes.

These policies map an effective route to meeting Nova Scotia's ambitious GHG emissions reduction goals and the federal 2050 net-zero target that does not require onerous federal policy tools. **Nova Scotia reaffirms that our emissions reduction policies are more effective for our environment, people, and economy than the federal carbon tax.** Carbon tax, among other federal climate policy, has proven to be punitive and ultimately ineffective in a province that is already a national leader in emissions reduction.

Fairness and equity across jurisdictions in the associated costs of environmental policy is a major priority for Nova Scotia. Our unique regional circumstances greatly influence the costs associated with reducing greenhouse gas emissions. Despite the leadership shown by Nova Scotia in reducing GHGs from the electricity sector and the broader economy, we are concerned that federal climate policies **disproportionately burden Nova Scotians.** For example:

- Based on the federal analysis for the *Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations,* **Nova Scotia bears the highest amount of total compliance cost at 37%, which represents $865M.**[1]
- The *Clean Electricity Regulations* regulatory impact analysis shows **Nova Scotians face the highest projected electricity rate increases.**

[1] Table 11, Regulations Amending the Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations: SOR/2018-263

- The *Clean Fuels Regulations* showed that **GDP was more negatively impacted in Nova Scotia (0.7%), compared to the national average of (0.2%).**[2]
- The federal carbon tax is projected to return more than was paid to **only 2 out of 5 income quartiles for Nova Scotian households**.[3]

A 2035 target should set us on course for net-zero by 2050 while **allowing sustainable economic growth**. This entails implementing emissions reduction policy that acknowledges the challenges faced by Nova Scotians and their businesses during the transition toward more sustainable practices and technologies. Realistic timelines for development and implementation of emissions reduction technology, the construction of new facilities, and the financial amortization of existing facilities/assets should be considered when setting a 2035 GHG emissions target.

Most important to Nova Scotia is the **flexibility for jurisdictions to shape their own regional policies, thereby allowing sustainable economic and social growth to continue**. In other words, our request is that the target not be coupled with stringent policies intended to drive change in other jurisdictions as these unfairly burden Nova Scotians and impact our ongoing emissions reduction efforts. **As stated above, past federal emissions reduction policies, including the federal carbon tax, have disproportionately impacted Nova Scotians without any incremental reductions not already achieved by provincial policy.** This is especially harmful to Nova Scotians within the context of a cost of living crisis and high rates of energy poverty.

In closing, striking a balance between a target that is rigorous enough to encourage ongoing mitigation efforts, yet flexible enough to avoid imposing disproportionate burdens on Nova Scotians or impeding sustainable development is essential for paving the path towards a more sustainable future.

Sincerely,

Honourable Timothy Halman, MLA
Minister of Environment and Climate Change

cc: Jean-Francois Tremblay, Deputy Minister of Environment and Climate Change
Lora MacEachern, K.C., Nova Scotia Deputy Minister of Environment and Climate Change

[2] Table 24, Clean Fuel Regulations: SOR/2022-140

[3] A Distributional Analysis of the Federal Fuel Charge under the 2030 Emissions Reduction Plan (pbo-dpb.ca)

Government of Newfoundland and Labrador
Environment and Climate Change
Office of the Minister

FEB 2 1 2024

COR-2024-217-1

The Honourable Steven Guilbeault, P.C., M.P.
Minister of Environment and Climate Change
Ottawa, ON K1A 0H3
E-mail: ministre-minister@ec.gc.ca

Dear Minister Guilbeault:

Thank you for your correspondence of January 18, 2024 in which you invited input from the Government of Newfoundland and Labrador to inform the federal government's 2035 greenhouse gas reduction target. As you are aware, the provincial government has a greenhouse gas reduction target for 2030 that is equal to 30 percent below 2005 levels and has committed to a net zero greenhouse gas reduction target for 2050.

The province continues to make significant progress in reducing greenhouse gas emissions. Emissions in 2021 were estimated at 8.3 million tonnes, the lowest level since 1994 and the third lowest level on record. Federal projections suggest that emissions will continue to decline in the coming years and that the province is on track to achieve it's 2030 reduction target. Emission reductions have been achieved through programs and initiatives, such as the Electric Vehicle Incentive Program, large industry emission reduction targets under the **Management of Greenhouse Gas Act**, and the federally cost-shared home heating Oil to Electric Incentive Program and Low Carbon Economy Fund.

The federal government has introduced a range of new regulatory instruments to reduce greenhouse gas emissions to put Canada on a path to net zero emissions by 2050. Many of the regulations have recently been finalized and others are still being developed. Recent draft analysis from the Canadian Climate Institute suggests that there is interaction and overlap between the various regulatory and program instruments that have been introduced in recent years. In some cases, there is limited incrementality associated with introducing new or strengthened regulations and related measures.

A strengthened target for 2035 will potentially result in additional regulations. Input we have received from stakeholders suggests that the pace of new regulations is limiting long term predictability and investments instead of further reducing greenhouse gas emissions. It was for this reason, for example, that we suggested that additional measures to reduce emissions from the oil and gas sector should use the existing carbon pricing systems instead of introducing a new cap and trade system.

Newfoundland & Labrador

Energy prices have increased rapidly in recent years to the point where prices are higher than those modeled at the time that existing tools, such as carbon pricing and clean fuels regulations, were finalized. Regulatory instruments may continue to challenge energy affordability while limiting incremental greenhouse gas reductions that may be achieved.

The Province encourages the federal government to pursue any new emission reduction targets with investments to encourage behavioural change and technology development, as opposed to additional regulatory burdens which can stifle economic development with limited benefits. A new target should not result in further costs to consumers or distract from the longer-term planning and investments to enable the deep decarbonization needed to achieve net zero emissions by 2050.

If Environment and Climate Change Canada requires further information on these matters, please contact Dr. Susan Squires, Assistant Deputy Minister at susansquires@gov.nl.ca. I look forward to further engagement with you on this issue, including at the Canadian Council of Ministers of the Environment (CCME) meeting in St. John's, Newfoundland and Labrador from July 8-10, 2024.

Sincerely,

HON. BERNARD DAVIS, MHA
District of Virginia Waters – Pleasantville
Minister

Engagement on Canada's 2035 Greenhouse Gas Emissions Target: Yukon

Current and planned efforts

An overview of the current and planned efforts on climate mitigation in your region, looking ahead to 2035 and beyond.

Overview:

- *Our Clean Future: A Yukon strategy for climate change, energy and a green economy* was released in 2020 and spans to 2030.
- One of our overarching target is to decrease our non-mining greenhouse gas emissions by 45 per cent, by 2030, when compared to 2010 levels.
- Other targets include:
    - 93 per cent of on-grid electricity coming from renewable sources by 2030, with an aspirational target of 97 per cent;
    - reducing diesel use for off-grid electricity generation by 30 per cent below 2010 levels by 2030;
    - providing 50 per cent of heating needs from renewable energy sources by 2030;
    - reducing road transportation emissions by 30 per cent below 2010 levels by 2030; and
    - reducing emissions from Government of Yukon buildings by 30 per cent below 2010 levels by 2030.
- As we take action to reduce emissions, we also seek opportunities to make energy and transportation systems, our communities, and buildings more resilient to climate change, supporting our target for Yukon to be resilient to the impacts of climate change by 2030.

Post-2030:

- Yukon's *Clean Energy Act* passed in November 2022. Within it, we legislated the target to be net zero by 2050. Net-zero was defined as "net-zero emissions" which means, subject to the regulations, that greenhouse gas emissions over a

specified period of time are balanced by anthropogenic removals of greenhouse gases from the atmosphere.

- To support this work now, we recently introduced a new action under the Our Clean Future strategy: “By 2030, finalize a net-zero and just transition plan in collaboration with Indigenous and municipal and industry partners”.
- Additionally, in December 2023, a target to reduce mining intensity emissions by 45 per cent by 2035 was announced. It is anticipated that this will be legislated through the *Clean Energy Act*. The net-zero by 2050 target will also include mining.

References to regional realities, opportunities, and challenges to reducing greenhouse gas emissions within your province/ territory.

- Cold climate:
    - The Yukon’s climate creates more reliance on heating; heating oil is used by roughly half of households, while propane, electric, and biomass heat are used by others. Of note, heating degree days are expected to decrease due to climate change, but more extreme weather is anticipated. These changes could impact how we use heating fuel.
    - We are currently exploring ways to better integrate renewable fuels into our fuel supply chains. Readily available renewable fuels (biofuels) have limited applications as well as operating issues at cold temperatures. Synthetic renewable fuels have the potential to work in cold climates, but are currently not as readily available.
- Geographic context:
    - The Yukon is remote, and Yukon’s distance from urban centres creates dependancy on outside goods and services. Furthermore, people who live in the communities (with one-third of Yukon’s population living outside the capital) travel often to Whitehorse for goods and services.
- Seasonal demands for renewable energy
    - The majority of our renewable electricity is sourced from hydro-electricity. Hydro-electric capacity is highest during the summer when overall demand is generally low. This trend essentially reverses during the winter (October-March) when hydro-electric capacity is lower while overall demand is higher. Diesel and liquified natural gas generators are relied upon as secondary electrical generation sources to meet peak loads during the

winter season. Intermittent renewable energy sources, such as PV solar and wind, provide further renewable but intermittent electrical generation throughout the year.

- First Nations leadership:
    - Eleven of the 14 First Nations in the Yukon have signed Final and Self-Government Agreements with the Government of Canada.
    - First Nation governments play a central role in decision-making for the Yukon's lands and water, mobilizing thousands of years of stewardship and land-based knowledge and values. Values are demonstrated through foundational documents such as Together Today for Our Children Tomorrow, and through more recent visioning processes, such as the First Nations youth-led, Reconnection Vision.
- Resilience:
    - The Yukon's resilience stems from strong relationships, self-sufficiency, communities working together, ongoing connection to the land, and making the most of limited resources.
    - Access to reliable, affordable and sustainable energy is a core value of Yukon's climate resilience framework. which ties together hazards, actions to reduce climate impacts, and values important to Yukoners, published in the Yukon's Climate Risk Assessment, Assessing Climate Change Risk and Resilience in the Yukon.

Partner and Stakeholder Perspectives

A summary of what your government has heard from partners and stakeholders on climate action and ambition within your region. This could include perspectives from Indigenous partners, environmental non-governmental organizations, industry, businesses, municipalities, and civil society.

- There are various climate leadership initiatives taking place across the territory. These include but are not limited to the following.
    - The Yukon First Nations Climate Action Fellowship launched the Reconnection Vision in 2023.
    - The City of Whitehorse is currently working to release their Climate Action Plan.

- The Yukon Climate Leadership Council presented recommendations to the Government of Yukon in 2022.
- The Yukon Youth Panel on Climate Change presented recommendations to the Government of Yukon in 2021.

- Status updates for actions undertaken by partners (Yukon First Nations and municipalities) are updated annually as part of Our Clean Future Annual reports. The most recent update can be found in Appendix B of the 2022 Annual Report.
- Feedback and perspectives from partners and stakeholder groups is diverse. The themes summarized below are not exhaustive and reflect only a portion of what we have heard since implementing Our Clean Future in 2020.
- The Government of Canada is currently partnering with the Council of Yukon First Nations to inform the Indigenous Climate Leadership Agenda. It is recommended that ECCC connect with the leads of that project to better understand the findings.

Themes from partner and stakeholder perspectives:

- Climate action should prioritize reconciliation, including economic reconciliation, and self-determination, and balance different worldviews.
  - The Yukon First Nations Climate Action Fellowship, through their Reconnection Vision, has reframed and deepened "our understanding of the climate and mental health crisis as a crisis of disconnection."
- The importance of land protection and land stewardship:
  - Indigenous protected and conserved areas (IPCA) are understood to be important to sustaining Indigenous communities. Taking care of the land will support our resilience in the face of climate change as well as support carbon sequestration.
- Supporting renewable electricity projects:
  - Several groups and governments have indicated the importance of energy sovereignty and the importance of accessible and reliable renewable energy.
  - Youth have called for increased investment in diverse green energy sources (including the local chapter of Fridays For Future).
  - Utilities are identifying various challenges with the increasing penetration of intermittent renewable electrical generation sources without further investments in the existing grid infrastructure to better accommodate them.
- Homes and Buildings

    - Feedback has been received about the challenges associated with investing in heat pumps and the costs related to electrical infrastructure upgrades needed to further enable electrification (i.e.; electrical panel upgrades, increased transformer and feeder line capacities, distribution grid upgrades to meet increasing peak loads).
- Accessibility and reliability of low carbon transportation options:
    - While there are numerous funding opportunities for increasing the adoption of various electric transportation options (EVs, e-bikes, e-snowmobiles, and other e-mobility options), there is still a need to further develop low carbon, public, and active transportation options.
    - Various public stakeholders continue to emphasize the importance of further increasing the accessibility and availability of charging infrastructure for electric vehicles throughout the territory.

Climate Ambition and Advice

An outline of your government's current climate targets and any intentions of increasing ambition or setting new targets.

- Our Clean Future was designed to be an adaptive strategy; we will continue to update Our Clean Future annually to ensure our climate action reflects progress and impact on actions, as well as the latest climate science and local contexts.
- Updates will include new and revised actions that will support us in reaching our targets.
- In December 2023, we introduced 42 new actions into Our Clean Future. Many of these new actions bring us closer to our greenhouse gas emissions target.
- Energy-economy modelling by Navius Research Inc. was undertaken to understand the impact of individual policies on greenhouse gas emissions, economic activity, and other outcomes.
- These new Our Clean Future actions are projected to reduce emissions by 29.6 per cent reduction below 2010 levels by 2030.
- Based on this projection, more ambitious action is needed to close the gap between our projected reductions and our 45 per cent target.
- Between 2030 and our net-zero by 2050 goal, we may set interim targets to ensure we meet our net-zero goal as per our *Clean Energy Act*.
- Based on Navius projections, our most impactful climate action includes actions to blend renewable fuels into our heating and vehicle fuel stock, incentivizing a shift

away from heating fuel, increasing our renewable electricity capacity, and supporting uptake of electric vehicles.

Key considerations that the Government of Canada should take into account when setting its 2035 target. This could consider national and regional circumstances; international obligations; the respective roles and responsibilities of the federal government and provinces and territories; economic competitiveness and the transition to a clean economy; climate innovation and the role of clean technology; and fairness, equity, and inclusion considerations.

- A key consideration when developing a national target is equity, especially considering how federal climate policy may impact northerners and First Nations.
- Consider opportunities for affected northerners, especially First Nations and rural and remote communities, to realize economic benefits as a form of reconciliation through climate action.
- We continue to be supportive of the Government of Canada's commitment to ambitious climate action and targets.
- However, any national target needs to consider the very real constraints on implementing emissions reduction plans and actions in light of life in the North. As a result of the long distances to southern Canada and between Yukon communities, limited private sector capacity, harsh climate and remote communities, different approaches to the implementation of low and zero carbon technologies should be considered when compared with southern Canada.
- To reach more ambitious targets, climate change funding and programs need to be tailored specifically to the unique circumstances of the North, with greater flexibility related to requirements and reporting.

NORTHWEST TERRITORIES

On November 7, 2024, the Government of the Northwest Territories shared the following addendum to their submission, providing an update on recent developments.

- The world is a different place from when the GNWT released its approach to climate and energy in 2018. The national and global movement towards net zero emissions, the increased volatility in energy prices, energy affordability concerns, the carbon competitiveness of industry, the necessity to advance economic reconciliation with Indigenous People – these are some of the drivers calling for a new approach to energy and climate in the NWT.
- The GNWT has expressed its intention to commit to net zero emissions. The next step is to work with NWT Indigenous governments and Indigenous organizations, industry, community governments, utilities and non-government organizations to determine how best to implement this commitment.
- Climate change is a shared challenge that requires the collective action of all territorial and federal partners.
- For the NWT, net zero is an aspirational goal that is technologically possible, but will require significant investment, in the order of several billions of dollars, particularly from the federal government, as well as federal policy that explicitly supports the needs of the North.
- In its 2023 public engagement on the NWT's energy and greenhouse gas emissions target, representatives from Indigenous governments and Indigenous organizations, community governments, industry, utilities and non-government organizations expressed broad support for a more ambitious target.
- We also heard that the GNWT needs a realistic plan to deploy clean energy infrastructure and create economic development opportunities for Indigenous governments and communities while shielding Northerners from increases in the cost of energy.
- A strong economic foundation is a key priority for the NWT. Investments in clean energy infrastructure are an important part of achieving this. Access to reliable, affordable and clean energy benefits Northerners, communities and industry. If clean energy can be delivered along with project profitability, it will help attract investment to NWT.
- Over the next year, the GNWT will be developing a new Energy Strategy, which is the territory's main mechanism for addressing greenhouse gas emissions. A draft NWT Energy Strategy addressing the territorial net-zero objective will be produced based on engagement conducted in 2023 and for further review and engagement with partners.

April 19, 2024

Jean-François Tremblay
Deputy Minister
Environment and Climate Change
200, BOUL. SACRÉ-COEUR, 2ND FLOOR, OFFICE 249
GATINEAU QC J8X 4C6
JF.Tremblay@ec.gc.ca

Dear Mr. Tremblay:

The Government of the Northwest Territories (GNWT) appreciates the opportunity to submit comments on Canada's 2035 greenhouse gas emissions reduction target. There are many circumstances that make the NWT a unique environment for emission reductions including our remoteness, a low population density, and extreme climate. The GNWT energy infrastructure is aging, and not ready to accommodate the level of electrification of end-uses such as transportation and heating, encouraged by federal policy. In alignment with the United Nations Declaration on the Rights of Indigenous People, Article 21 it is important that we work together to find a balance between reducing greenhouse gas emissions and respecting the rights of Indigenous peoples to improve their economic conditions.

The GNWT will need to work with the Government of Canada to find tailored solutions to address the gaps the Northwest Territories faces in terms of energy infrastructure and help plan for the future. It is possible that with targeted and significant support from Canada, the GNWT can achieve meaningful emission reductions that support economic development, mitigate cost of living impacts, support the renewal and enhancement of ageing energy infrastructure, and ultimately advance the NWT's transition to a low carbon economy.

…/2

I have attached our GNWT response using the template requested by your department in the January 22, 2024 letter. We are open to this response being shared publicly. If you have further questions, please do not hesitate to contact me.

Sincerely,

Erin Kelly

Erin Kelly, Ph.D.
Deputy Minister
Environment and Climate Change

Attachment

c. Jocelyne Paiement
Executive Assistant to Deputy Minister Tremblay
Environment and Climate Change Canada

Steve Loutitt
Deputy Minister
Department of Infrastructure
Government of the Northwest Territories

Vincent Ngan
Assistant Deputy Minister
Climate Change Branch
Environment and Climate Change Canada

Julian Kanigan
Assistant Deputy Minister
Environmental Management, Monitoring and Climate Change
Department of Environment and Climate Change
Government of the Northwest Territories

Robert Jenkins
Assistant Deputy Minister
Energy and Strategic Initiatives
Department of Infrastructure

Attachment

Government of the Northwest Territories
Submission on Canada 2035 Greenhouse Gas Emissions Target

Overview of Ongoing Efforts on Climate Mitigation in the NWT

In 2018, the GNWT released the *Climate Change Strategic Framework*, with the climate change mitigation objective of reducing greenhouse gas (GHG) emissions in the Northwest Territories (NWT) by 30% below 2005 levels by 2030. The associated *2030 Energy Strategy*, also released in 2018, sets out the GNWT's long-term approach to supporting secure, affordable, and sustainable energy in the NWT. The *2030 Energy Strategy* and the NWT Carbon Tax are the main mechanisms to advance towards our 2030 climate change mitigation target.

The vision of the current Energy Strategy is a secure, affordable, and sustainable energy system that is less dependent on fossil fuels and contributes to the economic, social, and environmental wellbeing of the territory and its residents.

The *2030 NWT Climate Change Strategic Framework* and *2030 Energy Strategy* are currently under review, along with the NWT emissions reduction target. In 2023, the GNWT released an independent report, prepared by Navius Research, which explored possible low-carbon pathways towards a net-zero NWT by 2050. While the GNWT has not endorsed the report and the recommendations therein, its content and the analysis are being used by the GNWT to inform both internal and external discussions as we continue our work to review emission targets and a transition to a lower carbon economy.

Navius' analysis suggests that a combination of four technology solutions is likely to be the most cost-effective solution to reduce emissions in the NWT:

- Developing clean power generation (e.g., hydropower, solar, wind, and energy storage solutions).
- Electrifying end-uses such as transportation and heating with clean power.
- Maximizing the use of solid biomass to heat buildings.
- Using suitable liquid biofuels for any remaining conventional technologies (e.g., thermal generation in remote communities, heavy duty transportation, building heating).

While the modelling focuses on changes required to decarbonize NWT energy systems, the study also acknowledges carbon dioxide removals, including local nature-based solutions, are an option available to remove carbon from the atmosphere and store it in geological, terrestrial, or ocean reservoirs.

The GNWT anticipates that any revisions to the *2030 NWT Climate Change Strategic Framework* and *2030 Energy Strategy* will be released in 2025-2026. Associated action plans are currently being renewed and will be released in early 2025.

1. Regional Realities, Opportunities, and Challenges to Reducing Emissions

There are many circumstances that make the NWT a unique environment for emission reductions, including its remoteness, a low population density, and extreme temperatures in winter. Energy security is a crucial issue in the NWT and reliability of energy systems can be a matter of life and death in the winter.

Perhaps most important, is that unlike most of Canada, the NWT is not connected to the North American Bulk Electricity System. In fact, the NWT electricity system that supplies territorial communities is made up of 27 electrical micro-grids and with these small, isolated grids comes the reality that solutions reliant on a "grid scale" or economies of scale are not viable.

In the southern NWT, two smaller grids are fed by hydropower and provide power to eight communities, with diesel generators available as back-up, used for peak demand, and used during low-water years. The other 25 communities have their own thermal generation stations relying on diesel and/or natural gas. In a typical year, the electricity supply to the NWT's 33 communities is about 72% hydroelectricity, 22% diesel, 5% natural gas and less than 1% intermittent renewable energy, such as solar power. Broadly speaking, NWT energy infrastructure is ageing and inadequate to accommodate the large transformations needed to substantially electrify transportation and space heating.

NWT electricity prices are also the highest in Canada, despite significant GNWT subsidies, with differences between hydro and thermal zones. The subsidized cost of power for residents' ranges from 25 to 34 cents per kilowatt-hour (kWh). This price range is only made possible by large subsidies from the GNWT which amounted to $14.5 million in 2022-2023 in diesel powered communities. Without the current subsidy system, the cost of power in some of these diesel communities would be as high as 80 cents per kWh for residents and businesses.

It is difficult to develop and supply energy in the NWT, including finding emissions-reducing technologies proven to work in our unique circumstances. Some low-carbon technologies that work well in the provinces do not work well in the North because of our cold climate, long-winters, isolation related to transportation, and/or lack of capacity to operate and maintain technologies. We cannot assume southern technologies will work for us without testing and de-risking them first. This is an extra step for which there is no standardized process, that requires additional time and

funding, and sometimes leads to dead ends. More Northern focused research and work is needed such as assessing the potential challenges and opportunities of these technologies through pilot projects in the North. Federal support is needed to facilitate this work.

While the North can broadly rely on the same array of clean technologies as the rest of Canada to reduce GHG emissions such as hydro, solar, and wind, the NWT must spend substantially more money than the provinces to put similar technologies in place. In fact, installing such technologies often costs up to hundreds – if not thousands – of dollars more per tonne to reduce NWT GHG emissions compared to southern Canada. The cost for current projects advanced by the GNWT to reduce emissions in diesel powered communities ranges from $330 to $1,100, or more, per lifetime tonne of CO2e abated. There are many reasons for this, as previously stated, including the NWT having fewer people than the provinces and residents being spread out across a large land area, which does not allow for economies of scale. In addition, the NWT has greater extremes, with far colder temperatures in the winter, long supply chains that make projects more costly, and has limited local capacity to install and maintain projects.

In 2021, transportation emissions accounted for about 63% of the NWT's overall emissions, with the bulk of these emissions linked to supply chains and industrial activity. In contrast, light-duty vehicles used for personal mobility represent a relatively small portion of territorial emissions. In the short term, distance, weather and a lack of charging infrastructure limits the transition to electric vehicles. The GNWT is advancing a plan to address these limitations by building the charging infrastructure and encouraging residents and businesses to adopt electric vehicles – which will come with significant cost to upgrade electricity systems and generate the low carbon electricity needed going forward. For other transportation such as heavy-duty transport truck, marine transport, rail and aviation, which constitute the bulk of transport emissions, there are few immediately available solutions for use in the NWT, given long distances and colder winter climates. Drop-in ready renewable diesel and aviation fuel may be options going forward, but only have very limited commercial availability at the moment and have not been adequately tested to meet arctic cold climate standards as of yet.

The North also deals with unique circumstances when it comes to the effects of climate change. The NWT is warming at up to four times the global rate in most Northern regions. While the GNWT is working to reduce NWT emissions, we are working to assess the vulnerability of territorial infrastructure, inclusive of energy infrastructure, and developing a plan to ensure it will be resilient to the effects of a fast-warming climate. This includes understanding the possible middle- and long-term impacts of climate change on hydropower generation capacity as well as the

effects of permafrost thaw on electricity assets such as plants and linear infrastructure across the NWT.

The NWT is also facing some significant economic challenges, including diamond mines moving towards closure, an ageing population, and declining private sector investment, which require that we work to strengthen all sectors of the territorial economy. Climate change impacts are worsening an already severe NWT infrastructure gap. In addition, the NWT must make significant investments in the coming decades if it is to move to an economy that can thrive in a low emissions context. The NWT is home to 23 critical minerals, which means there is a possibility of having a new generation of mines. Access to lower carbon energy will be a significant consideration for industry when deciding where to invest and the increasing need for projects and businesses to have a clear path to green energy sources to attract investment.

2. Partner & Stakeholder Perspectives

Over the summer and fall of 2023, the GNWT led an engagement entitled 'Our Energy and Climate Future in a Changing World'. The engagement included of four streams of input to offer different ways for partners, stakeholders, and the public to provide feedback. The GNWT heard five themes most prominently, which will provide important considerations as the GNWT renews the *Climate Change Strategic Framework* Action Plan and *Energy Strategy*, including a review the NWT's GHG emissions targets. A What We Heard document was made publicly available in spring 2024 that will highlight and expand on the following five prominent themes:

A. Revise Climate Targets

There is an interest to renew NWT's level of climate effort and adjust territorial emissions reduction targets. The world is moving on, and the NWT needs to be part of it. However, based on the feedback received throughout the engagement, there could be different ways to assess new targets.

With respect to 2030, the NWT appears to be on track to achieve its reduction target of 30% below 2005 levels. This is both due to the planned actions by people, businesses, and governments across the NWT, as well as an anticipated reduction in mining activity in the late 2020s. While many participants felt the NWT should increase its 2030 emission reduction target, there is a concern that doing so may be unrealistic as the NWT isn't ready to achieve a substantially higher reduction target within the next six years.

B. Revise Roles and Responsibilities

The GNWT, the federal government, Indigenous governments, Indigenous organizations, energy utilities, and the private sector all have important roles to play in advancing energy and climate-related work in the NWT. Throughout the climate and energy engagement, most participants agreed that Indigenous governments and communities governments should have a bigger role in decisions. This was especially so when it comes to setting emission reduction targets.

C. Economy and Affordability are Key

Many participants, while generally supportive of the need to reduce emissions, expressed concerns about the potential impact of the energy transition on the economy, on jobs as well as on the overall cost-of-living in the NWT. Northerners are already facing very high energy costs and have little ability to absorb additional costs in the future. Increasing already high cost of living in the north may lead to outmigration, meaning a lower population and a lower tax base, regardless of increased federal tax incentives for living in Zone A/B.

To transition to a lower-carbon economy, participants voiced that the GNWT needs a realistic plan to deploy the clean infrastructure it needs, while shielding Northerners from increases in cost of energy. Such a plan would first require the GNWT to work with its partners to estimate how much capital investment is needed to upgrade NWT's ageing energy systems, as well as improve the resilience of infrastructure to withstand the impacts from a rapidly warming climate. The availability of federal funding will be key to effectively overhaul NWT energy systems while limiting the impact on Northerners' cost-of-living. Such investments in clean energy infrastructure would allow for attracting new industrial projects and developing the economy.

Understanding future capital requirements and establishing who will pay for these are two critical steps in determining how the energy transition will affect the economy, jobs and the cost-of-living.

D. Utilities have a Crucial Role to Play

It was strongly identified through this process that electricity providers have a crucial role to play to reduce territorial emissions. Specifically, that the utility regulator, the three electrical utilities, the GNWT and interested Indigenous governments need to work together to develop appropriate planning, regulatory, and policy tools to enable the transformation of the NWT electricity system over the coming decades.

E. Leverage Known, Proven Technologies

Participants identified that the NWT needs to transform and expand its electricity system to replace ageing assets, develop new renewable generation, and add new sources of low-carbon energy. This could be accomplished by relying mostly on a mix of proven technologies such as hydroelectricity, renewable energy, battery storage, biomass, and biofuels. Other options, such as small, modular nuclear reactors or hydrogen, could also be added to the mix in future, after the technologies are commercially available and have been properly tested for use in northern applications. Public perceptions could be a barrier to advancing some of these technologies.

3. Climate Ambition & Advice

The *2030 Energy Strategy* and *Climate Change Strategic Framework* and associated Action Plans are currently under review, along with the NWT emissions reduction target. Analysis conducted by Navius Research suggests that the NWT is currently on track to meet its goal of reducing emissions by 30% by 2030, with a reduction in industrial activities being one main contributing factor. As previously mentioned, the GNWT anticipates that any revisions to the *2030 NWT Climate Change Strategic Framework* and *2030 Energy Strategy* will be released in 2025-2026.

When deciding on 2035 climate targets, Canada must consider the direct and indirect impacts that enhanced targets will have on the North, and the role Canada will need to play to resolve them. This includes impacts on the existing infrastructure deficit, an increased need to transform NWT's electricity system, implications for energy affordability, a need for regional integration, as well as northern specific innovation. Nonetheless, it is possible that with targeted and significant support from Canada that the NWT can achieve further emission reductions in a way that supports economic development, mitigates cost of living impacts, supports the renewal and enhancement of ageing energy infrastructure, and ultimately advances the NWT's transition to a low carbon economy. A lack of federal support would limit economic growth opportunities, increase cost of living, further contribute to a sizeable infrastructure gap between the north and the south and potentially contribute to outmigration. Finding a balance between reducing greenhouse gas emissions and respecting the rights of Indigenous peoples to improve their economic conditions is crucial.

Addressing the Infrastructure Deficit

The GNWT has clearly and consistently articulated to the Government of Canada the critical and imminent need to invest in new NWT energy infrastructure to address aging existing assets as well as the infrastructure deficit to prepare for the future. This

was articulated and recognized in Canada's Arctic and Northern Policy Framework and the Pan-Canadian Framework on Climate Change. While most of the solutions to decarbonize NWT energy systems are well known to Northerners, the scale of deployment required to drastically reduce territorial emissions has substantial cascading implications for our energy systems, economy, and residents.

Of note, electrical utilities have a key role to play to meet any climate targets as a combination of new clean power supply and electrification of end-uses. While this was identified in the Navius modeling study as the most "cost-effective approach" for the NWT, the implementation of such an approach lies well beyond the fiscal realities of the NWT. Capital costs for new clean power generation are expected to cost in the order of several billion dollars between 2025 and 2050. Beyond that, even more capital funding will be needed to build transmission infrastructure to connect new generation to communities, to upgrade distribution systems so that they can allow for increased electrification, to develop new interconnections between thermal and existing hydro grids, to deploy measures to mitigate impacts of climate change on electricity infrastructure, as well as to install technologies that will ensure the continued reliability of our microgrids.

Further, and as previously mentioned, none of our Northern micro-grids currently benefit from an interconnection with the North American Bulk Electric System, meaning that all back-up and peak generation options need to also exist locally, amplifying costs. This will continue to be the case even with expansion of renewable electricity sources.

Going forward, substantial financial support from Canada is required to support the clean energy transition in the NWT. As an example, the potential Taltson Hydro Expansion project, which, by connecting the two islanded hydro grids, and ultimately creating an intertie with Southern Canada, would address many, if not all, of these issues for ten of the 33 NWT communities (representing 70% of the population). In addition to benefits to communities the project would eventually provide clean electricity for the off-grid industrial loads that currently make up a significant portion of the NWT's GHG emissions. Without significant future financial support from Canada, development of this transformative project will not be possible.

<u>Economics of the Transformation of the Electricity System</u>

Most emissions-reducing projects do not make economic sense on their own in the NWT and sometimes adversely affect Northerners by increasing the cost of energy. In recent years, the majority of clean energy projects were only made possible by the availability of federal funding to cover the capital costs of the project. We cannot emphasize enough that there is currently no business case for most of these clean

energy projects in the absence of federal funding. This means it is unlikely that the NWT will be able to attract any private sector investment for these projects. Further, some projects would require 100% federal funding for capital costs and/or some level of support for operation and maintenance costs to be viable.

Federal funding programs that consider operation and maintenance costs as eligible for clean energy projects in the North are needed. A federal production incentive could go a long way to support clean power production in the North over the long run. This approach would see the Government of Canada providing a subsidy for each kilowatt-hour of renewable power produced in the North, with the incentive possibly split between the producer and utilities to help cover the fixed costs associated with ensuring continued grid reliability.

Electricity Affordability

Energy affordability is a critical pillar of the Energy Strategy as the NWT already deals with some of the most expensive energy costs in Canada. This concern was largely echoed during the public engagement for the five-year review of the *Energy Strategy* and the *Climate Change Strategic Framework*. The transformation of the NWT power systems will require substantial funding from the Government of Canada as the NWT cannot realistically pass such costs to ratepayers, nor can we assume these costs ourselves.

As periodic droughts are expected, climate change will very likely change the frequency, duration and severity of extreme weather and low water events, with an adverse effect on energy supply chains and hydropower generation. These could have ripple effects in the North, including a significant electricity rate increase that will directly and significantly impact the cost of living and doing business in the NWT. The GNWT will need support to better prepare for these changes going forward.

Working with our federal partners is critical to achieving enhanced climate change goals. Without financial support and logistical aid from the Government of Canada, the NWT will see immense challenges in completing further emissions reductions and deploying the infrastructure Northerners need, while at the same time keeping the cost of energy affordable and equitable for our residents and businesses.

Regional Integration

Regional integration and expansion of our islanded hydro power systems would certainly help increase clean energy supply and regional security to electrify our communities and support clean critical mineral developments in the area. This approach is being advanced under the Taltson Hydro Expansion. Investments in

hydropower and transmission infrastructure will connect 10 communities near Great Slave Lake to a unified hydro grid that has the capacity to support clean critical mineral developments and community electrification for over 70% of the population. Over time it is envisioned that this grid would extend into the mineral rich Slave Geological Province and eventually connect to southern Canada. In that context, the GNWT would welcome a federal framework to guide the conversation with other jurisdictions and motivate regional electricity planning and cooperation.

Innovation for the Longer-Term

As identified above, while the Navius analysis identified several potential low-carbon technologies to drastically reduce emissions, all these technologies will require advancement to work in and be deployed at scale in the NWT context and operating environment. Further, even if these technical advancements are realized, adoption will only take place if it is cost-effective to implement. As examples, cold-climate heat pumps need to be tested to better understand how they work in the North and how they will incorporate with existing heating systems, on a cost-effective basis. Biofuels have potential to significantly reduce emissions across the territory, but are not available in an Arctic grade, and require additional testing to become a viable option in the future. Ensuring this product is not cost-prohibitive for residents, businesses, and governments is also a key consideration moving forward.

Specific to emerging solutions, we hope that ongoing federal efforts to advance technologies such as hydrogen technologies and small modular reactors will include an assessment through the remote community lens, which could take the form of a rating of technology readiness level for Northern Canada.

The Need for Programs Targeted for the North

In recognition of our unique circumstances, the Government of Canada has exempted or excluded the NWT from many of the incentives, programs and policies it developed to reduce emissions including the carbon tax on electricity, Clean Fuel Regulations, Clean Electricity Regulations, and several programs, such as the Smart Renewables and Electrification Program. Significant, new and targeted federal programs will be key to both addressing our energy infrastructure deficit, transforming NWT energy systems, and ultimately achieving any more ambitious climate targets.

Annex 4. Submissions from Indigenous Peoples

May 16, 2024

Tyler Carlson
Climate Change Branch
Environment and Climate Change Canada
200, boul. Sacré-Coeur
Gatineau, Quebec K1A 0H3

SENT ELECTRONICALLY ONLY
By Way Of: tyler.carlson@ec.gc.ca

RE: ENVIRONMENT AND CLIMATE CHANGE CANADA – 2035 EMISSIONS REDUCTION TARGET

Acho Dene Koe First Nation writes to provide comments to inform Canada's 2035 greenhouse gas emissions target.

Acho Dene Koe First Nation's Traditional Territory and Waters span three jurisdictions: British Columbia, the Yukon Territory, and the Northwest Territories.

Our main community is currently settled in Fort Liard, north of the British Columbia-Northwest Territories border, but our members continue to use and occupy our Traditional Territory as a whole. As our ancestors did, we hunt, trap, fish, and gather for food, social, cultural, and trading purposes throughout our Traditional Territory.

We adhered to Treaty 11, and as such, we have treaty-protected hunting rights. Additionally, we assert Aboriginal rights, including title, throughout our Traditional Territory.

Our rights, and our Traditional Territory, are affected by the proposed decision.

Acho Dene Koe First Nation Treaty and Aboriginal Rights
In 1922, our ancestors adhered to Treaty 11, and these rights are constitutionally protected pursuant to s. 35(1) of the *Constitution Act, 1982.* Among other things, Treaty 11 protects our right to pursue our usual vocations of hunting, trapping and fishing. When signing Treaty 11, our ancestors were assured that this liberty would not be taken away or curtailed. Any erosion of our ability to hunt, trap, and fish would be a serious infringement of our Treaty rights.

The courts have cast serious doubt on whether Treaty 11 extinguished Aboriginal title to the land. In *Re: Paulette's Application,* the trial judge found that "notwithstanding the language of the two treaties there is sufficient doubt on the facts that aboriginal title was extinguished.[1]"

More recently, the Federal Court recognized that the Federal Government's failure to set aside reserves for Sam baa K'e First Nation was a fundamental breach of Treaty 11, and Sambaa K'e continued to have a strong *prima facie* case for Aboriginal title, which elevated the Crown's duty to consult with them.[2] Accordingly, in our view, our Aboriginal rights, including Aboriginal title, have never been ceded, abandoned, or extinguished in any part of our Traditional Territory.

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[1] *Re: Paulette's Application,* [1973] 6 W.W.R. 97 (N.W.T.) *[Re: Paulette's Application].*
[2] *Sambaa K'e Dene First Nation v. Duncan,* 2012 FC 204.

Aboriginal rights, which include title, are constitutionally protected legal rights, pursuant to s. 35(1) of the *Constitution Act, 7982.* Aboriginal rights include a priority use rights to resources (e.g. fish, wildlife, trees, traditional medicines and foods). Aboriginal title confers on the rights-holding group the exclusive right to decide how the land is used and the right to benefit from those uses, subject to the restriction that the uses must be consistent with the group nature of the interest and the enjoyment of the land by future generations.[3]

Acho Dene Koe First Nation holds constitutionally protected Treaty rights, asserts strong Aboriginal rights within our Traditional Territory, and takes seriously any infringement of our rights.

Crown's Duty to Consult

Where the Crown has "knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it", the Crown has a duty to consult with the First Nation *(Haida Nation v. British Columbia (Minister of Forests),* [2004] 3 S.C.R. 511 at para. 35).

Acho Dene Koe First Nation currently uses, and has traditionally used, our Traditional Territory for fishing, hunting, trapping, and gathering. Development and resource exploitation have already significantly impacted and infringed on our Treaty and Aboriginal rights and title, and any new developments will infringe on our rights in a compounding manner. An infringement cannot be justified, without meaningful consultation and accommodation, which may include compensation.

Acho Dene Koe First Nation expects and intends to enter into full meaningful consultation with the Government of Northwest Territories prior to any decision that has the potential to infringe our Treaty or Aboriginal rights. The importance of protecting our Treaty and Aboriginal rights, and of preserving natural resources, cannot be overstated.

Canada's 2035 Emissions Reduction Target

The *Canadian Net-Zero Emissions Accountability Act* sets out legislative requirements for current and future federal governments to plan and report on the path to net-zero emissions by 2050. As part of the Act, the Minister of Environment and Climate Change Canada must set subsequent targets for 2035, 2040, and 2045, at least ten years in advance.

In setting Canada's 2035 target, the minister **must consider Indigenous Knowledge,** alongside best scientific information and Canada's international commitments. Further, to meet the 2035 target, it must be set by December 1st, 2024.

Acho Dene Koe First Nation appreciates the opportunity to provide comments to support Canada's 2035 Emissions Reduction Target. While Acho Dene Koe First Nation is supportive of efforts to reduce emissions and support Canada's goal and path to net-zero emissions by 2050, we are concerned about the potential implications of an unjust transition to a net-zero economy and its impact on our First Nation and other remote communities in the north.

First Nations should be approached as partners and leaders in advancing climate and energy action. To take part in an energy transition and a net-zero transition, planning should be done with equity in mind, with all industries and communities contributing fairly toward the larger goal of net-zero emissions. Acho Dene Koe First Nation should have the opportunity to partner on all processes, including but not limited to: economic planning and opportunity, decision-making, and any assessments or evaluations conducted as part of the planning process related to climate and energy action.

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[3] *R. v. Sparrow*, [1990] 1 S.C.R. 1075 and *Delgamuukw v. B.C.*, [1997] 3 S.C.R. 1010; *Tsilhqot'in Nation v. British Columbia,* 2014 SCC 44.

Acho Dene Koe First Nation membership must be assured affordable energy, adequate housing, and safe transport with a transition to net-zero policies. Additionally, all processes must respect ownership, control, access, and possession principles *(OCAP).*

We would like to highlight the need that all plans, objectives, and supporting legislation should be designed to be flexible to meet both the needs and opportunities that remote and northern communities and First Nations present in achieving a net-zero future. The costs associated with the transition to a net-zero economy, such as electric vehicle infrastructure, for example, may be a significant burden that Acho Dene Koe Frist Nation members are unable to bare. Our First Nation requires adequate and safe infrastructure to access remote locations, and financial support to transition to energy-efficient vehicles robust enough to access such remote locations.

As highlighted in the referral letter, the Government of Canada has requested input on the role of clean technology in reducing emissions. Acho Dene Koe First Nation highlights that the Northwest Territories, and the Liard Basin specifically, hold some of Canada's greatest geothermal potential. While not a universal solution, geothermal energy generation must be considered as a practical option to support net-zero energy systems. Additionally, wind and solar technologies should be maximized to support the system with reliable, high technology, optimizing the Northwest Territories' sustainable energy resource potential. Furthermore, Hydroelectric power generation should continue to supply reliable energy, without causing added displacement, flooding of culturally and ecologically critical areas, loss of carbon sinks, and methane production.

Indigenous Knowledge must be considered to inform the level of ambition of Canada's 2035 target. Such knowledge, coupled with western science-backed approaches, can offer a viable option for a net-zero future. All processes ought to be developed in meaningful consultation and full collaboration with Acho Dene Koe First Nation membership and knowledge holders. First Nation's, like Acho Dene Koe First Nation, should be positioned to be a partner and provide meaningful leadership in advancing climate and energy action to support an ambitious, yet achievable, 2035 emission target.

If you have any questions concerning our response, I would ask that you email our Lands Office at lands@adkfirstnation.ca

Thank you.

Yours truly,
ACHO DENE KOE FIRST NATION - ECHAOTII | **Yunda gogha sguigle**

Chief Eugene Hope

Cc. Mark MacDougall, Lands Director (Consultant —Shared Value Solutions)
Chirag Patney, Lands Manager (Consultant— Shared Value Solutions)
Shawn Day, Geothermal Technical Project Manager (Consultant— Barkley Group)
Brad Morrissey, Business Development Manager, ADK Holdings Ltd
Council

ASSEMBLY OF FIRST NATIONS

TECHNICAL SUBMISSION

GOVERNMENT OF CANADA'S 2035 EMISSIONS REDUCTION TARGET

JULY 2024

1. Introduction and Objectives

The Assembly of First Nations (AFN) welcomes the opportunity to provide a technical response to the 2035 Emissions Reduction Target ('the 2035 target'). The 2035 target is an important opportunity for the Government of Canada to respond to the First Nations-in-Assembly and demonstrate urgent and transformative climate action, guided by climate solutions rooted in a recognition that we must restore balance to our reciprocal relationships with the Land, Water, and more-than-humans. In 2019, the First Nations-in-Assembly declared a *First Nations Climate Emergency* through Resolution 06/2019, providing direction for Canada's 2035 target: emission reductions in Canada by 60% below 2010 levels by 2030 and reach net-zero emissions by 2050. This direction was reaffirmed in 2023, where the First Nations-in-Assembly passed Resolution 36/2023, *Urgent and Transformative Climate Action through the AFN National Climate Strategy*, endorsing the AFN National Climate Strategy ('Climate Strategy') and its seven priority areas of action and reaffirming the declaration of a First Nations Climate Emergency that recognizes the "*climate crisis constitutes a state of emergency for our lands, waters, air, ice, animals, and peoples."*

The Climate Strategy is key to understanding the broader context through which the 2035 target should be considered. It outlines the First Nations Climate Lens (described below), and introduces seven priority areas, each coinciding with a specific goal, a set of objectives, a detailed list of strategies and actions, and recommendations for implementation partners.[1] These are not intended to be a comprehensive review of all First Nations priorities related to climate change, rather an enabling document that creates space for First Nations at the local and regional level to advance their self-determined climate strategies and priorities. To achieve the vision set forth in the Climate Strategy, federal, provincial, and territorial governments must work directly and in full partnership with First Nations rights and title holders to implement self-determined First Nations climate priorities, including with sufficient and sustainable funding. We note, with regret, that this did not happen in the engagement process for the 2035 target.

The Climate Strategy, as well as the First Nations Climate Lens, have tangible application to the decolonization of target-setting exercises, as well as the Government of Canada's conceptualization of net-zero more broadly. For example, the Canadian Net-Zero Emissions Accountability Act ('Accountability Act'), requires four considerations when setting an emissions target: i) *the best scientific information available; ii) Canada's international commitments with respect to climate change; iii) Indigenous knowledge; and iv) submissions provided by the [Net-Zero Advisory Body] and advice it provided in its report under subsection 22(1).* To date, it is unclear how the Government of Canada is considering the treatment and weighting of these four considerations in setting the target. From a First Nations perspective, we must avoid lapsing into failed narratives about balancing economy and environment, or quick-fix technological solutions, and instead engage ethically and equitably with First Nations knowledge systems. This means it would have been more appropriate to consider, in advance of the invitation of potential submissions, a framework for weaving / braiding of diverse knowledge requirements with different ontological and epistemological foundations. This is a prerequisite to a meaningful and ethical engagement with First Nations knowledge systems and will limit the potential for First Nations to contribute to this exercise.

In this short submission, we introduce the First Nations Climate Lens and discuss its' implications for the 2035 target, and the broader commitment to net-zero. This is a vital opportunity to align the proposed policies with commitments to advance reconciliation with First Nations.

[1] For more, please refer to the full AFN National Climate Strategy, found here: https://afn.ca/environment/national-climate-strategy/

2. First Nations Climate Lens

During the last six years, the AFN has been developing a Climate Lens to broadly describe how we approach the myriads of ways that climate change has, and will continue, to impact First Nations. The Climate Lens illustrates how the experiences and interconnections of First Nations cannot be overlooked when contemplating climate related solutions for (or by) First Nations. Figure 1 illustrates how the Climate Lens brings together four areas of consideration–Natural Law, Actions, Impacts, and Context–to bring into focus what First Nations climate solutions look like.

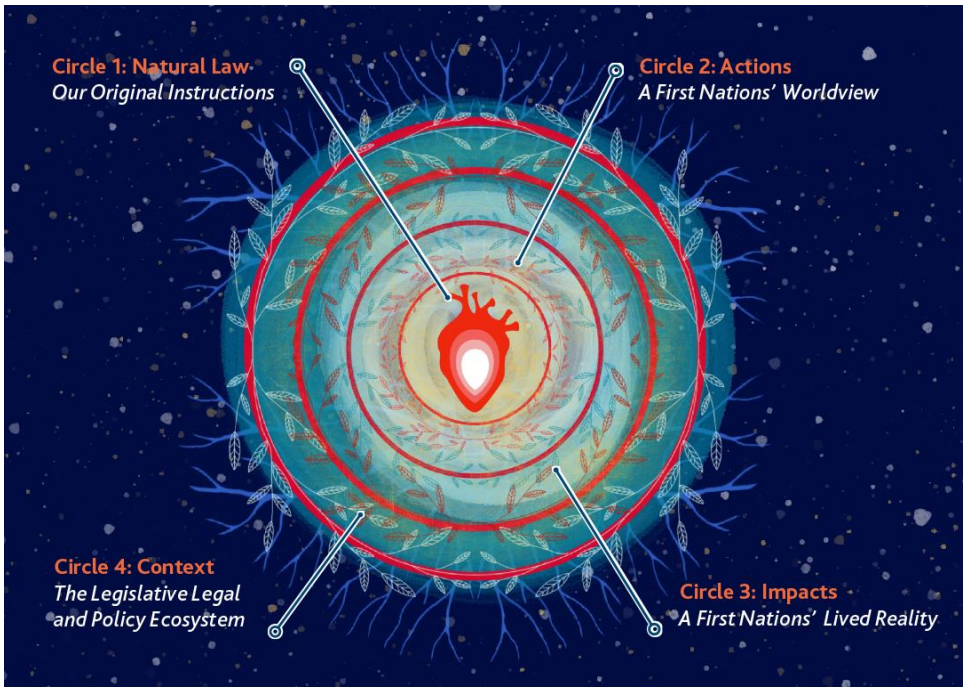

Figure 1: First Nations Climate Lens: *Eruoma Awashish prepared this image. Eruoma is an Atikamekw Nehirowisiw mother and artist who is committed to her nation. She works in a variety of mediums, including painting, installation, performance, video, silkscreening and traditional dance. Awashish grew up in the community of Opitciwan. She is now established in Pekuakami (Lac-Saint-Jean), and her studio is located in the Innu community of Mashteuiatsh. She holds an interdisciplinary Bachelor of Arts from the University of Quebec at Chicoutimi.*

A full description of the Climate Lens is outlined in Climate Strategy[2], however, the four circles displayed above represent the following:

> **Circle 1: Natural Law: Our Original Instructions:** Natural Law is a set of laws that originate directly from the Creator, based in our diverse languages, oral histories, and ceremonies, to govern how we must interact with the Land, Water, and more-than-human relatives to ensure balance and reciprocity.
> **Circle 2: Action: A First Nations' Worldview:** First Nations-led solutions are multidimensional, interrelated, interconnected, and grounded in First Nations spiritualities, legal systems, knowledges, languages, and governances. We understand that we are one with the Land and Water.
> **Circle 3: Impacts: The First Nations' Lived Reality:** In Canada, climate conversations often disregard the historical legacy of colonization which impacts the lived reality of First Nations today. This must be understood and incorporated into analyses of the distribution and experience of climate-related impacts, which cannot be separated from the broader project of First Nations self-determination and reconciliation.
> **Circle 4: Context: The Legislative, Legal and Policy Ecosystem:** For First Nations, climate action is a rights- and Inherent responsibilities- based activity to be established, mandated, and implemented within First Nations governance, and working in concert with colonial legislative, legal, and policy contexts at the federal, provincial, territorial, and international level.

[2] For a full description of the First Nations Climate Lens, please refer to the AFN National Climate Strategy referenced above, and refer to a video from the Gathering here: https://www.youtube.com/watch?v=ICZh6uYTh1E&t=2s.

With the Climate Lens in view, we turn our minds to applying it to the framing of the emissions reduction target setting processes.

3. Applying the First Nations Climate Lens to the 2035 Emissions Reduction Target

The Climate Lens has important procedural, conceptual, and substantive applications to the setting of an updated emissions reduction target for 2035.

First, we reiterate our comments on net-zero captured within the AFN Annex to the Emissions Reduction Plan[3], calling on Canada to avoid conceptualizing net-zero as an end goal, where the only focus is on arriving at a point when "…anthropogenic emissions of greenhouse gases into the atmosphere are balanced by anthropogenic removals of greenhouse gases from the atmosphere over a specified period." Instead, net-zero must be conceptualized as a process leading to a just, equitable, and resilient future for our future generations, founded on the First Nation's right to self-determination. The federal climate plan acknowledges this perspective, committing to "…[support] self-determined climate action, which is critical to advancing Canada's reconciliation with Indigenous Peoples." (p. 68-9). To do so, the *process* to arrive at a just, equitable, and resilient future must be grounded in the leadership and direction of First Nations. In a similar way, the process of arriving at an updated emissions reduction target (and each target after this round) must be done in full acknowledgement of the ontological and epistemological basis of First Nations knowledge systems.

The legislative requirement for the consideration of Indigenous Knowledge in the setting of emissions targets is an important first step, however, given the time constraints, there has been a limited opportunity in this process to consider what this would mean substantially: a problem that we flagged in 2021. For example, based on an understanding grounded in First Nations knowledge systems that we are 'one with the Land and Water'–rather than compartmentalized units apart from nature–all discussions would need to center on the reciprocal relationships that embody our global ecosystem. Such an approach recognizes that First Nations knowledge systems, while unique to each individual First Nation, problematize the drivers of the climate crisis differently than mainstream systems. Put another way, a more meaningful application of the Climate Lens would begin with establishing a shared understanding of what is driving the climate crisis, and based on that shared understanding, the determination of appropriate actions using this starting point. This deeper conversation is lacking in the current process and may be detrimental to future emission reduction targets, and their plans by, for example, locking in an ontological path of dependency that force's First Nations knowledge systems to 'fit' into mainstream knowledge systems focused on technology and markets. We seek to broaden this process to be more inclusive in its consideration of First Nations Knowledge systems.

Second, a First Nations approach will confront the conventional "mitigation-adaptation" dichotomy–the separation between discussions on mitigation or adaptation action–rampant in federal climate perspectives. This is underlined by the absence of references to adaptation in the Accountability Act. As highlighted by our Climate Lens, the impacts of climate change are inseparable from First Nations lived realities, whether due to climate change or the ongoing legacy of colonialism. For this reason, the conventional mitigation-adaptation dichotomy rarely considers the complex and multi-dimensional nature of First Nations climate solutions – such as returning to the land, a focus on food sovereignty, locally generated power systems, and language revitalization. Given the interconnections between the sectors and systems upon which First Nations rely (e.g., health, food, energy, transportation, etc.), this false

[3] Refer here for the full submission to the Emissions Reduction Plan: https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030/plan/annex-2.html

dichotomy must be challenged to enable an acknowledgement of holistic, integrated, and systems-based solutions that must address the existential threat that is climate change.

Given this reality, setting the 2035 target must take the Government's commitment to the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples* (UN Declaration) seriously. In this way, the 'best scientific information available' proposed for specific sectors of emissions reductions (i.e., built environment, electricity, industry, oil and gas, transportation, forestry, and agriculture and waste) cannot be separated from the required implementation of the minimum standards contained within the UN Declaration. For instance, and as outlined above, an over-reliance on the development of technological and market-based solutions, without a critical investigation of the inequitable and structurally racist ways that these solutions, and the science underpinning their justification, interact with First Nations-lived realities, will further harm First Nations and may contribute to what has been described as a new form of 'climate' colonialism. This is particularly acute in the context of forestry, agriculture, and other nature-based solutions, where discussions have largely neglected the presence of First Nations' jurisdiction, rights, and legal systems. Solutions for these sectors cannot disregard their role in advancing decolonization, nor can they unduly contribute to the Government of Canada's commitments to reducing emissions concretely from the source.

And third, that there is a need for a new narrative that does not rely on technological solutions and market-based approaches that presume a continuation of the structurally inequitable and racist systems that have led us to this compounding environmental crisis in the first place. Rather, instead of embedding a model of tweaking where Canadian oil and gas production increases and is offset by an overreliance on technologies that are not in fact commercially viable, the Climate Lens offers an opportunity to shift our focus towards the interrelationship between the three C's – carbon, colonialism, and capitalism – centering an approach rooted in relationships that value the nexus of people and land, and their mutual reciprocity. This approach seeks to enable a reset with the systems and structures that seem to trap us in an unproductive cycle, while advancing the self-determination of First Nations to reclaim their rightful place as Nations.

In this way, decisions made on the process and scope of the 2035 target, for better or for worse, will influence future emissions reductions discussions. To this end, 'getting it right' here could help to support the inclusion of First Nations thinking and leadership into the future. In this way, for example, the process should internalize the tenets of Seven Generation thinking to guide how this 2035 target is prepared. A Seven Generation decision-making model requires comprehensive critical thought on balancing benefits in the present with those of future generations. Together, we must ensure these future generations (including the plants, animals, medicines, etc.) have all the benefits and gifts of Mother Earth–such as clean water, a stable food supply, and a livable environment–so that they too can live a rich and meaningful life.

4. Conclusion

The setting of a 2035 emissions target is more than just a numerical target, it is a signal to the approach that the Government of Canada is taking to address the climate crisis. The application of these considerations engaged by the Climate Lens to the setting of the 2035 target, and the longer-term objective of reaching net-zero by 2050, aspires to create a more progressive and innovative dialogue about climate action; a dialogue that avoids lapsing into failed narratives about balancing economy and environment, or quick-fix technological solutions, and takes up a focus that is rooted in First Nations knowledge systems, rights, and climate leadership. This is an important starting point, but further and more fulsome engage with First Nations rights-, title, and treaty- holders is essential.

Elder from Hiawatha First Nation

Chi miigwech for the information sent. I would like to submit comment.

Canadian Indigenous people and Traditional Elders Knowledge are crucial in shaping Canada's climate goals and policies. The key consideration of TEK is the historical Account the traditional stories played in the day to day lifestyles they had. Holding a deep ecological and cultural knowledge often passed down through generations. Their understanding of the interconnectedness of land, water, and all living beings can enrich climate policies. The wisdom gathered through adaptation from the time on the lands gives a unique perspective regarding landscapes and ecosystems. Canada needs to recognize that TEK will enhance western knowledge, with respect to the validity of our traditional ceremonies and practices.

Indigenous people have inherent and treaty rights to the lands and resources. If any policies or developments to lands or resources that may affect these rights requires FPIC. Cultural rights are protected which include language and spiritual practices. UNDRIP lays out policy on how Indigenous people should be treated which many Countries endorse and stand behind them because of the moral weight they carry. Canada needs to increase its efforts to reconcile and promote meaningful discussions on correcting injustices, recognizing and accepting these rights.

Chi miigwech for this opportunity. Have a great week.

From Mg. Mariana Liberman, Director of Environment and Climate Change at Les Femmes Michif Otipemisiwak/Women of the Metis Nation

I am contacting you regarding ECCC's invitation to provide a written or oral submission to inform Canada's 2035 greenhouse gas emissions target. I have chosen to send you a written document. However, if you consider it appropriate, I would be pleased to have a conversation with you to clarify any doubts this document might cause. I tried to be as comprehensive as possible, but I am sure I will have more comments to share with you in the future.

Our organization, Les Femmes Michif Otipemisiwak, is committed to supporting Métis Women and 2SLGBTQQIA+ people in their way to exercise their constitutional rights as Indigenous People of Canada. In this sense, as Director of Environment and Climate Change, I work with many Federal agencies seeking to raise women and gender-diverse voices in the environmental field. Our population has been historically neglected from this space, being intensively impacted by climate change and environmental commodification and degradation.

Considering the items suggested to provide feedback, I would like to start by bringing up that from an Indigenous perspective, the fact that not considering emissions produced by wildfires in the measurements, inventories, and other tools to support this policy is certainly a negligent omission. Many scientific resources link wildfires in Canada with climate change and, consequently, with GHG emissions, being wildfires, as well, a larger producer of GHG every year (Jones et al., 2020; Brunet & Longboat, 2023; Wotton et al., 2017). In 2023, it was estimated that wildfires in Canada produced approximately four times the carbon emissions, compared to those released by the fossil fuel industry and the global aviation sector in 2022 (Byrne et al., 2024; MacCarthy et al., 2024). From our perspective, the regulations appear to ignore the relationship between increasing emissions and increasing wildfires. Consequently, there is no accountability for the increasing frequency and severity of wildfires, which impact Métis communities profoundly and widely. No accountability echoes in an increased vulnerability in Métis communities. Their health, economy and livelihood are threatened year after year in a greater way. Furthermore, Métis women are more impacted by being the first care providers. Besides, it is important to mention that in most cases, and due to historical causes, Métis families are not owners of their houses, or if they are, like in settlements, the houses cannot be insured. Consequently, the impact of wildfires is devastating for families' economies, with lower chances of returning to "normal" in a short time.

On the other hand, scientific documentation shows that Indigenous Fire Management is a tool to reduce uncontrolled wildfires, and consequently, they can reduce the total emissions produced during these events (Phillips et al., 2022). I understand that the way in which GHGs are measured exceeds Canada's control. However, Canada is in the position to include Indigenous Knowledge and solutions in the climate discussion. COP28 has given space for this knowledge, and the presence of Indigenous Peoples worldwide has pushed the UNDRIP principles to action.

Another relevant issue is related to the Emission Reduction Plan that the Minister needs to include in his/her report, "a description of the key emissions reduction measures the Government of Canada intends to take to achieve the greenhouse gas emissions target."

We have often seen planting trees or solar farms as measures to compensate for GHG emissions. These are not, in general, designated projects under the Impact Assessment Act, and in consequence, they do not require or necessarily call for Indigenous participation in project design and execution. So, we wonder to what extent Indigenous rights will be considered when National priorities can include the use of their traditional lands to accomplish the proposed measures. How will Métis communities and particularly women, exercise their right to Free, Prior and Informed consent when this right is still not guaranteed in some provinces and far from a reality? We would like to have further conversations and discussion tables about how reduction measures will be defined and implemented.

Just Transition

We see that the provinces with more emissions, like Alberta and Ontario, are also the homelands for most Métis people. Certainly, many Métis families depend on polluting industries and associated activities. At LFMO, we have serious concerns about how the transition to "clean" industries will impact Métis women and gender-diverse folks who are already behind in labour market opportunities and compensation. Métis women experience greater difficulties in accessing higher-wage positions, and transitioning to "clean" industries will create the need for updates or new education, which, as we all know, is harder to access for them as well. We believe that coordinated adaptation to new labour markets demands programs that industry, government and Indigenous organizations should develop collaboratively, considering a gender and distinction-based perspective to guarantee a just transition for everybody.

Fairness, equity, intersectionality, and gender-based considerations

We believe that gender and intersectionality are ways of thinking. It is not a separate chapter. Policies, plans, and programs should be conceived by considering gender and intersectionality from scratch. I will provide an example. If we propose planting trees in a certain space as a compensation measure and also as an opportunity for job positions, certain considerations should be in place:

- Will women and gender-diverse folks have safe and secure conditions to access that job? Consider that planting campaigns demand several days/weeks in isolated areas in a man-dominated field.
- Is planting trees the right option for that space/ecosystem? Have all the activities developed in that area been assessed? In many cases, harvesting medicines has not been considered a relevant activity in comparison with hunting or fishing. Coincidentally, the first is a predominantly female activity, and the second has a greater male presence. Additionally, the impact of planting trees on natural herbs has not been studied enough before proceeding to the planting.
- Is that a place important for Indigenous communities? The answer is not only found by checking land rights but by understanding all the groups that access a certain space, considering intersectionality and Indigenous groups.
- Who are the knowledge-holders related to that place? What do they have to say about this project?

By any means, we discourage any compensation measure. However, we consider that Indigenous peoples must be included from the beginning of the projects and include all voices considering a gender and distinction-based analysis.

We have included some useful resources below that support our positions.

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July 26th, 2024

Subject: **Makivvik comments on Canada's 2035 emissions reduction target**

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1. Impacts and lived experiences of climate change

Nunavik Inuit have been observing and experiencing the impacts of climate change for decades. These impacts and lived experience are well documented in the Nunavik Climate Change Adaptation Strategy (Makivvik, 2024) and the 2019 Nunavik Climate Change Workshop Report (Makivvik et al., 2019). Climate change impacts such as permafrost thaw, shifting ice patterns, increased extreme weather events (e.g., blizzards, heatwaves, landslides) and changes in wildlife species presence and abundance are all impacting Nunavik Inuit ways of life and rights. These changes have significant impacts on Nunavik Inuit culture, access to the land, well-being, health and safety as well as on infrastructure and essential services. In addition, climate change also exacerbates long-lasting health and social and economic inequities. For more detailed information concerning the impacts of climate change on the land, water and people in Nunavik, please refer to the Nunavik Climate Change Adaptation Strategy and the 2019 Nunavik Climate Change Workshop Report.

2. Actions to mitigate climate change

While Nunavik is only responsible for a negligible fraction of global greenhouse gas (GHG) emissions that are driving global climate change, temperatures are rising three to four times faster in the Arctic than the global rate, impacting all aspects of life in Nunavik and our fourteen remote communities. Nunavik Inuit are experiencing the impacts of GHG emissions that are released globally, so **global and urgent efforts** must be taken to mitigate climate change in order to provide a safe and healthy environment for future generations. These mitigation measures and decisions must take Nunavik Inuit into account and involve them in all aspects, which means that Nunavik Inuit must continue to be consulted and included when new mitigation targets and regulations are to be developed.

Nunavik communities are already proactively engaged in climate change mitigation projects. In fact, renewable energy projects are already underway (e.g., the Innavik hydroelectric facility in Inukjuak), others are in development (e.g., the wind turbine project in Quaqtaq) while many research projects are ongoing to better understand the needs and best course of action. However, it is essential that the region receives sufficient funding to support communities and organizations in pursuing the development of these types of projects and meeting the targets and regulations set by the federal and provincial governments.

In Nunavik, energy transition costs for capital expenditures alone are estimated at $1 billion over the next 15 years, while operating costs and building heating system conversion costs are estimated at $19 million and $365 million respectively over the same period. As a result, **approximately $1.4 billion will be required over the next 15 years to cover the costs of Nunavik's energy transition**, and this estimate does not cover the costs related to the electrification of transport. The current

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schedule for completing the energy transition in the remaining 13 communities is estimated at 2038, which means that the energy transition should be completed at the rate of one community per year over the next 14 years. Makivvik asks that future goals and regulations reflect these needs, realities and timelines.

Regarding the electrification of transport, which is seen by governments as one of the solutions to mitigate climate change globally, the realities and needs in Nunavik must be considered at every step of the process. Currently, there are no charging stations in Nunavik (except for one in Kuujjuaq), and electricity is generated by diesel thermal power plants, which means that the gain from the use of electric vehicles (EVs) would remain minimal, especially considering the burden this transition represents for Nunavik. To enable the use of green energy to power vehicles in Nunavik, significant improvements are needed such as the development of EVs that can safely and efficiently operate in extreme weather conditions (i.e., extreme cold), the installation of a sufficient number of charging stations in all 14 communities, energy transition in the 14 communities (if we don't want to power EVs with diesel-generated electricity), provide in-depth training for mechanics to repair EVs, and establish local dealerships in Nunavik to sell spare parts (to avoid shipping cars south for repairs or ordering parts that take weeks to deliver). Without this support, transportation electrification remains inconceivable in Nunavik. The time, cost and effort involved in implementing these changes in Nunavik must be factored into the definition of Canada's next target.

3. Guiding principles, values, and rights

Certain principles are important when it comes to consulting Nunavik Inuit. Firstly, it is important to allow sufficient time for consultation with Nunavik Inuit when new targets or regulations need to be developed. Tight deadlines add pressure on organizations and do not allow for fruitful engagement and results. Nunavik's governance structure is complex, and many organizations are involved in climate change-related projects, therefore, the consultation period must allow enough time for effective engagements with various stakeholders.

It is also important to provide Nunavik Inuit with a culturally appropriate space during consultations. For example, when Elders are invited to consultations or engagement sessions, Inuktitut-English interpretation should be available to ensure that government representatives understand the information shared by community members. In addition, virtual meetings and written submissions are not suitable methods for everyone in Nunavik, especially Elders. If encouraged by community members, alternative methods, such as phone calls and radio sessions, could be offered to provide more options for involvement.

It is also important, when Nunavik Inuit are consulted, that the results of those consultations be shared with the participants afterward so they can see how their comments and recommendations have or have not been included. In this sense, we expect that upcoming regulations and targets related to climate change take into account the unique context and challenges in Nunavik so that Nunavik Inuit are truly heard, considered, respected and supported in future federal and provincial climate change-related regulations.

4. Equity and socioeconomic considerations

As mentioned in sections 2 and 3, all climate change mitigation policies and programs must consider the needs and realities of Nunavik Inuit and respect their constitutionally protected rights. Not only Nunavik Inuit are experiencing climate-induced hazards at an accelerate rate compared to southern part of the country, the remoteness of the fourteen fly-in only communities are adding challenges and additional cost to adaptation and mitigation. Inuit communities in Canada suffer from major inequities in terms of clean water, housing, healthcare and social services in the country[1]. Compliance with future climate change mitigation policies must not put additional pressure on Nunavik communities (by increasing the cost of vehicles, spare parts and maintenance, or limiting winter heating capacity, for example), and must not have a negative impact on the rights of Nunavik Inuit. On the contrary, these new policies must benefit Nunavik Inuit by improving living conditions in the communities and fostering new economic opportunities in the region (for example, by engaging Nunavik Inuit in renewable energy projects).

Facing major and long-standing social and economic inequities in the country, there is a need for immediate actions from federal and provincial governments to address the historical gaps by enabling self-determined Inuit climate action. To do so, ongoing engagement with Nunavik Inuit on new policies and regulation, as well as long-term funding to support Inuit-led climate change adaptation and mitigation in Nunavik are needed. Providing long-term guaranteed funding to address past and present gaps and future challenges related to climate change would allow Nunavik organizations to take self-determined actions related to our lands and resources that reflect our priorities, realities, values and culture. The funding required by Inuit Nunangat and Nunavik to adapt to climate change and contribute to the efforts in achieving net-zero emissions is outlined in the Indigenous Climate Leadership recommendations to be submitted by Inuit Tapiriit Kanatami to the Government of Canada in the fall of 2024.

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Makivvik. (2024). *Nunavik Climate Change Adaptation Strategy*. URL: https://www.makivvik.ca/nccas/

[1] Consult the National Inuit Climate Change Strategy (Inuit Tapiriit Kanatami, 2019) for information and data on the social and economic inequities in Inuit Nunangat.

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President of the Manitoba Métis Federation

The Red River Métis and Manitoba Métis Federation have a deep connection to the land, waters, and all forms of life. This connection is deeply ingrained in Red River Métis culture, spirituality, and community. Climate change poses significant risks to the Red River Métis ways of life, impacting food, water, and energy security, and degrading our inherent rights and connections to the land.

1. Impacts and Lived Experiences of Climate Change

Enhanced Risks to Food Security: The Red River Métis community relies heavily on traditional practices of hunting, fishing, and gathering. Climate change has altered migration patterns of game, reduced fish populations, and affected the availability of traditional plant medicines. For example, changing temperatures and precipitation patterns have led to the decline of moose and caribou populations, which are vital to Métis subsistence and culture. This disruption not only threatens food security but also impacts cultural traditions and knowledge passed down through generations.

Water Security: Climate change has led to the thawing of permafrost, altering the flow and quality of rivers and lakes. These changes effect access to clean water, vital for drinking, fishing, and other traditional practices. Polluted or diminished water sources also impact the biodiversity of aquatic ecosystems, further threatening food sources and the health of our environment.

Energy Security: Remote Métis communities often rely on traditional knowledge and renewable resources for their energy needs. However, the unpredictability of climate patterns affects the availability and reliability of these resources. For example, irregular ice formation affects winter travel and access to certain areas, complicating the gathering of wood and other materials for heating and energy.

Degradation of Rights and Connections: The degradation of our environment directly impacts Red River Métis rights as recognized under Section 35 of the Constitution Act, 1982. Our rights to hunt, fish, and gather are increasingly threatened by environmental changes. Additionally, the emotional and spiritual toll of witnessing the degradation of lands is deep, causing a sense of loss and disconnection from our heritage.

2. Actions to Mitigate Climate Change

The Manitoba Métis Federation (MMF) calls for immediate action to mitigate climate change. Our traditional knowledge and leadership can significantly contribute to national and global efforts to reduce greenhouse gas emissions and promote sustainability.

Urgency and Scale of Action: We urge the Government of Canada to adopt aggressive emissions reduction targets, consistent with the goal of limiting global warming to 1.5°C. This includes transitioning to renewable energy sources, enhancing energy efficiency, and promoting sustainable land use practices. The scale of action must reflect the urgency of the climate crisis, with a clear roadmap for achieving significant reductions by 2035.

Support for Métis Climate Leadership: The MMF advocates for the recognition and integration of Métis knowledge and leadership in climate action. This includes supporting community-led initiatives such as renewable energy projects, community-based climate monitoring, sustainable agriculture, and conservation efforts. The MMF calls for dedicated funding and resources to enable the MMF and Red River Métis communities to develop and implement climate solutions tailored to their unique needs.

Collaborative Approaches: Effective climate action requires collaboration between Indigenous and non-Indigenous governments, organizations, and communities. The MMF seeks partnerships that respect Métis sovereignty and self-determination, ensuring that our voices are central in decision-making processes.

3. Guiding Principles, Values, and Rights

The Red River Métis worldview is rooted in a deep respect for the environment and the interconnectedness of all living things. These principles and values offer essential guidance for addressing climate change and promoting sustainability.

Respect for Mother Earth: Central to Métis culture is the understanding that Red River Métis are stewards of the land. This respect for Mother Earth compels Red River Métis to protect and preserve the environment for future generations. Policies and actions must be grounded in this respect, prioritizing the health of ecosystems and biodiversity.

Holistic Approaches: Red River Métis ways of knowing emphasize the interconnectedness of all life forms. Effective climate action must consider the broader ecological impacts and aim for solutions that support the overall health of the environment. This holistic approach can inform sustainable practices in agriculture, forestry, and resource management.

Upholding Indigenous Rights: The MMF emphasizes the importance of upholding the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in all climate actions. This

includes recognizing and respecting Métis rights to land, resources, and self-determination. Integrating UNDRIP principles ensures that climate policies are equitable and just.

4. Equity and Socioeconomic Considerations

Addressing climate change must also address issues of equity, affordability, and economic opportunity, particularly for remote and marginalized Métis communities.

Economic Opportunity: Transitioning to a low-carbon economy presents opportunities for economic development in Red River Métis communities. Investments in renewable energy, sustainable industries, and green technologies can create jobs and stimulate economic growth. The MMF calls for targeted support to ensure Métis communities benefit from these opportunities.

Addressing Environmental Racism: Historical and ongoing environmental injustices disproportionately affect Indigenous communities. The MMF advocates for policies that address these inequities, including measures to remediate contaminated lands and waters, and to prevent future environmental harm.

Advancing Decolonization: True climate justice requires decolonization. This means recognizing and addressing the historical and systemic injustices that have marginalized Red River Métis peoples. It involves supporting Métis stewardship of lands and resources, and ensuring that climate policies do not continue colonial practices.

Affordability and Accessibility: Climate policies must be designed to be affordable and accessible for all, including low-income and remote Métis communities. This includes ensuring access to renewable energy, energy-efficient housing, and sustainable transportation options. Financial support and incentives should be available to help communities transition to sustainable practices without undue burden.

The Manitoba Métis Federation urges the Government of Canada to adopt a comprehensive, inclusive, and equitable approach to climate action. By integrating Métis knowledge, values, and leadership, we can work together to protect our environment and ensure a sustainable future for all.

Métis Nation

On behalf of the Métis National Council and the Governing Members, we would like to express our commitment in supporting Canada in setting a strong, bold, and ambitious 2035 emissions target to address the escalating climate crisis and we need to express our firm resolve to pursue efforts to limit global warming to 1.5°C. We acknowledge the critical importance of addressing climate change as we continue to see firsthand the devastating impacts of extreme weather events, biodiversity loss, and impacts on our health and well-being. The Métis Nation is dedicated to playing our part as the urgency of the situation demands nothing less than a comprehensive and aggressive response. It is crucial that these emissions targets are accompanied by concrete and enforceable policies and measures to ensure their achievement.

The Métis Nation stands ready to do our part in this collective endeavor. We have developed a robust Métis Nation Climate Change Strategy that outlines our priorities and action plans for combating climate change, building resiliency and reducing emissions. We believe that by advancing these priorities, we can make significant contributions to advancing Métis climate leadership and ultimately supporting Canada in meeting its national emissions target while also safeguarding our environment, our inherent rights, and ensuring the well-being of our communities and citizens.

The Métis Nation, as reflected in the Métis Nation Climate Change Strategy, will focus on several key priority areas and actions to ensure that we are reducing emissions and are being ambitious in the fight against climate change. The Nation is committed to:

1. *Advancing* Nature Stewardship;
2. *Building* Sustainable Energy and Infrastructure;
3. *Enhancing* Emergency Management and Climate Resiliency;
4. *Ensuring* Health and Well-Being; and
5. *Re-envisioning* Economic Development and Prosperity.

We recognize that addressing climate change requires collective actions and strong collaboration among all levels of government, Indigenous organizations and governments, industry partners, and civil society. We are committed to fostering meaningful relationships to maximize our impact and achieve our shared climate goals of reducing emissions and supporting an ambitious 2035 Emissions Reduction Target. The Métis Nation Climate Change Strategy will allow us to work with Canada as a partner in addressing the climate crisis.

In setting ambitious emissions targets, Canada can demonstrate global leadership in the fight against climate change. The Métis Nation supports this ambition; however, Canada must recognize the inequitable impacts of climate change experienced by the Métis Nation and uphold Canada’s many ongoing commitments to reconciliation with the Métis Nation. By taking bold and decisive actions now and by advancing the climate priorities in the Strategy, we can safeguard the health and well-being of current and future generations, protect the lands and waters, and build a more sustainable and equitable world for all.

The Honourable Steven Guilbeault
Minister of Environment and Climate Change
House of Commons
Ottawa, Ontario,
K1A 0A6 via email: ministre-minister@ec.gc.ca

Brecken Hancock
Acting Director
Indigenous Climate Policy and Engagement Division
Climate Change Branch
Environment and Climate Change Canada
200, boul. Sacré-Coeur
Gatineau, Quebec
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June 19, 2024

Dear Minister Guilbeault,

Re: Tr'ondëk Hwëch'in Government response to Canada's 2035 emissions reduction target

We acknowledge the federal government's continued commitment to further reduce greenhouse gas emissions; and the initiative to consider Indigenous Knowledge when setting that target.

We support the Draft Framework for Indigenous Knowledges and Canada's 2035 Target intent to focus on the four interrelated perspectives:

1. Impacts and lived experiences of climate change to First Nations, Inuit, and Métis.

2. Actions to mitigate climate change.

3. Guiding principles, values and rights that reflect First Nations, Inuit, and Métis relationships with the environment.

4. Equity and socio-economic considerations specific to the realities of First Nations, Inuit, and Métis.

To fully realise and implement equitable and effective participation in policy development, approval, and implementation we also urge:

- The principles of co-governance, co-management and cooperative decision-making must be acknowledged as foundational to the Tr'ondëk Hwëch'in Final Agreement and Tr'ondëk Hwëch'in climate actions and solutions.

- First Nations' rights to prior, free, and informed consent must be recognized and implemented under *UNDRIP*, with First Nations as principal participants in climate action.

- Consultation and cooperation with Indigenous Peoples through a transparent process that explains how Indigenous contributions were considered and incorporated in policy development.

- Provision of adequate resources and effective processes to ensure that meaningful input is gathered, with appropriate timelines.

It is disheartening Tr'ondëk Hwëch'in is having to reiterate information on the role of Indigenous values and traditional knowledge in climate action, on the impact's climate change has on rights, titles, and interests, and how to make solutions and the transition equitable. Frequent Tr'ondëk Hwëch'in submissions to federal government departments in recent times have provided First Nations insight on the same topics requested as part of this current initiative. We are fortunate to have the resources to participate and provide a response. Many Yukon First Nations may not have access to the resources necessary for true government-to-government discussions.

We welcome this opportunity to participate in and help guide the implementation of ***Canada's 2035 emissions reduction target***. Attached is our submission. We expect Tr'ondëk Hwëch'in will be fully consulted throughout the development of the proposed level of emissions reductions in due course.

Sincerely,

Hähkè, Darren Taylor
Tr'ondëk Hwëch'in

Tr'ondëk Hwëch'in Government response: Canada's 2035 emissions reduction target

What are some of the key considerations Canada should take into account regarding Indigenous knowledges in the context of First Nation's experience of climate change?

1. Indigenous climate justice
While there are various interpretations of climate justice, it is generally acknowledged as a concept underpinned by the principles of "equity, non-discrimination, equal participation, transparency, fairness, accountability and access to justice;" as described by the United Nation in March 2023. Thus, the transition out of the climate crisis must be just and recognise the disproportionate consequences of climate change on marginalised peoples and communities.

Extensive research has confirmed that climate justice from an Indigenous perspective challenges colonialism and settler colonial involvement as the driving forces of climate change and crisis. Moreover, colonialism continues to prevent Indigenous efforts at climate mitigation and adaptation, especially by way of exclusion, displacement, and disruption of traditional knowledge. Indigenous climate justice advocates argue that if these dominant world systems fail to embrace the transformation required and offered by Indigenous peoples - including an acceptance of the rights of the environment - humanity will continue to fail the planet. Indigenous leadership is necessary if climate justice is to be achieved, as is support for advancing Indigenous solutions to the climate crisis.

The role played by women in climate action and environmental protection has been recognised, with United Nations Climate Change executive secretary Patricia Espinosa recently stating "Indigenous women carry the knowledge of their ancestors while also leading their communities into a resilient future. When Indigenous women engage, climate policies and actions at every level benefit from their holistic, nature-focused knowledge and leadership." Climate justice requires gender equality as vital to its success.

2. Tr'ondëk Hwëch'in Tr'ehudë and Dënezhu
Dënezhu dätr'inch'e, the Tr'ondëk Hwëch'in Declaration of Identity, and Tr'ehudë, our way of life, our law are the guiding principles of our existence as Tr'ondëk Hwëch'in.

This land has shaped us for generations and we have cared for it as it has cared for us. The land itself brought our worldview into being. It teaches us that we are a part of a bigger environment; and it is essential we understand ourselves and our place in the world in relation to all other beings. This is the foundation of our identity. Central to this is the requirement to uphold a reciprocal relationship with the land and all living things and to maintain the integrity of our homeland as an interconnected entity.

It is the land who teaches us to always be aware of our impacts and to consider our role in sustaining our whole selves and our communities. We know that the smallest action can ripple outward in time and space and will impact the integrity of the land as a whole. In turn our beliefs, thoughts and actions also cascade outward and impact our wellness as a community. Not only have these principles sustained our people and our environment for millennia, but they also remain the standards necessary to continue to live 'in a good way.'

The persistent failure of humanity to adhere to these principles of reciprocity and sustainability is the principal driver of climate change. Production and consumption are powering climate change forward. They bring with them environmental degradation, diminishing resources, social inequalities and injustice, and economic disparity and a lack of opportunities for the disadvantaged. So long as capitalism and economic growth remain the dominant worldview, climate change will continue to get worse.

To profoundly change course, we must question the political-economic system that has come to underscore the world today. The Tr'ondëk Hwëch'in worldview, reflected by Indigenous peoples around the world, is based in holism, interconnectivity, reciprocity, and respect for the land. Decisions are made, from the smallest to the most complex, with the future health of the land and us in mind. Tr'ondëk Hwëch'in, other Yukon First Nations, and Indigenous Peoples worldwide must continue to embrace and promote this philosophy as a necessity for future prosperity and equality. Equally, global governance and society must acknowledge and accept, as essential, the changes needed to redress the balance in nature and humanity.

There is growing recognition that Indigenous knowledge and ways-of-being are vital components for successful climate change action. Despite this, we remain a long way from Tr'ehudë or innumerable Indigenous equivalents being universally adopted in Canada and the Yukon. It is not easy to bring our principles and values into a political and economic process that focuses on a profoundly different way of seeing the world – one that views the land as being in service to us rather than us being in service to the land. Similarly incongruent are the political and legislative provisions and processes often faced by non-Indigenous governments that serve to alienate Indigenous governments and peoples.

Tr'ehudë, by its very nature, promotes the preservation and enhancement of our environment. These actions help avoid or reduce greenhouse gas emissions and increase carbon storage in forests, grasslands, and wetlands. Often referred to as Natural Climate Solutions, conserving our environment is a proven way to increase the amount of sequestered and stored carbon and can provide around 30% of the emissions reductions needed to limit global warming below 1.5°C. While the transition to low carbon energy will take decades, natural climate solutions could provide a biological bridge to a low-carbon future in the near-term. Caring for the land also improves biodiversity and the quality of soil and water in the ecosystem; and provides cultural and economic benefits for peoples and communities that depend on land. Articulating this process, and its benefits, are vital if western governments, scientists, and economists are to be directed to assess the true climate change benefits that our Traditional Territory holds and provides.

In our culture we recognize and respect knowledge and ensure that everyone has the space and the support to learn through experience and to determine their own path to wisdom. We are open to multiple ways of knowing and being. We share our thoughts and our skills and continually seek to build upon them by learning from others. We believe there are many truths and perspectives and together they make us stronger. Our mutual existence depends on the principle of shared benefit gained through an active, long-term exchange of thoughts, ideas, and more. More than ever, we need to guarantee this philosophy is shared, acknowledged, and supported worldwide if we are to ensure our survival.

3. Foundation documents and self-determination.
Indigenous Peoples and governments have deep-rooted beliefs that a healthy environment is vital to sustaining both ourselves and the natural world on which we rely. The wellness of our environment is intrinsically linked to our relationships with the land, and it is our responsibility to protect and enhance the air, water, landscapes, animals, and plants that have supported Indigenous Peoples for millennia. This duty of care and reciprocity is fundamental to addressing climate change. The principles inherent in “living in the right way” are the most effective means by which to stall, and reverse, the damaging climate induced changes we are currently experiencing. These must be adopted, implemented, and enforced.

Our connection to the land and our rights associated with the land are reflected in the Tr’ondëk Hwëch’in Final Agreement (THFA); the preamble to which provides:

- the parties to this Agreement wish to recognize and protect a way of life that is based on an economic and spiritual relationship between Tr'ondëk Huch'in and the land;
- the parties to this Agreement wish to encourage and protect the cultural distinctiveness and social well-being of Tr'ondëk Huch'in;

Our spiritual relationship with our land requires us to take care of the land for future generations. To ensure the well-being of the land and maintain this relationship, Tr'ondëk Hwëch’in must have a powerful voice in determining how the land is used and developed. In ratifying the Umbrella Final Agreement (UFA) and the THFA, the Parties, including Canada, exchanged a solemn promise to recognise and protect the Tr’ondëk Hwëch’in way of life based on an economic (as in traditional economy) and spiritual relationship between the First Nations and the land.

The *United Nations (UN) Declaration on the Rights of Indigenous Peoples* (*UNDRIP*) was adopted by the United Nations General Assembly in 2007, with Canada subsequently supporting the Declaration four years later. Article 4 of UNDRIP provides for Indigenous Peoples, to exercise their right to self-determination – a defining principle of the Yukon First Nations Final Agreements. Article 25 sets out the rights of Indigenous peoples, like the Final Agreements, to “maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters.” Article 24 further protects the right to “the conservation of their vital plants, animals and minerals” reflecting Yukon Final Agreements’ rights to a healthy environment. Part 3 of Article 46 requires the provisions set forth in the Declaration shall be interpreted in accordance with the principles of justice, democracy, respect for human rights, equality, non-discrimination, good governance, and good faith. The *United Nations Declaration on the Rights of Indigenous Peoples Act* came into force in Canada in 2021 and provides “a roadmap for the Government of Canada and Indigenous peoples to work together to implement the Declaration based on lasting reconciliation, healing, and cooperative relations.”

UNDRIP Articles 29 and 32.2 accordingly set out rights for conservation and protection of the environment, and measures to mitigate adverse environmental impacts. At the same time, the United Nations has recognised the significant role played by Indigenous groups in environmental protection and noted that climate policies and actions at every level benefit from Indigenous holistic, nature-focused knowledge and leadership. The Annex statements to *UNDRIP* expressly recognise that

“respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment.”

Implementation of the THFA is required by Article 37 of *UNDRIP* (right to enforcement of treaties). Thus, to implement and realise the promises of *UNDRIP*, we must implement and realise the promises of the THFA, and vice versa. Together the *Tr'ondëk Hwëch'in Final Agreement* and *UNDRIP* provide the framework for self- and co-governance of our Traditional Territory and are complimentary and critical components for effective climate action.

Meanwhile, the *Declaration of Ethical Principles in Relation to Climate Change* (2017) was approved by UNESCO’s General Conference; and recognised that climate change is a common concern for all, and that the global and local challenges of climate change cannot be met without the participation of all people at all levels of society. This Declaration sets out a shortlist of globally agreed ethical principles that should guide decision-making and policymaking at all levels and helps mobilise people to address climate change. It advocates that “prevention of harm” is an important ethical principle in relation to climate change. To comply with it, people should aim to “anticipate, avoid or minimize harm, wherever it might emerge, from climate change, as well as from climate mitigation and adaptation policies and actions.” It includes recommendations to apply the precautionary principle, and considering, as appropriate, local, traditional, and indigenous knowledge. Perhaps most importantly, Article 5 requires “all States and pertinent actors ensure that present and future generations are able to meet their needs” as a matter of urgency. This reflects the Sustainable Development definition in our Final Agreement: “beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.” The guidance is intended to complement states’ other multilateral efforts and negotiated commitments under the United Nations Framework Convention on Climate Change.

In July 2022, the United Nations General Assembly adopted a resolution, declaring access to a clean, healthy, and sustainable environment, a universal human right. It also recognises that the impact of unsustainable management and use of natural resources, the pollution of air, land and water, the unsound management of chemicals and waste, and the resulting loss in biodiversity interfere with the enjoyment of this right - and that environmental damage has negative implications, both direct and indirect, for the effective enjoyment of all human rights. It specifically acknowledges the “indisputable” link between human rights and climate change. The resolution was the culmination of decades of discussions that began in 1972, when the United Nations Conference on the Environment recognised the link between economic growth, the pollution of the air, water and the ocean, and the well-being of people around the world. United Nations Member States declared that people had a fundamental right to "an environment of a quality that permits a life of dignity and well-being," and called for both the Human Rights Council and the UN General Assembly to act.

The United Nations Permanent Forum on Indigenous Issues highlighted that climate change poses threats and dangers to the survival of indigenous communities worldwide, even though Indigenous peoples contribute little to greenhouse emissions. It considered Indigenous peoples vital to, and active in, the many ecosystems that inhabit their lands and territories, and may therefore help enhance the resilience of these ecosystems. In addition, Indigenous peoples interpret and react to the impacts of climate change in creative ways, drawing on traditional knowledge and other technologies to find solutions which may help society at large to cope with impending changes.

4. Drawbacks and difficulties of responding to climate change.
At Whitehorse in 2017, Elder Judy Gingell, former Commissioner of Yukon, and Grand Chief of the Council of Yukon First Nations, presented a speech on intergovernmental relations and modern treaty implementation in the Yukon. She noted:

> *"The agreements gave all governments direction: how we will manage heritage and wildlife; how we will manage land and resources; and most importantly how we will work together. The agreements, both the treaty itself and the Self-Government Agreements are based on the principles of sharing and co-management. It is not about us going our separate ways. They are about our shared interests. They provide a map for all the parties; a way to move forward together. These agreements have positive implications for all Yukoners. This is becoming more evident as we implement them. Ultimately, these agreements can help level the playing field between all governments and help to ensure Canada, Yukon and First Nations work together to meet the shared priorities."*

Despite this, and widespread acknowledgement of Indigenous peoples' contributions to mitigations and adaptations, serious gaps remain in terms of involvement in addressing climate change and exclusion remains the norm. Observers note the Intergovernmental Panel on Climate Change assessment reports continue to omit and marginalise Indigenous peoples and their traditional knowledge; to the extent they often failed to acknowledge the rights of Indigenous peoples under *UNDRIP*.

Canada has done a considerable amount in terms of reporting, assessments and plans to help deal with the causes and impacts of climate change. In particular:

- Pan-Canadian Framework on Clean Growth and Climate Change (2017)
- A Healthy Environment and a Healthy Economy (2020)
- 2030 Emissions Reduction Plan (2022)

According to these plans, Indigenous Climate Leadership is a "cornerstone" of the national climate action plan. In recognizing Indigenous leadership, the Federal government plans to "invest in the agency of Indigenous peoples and communities, support Indigenous-led and delivered solutions, equip Indigenous peoples with equitable resources, and ensure appropriate access to funding to implement self-determined climate action."

Canada's recent *National Adaptation Strategy* has a guiding principle to respect jurisdictions and uphold Indigenous rights. It claims that "Adaptation efforts must uphold the rights of First Nations, Métis Nation, and Inuit peoples, including constitutional, treaty, and inherent rights to own, use, develop, control, conserve and protect the environment of their lands, territories and resources, in accordance with the standards set out in the United Nations Declaration on the Rights of Indigenous Peoples.

There are two key issues with the Federal approach to climate change from Final Agreement, *UNDRIP* and Indigenous participation perspectives;

Indigenous Peoples were not consulted as nations and/or governments, and not given a place in any of the four the working groups that formulated the foundational *Pan-Canadian Framework on Clean Growth and Climate Change*. The Clean Technology, Innovation and Jobs Working Group, for example, stated that "efforts to coordinate and focus this work must go beyond governments and involve industry, stakeholders, academia and Indigenous Peoples." Thus, Indigenous Peoples were grouped with industry and academia. It has been considered this does not meet the principle of co-governance or co-management in the Final Agreements and constitutes a violation of Indigenous Peoples' rights to self-determination and to free, prior, and informed consent. While the Assembly of First Nations (AFN) and other national Indigenous bodies were given regular updates and asked for input, there is no explanation on how their contributions were incorporated into the plan. Nor were processes put in place to ensure that these bodies were sufficiently resourced and funded to gather meaningful input that reflected the diverse outlooks and cultures of the hundreds of First Nations. The AFN has continued to call on the Government of Canada to include First Nations governance, laws, and priorities in their climate plans.

Indigenous rights are mentioned often in the plans but appear to have had little influence on the actual policies and plans developed. As Indigenous Climate Action noted "It is one thing to claim to respect Indigenous Peoples' rights to self-determination, it's another altogether to actually respect Indigenous Peoples and our rights in the actual drafting and implementation of policy." The process and policies within Federal climate-change plans continue to be driven by ongoing colonial capitalism that intensifies both the climate crisis and inequality; and leaves Indigenous communities to bear the brunt of its impacts with few resources to act.

Our modern treaties and *UNDRIP* are among the most important legal and constitutional documents in Indigenous affairs in Canada. The approach taken to implement Yukon Final Agreements over the subsequent decades has resulted in strained relations between governments; and proposed climate change policies that are not fully effective and do not reflect First Nations principles. Resolving the underpinning issues will be an opportunity to shift our practices towards true sustainability and stewardship; and our cultures towards reconciliation. The implementation of *UNDRIP* is expected to face similar issues which will likely inhibit the Declaration's potential to equitably address climate change issues, and First Nations' participation. *UNDRIP* Article 25 states: "Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard." With climate change acknowledged as the biggest threat this generation faces, Yukon First Nations more than ever rely on the concept of free, prior, and informed consent as the only pathway to address climate change adequately and appropriately in the territory.

To fully realise and implement equitable and effective First Nation governance and climate change actions:

- The principles of co-governance, co-management and cooperative decision-making must be acknowledged as foundational to the Tr'ondëk Hwëch'in Final Agreement and Tr'ondëk Hwëch'in climate actions and solutions.

- First Nations' rights to prior, free, and informed consent must be recognised and implemented under *UNDRIP*, with First Nations as principal participants in climate action.

Wilton Littlechild, one of three commissioners with the Truth and Reconciliation Commission said climate change and reconciliation go hand-in-hand. "When Trudeau said the relationship is about respect, recognition of rights, cooperation and partnership- the recognition of rights, to me, that includes Treaty rights, the rights under *UNDRIP* and human rights" said Littlechild. Indigenous peoples have a right to participate in decision making, not just to be consulted. That means any discussions regarding climate change must involve Indigenous nations, governments, and peoples as full partners. The federal approach to development of climate change policy and actions must be aligned with *UNDRIP* as follows:

1. Consult and cooperate with Indigenous Peoples as nations and/or governments in formulating policy on Climate Change in order to adhere to the spirit and intent of the Final Agreement and to implement *UNDRIP*.

2. Create a transparent process that explains how Indigenous contributions were considered and incorporated in policy development.

3. Provide adequate funding and create effective processes to ensure that meaningful input is gathered and that the diverse outlooks and cultures of the hundreds of First Nations are considered.

4. Include Indigenous governance, laws, and priorities in climate plans.

5. Ensure Indigenous rights are not only mentioned but have actual influence on policy and plan development.

6. Integrate Indigenous concepts and approaches to preserving and enhancing ecosystem health to address climate, and other related issues, into federal climate policy.

7. Prioritise nature-based solutions, such as ecosystem conservation, in climate change policies, plans and strategies.

8. Ensure design of nature-based solutions is being developed and led by Indigenous peoples.

9. Implement nature-based climate solutions, taking into account their co-benefits such as restoration and protection of natural systems, economic diversification, training, and employment of Indigenous Guardians, self-determination, and cultural revitalization

10. Encourage the Government of Yukon to adopt the same approaches.

Article 5 of the *Declaration of Ethical Principles in Relation to Climate Change* requires "all States and pertinent actors ensure that present and future generations are able to meet their needs" as a matter of urgency. This mirrors the Sustainable Development definition in our Final Agreement:

“beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.”

The close relationship Indigenous Peoples have with their supportive ecosystems, has resulted in acquiring of unique knowledge which enables a unique understanding of climate change; and the ability to interpret and react to impacts. It is widely recognized that “...their knowledge and strategies to sustain their environment should be respected and taken into account when we develop national and international approaches to climate change mitigation and adaptation.” The United Nations *Rio Declaration on Environment and Development* states “Indigenous people and their communities…have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.” In the context of Tr'ondëk Hwëch'in this requires universal recognition and adoption of the principles of co-governance, co-management and self-determination as prescribed in the Tr'ondëk Hwëch'in Final Agreement and the *Universal Declaration on the Rights of Indigenous Peoples*; and reflected in myriads of United Nations declarations and reports.

5. Indigenous perspectives on energy use and emissions

Globally, almost 80% of Greenhouse Gas (GHG) emissions from human sources come from the burning of fossil fuels and industrial processes. Taking action to reduce emissions is fundamental to diminishing the risks we will face from future climate change. This action can take two forms:

> Reducing the amount of energy we require - using less energy is the simplest form of energy reduction and will result in less emissions. Increased sustainability, using less resources, energy and processing efficiencies, and self-reliance reduces energy requirements and emissions.
>
> Reducing the volume of fossil fuels and GHG-emitting fuels - replacing fuels that result in GHG emissions with wholly renewable energy will see subsequent reductions in emissions.

The United Nations developed a series of *Sustainable Development Goals* as part of its climate action strategy. *Goal 7: Affordable and Clean Energy* aims to ensure access to clean and affordable energy, which is *“key to the development of agriculture, business, communications, education, healthcare and transportation.”* The *Sustainable Development Goals Report 2022* noted energy related carbon dioxide emissions increased by 6% in 2021, reaching the highest level ever and “based on current national commitments, global greenhouse gas emissions are set to increase by almost 14% over the current decade.” To limit warming to 1.5 °C above pre-industrial levels, as set out in the Paris Agreement, global greenhouse gas emissions will need to peak before 2025. Then they must decline by 43 per cent by 2030, falling to net zero by 2050, according to the Intergovernmental Panel on Climate Change.

Goal 7 asserts we must adopt low-carbon, resilient and inclusive development pathways that will reduce carbon emissions, conserve natural resources, transform our food systems, create better jobs, and advance the transition to a greener, more inclusive, and just economy. It also highlights worldwide issues of access to renewals and infrastructure and components that added uncertainty to a development trajectory that is already far below Goal 7 ambitions. Achieving energy and climate

goals will require continued policy support and a massive mobilization of public and private capital for clean and renewable energy.

A First Nations-Canada Joint Committee on Climate Action (JCCA) was established in 2016 by the Prime Minister and the National Chief of the Assembly of First Nations. The JCCA seeks to promote First Nations' full and effective participation in federal climate action and focuses on climate change and clean growth, and is based on the recognition of rights, co-operation, and partnership. The JCCA is expected to produce annual reports, with the 2021 release committed to supporting First Nations as climate leaders and seeking to exceed current 2030 targets and develop a plan to achieve net-zero emissions by 2050. The Annual Report of 2022 set *"Accelerate First Nation's full and effective participation in clean growth and climate change programs, including the National Adaptation Strategy"* as one of five priorities for 2022. The report outlines a commitment to pursue additional opportunities to support the deployment of the JCCA Best Practices Guides (the Federal Funding Accessibility and Meaningful Engagement with First Nations Guide, in addition to the Indigenous Climate Leadership Decision-Making Guidance) in federal departments engaged in climate change and clean growth policy and program development. February 2023 saw the announcement of the selection of seven Indigenous leaders who will make up Wah-ila-toos (The Indigenous Council) that will help guide the transition to clean energy in Indigenous, rural, and remote communities. Wah-ila-toos will provide guidance and advice to the Government of Canada on policy and program design and direct engagement with Indigenous partners on accessing resources and funding that reduce diesel reliance. The Government of Canada also established a Net-Zero Advisory Board in 2021, responsible for providing advice and guidance to the federal government on the best pathway to reaching its goal. The Advisory Body's reports and advice informs the targets and emissions reduction plans required by the *Canadian Net-Zero Emissions Accountability Act*.

> *"First Nations have the traditional knowledge, expertise, traditional practices, and lived experience to protect Mother Earth and their voices must be heard and acted upon. Direct and meaningful involvement of First Nations rights and title holders is essential to any discussion on climate change..."*
>
> RoseAnne Archibald, National Chief, Assembly of First Nations

Report 5: Climate Change and First Nations, prepared for the Assembly of First Nations (AFN) in 2006, confirmed the need to reduce greenhouse gas emissions; in part through promoting alternative renewable energy production, and energy conservation and efficiencies. In declaring a First Nations climate emergency in 2019, the AFN called on Canada to commit to meeting its national emission target under the Paris Agreement and to reach net-zero greenhouse gas emissions across all sectors that is just, equitable, and empowering for First Nations. Resolutions laid out some immediate steps for the AFN to develop a National Climate Strategy to stress urgent and transformative climate action that reduces emissions in Canada by 60 percent below 2010 levels by 2030 and reach net-zero emissions by 2050. The Assembly's *National Climate Gathering Report* (2020) noted current approaches to climate change are failing, as emissions continue to grow, while an AFN Special Chiefs Assembly, in December 2021 supported the call for clean energy in the United Nations Resolution, *Transforming our world: the 2030 Agenda for Sustainable Development (2030 Agenda)*.

The Council of Yukon First Nations (CYFN) first identified priority areas of concern for First Nations and Yukon communities within the context of climate change in its *Yukon Climate Change Needs Assessment*, *2011*. The report found energy-related initiatives were deemed a priority. In a joint response to the Yukon Government's *Our Clean Future* the Assembly of First Nations (Yukon Region) and Council of Yukon First Nations included actions to "*Establish realistic targets and timelines for action for YFN's YG and all northern governments across territories to be carbon neutral and zero waste."* and *"Promotion of transition to a just low-carbon economy....that supports the implementation of energy efficiency, clean energy technologies and low-carbon solutions."* The response highlighted concerns over industry's approach to climate change and recommended extractive companies (mining etc.) should be held accountable for producing their own renewable energy and their energy needs should not dictate the long-term planning for our electricity grid nor detract from efforts to support YFNs in transitioning off diesel in self-sufficient ways. A further joint initiative - the *Yukon First Nations Climate Change Emergency Declaration* - highlighted concerns of carbon dioxide emissions from burning fossils fuels and releases from environmental degradation. The Declaration requires establishing reliable, affordable, and renewable energy; and promotion of transition to a just, low-carbon economy that is ecologically sustainable, equitable and that supports the implementation of energy efficiency, clean energy technologies and low-carbon solutions.

Łihè ëdäjì' ts'ä̀' łihè tr'ëdähoh-'ą̀y, the Tr'ondëk Hwëch'in Climate Change Declaration affirms the need to addresses the causes of climate change, including development of sustainable renewable energy and improving the region's capacity to absorb harmful emissions. Tr'ondëk Hwëch'in Council resolutions and Tr'ondëk Hwëch'in Government initiatives have supported reducing reliance on fossil fuels, improving energy efficiencies and minimising greenhouse gas emissions. The Vuntut Gwitch'in *Yeendoo Diinehdoo Ji'heezrit Nits'oo Ts'o' Nan He'aa Declaration* calls for "unprecedented reduction of global greenhouse gas emissions."

5.1 Indigenous rights, titles, and interests

A fundamental and common thread among the myriads of climate change and emissions reductions legislation, policies and initiatives are that First Nations rights are often missing; particularly at the territorial level. The Yukon Government's original *Climate Change Action Plan* fails to mention First Nation rights or the Final Agreements. The revised and updated *Our Clean Future* supports reconciliation and self-determination in its 'collective vision' but does not adequately address the issues, nor does it align with First Nations views and interpretation regarding potential solutions. The recent Yukon Government draft *Pan-Northern Leaders Statement on Climate Change* did not refer to First Nations or Indigenous people at all. Aside from potentially infringing on Yukon First Nations rights, titles, and interests, this may restrict or eliminate the potential for First Nations access to energy and emissions reductions resources and funding. Indigenous governments and groups have long protested that energy and emissions plans and proposals are drafted without fully considering Indigenous rights under the Final Agreements, that many of the principles proposed to reduce energy use and emissions are alien concepts to many First Nations (carbon pricing or offsetting for example) or that government 'solutions' often ignore First Nations ways of living and knowing. These issues and shortcomings can only be addressed with Canada's support for full cooperation and co-management of energy and emissions planning and processes at all levels of government.

5.2 Funding, capacity, and resources

Currently less than 1% of global climate action funding goes to Indigenous communities. With climate change being “the greatest threat” to First Nations governments, rights, and titles, the resources required to adequately address and adapt are enormous. Human Rights Watch issued a report in 2020 which documented how climate change is taking an increasing toll on Indigenous people in Canada and *(Federal)* government action is described as “inadequate”. Most of the climate change-related funding comes from the federal government - often administered through the territory or First Nations organisations. Despite the seemingly large budgets and number of funding programmes involved, accessing these funds is not straightforward. There are well over 600 First Nations in the country wishing to access the same funding resources, each facing particular but often shared issues. Funding is often contingent on the prior provision of plans and reports – although Tr’ondëk Hwëch’in is relatively well positioned in this regard. Usually, funding is available for capital or infrastructure projects, but not for increasing capacity or future operations and maintenance.

Capacity is a constant issue. Researching, providing documented needs and demand, and completing and negotiating applications stretches most departments. Continuous financial accounting, project auditing, and interim and final reporting places a strain on resources to the extent that staff have been advised of minimum budget size for proposals and applications. Nevertheless, there are several capital-funding options for alternative energy provision and reducing emissions. Tr’ondëk Hwëch’in priorities in this regard will focus on energy efficiency retrofitting, renewable and district heating systems, and reducing minimising vehicle use and emissions.

Climate change is an area that affects First Nations’ treaty rights and jurisdictions and as such, the First Nation governments need core funds and capacity for work on these issues. It is recommended funding for energy security, and for renewable energy development and provision, be integrated into our existing Financial Transfer Agreement.

6. Tr'ondëk Hwëch'in climate change and emissions principles and action

It is engrained in Tr'ondëk Hwëch'in that taking care of the land and following Tr’ehudë and the principles within the *Dënezhu Declaration* is the path to a truly sustainable future. Indigenous ways-of-being and living “in a good way” are instrumental in addressing climate change; reducing our contributions to its causes and providing effective, natural, and equitable adaptations. Climate change has brought into focus our many vulnerabilities and identified flaws in how society and government's function. It does however offer us, and Canada, an incentive and opportunity to redress the balance with nature and shape a more resilient and sustainable world.

The climate crisis has underscored the interconnectedness of our natural, social, and economic systems, and provided a stark reminder of the scale of systemic risks that can build up when we lose sight of our place and role in the natural world. Truly addressing climate change requires society to move beyond simply restoring what we had before; we need to ‘build back better,’ to reset to the values that have served us for millennia, if we are to address the deep systemic vulnerabilities climate change has exposed. We are only as resilient as the systems on which we function and depend. Inclusive and sustainable action should be focused on restoring and revitalising Tr’ehudë. Thus, the principles that provide the foundations for climate change action must be directed by and consistent with Tr’ehudë and the *Dënezhu Declaration*. We must ensure “the new normal” is a better place than before, and provides more opportunities for inclusion, self-determination, resilience,

equality, and a truly sustainable future. Thus, climate change action at all levels must be an opportunity to provide for a better future and promote and enhance Indigenous rights, titles and interests, community, governance, culture, and environments affected by our changing climate.

There are serious issues to overcome. It can be difficult to perceive the connections between cause and effect - even if the impacts are obvious. Climate change is complex - making it harder to determine and justify policy decisions and proposed solutions. Jurisdiction, and taking responsibility, is an issue when the causes and effects of climate change are global and diverse. There is a recognised lack of trust in industry and in governments to adequately prioritise climate change action. As the Center for Effective Public Management reported “We have trouble imagining the potential devastation of climate change. We have trouble trusting governments to lead us into much needed collective action. We have trouble defining the links between jurisdiction and accountability. And we have trouble understanding the causality in the first place.” Despite the overwhelming evidence, climate change remains the toughest, most intractable political and economic issue we, as a society, have ever faced. It will require often fundamental changes to the way the world is perceived and oblige all to take responsibility for their actions. Maintaining Tr’ehudë amidst these issues - and while tackling concepts of ‘carbon neutrality,’ carbon capture, and the carbon economy and offsetting - brings considerable responsibility and may have wide-ranging implications.

No one nation or peoples can tackle climate change, and its complexities, alone. Success will only be achieved through effective and widespread action and respectful and equitable cooperation. The *Tr'ondëk Hwëch'in Climate Change Declaration* states “This Declaration is a call to action. We must engage with and encourage local, national, and international governments and partners to ensure urgent and effective action is taken to mitigate the causes of climate change and increase our resiliency.” The Assembly of First Nations calls on local, national, and international communities, governments, organizations, and movements to safeguard constitutionally protected rights of First Nations, respect Indigenous knowledge, and uphold Treaties. The *Yukon First Nations Climate Change Emergency Declaration* requires “urgent action by all levels of government in the North - federal, territorial, provincial, municipal and Indigenous governments - in a collaborative and coordinated manner to address its causes and mitigate its impacts.” All parties must engage to ensure urgent, effective, and equitable action is taken to mitigate the causes of climate change and increase our resiliency.

Climate change is the culmination of historic influences of human development. As the extent and severity of our practices and impacts have grown, so the consequences have become global in nature. The degradation of land, air and water quality has extended beyond previously local and specific impacts into a planetary phenomenon that affects almost all aspects of our natural environment and places our future at risk. It is not solely emissions of greenhouse gases that is at issue; those are primarily a consequence of our actions. It is the unsustainable extraction, processing, and consumption of our natural resources with little thought for the wider environmental, social, and cultural impacts. We extract, process, use and discard resources at an unsustainable rate. Consumerism and consumption continue at levels well beyond those we can sustain. Economic considerations largely take precedence over environmental concerns. All this has led us to where we are today and facing an existential climate change threat. Addressing and regaining our balance with, and respect for, nature is vital if we and society in general are to successfully engage with and

counterbalance climate change. Central to this is the heart of Tr'ehudë - the principle of living sustainably.

Sustainability is referenced in our *Final Agreement*; however, its interpretation, significance, and implementation, particularly in a climate change context, goes much further than ensuring sustainable "development." Sustainability is generally defined as "the practice of using natural resources responsibly today, so they are available for future generations tomorrow." Tr'ëhudè goes beyond simply fulfilling the needs of future generations of Tr'ondëk Hwëch'in. It provides for maintaining future generations in nature – ensuring our environment and all living things, and the ecosystems which they create and on which they depend, are maintained in perpetuity. Tr'ëhudè requires us to question society's overwhelmingly capitalist outlook which currently places nature solely in service to us and view it as a resource to be exploited. We must redefine 'development' and re-evaluate the apparent necessity for continued growth. We must truly live within our own, and nature is, means on a local, regional, and global level and plan to do so perpetually.
A necessity of living sustainably is the principle of minimising the non-renewable resources we exploit; and enabling renewable stores to adequately regenerate. The adage of reduce, then reuse and then recycle must be adopted in all aspects of government and Tr'ondëk Hwëch'in society, with an initial, and primary, focus on diminishing the resources we consume and reassessing the practices that encourage overconsumption. All parties must address climate change in accordance with Indigenous values of sustainability; ensuring our environment and all living things, and the ecosystems which they create and on which they depend, are maintained in perpetuity.

Thus, respect for our environments and working with nature to restore the practices and ecosystems that have sustained thus far, are core values for climate action. These are especially pertinent as we face continuing overuse of resources and 'business as usual' that allows polluters to continue to pollute and places technological solutions at the forefront of climate action. Nature itself offers proven ways to combat climate change and it is acknowledged that achieving the widely adopted 'net zero' by 2050 will not be possible without natural solutions. Protecting, restoring, and enhancing nature's ecosystems can reduce greenhouse gas emissions and create resilience to climate change impacts.

Natural climate solutions are based on the role these ecosystems play in the carbon cycle. Land-based ecosystems currently absorb about 20 percent of all manmade greenhouse gases. Implementing natural climate solutions could potentially deliver over 35 percent of the cut in emissions needed in the coming decade; and research has shown they will often be much more cost-effective than most emerging technical solutions. The additional benefit they provide can also be considered in terms of climate change adaptation, due to the ecosystem and biodiversity services they provide.

Enabling Indigenous climate change action requires Canada to:

- Advocate in the strongest terms and acknowledgement that Indigenous rights, titles, and interests - including Yukon Final Agreements - provide for co-governance and co-management of Traditional Territories.

- Promote the principle of respect for nature and truly natural solutions over other methods to address climate change.

- Encourage other governments and bodies to adopt, or at least support, Indigenous climate change principles.

- Ensure true and multi-level sustainability is a foundation of climate change action.

- Be proactive in accruing and utilising the resources and capacity necessary for effective climate change action.

It is distressing and disheartening that Indigenous Peoples are bearing the brunt of climate changes although contributing minimally to its causes. Despite the insignificant contributions Yukon First Nations governments and Citizens overall, it remains imperative Tr'ondëk Hwëch'in takes a lead, and sets the standard in climate change mitigations and adaptations. Providing an example, particularly one defined by Tr'ehudë and in the face of the obstacles we contend with in the North and as a People, can inspire similar action by others. Tr'ondëk Hwëch'in climate change action will uphold and promote respect for the land, Indigenous and natural solutions, and equality as we work with others to address our climate crisis. Indeed, this is essential given the disproportionate impacts facing Yukon First Nations and the North. We trust Canada will support Tr'ondëk Hwëch'in in setting the standard in climate change mitigations and adaptations; providing an example and promoting northern solutions, cooperation, and equality.

Adopting the principle of sustainability leads us to consider the resources and energy we consume, and ensure we retain sufficient for future generations. Thus, minimising our consumption, and promoting
conservation, should be a priority irrespective of climate change. This is not only fundamental to climate change strategies, but to living Tr'ehudë. We must consider the full-life resource, energy and environmental costs of decisions and consumption - even for those goods that will help implement emissions reductions. Having access to abundant renewable energy may seem an ideal scenario. But we must remain alert to the often-inevitable increase in consumption that will invariably follow and not be distracted from the goal to reduce resource use. This is not to say Indigenous peoples should not aspire to the highest possible standard of living for their citizens, and in government, but that this should be accomplished through efficient and sustainable use of resources. Canada must take a similar approach and make greater effort to promote minimising consumption and the efficient and sustainable use of resources, as the forefront of climate change action.

6.1 Energy audits and strategies

An *Energy Strategy for the Tr'ondëk Hwëch'in Traditional Territory* is currently under development, primarily to determine Tr'ondëk Hwëch'in renewable energy generation, provision and participation, and renewable energy and emissions targets. The strategy will assist in determining policies for Settlement Lands and will provide guidance for energy management within the municipality, in partnership with other levels of government. And it can guide co-management of energy and resources within our Traditional Territory, with the Yukon Government.

Policies and initiatives within the strategy will align with Tr'ondëk Hwëch'in Final Agreements, and Tr'ehudë and the Dënezhu declaration. These are the fundamental documents that will help guide all decisions and ensure Tr'ondëk Hwëch'in rights, titles and interests are promoted and upheld. Equally, the strategy will reflect Tr'ondëk Hwëch'in ways-of-being and philosophies of respecting the land and living in a good way. The strategy will compliment and support the *Tr'ondëk Hwëch'in Sustainability and Climate Change Action Plan* and the *Tr'ondëk Hwëch'in Declaration on Climate Change*. Together these will direct Tr'ondëk Hwëch'in to energy self-determination and self-sufficiency.

Indigenous Energy Strategies, like our ongoing efforts, are essential if First Nations are to uphold their responsibilities to address climate change, minimise emissions, reduce resource use and energy costs, and participate in the developing energy economy These can be major undertakings that require the development and implementation of policies and partnerships. We urge Canada to assist Indigenous communities and governments with additional resources and funding in this area.

Equally, community energy audits are vital if Indigenous and local governments are to identify and address energy use and emissions. The *2022 Community Energy and Emissions Inventory Report* - sponsored by CYFN and undertaken by the Community Energy Association - describes community inventory data and projections for community energy and emissions through to 2050 for selected First Nation communities and governments, including Tr'ondëk Hwëch'in and the City of Dawson. Canada can further support this initiative and help communities with understanding current energy and emissions situations; in addition to identifying energy related challenges and areas for improvement.

6.2 Capacity and resources

Capacity is a constant issue for First Nation and northern governments. The considerable research, assessing documented needs and demand, and completing and negotiating applications and agreements is likely beyond most government departments. Continuous financial accounting, project auditing, and interim and final reporting places a strain on resources to a detrimental extent. It has been suggested resources related to climate change form part of existing financial transfer agreements, and not be reliant on competitions between Indigenous parties for limited funds. Canada must ensure First Nations have the capacity and resources to adequately investigate and invest in renewable energies, and the means to achieve targets.

6.3 Carbon economy and carbon pricing

Carbon trading and offsetting regimes are market mechanisms which allow countries or companies to compensate for their own emissions by buying compensation or 'credits' from natural or mechanical sequestration projects elsewhere - including from international partners through international transfer credit mechanisms.

Indigenous peoples have strongly challenged the use of international, and national, markets for carbon credits that turn nature's ability to absorb carbon dioxide into a commodity to be bought and sold. Most Indigenous governments and communities see carbon trading as a false solution to climate change, one that has too often violated Indigenous peoples' rights. The carbon economy minimizes the importance of Indigenous philosophies and world views. It operates from an economic system that objectifies, commodifies, privatises, and puts a monetary value on land, water, air,

forests, and all life. This is contrary to the Tr'ondëk Hwëch'in Tr'ehudë and most Indigenous perspectives.

A Yukon First Nations response to buying and selling of carbon credits noted "These mechanisms for carbon accounting are flawed and more research should be done to ensure the costs and benefits of these carbon accounting methods represent a Yukon First Nation perspective." The Assembly of First Nations called on carbon pricing efforts to "respect First Nations inherent rights, Treaties, title and jurisdiction, and recognize First Nations inherent responsibilities to their traditional territories," and the inclusion of "First Nations right to self-determination, including the creation of First Nations Carbon Pricing Regimes."

Carbon offsetting in its most basic form allows emissions to be compensated through the removal of carbon dioxide elsewhere. The 'elsewhere' may be anywhere and achieved through natural means like additional or enhanced sequestration by forests or wetlands, or by mechanical methods like carbon capture or direct air removal. There are some points that must be taken into consideration:

- Offsetting does not, nor provides incentives to, reduce emission at source.
- 'Natural' offsets must be in addition to what is already taking place. The environment is already saturated with carbon dioxide and offsetting systems must increase the sequestration capacity of ecosystems.
- Mechanical removal technology is unproven at the scales required and unlikely to be available or effective within our required timescale.
- The principle of offsetting is often opposed by Indigenous peoples as it fails to reduce source emissions, supports a business-as-usual approach, and promotes continued infringement of Indigenous rights.

There are considerable risks that ecosystem 'enhancement' from a sequestration perspective will have adverse effects on those systems and the species that depend on them. We urge Canada to acknowledge the carbon economy and carbon trading do not align with Indigenous values and do not represent effective or equitable climate change action.

6.4 Net-zero and Carbon neutrality

The Federal and Yukon Governments have set out strategies for addressing climate change based on the principle of 'net-zero' emissions. Net-zero emissions targets are increasingly coming under scrutiny for several reasons:

- Allowing a 'net' calculation of emissions and capture is not effective in achieving maximum reductions in actual emissions.
- It must be proven that 'solutions' would not have naturally occurred otherwise and requires improvements to ecosystem carbon sequestration.
- Targets are set several decades into the future; shifting our focus away from the immediate and necessary emissions reductions needed, while costs can be inequitably discounted over a longer period.
- Net-zero pledges wrongly assume that there are no limits to compensate emissions with all increased carbon removed elsewhere.

- Managing or planting vegetation solely for carbon capture as the main goal may threaten the rights, cultures, and food security of Indigenous peoples.
- If technology does not lead to the reductions required, it will likely not be practical to compensate for the cumulative emissions from mitigation foregone between now and then.

Carbon neutrality is similar in many respects to net-zero but allows for carbon reduction credits equivalent to emissions released, without the need for emissions reductions to have taken place. It is generally implemented on a smaller scale than net-zero initiatives and often preferred by businesses. The issues raised are the same as with net-zero, with the addition of not requiring initial emissions reductions.

From a Tr'ehudë perspective emissions reductions and standards must be achieved through:

- Reducing the demand for energy and resources that contribute to GHG emissions.
- Supporting natural solutions that help restore our environment and help reset our relationship and balance with nature.
- Concentrating on locally sustainable renewable energies to replace fossil fuels.
- Developing systems that increase self-sufficiency with adequate capacity and support.

Annex 5. Advice from the Net-Zero Advisory Body

Climate's Bottom Line

Carbon Budgeting and Canada's 2035 Target

September 2024

Prepared by the Net-Zero Advisory Body

Net-Zero Advisory Body
Groupe consultatif pour la carboneutralité

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Overview

Canada's 2035 greenhouse gas (GHG) emissions reduction target will be set in the context of the Paris Agreement which requires increasing global ambition, as well as following the requirements set out in the ***Canadian Net-Zero Emissions Accountability Act***.

The 2035 target is a crucial milestone on Canada's pathway to reaching net-zero emissions by 2050. Our efforts to mitigate climate change over the next decade will be critical to setting Canada up for success on our pathway to net-zero, including realization of benefits such as jobs in the growing renewable energy sector, more affordable and reliable electricity, and improved health through cleaner energy.

Canada's 2035 target will be compared to other countries and large emitters. At the same time, consideration must also be given to the issue of affordability and the time needed to implement policies to reach targets.

Setting a national GHG emissions target is as much about vision as it is about science and economics. That is why, building on important progress in reducing Canada's emissions, **the Government of Canada must signal continued ambition to accelerate towards net-zero.** Governance, accountability, and transparency mechanisms are also key to success, and Canada should adopt additional tools to improve tracking of Canada's decarbonization progress.

In developing a 2035 target for Canada, the Net-Zero Advisory Body (NZAB) advises the Government of Canada to:

01 develop a Canadian carbon budget

02 adopt an emissions reduction target of 50% to 55% below 2005 levels for 2035

03 address Canada's excess emissions

Introduction

Considerations on setting a 2035 target for Canada

Under the Paris Agreement, countries are required to submit national GHG emissions reduction targets and nationally determined contributions every five years. Each successive nationally determined contribution is required to be more ambitious than the previous. Canada's next nationally determined contribution, outlining a 2035 target, is due in 2025.

The ***Canadian Net-Zero Emissions Accountability Act*** requires the Government of Canada to set national GHG emissions targets at five-year intervals for 2030, 2035, 2040, and 2045, to develop emissions reduction plans for each target, and to explain how each plan will contribute to reaching net-zero by 2050. The Act further requires that Canada's 2035 target be established no later than December 1, 2024.

In October 2023, the Minister of Environment and Climate Change requested advice from NZAB to inform development of a 2035 target and ensure it is compatible with net-zero emissions by 2050. The Minister encouraged us to provide qualitative advice, such as key considerations the Government of Canada could consider when setting the target.

The Minister further requested that, if NZAB chose to provide a target or range, it be supported by its rationale or key assumptions, and an indication of the relative effort required across key sectors.

We utilized several methods to inform our advice, including analyzing a carbon budget approach informed by an expert workshop, conducting modelling in collaboration with the Canadian Climate Institute, and looking at Canada's past targets and other countries' approaches to setting targets. While we had limited time for engagement, we sought written submissions from 62 experts and partners and summarized the feedback in our 2022-2023 **What We Heard Report**.

Canada has a key role in the global effort to prevent the worst impacts of climate change

At the current pace of global GHG emissions and warming, the world will soon begin to pass the temperature limits set in the Paris Agreement. The Intergovernmental Panel on Climate Change (IPCC) projected that the world will pass a 1.5°C warming threshold as early as the 2030s[1].

Indeed, nine of the warmest recorded years globally occurred in the past decade[2], and a recent 12-month period was the first to exceed +1.5°C above pre-industrial global temperatures according to some datasets[3]. Evidence suggests these are the warmest global average temperatures since before the last ice age.

The impacts of this warming are clear, both in Canada and in the world. Globally, climate change is contributing to an increased frequency and intensity of extreme weather events such as flooding, heat waves, and forest fires[4]. Canada's Changing Climate Report estimates that the past and future warming in Northern Canada is, on average, double the magnitude of global warming[5], with Indigenous Peoples being disproportionately affected. Canada plays an important role in global efforts to avoid the worst impacts of climate change as a member of the "Group of 20" emitters (along with Argentina, Australia, Brazil, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union) that are responsible for about 76% of global GHG emissions[6].

As reported in the European Union EDGAR (Emissions Database for Global Atmospheric Research) database, in 2022, Canada was the 12th largest GHG emitter globally in both absolute and per capita terms[7]. By contrast, Canada ranks 37th in population size, contributing disproportionately to global emissions[8].

Climate change is a global challenge where all countries need to act together. As noted in the United Nations Environment Programme Emissions Gap Report 2023[9], current actions will not allow the world to reach the Paris Agreement goals of keeping warming well below 2°C while pursuing efforts to limit warming to 1.5°C. The United Nations Environment Programme estimates that achieving the targets set in all unconditional nationally determined contributions, including Canada's 2030 target, puts us on a path to 2.5°C or more warming. The recent global stocktake found that while countries have taken widespread actions to address climate change and its impacts, ambition and implementation must be urgently accelerated[10].

There are important benefits to global collective climate action such as the ability to scale up and to lower the cost of key decarbonizing technologies like solar and wind. Countries can cooperate to take advantage of different and cheaper emissions reduction opportunities.

1. IPCC. 2021. Sixth Assessment Report, Summary for Policymakers.
2. United Kingdom (UK) Met Office. 2023. 2023 the warmest year on record globally.
3. Copernicus. 2024. Copernicus: In 2024, the world experienced the warmest January on record.
4. United Nations. 2023. Global Issues: Climate Change.
5. Government of Canada. 2019. Headline Statements — Canada's Changing Climate Report.
6. United Nations. 2023. Net Zero Coalition.
7. European Union. 2022. EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu).
8. World Bank. 2022. Population in 2022 (PDF).
9. United Nations Environment Programme (UNEP). 2023. Emissions Gap Report 2023.
10. UNFCCC Technical dialogue of the first global stocktake. 2023. Synthesis report by the co-facilitators on the technical dialogue

Climate policy is also a competitiveness issue and challenge. As decarbonizing technologies become increasingly cost competitive and widespread, Canada cannot afford to be left behind. **It is critical that we develop the skills and technologies to succeed in a low-carbon economy.** Having ambitious targets, policies and increasing investment in those technologies are key steps in that direction.

Canada is not alone in taking action, with 140 countries[11], representing 88% of emissions, having committed to some form of reaching net-zero. Every country will have a unique path to net-zero. At the time of this report's publication, relatively few countries had yet committed to 2035 targets, although several key trading partners and similarly high emitters are expected to set targets with greater ambition in the coming months (see Table 1 for a summary). Those GHG targets are reflective of different economic structures and national circumstances and can help to drive the overall ambition to tackle climate change.

Based on a recommendation of the European Scientific Advisory Board on Climate Change[12], a fellow member of the International Climate Councils Network, the European Union Commission is currently considering a potential emissions reduction target of 90% below 1990 levels for 2040 (equivalent to 89% below 2005 levels), following its 55% target for 2030. The United Kingdom has already adopted its sixth carbon budget[13] and has a target of 78% below 1990 levels for 2035 (equivalent to 74% below 2005 levels). The United States has not yet officially established a target for 2035 but has a target of 50% to 52% below 2005 levels for 2030[14].

Table 1: International 2030 and 2035 targets for Canada, the European Union, the United Kingdom, and the United States

Country or region	2030 Target	2035 Target
Canada	40% to 45% below 2005 levels	Under development
European Union	Net domestic[15] reduction by at least 55% compared to 1990 levels[16]	Under development. Reduction of net GHG by 90% by 2040 relative to 1990 under consideration [17]
United Kingdom	Reducing emissions by 68% relative to 1990 levels[18]	78% reduction in emissions[19] below 1990 levels
United States	50% to 52% below 2005 levels[20]	Under development

11. United Nations. 2023. Net Zero Coalition.
12. European Scientific Advisory Board on Climate Change. 2023. Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030–2050
13. UK Climate Change Committee. 2020. Sixth Carbon Budget.
14. Also see the Canadian Climate Institute analysis at Canada's 2030 climate target lines up with its peers. How will 2035 compare?
15. Taking into account both emissions and removals in the country
16. European Commission. 2023. 2030 Climate Targets.
17. European Commission. 2023. 2040 Climate Target.
18. UK Climate Change Commission. 2023. UK Action on Climate Change.
19. UK Climate Change Commission. 2020. Sixth Carbon Budget.
20. US White House. 2023. President Biden's Historic Climate Agenda.

Canada can build on a foundation of success

Emissions in 2022

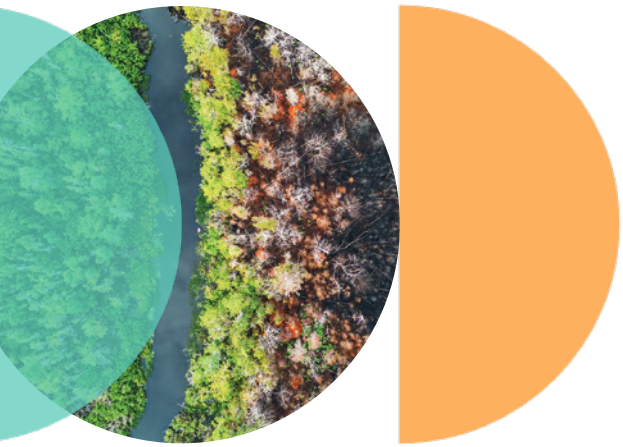
7.1%
Lower than in 2005

According to the 2024 National Inventory Report[21], territorial emissions in Canada climbed steadily between 1990 and 2005. The report indicates that direct emissions due to Canada's economic production went from 608 Mt CO_2e in 1990 to 761 Mt CO_2e in 2005, an increase of 25%.

During that period, the GHG intensity[22] decreased by 17%, partially due to phenomena also observed in other countries of the Organisation for Economic Co-operation and Development (OECD)[23], such as structural changes in the economy towards less carbon-intensive tertiary activities and energy conservation measures.

Since 2005, there has been important progress. Despite a continued rise in Canada's population, territorial emissions stopped increasing and generally stabilized, with some annual variability, then began to fall during the COVID-19 pandemic. The initial pandemic-related decline has largely persisted such that emissions in 2022 were 7.1% lower than in 2005[24].

The adoption of the Paris Agreement in December 2015 was a crucial milestone, requiring each country to set a 2030 target and explain the path to the target in its nationally determined contribution. Based on Canadian Climate Institute[25] and Environment and Climate Change Canada (ECCC)[26] analysis, and with full implementation of measures, **Canada has a chance to reach the lower end of its 2030 target of 40% to 45% below 2005 levels. Key climate policies have been implemented or are being implemented, laying the foundation for long-term reductions in emissions.**



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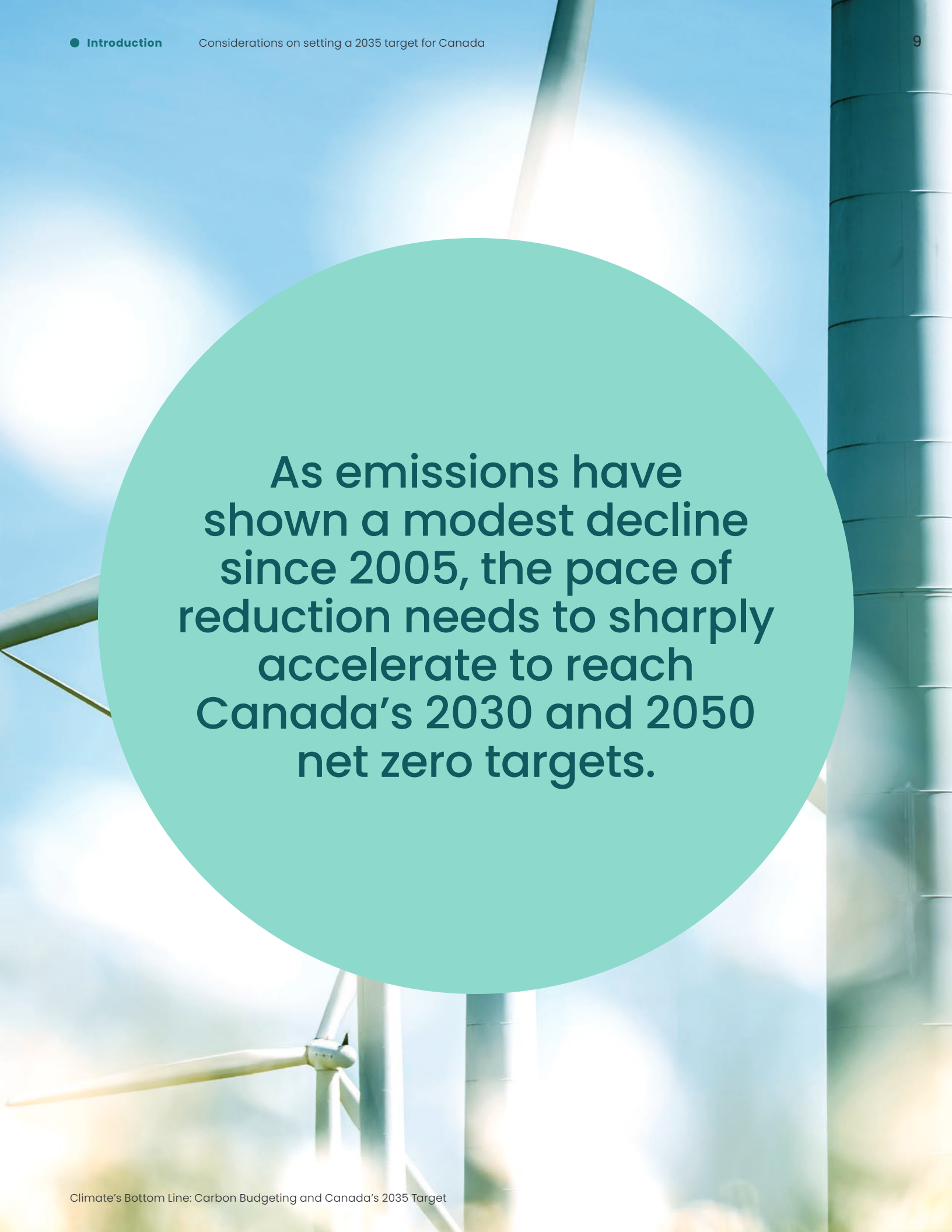
22. GHG emissions per unit of Gross Domestic Product.
23. OECD. 2023. Environment at a glance indicators - Climate Change (part 1, PDF).
24. Environment and Climate Change Canada. 2024. 2024 National Inventory Report (part 1, PDF)
25. Canadian Climate Institute. 2023. Independent assessment shows Canada on track to achieve 85-90% of its 2030 emissions target.
26. Environment and Climate Change Canada. 2023. 2023 Progress Report on the 2030 Emissions Reduction Plan.



As emissions have shown a modest decline since 2005, the pace of reduction needs to sharply accelerate to reach Canada's 2030 and 2050 net zero targets.

Advice 1

Develop a Canadian carbon budget

The Government of Canada should develop a national carbon budget that clarifies the total GHG emissions that Canada should not exceed until it reaches its domestic net-zero state by 2050. We recommend the domestic carbon budget to be set between 10,198 to 11,034 Mt CO_2e. The total domestic carbon budget should then be broken down into five-year interim milestones starting with the cumulative emissions that Canada intends to permit between 2031-2035.

The Government of Canada should also develop, alongside this domestic budget, an accounting of Canada's excess emissions[27] to keep long-term temperature increases to no more than 1.5°C.

Our analysis shows that even very conservative estimates indicate excess emissions through 2050 of more than 8,400 Mt CO_2e.

27. As Canada cannot achieve a fairness-based budget with domestic emission reductions alone, the part that cannot be achieved (excess emissions) could be addressed through international mitigation (see Advice 3).

NZAB's Net-Zero Pathways - Initial Observations report noted that the most likely pathways to net-zero use carbon budgets as a basic tool.

Carbon budgets specify the cumulative amount of GHG emissions permitted over a period of time to limit a specific temperature increase. Carbon budgets differ from point-in-time targets in that emissions not only have to fall to a certain level by a particular year, but the overall emissions allowed leading up to that period are also limited.

Like a household budget, a carbon budget can help ensure we "only spend what we can afford" by tracking our emissions "expenses" and allocating them based on the remaining GHG emissions in the budget. **By tracking emissions over time, a carbon budget also provides a better indication of whether we are on track to meet our climate objectives and the consequences of delaying action.**

From a scientific perspective, the use of carbon budgets is more instructive than point-in-time targets because cumulative emissions have a more direct relationship with warming than emissions in individual target years.

Unlike point-in-time targets, carbon budgets can also help to smooth our trajectories as emissions in a single year can be significantly impacted by external factors and unforeseen events such as pandemics, anthropogenic forest fires, and geopolitical events.

Defining a national carbon budget must take multiple elements into account. The remaining global carbon emissions to avoid specified levels of global warming (including the 1.5°C and 2°C thresholds in the Paris Agreement) are estimated based on climate science and GHG accounting methods. A national carbon budget can then be determined based on the remaining global carbon emissions, the consideration of fairness, equity, national circumstances, and methodological choices[28].

National-scale carbon budgets are currently used with different approaches by several countries, including the United Kingdom, France, and New Zealand. To inform the potential development of a carbon-budget approach for Canada, NZAB hosted a workshop with domestic and international scientific experts on carbon budgets in November 2023. This discussion highlighted key considerations for the Canadian context (see Textbox 1).

28. Carbon Brief. 2022. Guest post: What the tiny remaining 1.5C carbon budget means for climate policy.

Textbox 1: Workshop considerations for developing a carbon budget approach for Canada

- Carbon budgets have been used by several countries and can provide clear trajectories to get to net-zero with accountability and transparency.
- There is scientific dissensus linked to the application of carbon budgets such as the size of the remaining global budget to avoid a given warming level. Using a carbon budget approach can offer different insights than emissions trajectories.
- Defining a fair share of the remaining global carbon budget for Canada should include key ethical principles such as capability, equality, and responsibility. In all credible scenarios, the remaining share of emissions for Canada would be very small or negative.
- Most international approaches do not explicitly consider non-CO_2 gases. There is no agreement on the best way to consider these gases and possible options include separate or similar targets and timelines for CO_2 and non-CO_2 gases.
- It is critical to ensure environmental integrity and clear guidelines for negative emissions and international mitigation transfers if they are to be employed to keep Canada within the determined carbon budget.
- There are different ways of defining the rate of emissions reduction towards net-zero. A straight line is most practical but early reductions would also provide the greater climate benefit.

Building on the key elements of the expert workshop, NZAB sought to assess the merit of carbon budget approaches for determining interim emissions reduction targets and defining pathways to net-zero by analyzing two approaches for developing a budget for Canada (see Technical Annex for more in-depth analysis):

- The **fairness-based** approach, which draws directly from scientific analyses of the remaining global carbon emissions for a specified chance to avoid a given level of warming. Under this approach, Canada is allocated a fair share of the remaining global carbon budget based on historical contribution to global emissions and capacity to act.
- The **target-based** approach, which draws from national emissions targets rather than directly from the remaining global carbon budget as above. The budget can be computed directly from a trajectory between historical emissions and a net-zero target.

A fairness-based carbon budget approach

In line with the findings of the workshop, our analysis concludes that the fairness-based approach, relying on the scientific relationship between cumulative emissions and warming, and on the Paris Agreement's temperature thresholds, implies a **zero or negative budget for Canada**.

This approach is based on:

1. Responsibility for climate change through calculation of cumulative GHG emissions
2. Capacity to take action

Organizations like the Climate Equity Reference project provide examples of this type of equity-based approach[29]. As we look to identify an appropriate share of remaining emissions for Canada, we note the importance of considering Canada's fair share of the global effort to confront the climate crisis, given its contribution to climate change as one of the world's top net and per capita emitters of GHGs, and its capacity to take and support action on the crisis as a wealthy Group of Seven (G7) nation.

All this being said, our analysis also shows that employing a science-driven budget approach to set interim emissions reduction targets is not possible for the 1.5°C or the 2°C warming limits without extremely steep near-term emissions reduction and substantial negative emissions[30] or international transfers.

Furthermore, a fairness-based approach that follows United Framework Convention on Climate Change (UNFCCC) principles is not feasible with domestic emissions reductions alone and would require other efforts like carbon removal and/or financing international emissions reduction. Our analysis also indicates that less stringent, and hence more achievable, interim targets embed a structural unfairness in that they imply Canada can claim a disproportionate share of the remaining global carbon emissions to respect the warming limits in the Paris Agreement. To comply with principles of the UNFCCC, additional means like international climate finance would then be necessary to address the structural unfairness.

29. Climate Equity Reference. 2024. Climate Equity Reference - calculator.
30. The IPCC defines negative emissions as the "Removal of greenhouse gases (GHGs) from the atmosphere by deliberate human activities, i.e., in addition to the removal that would occur via natural carbon cycle processes".

A target-based carbon budget approach

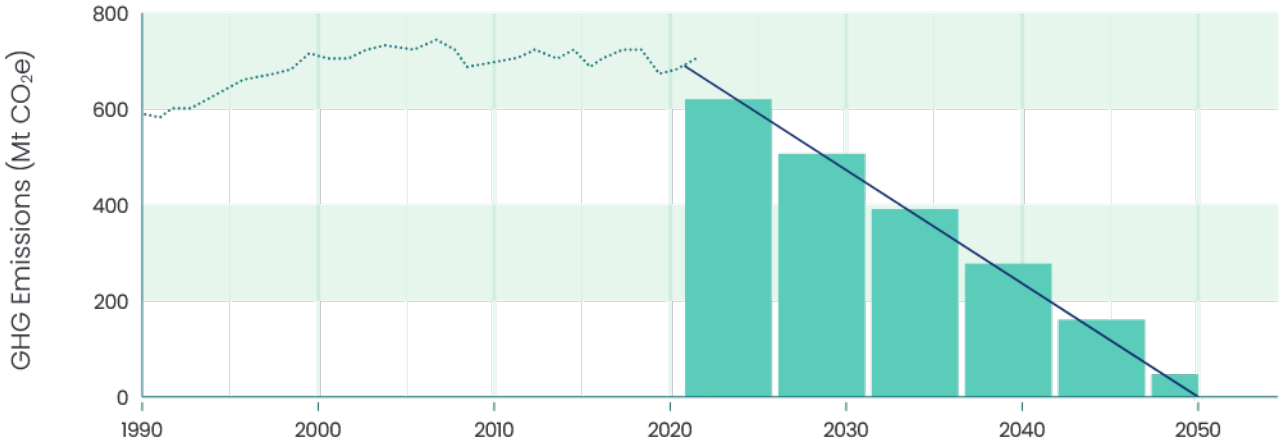
Our analysis shows Canada could establish a budget based directly on emissions targets set per the requirements of the *Canadian Net-Zero Emissions Accountability Act*, Canada's net-zero legislation.

Such a target-based budget would be determined using a trajectory between the emission level when the legislation passed (2021) or the 2030 target, and the established goal of net-zero emissions in the year 2050. This approach maintains the concept of tracking cumulative emissions without adhering to the limits imposed by remaining carbon emissions under a fairness-based approach (we discuss below how to reconcile these two approaches).

Using a target-based carbon budget approach would allow a balance between feasibility and the geophysical reality by considering emission limits that align with Canada's net-zero legislation and allows the calculation of international excess emissions. As Canada cannot achieve a fairness-based budget with domestic emission reductions alone, the part that cannot be achieved (our "excess emissions") could be addressed by methods that act on international mitigation (see Advice 3).

How to best define an emissions trajectory to net-zero, either with a straight line or with varying levels of ambition over time, is a complex question. While the simplest way to distribute the remaining emissions over time would be through a straight line, achieving steeper reductions in earlier budgets with readjustment over time would ensure the greatest climate benefit as this allows for less cumulative emissions into the atmosphere. As a first step, we suggest that the total budget be established using a straight-line trajectory from 2021 to zero in 2050, divided into five-year segments. This can be aligned with interim emissions reduction targets. The carbon budget periods should start as early as possible (see Figure 1 for an example under a linear reduction).

Figure 1: Emissions trajectory and budget for a linear pathway



Source: Technical Annex - Carbon budgeting for Canada

Whichever approach is chosen, our analysis points to the following:

1. **Carbon budgets are better measurement and accountability tools than point-in-time targets**: Developing a carbon budget for Canada would bring federal climate policy more in line with climate science by shifting policy from focusing solely on single-year targets to considering the cumulative emissions over time. In principle, a carbon budgeting approach offers a transparent accounting tool.

2. **Canada should develop a carbon budget including tracking of excess emissions**: A domestic carbon budget compatible with Article 2 of the Paris Agreement and the principles of the UNFCCC is not achievable in the short term for Canada as the value would be near-zero or negative. Alternatively, Canada could develop a domestic budget based on an achievable emissions trajectory from the time when Canada's net-zero legislation was passed to net-zero in 2050 and use the excess emissions to frame its international responsibilities, which could include climate finance, mitigation transfers and/or negative emissions, as well as the development of clear guidelines for ensuring social and environmental integrity of those activities.

3. **Carbon budgets can avoid some of the pitfalls of point-in-time targets**: Assessing emissions reduction action over five-year periods, as well as for individual target years, would mitigate against the inter-annual variability in emissions inventories, particularly for land use, land-use change and forestry emissions. The range in values for these emissions from one year to the next is as high as 38 Mt in the 2024 National Inventory Report[31], which is equivalent to a 5% difference in emissions relative to the 2005 baseline. Assessing progress over five-year periods would avoid the problem of a target being missed, or surpassed, because of non-predictable events influencing carbon exchange with the atmosphere (for example, individual severe fire years) or economic activity (for example, temporary lockdowns due to a pandemic, or shortages and supply-chain bottlenecks).

4. **Interim point-in-time targets and carbon budgets are complementary and can be linked**: The development of an overall budget and interim five-year budget segments can be done in concert with the setting of interim emissions targets under Canada's net-zero legislation. The same emissions modelling exercises used to inform target setting could be used to define the trajectory for establishing the total budget and/or the interim budgets. For example, the trajectories employed in this analysis suggest the range of 2035 targets consistent with a net-zero trajectory is small (that is, 50% to 55% below the 2050 baseline).

5. **The process of setting carbon budgets must be transparent**: Establishing and operationalizing carbon budgets requires nuance. Although carbon budgets are more scientifically grounded than point-in-time targets, setting a national-scale budget still requires normative choices and consideration of international relationships, public acceptance, and other factors. One partial solution could be to set a carbon budget range similar to the use of a range for the 2030 emissions target. Carbon budgets will appear imprecise and be subject to scrutiny if not supported by a clear and transparent process.

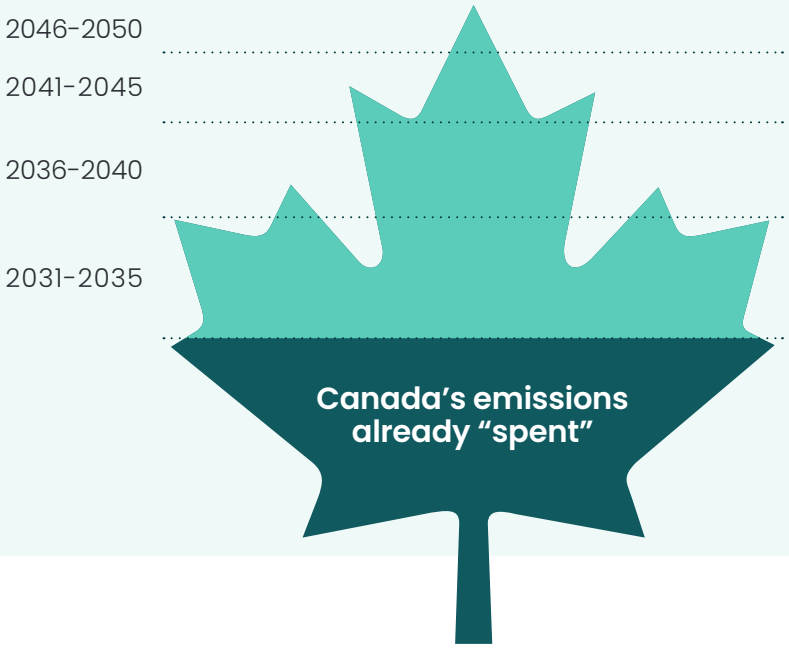
31. ECCC. 2024. 2024 National Inventory Report (part 1, PDF).

Textbox 2: How could a national carbon budget work in Canada?

A national carbon budget would be based on the remaining global carbon budget (the total global amount of carbon left to "spend") to keep the global average temperature increase well below 2°C and to pursue efforts to limit it to 1.5°C above pre-industrial levels per the Paris Agreement. Canada would determine its respective national carbon budget based on considerations of fairness, equity and method choices.

The image below depicts a national carbon budget broken down into five-year interim milestones based on what Canada has already "spent" prior to 2030 and what is left in the national budget (that is, the cumulative emissions that Canada intends to permit). Each interim milestone is progressively smaller as Canada moves closer to its net-zero target in 2050.

Figure 2: Illustrative budget for Canada



Overall, carbon budgets have clear advantages. They more directly represent the country's contribution to climate change than point-in-time targets. While developing a carbon budget would provide many benefits, it would be important to have an ongoing dialogue on the best ways to operationalize and consider policy implications, such as the ability to carry over budget surplus and its status in the current accounting and reporting architecture (for example, Canada's net-zero legislation).

In providing this advice, NZAB notes that carbon budgets are a tool already utilized by some of Canada's key trading partners that have also been piloted at the provincial and municipal level in Canada. We also note significant momentum and action by cities like Edmonton, Montreal, Toronto and Vancouver, as well as the province of Manitoba, which has adopted the concept of cumulative emissions reductions in five-year periods with its Second Carbon Savings Account[32].

32. Government of Manitoba. 2022. A Second Carbon Savings Account for Manitoba.

Advice 2

Adopt an emissions reduction target of 50% to 55% below 2005 levels for 2035

The Government of Canada should adopt a 2035 target of 50% to 55% below 2005 levels. The proposed target meets the Paris Agreement requirement to increase ambition and it puts Canada on track to meet its 2050 target. Meeting the target will require greater ambition on decarbonization from not just the federal government, but also provinces, territories, municipalities, and the private sector.

This target, like previous targets, is a "net emissions" target. This means that while direct domestic reductions of emissions should be the primary focus, reaching the target will also require additional actions such as negative emissions and internationally financed emissions reductions.

NZAB's recommended range of 50% to 55% below 2005 levels for the 2035 target is informed by its own carbon budget analysis (see Technical Annex) and analysis by the Canadian Climate Institute of various 2035 emissions target scenarios. It is also informed by the ambition of key international partners, the feasibility of achieving the target, and implications at the regional and national level for affordability, Indigenous reconciliation, competitiveness, jobs, and environmental health.

We have decided to recommend a range due to advantages over a single number target, such as better reflecting uncertainties about future economic growth and technological progress, as well as striking a balance between different objectives.

In our assessment, we considered targets ranging between 46% to 61% below 2005 levels, whereby 46% represents the minimum ambition over the high-end of the 2030 target (45% below 2005 levels) and 59% represents the year 2035 on a straight-line emissions reduction trajectory from the high-end of the 2030 target to net-zero in 2050.

In establishing the low end of our recommended range, we noted that targets between 46% to 50% below 2005 levels, while more feasible to achieve given existing technologies and the current economic context in Canada, are also very close to Canada's 2030 target. This would risk putting Canada too far behind its net-zero goal and would likely represent insufficient ambition in contrast to Canada's key international partners, including other G7 countries like the United States.

In establishing the high end of our recommended range, we noted concerns about the social and economic consequences for targets above 55% despite the climate benefits of greater early reductions given the cumulative impact of emissions.

For our recommended target, the high-end of the range (55%) is intended to drive overall ambition to keep Canada on track to achieve net-zero by 2050 and is aligned with international obligations and consistent with a target-based carbon budget approach. The low end of the range (50%) is consistent with Canada's international obligations and economic feasibility. It also ensures that Canada's target for 2035 considers the implications of the target established by the United States for 2030 (50% to 52% below 2005 levels). With 2035 being roughly the midpoint year between 2021 and 2050, a minimum target of 50% signals Canada's intention to pass the midpoint of ambition on its long-term pathway to net-zero. It is important to note our recommended 2035 target is for "net" emissions. While we recommend that the target be met primarily via domestic emissions reduction, there is a case for considering additional negative emissions measures and/or international transfers, such as internationally transferred mitigation outcomes, provided that environmentally sound rules are followed. We will analyze the potential for these measures more closely in the coming year.

The recommended target range applies at the national level. **Achieving the target range will require effort from all actors, including provinces, territories, municipalities, and the private sector.** While we are not proposing regional or sectoral targets, we emphasize that all sectors must contribute a fair share of emissions reductions, and regional differences must be recognized.

Textbox 3: Target analysis

Our recommended target range is informed by the target-based carbon budget approach previously described. The middle of the target range (53% below 2005 levels) emerges from a target-based approach (that is, a straight-line emissions reduction trajectory) from 2021 (the passing of Canada's net-zero legislation) to zero in 2050, while the upper bound of the range (55% below 2005 levels) represents a straight-line emissions reduction trajectory from the lower bound of the 2030 target (40%) to zero in 2050 (see Table 2). The 50% was not directly derived from carbon budget analysis but indicates a lower bound corresponding to halfway to net-zero.

Table 2 GHG emissions for selected years in Canada (numbers rounded)

Year	GHG Emissions (Mt)	% reduction over 2005	Data source
2005 (reference year)	761	N/A	National Inventory Report 2024
2021 (Canada's net-zero legislation passed)	698	8%	National Inventory Report
2035 (recommended target - low)	381	50%	Halfway to net-zero
2035 (recommended target - middle)	358	53%	Straight line from 2021 to 0 in 2050
2035 (recommended target - high)	342	55%	Straight line from the target in 2030 (40%) to 0 in 2050.
2050 (Net-zero goal)	0	100%	Net-zero goal

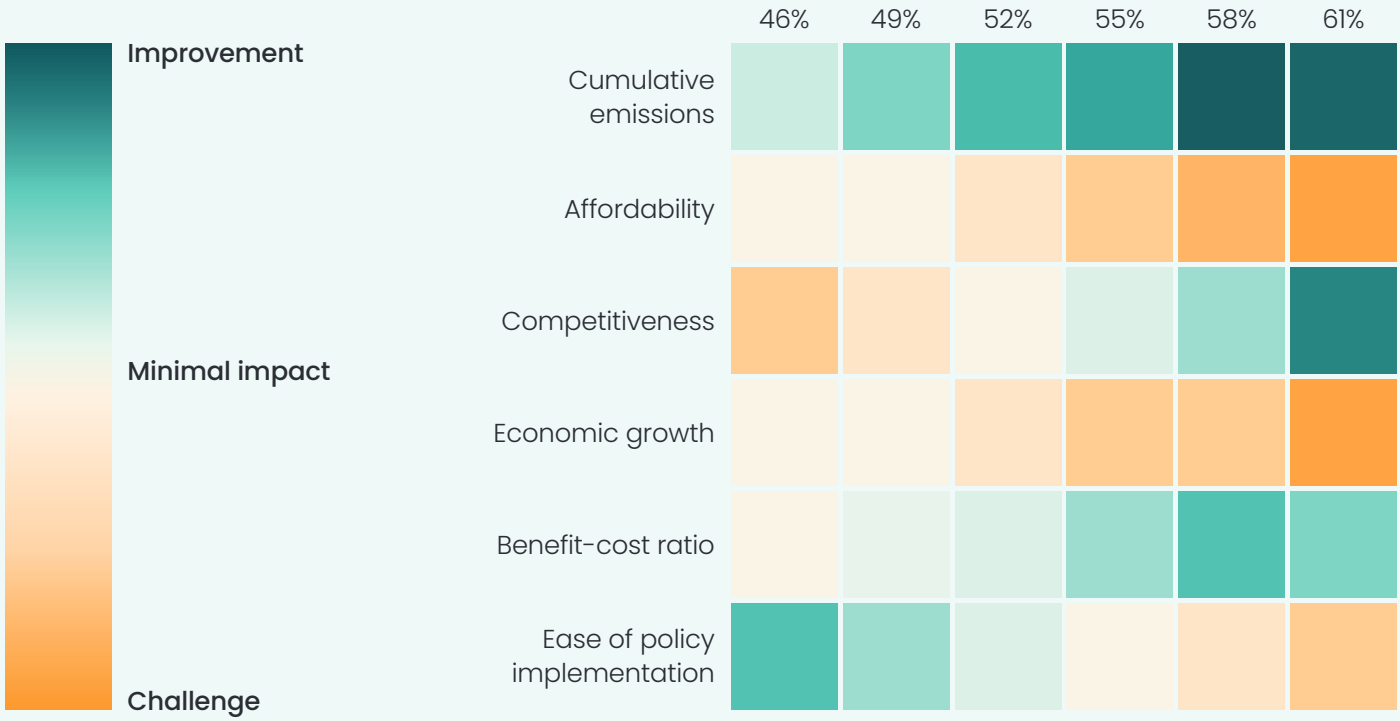
Textbox 4: Canadian Climate Institute analysis

NZAB partnered with the Canadian Climate Institute to evaluate credible options for a 2035 emissions reduction target for Canada. The Institute, in partnership with Navius Research, modelled emissions reductions of 46%, 49%, 52%, 55%, 58%, and 61% below 2005 levels. These were assessed relative to an Emissions Reduction Plan baseline scenario on different criteria such as emissions, affordability (the consumption portion of GDP), competitiveness (the investment portion of GDP), economic growth (GDP), benefits-costs (based on the social cost of carbon), and ease of policy implementation (see Figure 3 for details).

First, the analysis concluded that delaying action would be costly. Second, it showed that an overly aggressive target might erode affordability for some consumers, but that this conclusion should be monitored regularly since the future price of decarbonization technologies are uncertain but expected to decline. Finally, the Institute suggested an optimal target in the range of 47% to 50% to balance those two considerations, but noted that at NZAB's request, its analysis excludes potential emissions reductions from nature-based solutions and agriculture measures, which could increase the target range up to 49% to 52%.

Figure 3: Impacts on indicators, relative to the Emissions Reduction Plan, by 2035 target scenario

Relative to ERP baseline



Source: Canadian Climate Institute

Advice 3

Address Canada's excess emissions

Due to the 2035 target and a carbon budget exceeding a fair share of global emissions, we encourage the Government of Canada to develop an approach to identify and pursue near- and long-term additional measures that can address Canada's excess emissions, including enhancing international climate financing (for mitigation, adaptation, and loss and damage), negative emissions (that is, carbon dioxide removal, including natural processes and other biological or chemical processes that can accelerate the removal of carbon from the atmosphere) and internationally financed emissions reductions.

As part of this approach, the Government of Canada should ultimately set numerical targets to track progress in taking additional measures to address its excess emissions.

As part of our carbon budget analysis, we have advised that a target-based carbon budget would not be compatible with a fair share of the global mitigation burden under Article 2 of the Paris Agreement, which Canada has committed to meeting. **Canada should therefore estimate and address its excess emissions** (that is, the difference between the national carbon budget and a fairness-based budget that is compatible with the Paris goals).

The Ireland Climate Change Advisory Council undertook a comparative study to assess how the European Union and seven countries (France, United Kingdom, the Netherlands, Finland, Denmark, New Zealand and Ireland) define their share of the global carbon budget as their national carbon budget[33]. All use different methods and rely on different assumptions about negative emissions or temperature goals. For example, while Finland integrates a fair share in its national budget, most countries do not explicitly consider fair share or include it outside of their carbon budget. We believe that recognizing and quantifying explicitly the difference between Canada's fair-share obligations and Canada's actual national carbon budget as excess emissions is both transparent, responsible, courageous, and necessary to address climate mitigation ethically.

The excess emissions, which can be calculated from the difference between target-based and fairness-based carbon budgets, is an estimate of the emissions that will need to be accounted for to ensure Canada is fairly contributing to global efforts to respect the Paris Agreement. Even with conservative estimates, Canada's estimated excess emissions through 2050 is more than 8,400 Mt CO_2e.

While the estimated excess emissions may seem daunting (representing approximately 12 times Canada annual emissions as of 2022), **tracking and addressing Canada's excess emissions would bring clarity and credibility to the country's role in global efforts on climate change.** It would position Canada as a leader in the ethical thinking and action to tackle climate change and could open the way for fairer contributions to emissions reduction between developed and developing countries.

Determining the quantity and relative importance of the different options to account for the excess emissions will require broad consultation. For example, a strict emissions accounting approach would imply that Canada account for the excess emissions via investment in negative emissions, domestically or internationally, and/or international emissions reductions efforts. This would align directly with the Paris Agreement goal. An alternative approach would use excess emissions to inform the scale of international climate action supported by Canada, including financing for adaptation in the developing world, compensation for loss and damage, as well as investment in negative emissions and international mitigation efforts.

33. Sadhbh O'Neill for the Ireland Climate Change Advisory Council. 2023. Carbon Budgeting in Selected Countries.

This approach would consider the broader international obligations under the Paris Agreement and the United Framework Convention on Climate Change given the increasing magnitude of international climate impacts, but it also could leave more carbon in the atmosphere relative to the first approach. In either case, the mix of methods used to account for excess emissions will depend on both domestic considerations, including relative capacity and equity, as well as international considerations, including the needs and values of developing nations impacted by Canada's and other more developed countries' disproportionate contribution to warming to date.

A focus on Canada's excess emissions brings to the fore the role of negative emissions or activities that remove carbon dioxide from the atmosphere. Carbon dioxide removal options include nature-based solutions such as afforestation and the restoration of forests, soils, and coastal ecosystems, as well as more early-stage technology-based solutions like bioenergy with carbon capture, direct air capture, enhanced rock weathering, carbon mineralization and ocean-based removal.

Some carbon dioxide removal will inevitably be necessary to achieve net-zero due to emissions sources which cannot be abated (for example, emissions from agricultural soils). In addition, reliance on carbon dioxide removal is found in all pathways employed by the IPCC which avoid 1.5ºC or 2ºC warming[34]. **While Canada, like any other country or entity, must focus primarily on reducing or eliminating emissions, the effort to address Canada's excess emissions must be pursued in tandem and requires analyses of negative emissions options.**

We recognize that the concept of excess emissions is new for the federal government and many Canadians. As part of our forward workplan, we will undertake more analysis and provide further guidance on options Canada could pursue to frame and address its excess emissions.

34. IPCC. 2021. Sixth Assessment Report of the IPCC.

Conclusion

Mobilize all efforts to achieve Canada's climate bottom line

This report has presented three pieces of advice which are to develop a carbon budget, establish an emissions target range of 50% to 55% below 2005 levels, and address Canada's excess emissions. Building on important progress in reducing Canada's emissions, the Government of Canada must signal continued ambition to accelerate towards net-zero.

Governance, accountability, and transparency mechanisms are also key to success, which is why Canada should also adopt additional tools to improve tracking of Canada's decarbonization progress, including a carbon budget.

Putting all the policies in place to achieve the 2035 target is critical and will require action by all actors and not just the federal government. Purposeful action, including on negative emissions, is essential given the recommended target range. The choice of a target must also consider other societal benefits and objectives, especially reconciliation with Indigenous Peoples. We encourage increased ambition and leadership from all actors in the country and will continue to monitor goals over time as circumstances and technological costs change.

We emphasize the importance of thinking about climate objectives in the larger environmental context of biodiversity and human health preservation, and especially to prevent damaging impact transfers that could occur along our race to net-zero. We also note a growing discussion and consideration of net-negative[35] targets globally. We will take some time over the next year to reflect on the potential relevance of such targets for Canada.

Over the next year, we will also work to better understand key emissions sources and sinks that are particularly uncertain, such as emissions and removals from agriculture and land use, land-use change and forestry, and negative emissions. We will also aim to better understand some international mechanisms that can potentially support our achievement of domestic targets (for example, Internationally Transferred Mitigation Outcomes) and reflect further on the appropriate use of such tools as part of our future work.

It is our sincere hope that our advice will provide a meaningful contribution to the Government of Canada's consideration of Canada's 2035 emissions reduction target. Whatever target is established by the government, it should be explicit about the underlying rationale and the factors that were considered, including social, environment, economic, technology, scientific, Indigenous, risks, and geopolitical considerations.

35. The IPCC clarifies that "a situation of net negative emissions is achieved when, as result of human activities, more greenhouse gases are removed from the atmosphere than are emitted into it".

Glossary

Carbon budgets specify the cumulative amount of GHG emissions permitted over a period of time to limit a specific temperature increase. Carbon budgets differ from point-in-time targets in that emissions not only have to fall to a certain level by a particular year, but the overall emissions allowed in a given period is also limited.

Excess emissions are the remaining emissions when comparing a fairness-based carbon budget with a target-based carbon budget.

Fairness-based carbon budgets draw directly from scientific analyses of the remaining global carbon emissions for a specified chance to avoid a given level of warming. Under this approach, Canada is allocated a fair share of the remaining global carbon budget based on historical contribution to global emissions and capacity to act.

Negative emissions[36] are the removal of GHGs from the atmosphere by deliberate human activities, which is in addition to the removal that would occur via natural carbon cycle processes.

Net negative emissions[37] occur when, as a result of human activities, more GHGs are removed from the atmosphere than are emitted into it.

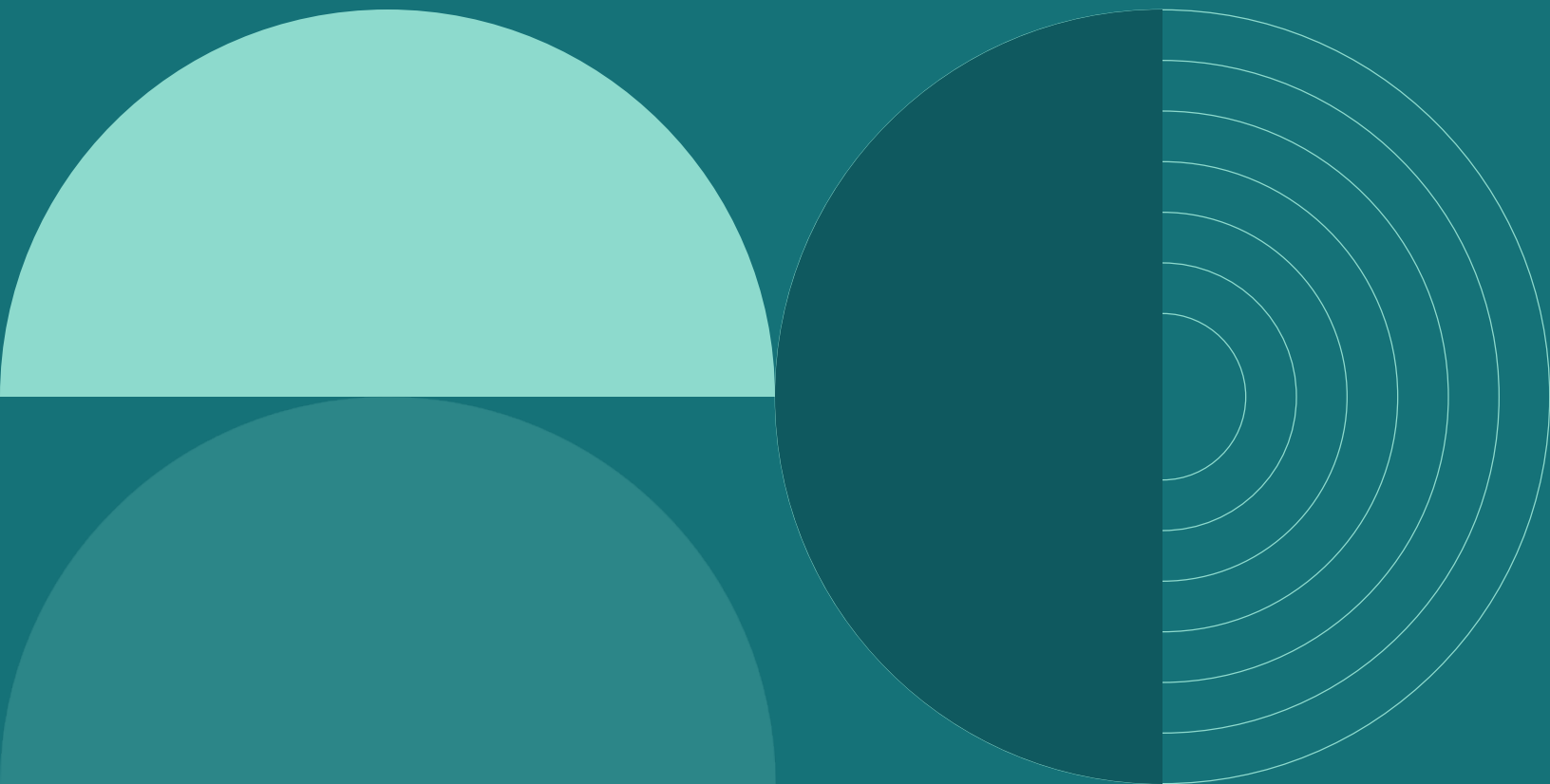
Point-in-time targets are emissions targets for a given year (2030, 2035, etc.)

Target-based carbon budgets draw from national emissions targets rather than directly from the remaining global carbon budget as with fairness-based carbon budgets. A target-based carbon budget can be computed directly from a trajectory between historical emissions and a net-zero target.

36. IPCC, Glossary.
37. IPCC, Glossary.

Technical Annex

Carbon budgeting for Canada



The Net-Zero Advisory Body (NZAB) undertook analysis to evaluate the scientific basis for, and key considerations in, the development of a national carbon budget to inform its advice in setting a 2035 GHG emissions reduction target for Canada. NZAB proposes a carbon budgeting approach to calculate Canada's excess emissions and determine Canada's domestic emission reduction obligations.

A fairness-based approach allocates a fair share of the remaining global carbon budget to Canada based on historical contribution to global emissions and capacity to act.

A target-based approach is based on national emissions targets and calculates the carbon budget directly from a trajectory between Canada's historical emissions and a net-zero target.

Our analysis concludes that:

1. **carbon budgets are better measurement and accountability tools than point-in-time targets**
2. **Canada should develop a carbon budget which tracks excess emissions**
3. **carbon budgets can avoid some of the pitfalls of point-in-time targets**
4. **interim point-in-time targets and carbon budgets are complementary and can be linked**
5. **the process of setting carbon budgets must be transparent**

1. Introduction

At the current pace of global GHG emissions and warming, the world will soon begin to pass the temperature limits set in the Paris Agreement and which are supported by Canada. The Intergovernmental Panel on Climate Change (IPCC) projects that the world will pass the 1.5°C warming threshold, defined as the average year surpassing that global mean temperature, in the early 2030s, and the 2°C threshold as early as the 2040s[38].

Nine of the ten warmest years globally since records began occurred in the past decade[39], and a recent 12-month period was the first to exceed 1.5°C above the baseline commonly used to define the global temperature limits[40]. Paleoclimate evidence suggests these are the warmest global average temperatures since the development of agriculture and human civilization at the end of the last ice age, roughly 10,000 years ago, and possibly in the past 120,000 years, since before the last ice age.

The collective emissions reduction efforts necessary to avoid these and other global warming levels is often characterized by the climate science community in terms of the total amount of carbon or carbon dioxide that can be emitted over time. This is possible due to a near-linear relationship between the cumulative human-derived CO_2 emissions and the mean global warming[41].

This relationship allows scientists to estimate a remaining carbon budget, which is the net amount of CO_2 that human activities can emit while keeping the planet below a specified global warming level, such as 1.5°C, and taking into account the effect of non-CO_2 gases. For example, the recent IPCC Sixth Assessment Report (AR6), computed that as of January 2020, the global remaining carbon budget for a 67% chance of avoiding 1.5°C warming level was 400 Gt CO_2[42]. This is equivalent to less than 10 years at the current rate of global emissions (see Section 2.1), and hence consistent with the conclusion that, at the recent rate of global emissions, the world will surpass 1.5°C warming in the early 2030s.

The NZAB's **Net-Zero Pathways - Initial Observations** report noted that the most likely pathways to net-zero use carbon budgets as a basic tool. Carbon budgets are also valuable tools for tracking and communicating the pathway to net-zero with accountability and transparency. Defining a remaining carbon budget is, from a scientific perspective, more instructive than defining emissions targets for individual years because cumulative emissions, or the pathway between target years, has a more direct relationship with warming than the emissions in individual target years[43].

Unlike emissions targets for individual years, the budget clearly defines how much CO_2 is left to emit in the effort to avoid dangerous levels of climatic change and/or achieve a long-term net-zero goal. National-scale carbon budgets are currently used by several countries including the United Kingdom[44], France[45], New Zealand[46], and Germany (at the sectoral level)[47].

38. IPCC. 2021. **Sixth Assessment Report, Summary for Policymakers**
39. UK Met Office. **2023 The warmest year on record globally**.
40. Copernicus. **2023 is the hottest year on record, with global temperatures close to the 1.5°C limit**.
41. IPCC. 2021. Sixth Assessment Report, Summary for Policymakers. **Figure SPM.10**.
42. IPCC. Table 5.8, Chapter 5 in *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the IPCC*.
43. Rogelj et al. 2019. Nature. **Estimating and tracking the remaining carbon budget for stringent climate targets**.
44. Government of the UK. 2024. **Carbon Budgets**.
45. Gouvernement de France. 2022. **Stratégie Nationale Bas-Carbone**.
46. Government of New Zealand. 2022. **Emissions budgets and the emissions reduction plan**.
47. OECD. 2022. **Germany's annual sectoral emissions targets**.

The application of carbon budgets requires nuance[48]. The global remaining carbon budget to avoid a specified level of warming itself depends on the selected temperature limit, the historical emissions, the warming to date, and the relationship between cumulative emissions and warming. Due to fundamental scientific uncertainty (see Textbox 5), remaining carbon budgets are expressed probabilistically as values that provide a given percent chance of avoiding the specified warming level.

Nevertheless, carbon budgets remain the best tool available for relating a country's GHG emissions over time to the impact on the climate and placing national decarbonization efforts in a global context. The inherent uncertainties are motivation to take a precautionary approach to setting a carbon budget in case the remaining budget to avoid a desired level of warming is overestimated.

In order to assess the merit of carbon budget approaches for determining interim emissions reduction targets and defining pathways to net-zero, this report analyzes two contrasting approaches for developing a carbon budget for Canada:

- The **fairness-based** approach draws directly from scientific analyses of the remaining global carbon budget for a specified chance to avoid a given level of warming. Canada is allocated a fair share of the remaining global carbon budget based on historical contribution to global emissions and capacity to act.
- The **target-based** approach draws from national emissions targets rather than directly from the remaining global carbon budget as above. The budget can be computed directly from a trajectory between historical emissions and a net-zero target.

Textbox 5: Carbon budget uncertainty

Scientific estimates of remaining global carbon budgets are frequently updated based on model developments and new data on temperature and historical emissions of CO_2, non-CO_2 gases and aerosols. Non-CO_2 gases are not explicitly modelled in global carbon budgets because warming from non-CO_2 GHG like methane and nitrous oxide scales with the rate of emissions over time, rather than their cumulative emissions, due to their short lifetime in the atmosphere.

However, scientists must estimate the contribution of those other gases to future warming to calculate the remaining carbon budget. These estimates are sensitive to the assumptions like the rate of decline in aerosol pollutants over time and contribute to carbon budget uncertainty. The modelling approach also influences budget estimates and was the primary driver of differences in budget estimates between the Working Group I and III contributions to the IPCC AR6[49].

48. Peters. 2018. Nature Geoscience. Beyond Carbon budgets.
49. IPCC. AR6 WGIII, Chapter 3, Box 3.4

2. Fairness-based carbon budget for Canada

Establishing a fairness-based national carbon budget requires determining Canada's share of the remaining global carbon budget. Among the many different considerations in the national allocation may be international and intergenerational equity, the human right to development and the capability to decarbonize[50].

The concept of a fair national share of global emissions can be rooted in international climate governance. Under the United Nations Framework Convention on Climate Change (UNFCCC), countries committed to "taking into account their common but differentiated responsibilities and their specific respective national and regional development priorities, objectives and circumstances[51]." In other words, climate change is a collective action problem in which different members of the collective are responsible for different levels of action. As one of the historically highest per capita emitters and wealthiest countries, Canada has a disproportionate responsibility for climate action under UNFCCC.

The principles of equity, capability, and responsibility, derived from the UNFCCC, have been proposed to guide fair national allocations of the remaining global carbon budget[52].

- Equity refers to the sharing of the right to development and to the production of GHG (allocated via population).
- Capability refers to the means to mitigate GHG and can be allocated by gross domestic product (GDP).
- Responsibility refers to countries having contributed differently to emissions over history and having different understanding of the impact on the climate[53] (allocated via historic contribution to emissions).

Following these principles, the experts[54] and literature[55] suggest that the equitable remaining carbon budget aligned with Article 2 of the Paris Agreement ("limiting global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees") for high per capita emitters like Canada is near-zero or negative.

50. Van der Berg et al. 2020. Climatic Change. Implications of various effort-sharing approaches for national carbon budgets and emission pathways.
51. UNFCCC. 1992. United Nations Framework Convention on Climate Change.
52. Matthews et al. 2020. Nature Geoscience, Opportunities and challenges in using remaining carbon budgets to guide climate policy; Höhne et al. 2014. Climate Policy. Regional GHG reduction targets based on effort sharing: a comparison of studies.
53. Gignac and Matthews. 2015. Environmental Research Letters. Allocating a 2°C cumulative carbon budget to countries.
54. NZAB Carbon Budget Approaches for Canada Workshop, held on November 23, 2023.
55. Van der Berg et al. 2020. Climatic Change. Implications of various effort-sharing approaches for national carbon budgets and emission pathways; Donner. 2019. Policy Options, No party's climate plan will avoid dangerous global warming levels; Holz et al. 2018. International Environmental Agreements: Politics, Law and Economics, Fairly sharing 1.5: national fair shares of a 1.5°C-compliant global mitigation effort.

2.1 Illustrative fairness-based budget

Here we provide an illustrative analysis of the remaining fairness-based carbon budget for Canada, following from IPCC AR6 Physical Science Basis Working Group (WGI) estimates[56] of the global remaining carbon budget and the principles of equity, capability, and responsibility (see Appendix).

Given the uncertainty around the global carbon budget estimates (see Textbox 5), the analysis was repeated using global budget estimates from IPCC's Mitigation Working Group (WGIII)[57] and a 2023 analysis by Lamboll et al.[58] which included data and methods developed since the publication of the IPCC report.

Results are presented for a 50% and 67% chance of avoiding 1.5°C of warming, and a 67% chance of avoiding 2°C of warming[59]. The presented budgets are scaled to reflect all greenhouse gases, based on the fraction of national emissions (in CO_2e) in the form of CO_2[60], to be comparable to the emissions inventory data. The full methods are provided at the end of the report.

Following on the principles of equity and capability, the WG1 remaining carbon budget for Canada from January 1, 2023, onwards is very small (see Table 3). The budget for a 50% or 67% chance of avoiding 1.5°C warming is equivalent to roughly two years or less at the current emissions rate[61], implying that the budget could be consumed by the end of 2024. The budget for a 67% chance of avoiding 2°C of warming is equivalent to 7 to 8 years at the current emissions rate, implying that without a reduction in emissions, the budget would be consumed around the end of this decade. These budgets based on equity and capability are small because of Canada's disproportionate share of global emissions relative to the country's population, and because of the limited mitigation action to date relative to the country's GDP.

56. IPCC. AR6 WGI, Chapter 5, Table 5.8.
57. IPCC. AR6 WGIII, Chapter 3, Table 3.2. A 67% chance at avoiding 1.5 C is not available from IPCC WG1
58. Lamboll et al. 2023. Nature Climate Change, Assessing the size and uncertainty of remaining carbon budgets.
59. The budget for a 67% chance at avoiding 1.5°C is only available from WG1. The most common interpretations of the language in Article 2 of the Paris Agreement is a 50% chance of avoiding 1.5°C and a 67% chance of avoiding 2°C, e.g. "Technical dialogue of the first global stocktake. Synthesis report by the co-facilitators on the technical dialogue"
60. 77% in 2022, excluding LULUCF; 2024 National Inventory Report.
61. 708 Mt CO_2e; 2024 National Inventory Report.

Table 3: Remaining carbon budgets for Canada from January 1, 2023, onward and number of remaining years at 2022 emissions levels

Remaining Budget (Mt CO_2e)	>67%, 1.5°C	>50%, 1.5°C			>67%, 2°C		
	IPCC WGI	IPCC WGI	IPCC WGIII	Lamboll et al.	IPCC WGI	IPCC WGIII	Lamboll et al.
Equity (population)	901	1,539	1,603	685	5,687	4,028	5,133
Years remaining	1.3	2.2	2.3	1.0	8.0	5.7	7.3
Capability (GDP)	680	1,257	1,315	485	5,009	3,508	4,508
Years remaining	1.0	1.8	1.9	0.7	7.1	5.0	6.4
Responsibility (past emissions)	-14,292	-13,654	-13,590	-14,508	-9,506	-11,165	-10,060
Years remaining	0	0	0	0	0	0	0

Following the principle of responsibility, the remaining carbon budgets are negative for all warming levels due to amassed emissions in excess of an equitable-based share of the global emissions since the creation of the UNFCCC in 1992 (see Table 3). The responsibility-based remaining carbon budget became negative by the year 2005 for a 67% chance of avoiding 1.5°C warming, and the year 2011 for a 67% chance of avoiding 2°C warming.

The results using global budget estimates from IPCC's Mitigation Working Group (WGIII) and the recent budget update by Lamboll et al. are similar, with the remaining budgets for a 50% chance of avoiding 1.5°C warming equivalent to 0 to 2 years of current emissions using the equity and capability principles, and negative using the responsibility principle (see Table 3).

These illustrative remaining carbon budgets confirm that a fairness-based carbon budget for Canada that aligns with climate science, strictly follows the principles in the UNFCCC, and adheres to the warming limits in the Paris Agreement would be near-zero or negative. The small or negative budget arises because Canada has been a disproportionate source of GHG emissions relative to its population and its broad economic capability to decarbonize, as roughly represented by GDP, and because the world is nearing the temperature limits in the Paris Agreement.

Employing a science-driven budget approach for setting interim emissions reduction targets is not possible for the 1.5°C warming and/or for the responsibility cases without assuming substantial negative emissions or international transfers.

In the 2°C warming case, keeping within the equity and capability budgets would involve extremely steep near-term emissions reductions. That is, a linear rate of reduction implies a 2035 target of 82% to >100% below 2005 levels using the IPCC WG1 or Lamboll et al. budgets, which could also only realistically be achieved via substantial negative emissions or international transfers.

A strict science- and fairness-based approach that follows UNFCCC principles is therefore not advisable for establishing carbon budgets or interim targets for Canada that are to be achievable via domestic emissions reductions.

The analysis also indicates that less stringent, and hence more realistic and achievable, interim targets embed a structural injustice in that they imply Canada is claiming a disproportionate share of the remaining global carbon budget to avoid the warming limits in the Paris Agreement. To comply with UNFCCC principles, other means like international climate finance would then be necessary to address the structural injustice, as described in the next section.

3. Target-based carbon budget approach for Canada

An alternative approach for Canada is to establish a budget based directly on emissions targets set by the *Canadian Net-Zero Emissions Accountability Act*, Canada's net-zero legislation. The budget would be determined based on a trajectory between the emissions level when the legislation passed and the established goal of net-zero emissions in the year 2050. This approach maintains the concept of tracking cumulative emissions without adhering to the limits imposed by Paris-and UNFCCC-compatible remaining carbon budgets described above.

A domestic budget determined in this manner would not be compatible with a fair share of the global mitigation burden under Article 2 of Paris Agreement without extensive development and deployment of negative emissions technologies. However, the difference between the target-based and fairness-based budgets should be used to estimate a quantity of "excess emissions"[62]. These excess emissions would then be used to inform the scale of international climate finance, international mitigation effort, and negative emissions investment spearheaded by Canada.

This approach lends well to developing interim budgets, for example, five-year budget periods, within the overall remaining emissions budget as done in the United Kingdom and France. The budget for a subsequent interim period would be adjusted based on any surplus or deficit during the previous period, while still maintaining the long-term total budget.

62. For example, the Climate Action Network Canada used a variation of this approach. A fairness-based budget approach was used to determine an emissions trajectory compatible with 1.5°C, but then divided the effort between domestic initiatives (60% below 2005 levels by 2030) and international cooperation and support; CAN-Rac Fair Share — Methodology Backgrounder (climateactionnetwork.ca)

3.1 Illustrative target-based budget

Here we provide examples of target-based budgets for Canada developed directly from Canada's net-zero legislation. In each case, the budget is determined as the total cumulative emissions (all gases, in Mt CO_2e) along a trajectory between the starting point in 2021[63], when the legislation was passed, and the legislated goal of net-zero emissions by 2050. Assigning an initial emissions reduction trajectory or a pathway is necessary in this approach to determine the budget.

The five different emissions reduction trajectories and associated budgets draw from different common representations of deep decarbonization pathways. These are theoretical examples presented for illustrative purposes, and are not based on modelling the effect of current or announced policies on emissions:

- **Linear**: linear decline, the simplest approach for determining a budget[64]
- **Sigmoid**: two different inverse logistic- or sigmoid-shaped trajectories, commonly assumed to represent realistic decarbonization pathways involving rapid progress in the middle of the time period and slower progress at the beginning and the end[65]
- **Hybrid**: a sigmoid trajectory to the lower end of the 2030 target range (40% below 2005 levels) followed by a linear decline
- **Decay** with negative emissions: exponential decay[66] to 50 Mt CO_2e in 2050

In the first four examples, any negative emissions measures would be incorporated within the budget. For comparison, the fifth example presumes negative emissions are represented separately from the positive emissions budget and reach a level of 50 Mt CO_2e by 2050. This 50 Mt is simply illustrative and should not be seen as any attempt by NZAB to forecast the appropriate and realistic amount of carbon removal for 2050.

Although the trajectories were arbitrarily determined using mathematical functions, the budgets based on these trajectories fall within a relatively narrow range (see Table 4; Figure 4). The mean value across the five examples of 10,591 Mt CO_2e is roughly 12 to 15 times larger than that of the equity and capability carbon-based budgets for a 67% chance of avoiding 1.5°C, and twice that of the budgets for 67% chance of avoiding 2°C. The results show that the pathway to net-zero matters. The budget, and hence the implied global warming effect, is larger in a trajectory assuming slow initial progress, even when followed by sharp declines (for example, Sigmoid Case 2), because it locks in more early years at high emissions levels. The budget is also higher if negative emissions, such as the decay example, are accounted for separately.

63. 698 Mt CO_2e (excluding LULUCF), according to 2024 National Inventory Report.
64. For example, a linear pathway between 2030 and 2050 is employed in Article 8(1) of the European Climate Law, European Climate Law - European Commission (europa.eu).
65. Millar et al. 2017. Nature Geoscience, Emission budgets and pathways consistent with limiting warming to 1.5°C.
66. Rockström et al. 2017. Science, A roadmap for rapid decarbonization.

Table 4: Sample emissions budgets and associated data from 2021-2050 based on the five example emissions trajectories

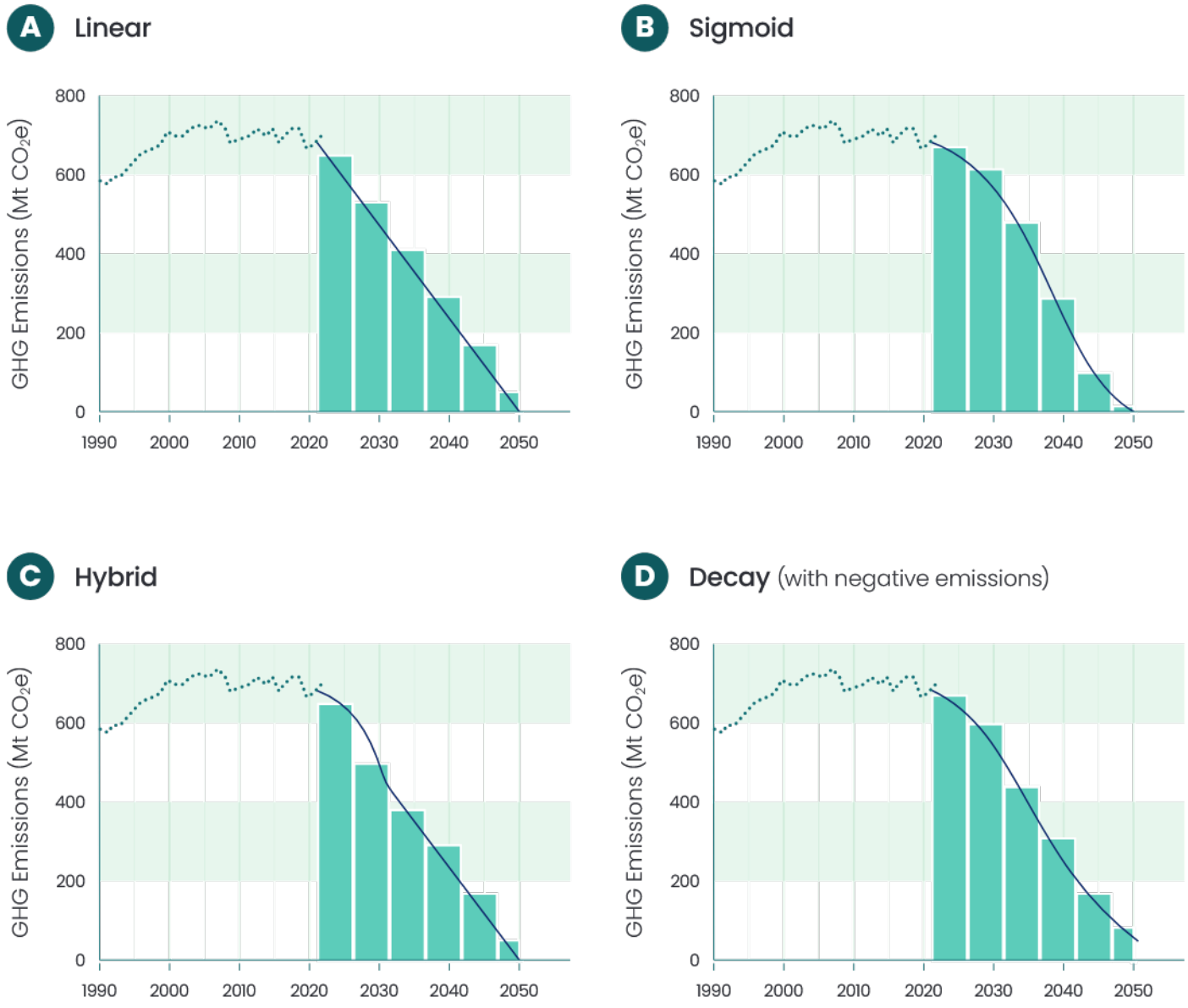
Key features	Linear (from 2021)	Sigmoid		Hybrid	Decay (+ negative emissions)
		Case 1	Case 2		
Amount (Mt CO_2e)	10,477	10,198	10,852	10,397	11,034
2035 emissions, relative to 2005	-53%	-52%	-46%	-55%	-51%
Implied global warming (°C)					
Equity principles	2.45	2.42	2.49	2.44	2.51
Capability principles	2.56	2.52	2.60	2.55	2.62
Emissions Debt (Mt CO_2e), for a 67% chance of avoiding 1.5°C					
Equity	-8,692	-8,413	-9,067	-8,612	-9,249
Capability	-8,863	-8,584	-9,238	-8,783	-9,420
Responsibility	-20,445	-20,166	-20,820	-20,366	-21,003

The emissions in the year 2035 along these trajectories range from 46% below 2005 levels in the sigmoid case with slow initial progress to 55% below 2005 levels in the hybrid trajectory designed to meet the lower end of the 2030 target range. The range of values is relatively small, in part because 2035 is the midpoint between the passage of Canada's net-zero legislation and the 2050 net-zero goal.

Because emissions in 2021 were lower than in the baseline year of 2005, a linear trajectory implies 2035 emissions should be 53% below the baseline. A 2035 interim target of less than 53% equates to leaving more emissions reduction burden to the latter half of the time period covered by the legislation. The trajectory designed to meet the lower end of the 2030 target range (40% below 2005 levels) achieves a 55% reduction below 2005 levels in the year 2035[67].

67. A similar trajectory designed to meet the upper end of the 2030 target range (45% below 2005 levels) achieves 59% reduction below 2005 levels in 2035.

Figure 4: Emission trajectories and budgets, A Linear, B Sigmoid #2, C Hybrid, D Decay with negative emissions



The excess emissions associated with a 67% chance of avoiding 1.5°C of warming are equivalent to 12 to 13 years of emissions at current (2022) levels using the equity or capability approach, and 28 to 31 years using the responsibility approach. Another way to conceptualize the excess is via the warming implied by the selected budgets. If the global remaining carbon budget from Section 1.1 were inverted, and the Canadian emissions budgets were translated back into implied global temperature change, these budgets would be the equivalent of a fair share based on equity or the capability of a 67% chance of avoiding 2.42°C to 2.62°C warming[68]. Accounting for the emissions debt via international action or negative emissions would be necessary to lower the implied global warming down to 1.5°C.

68. Computed using the relationship between remaining carbon budget and global temperature change in IPCC AR6 WG1 (Table 5.8), assuming the Canadian budget is 77% CO_2, as in Section 2.1. Calculation only possible using the equity and capability principles.

As mentioned, choosing an emissions trajectory is necessary for establishing a total budget amount. The analysis presented here involves arbitrary emissions reduction pathways not based on projected policy or innovation. Notably, the range value of the budgets is nevertheless similar across the different pathways, that is, less than 8%.

Since the starting point of 698 Mt in 2021 and the ending point of 0 Mt in 2050 are the same in each pathway, the total budget values will be similar unless an unusual pathway is chosen (for example, very steep initial reductions or limited action followed by very steep reductions late in the time period). Given that the total budget value is not highly sensitive to the choice of the pathway, a simple linear decline pathway or a hybrid that incorporates the 2030 target range may be most suitable for establishing the budget.

This initial assumed trajectory is only necessary to establish the budget. Once an emissions budget has been established, the emissions pathway used to set interim targets and interim budget segments becomes flexible provided the segments remain consistent with the total allotted budget. However, as noted above, because 2035 is the midpoint between the passage of Canada's net-zero legislation and the 2050 net-zero goal, the range of interim targets for 2035 that put Canada on a realistic trajectory to net-zero is small.

For Canada, the pathway to 2050 could be divided into five-year segments[69] covering the 30-year period between the passage of the legislation and the net-zero-by-2050 objective (for example, 2021 to 2025, 2026 to 2030 through to 2046 to 2050). Figure 4 on the previous page provides an illustration of the sample budgets divided into five-year segments (linear at top, followed by sigmoid and exponential decay).

The trajectories line (green) extends from the 2021 historical emissions from the National Inventory Report[70] (dark blue line) to the 2050 target, and the five-year budgets are computed based directly on the trajectory used to estimate the total budget. Note that the exponential decay budget is intended as an example of negative emissions being represented separately from the budget, hence the trajectory reaching the assumed negative emissions total (50 Mt CO_2e) rather than zero by the end of 2050.

Using this approach, the five-year budget segments could be set and adjusted over time, based on projected emissions impact of enacted policy and debt, or surplus, accrued from exceeding, or not exceeding, previous five-year budget segments. This could directly inform the setting of interim emission reductions targets. Employing budget segments could necessitate holding regular reviews of interim emissions targets based on implications of debt or carryover from previous budget segments on future budget segments. For example, if Canada was to exceed the 2026 to 2030 budget, the 2031 to 2035 budget would need to be smaller than previously expected, which could imply also revising a previously established 2035 target. Decisions would also need to be made about whether surplus from previous budget segments, as has occurred in the United Kingdom, could be used to increase future budget segments[71], or to reduce the overall budget and the associated excess emissions.

69. Five-year segments are used in France's Stratégie Nationale Bas-Carbone and the UK's Climate Change Act.
70. ECCC. 2023. 2023 National Inventory Report (part 1, PDF).
71. UK CCC. 2024. Letter: Advice on the Third Carbon Budget carry-over.

4. Key findings

This analysis of two approaches to develop and employ national carbon budgets for Canada points to the following key findings:

1. **Carbon budgets are better measurement and accountability tools than point-in-time targets**: Developing a carbon budget for Canada would bring federal climate policy more in line with climate science by shifting policy from focusing solely on single-year targets to considering the cumulative emissions over time. In principle, a carbon budgeting approach offers a transparent accounting tool.

2. **Canada should develop a carbon budget including tracking of excess emissions**: A domestic carbon budget compatible with Article 2 of the Paris Agreement and the principles of the UNFCCC is not achievable in the short term for Canada as the value would be near-zero or negative. Alternatively, Canada could develop a domestic budget based on an achievable emissions trajectory from the time when Canada's net-zero legislation was passed to net-zero in 2050 and use the excess emissions to frame its international responsibilities, which could include climate finance, mitigation transfers and/or negative emissions, as well as the development of clear guidelines for ensuring social and environmental integrity of those activities.

3. **Carbon budgets can avoid some of the pitfalls of point-in-time targets**: Assessing emissions reduction action over five-year periods, as well as for individual target years, would mitigate against the inter-annual variability in emissions inventories, particularly for land use, land-use change and forestry emissions (LULUCF). The range in values for these emissions from one year to the next is as high as 38 Mt in the 2024 National Inventory Report[72], which is equivalent to a 5% difference in emissions relative to the 2005 baseline. Assessing progress over five-year periods would avoid the problem of a target being missed, or surpassed, because of non-predictable events influencing carbon exchange with the atmosphere (for example, individual severe fire years) or economic activity (for example, temporary lockdowns due to a pandemic, or shortages and supply-chain bottlenecks).

4. **Interim point-in-time targets and carbon budgets are complementary and can be linked**: The development of an overall budget and interim five-year budget segments can be done in concert with the setting of interim emissions targets under Canada's net-zero legislation. The same emissions modelling exercises used to inform target setting could be used to define the trajectory for establishing the total budget and/or the interim budgets. For example, the trajectories employed in this analysis suggest the range of 2035 targets consistent with a net-zero trajectory is small (that is, 50% to 55% below the 2050 baseline).

5. **The process of setting carbon budgets must be transparent**: Establishing and operationalizing carbon budgets requires nuance. Although carbon budgets are more scientifically grounded than point-in-time targets, setting a national-scale budget still requires normative choices and consideration of international relationships, public acceptance, and other factors. One partial solution could be to set a carbon budget range similar to the use of a range for the 2030 emissions target. Carbon budgets will appear imprecise and be subject to scrutiny if not supported by a clear and transparent process.

72. ECCC. 2024. 2024 National Inventory Report (part 1, PDF).

Appendix

Fairness-based budget methods

The remaining carbon budgets for Canada for a specific chance of avoiding 1.5°C and 2°C of global average surface warming were estimated using available national and international emissions and economic data. First, the global remaining carbon budgets from IPCC WG1, IPCC WGIII and Lamboll et al. were adjusted to start in 2021 to align with Canada's net-zero legislation using historical global CO_2-only emissions data (fossil fuels, bunker fuels and LULUCF) from the Global Carbon Project[73]. Canada's share of the global remaining carbon budget, referred to below as RCB, using the principles of equity, capability and responsibility were then calculated using historical population and GDP data from the World Bank[74] as well as the Global Carbon Project and 2024 National Inventory Report[75] historic emissions data, as follows.

73. Friedlingstein et al. 2023. *Earth System Science Data*, data available here: Global Carbon Budget Data.

74. Available here: World Bank Open Data.

75. ECCC. 2024. 2024 National Inventory Report (part 1, PDF).

The equity-based RCB is allocated based on Canada's mean share of global population from 1992 to 2021. The time frame spans from the creation of the UNFCCC, when the principle of common but differentiated responsibility was enshrined in international climate governance, and the passage of Canada's net-zero legislation[76]:

$$RBC_{Equity} = RBC_{World} \times \frac{Population_{Canada}}{Population_{World}}$$

The capability-based RCB is based on the means to reduce emissions and is allocated based on Canada's share of cumulative CO_2-only emissions from 1992 through 2021, corrected for Canada's per capita GDP relative to that of the world in 2021, when Canada's net-zero legislation was passed:

$$RBC_{Capability} = RBC_{World} \times \frac{\frac{Emissions_{Canada}}{Emissions_{World}}}{\frac{per\ capita\ GDP_{Canada}}{per\ capita\ GDP_{World}}}$$

The responsibility-based RCB is based on historical contribution to emissions and is allocated based on equitable share of the global RCB over time. It is calculated as the equity-based RCB minus historical excess emissions, that is, cumulative CO_2 emissions in excess of fair population share since 1992[77]:

$$Carbon\ Debt = \sum_{1992}^{2020} \left[Canada\ Emissions - \left(Global\ Emissions \times \left(\frac{Canada\ population}{Global\ population} \right) \right) \right]$$

Since Canada's national GHG reporting and emissions target includes all GHGs, the RCBs (units of Mt CO_2) for 2021 onwards were then scaled to all GHGs (Mt CO_2e) by dividing the total by the percent of 2021 national GHG emissions in the form of CO_2 (77%) according to the 2024 National Inventory Report[78].

The scaling was only for the purposes of comparison with commonly used emissions values in Canada. The years remaining in each RCB at the current emissions rate are the same regardless of the scaling.

Each RCB was then updated to January 1, 2023, and onwards by subtracting the reported 2021 and 2022 emissions from the 2024 National Inventory Report. The number of years remaining in each RCB was computed based on that early estimate of 2022 emissions.

76. Note: Gignac and Matthews (2015) use 1990 as baseline year that human role in warming was recognized internationally.
77. Based on Gignac and Matthews (2015).
78. Based on Table A10-1, available here: Canada's Official Greenhouse Gas Inventory - ECCC Data Catalogue.

Annex 6. Summary of Public Engagement

The *Canadian Net-Zero Emissions Accountability Act* (the Act) requires the Government to provide interested Canadians with the opportunity to make a submission when setting an emissions reduction target. To meet this requirement and seek views from Canadians and stakeholders on the 2035 target, Environment and Climate Change Canada (ECCC) conducted a public engagement process in spring 2024. This report summarizes what was heard through the public engagement process only. Submissions from provinces and territories, Indigenous Peoples, and the Net-Zero Advisory Body are also available and, in combination with this document, fulfills the obligation under section 13.1 of the Act to publish the results of the engagement carried out to establish the 2035 emissions reduction target.

When designing this process, ECCC made best efforts to address feedback from partners and stakeholders on the 2030 Emissions Reduction Plan (ERP) engagement that occurred in 2022. Lessons learned from the previous engagement included engaging earlier, using a variety of engagement methods, experimenting with innovative approaches, and improving transparency. As such, a user-friendly engagement platform was used as well as an upload page for participants who wished to submit more detailed written submissions. The platform was interactive, displayed live results to questions, and included background materials in the form of text, videos, infographics and external links to ensure participants had all the information they needed to participate in the questionnaire. Existing relationships were also leveraged and ECCC officials met with stakeholders upon request. Engagement was open for 9 weeks between February and April 2024 and was promoted through social media.

Efforts were also made to include stakeholders who were underrepresented in the 2030 ERP engagement – particularly youth, municipalities, and Indigenous Peoples – to allow for a more inclusive approach. Stakeholders such as industries, non-governmental organizations, think tanks, and academia were also targeted to provide technical expertise, including on pathways to net-zero, to help inform the level of ambition for the 2035 target.

Section 1 – Key Takeaways

On the online engagement platform, Talking Targets: Canada's Climate Future, over 11,000 participants shared their views. Over 23,000 comments (22,213 in English and 1,429 in French) were received and the Government received a little over 100 submissions from Canadians and stakeholders. Building on lessons learned from the 2030 ERP, ECCC included optional demographic questions in the questionnaire to better understand who was being reached. Among participants, those over 65 years were the most represented age group, making up more than 30% of participants – almost double any other age group. Youth under 24 years old were most underrepresented, making up just 3.5% of all respondents, and pointing to a need to better engage youth in the future. About 1% of participants identified as First Nations, 2% as Métis, and 0.1% as Inuit. Just under half the participants lived in urban areas (48%) with the remainder living in suburban (21%) or rural (24%) areas. The top four most represented provinces were Ontario (39%), British Columbia (21%), Alberta (13.2%), and Québec (12.6%).

Note that the results presented only represent the respondents to the questionnaire and are not a representative sample of the population.

1.1 Key takeaways from the online questionnaire

The results of the public engagement process highlighted polarised views from respondents, with a substantial majority (about 2/3) supporting increased action on climate change, and a strong minority opposed (about 1/3). There was little middle ground, and very few people were satisfied with the status quo. Most respondents believed that the federal government should take the lead on climate action (52%), followed by provincial and territorial governments (46%) then heavy industry (41%). Participants felt that Indigenous governments, farmers, and the public should not be expected to make additional efforts. In recognition of the shared jurisdiction over climate issues across all levels of government, 58% of participants felt making progress on climate change should be the priority over providing flexibility for regional approaches, even if that means setting national standards. Most respondents (58%) also favored a target that was more aspirational versus predictable, even if it means not knowing exactly how we will get there and presents greater risks of not achieving it.

1.2 Key takeaways from public submissions

Many stakeholders expressed concern that Canada is not on track to meet its 2030 emissions reduction target of 40 – 45 percent below 2005 levels. Submissions also emphasized that Canada should implement all measures announced to meet its 2030 target. However, stakeholders' views were varied when it came to investment tax credits (ITCs) and carbon pricing, with little consensus on whether they are beneficial for the Canadian economy or effectively reducing emissions. Many submissions indicated that Canada's 2035 target should be ambitious, fair, realistic, and aligned with net-zero. Some stakeholders indicated the 2035 target should be based on science, while also considering key industries' specific realities (i.e., heavy industries, mining, agriculture). Some felt the target should be accompanied by concrete measures to achieve it. Some respondents thought Canada should achieve net-zero sooner than 2050, likely in 2040. Stakeholders also noted the importance of whole-of-society action, and that achieving net-zero will be possible through increased collaboration with provinces, territories, Indigenous Peoples, municipalities, and industries.

Section 2 – Detailed findings from the public questionnaire

2.1 How were the results analyzed

Ethelo Decisions Inc., the platform provider, analyzed the data collected through the online questionnaire, with some support from AI tools. Ethelo analyzed the quantitative data received, but also conducted a sentiment analysis of the comments received. The sentiment analysis allowed for a better comprehension of the quantitative data.

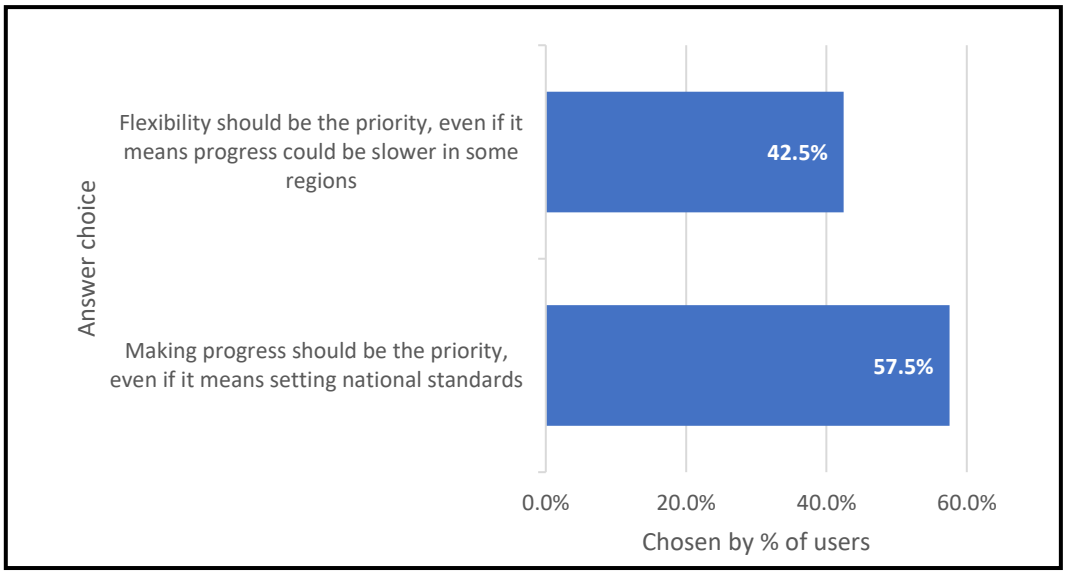
2.2 Canada's climate action

The results showed a significant divide in respondents' opinion on Canada's climate efforts to date. While 47% of participants believed the country is not doing enough to fight climate change, 36% felt the measures are far too much. Smaller groups thought the current efforts are almost enough (11%), just right (3%), or slightly too much (3%). Most respondents (53%) believed that the Government should approach the next decade of climate action much faster, while 36% think the pace should be slower. Others recommend a more nuanced pace.

Most respondents believed the federal government (52%) and provincial and territorial governments (46%) should lead climate efforts. Heavy industries (41%) and the financial sector

(37%) are also expected to take a leadership role. The public, farmers/agricultural businesses and Indigenous governments were seen as less responsible. Finally, most (58%) respondents favoured progress on climate action even if it means setting national standards, over flexibility for regional approaches (43%).

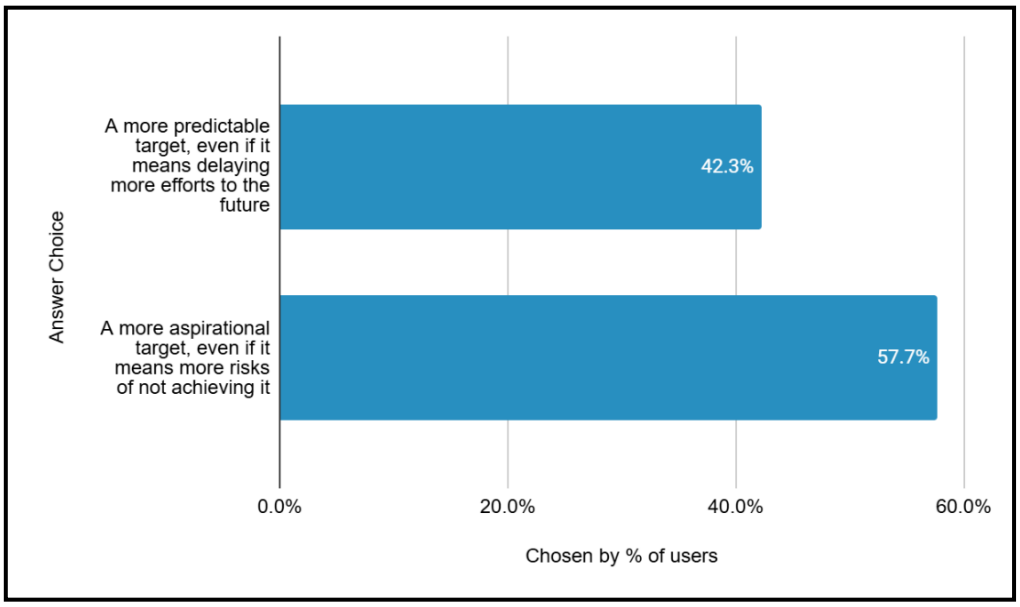
Figure 1. How would you like different governments to work together with respect to climate change?



2.3 Level of ambition

Most (58%) of respondents favoured a most aspirational target for Canada's next decade of climate action, even if it means more risks of not achieving it. Meanwhile, 42% preferred a more predictable target, even if it means delaying more efforts to the future. The majority of comments were supportive of increased climate action (4417), with the most prevalent sentiments in supportive comments being "urgent" followed by "aspirational". The most prevalent sentiment in opposing comments was climate change denial (1809 out of 2946 opposing comments).

Figure 2. How do you think the Government of Canada should approach the next decade of climate action?

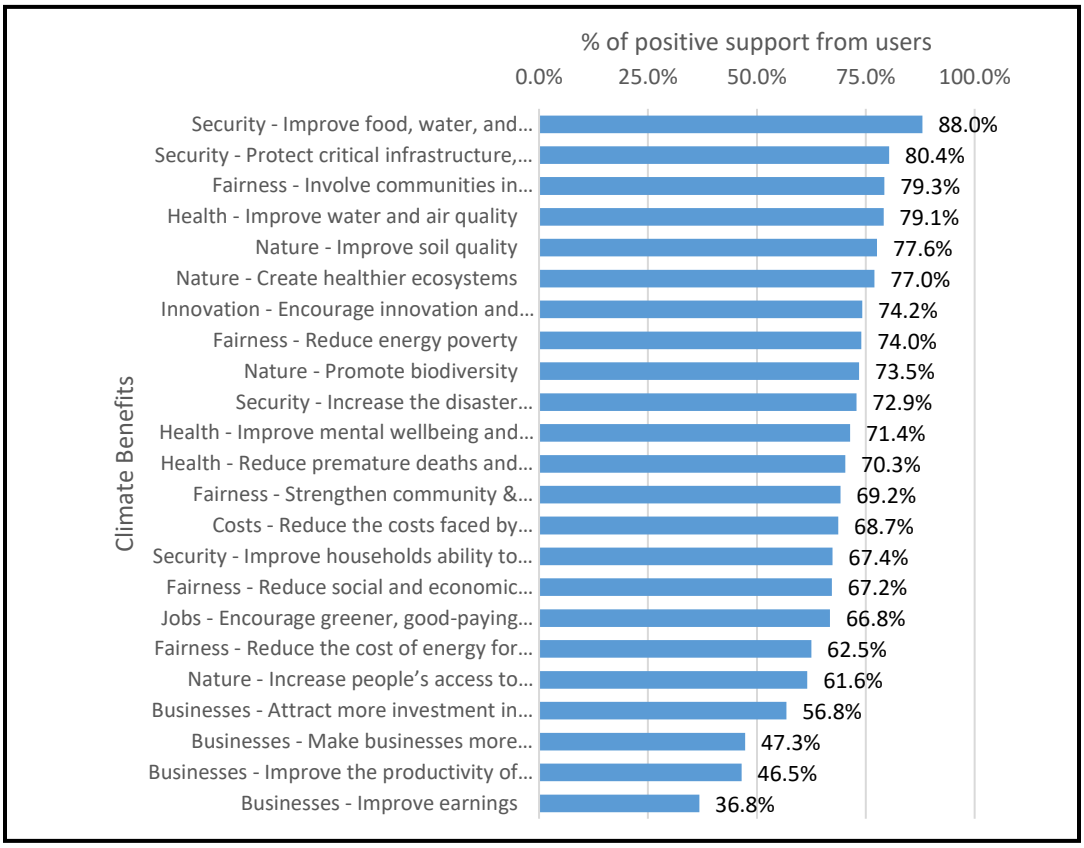


More than 70% of participants supported encouraging innovation and reducing carbon pollution across economic sectors, rather than limiting surprises and hard changes to those sectors. Managing waste was the sector that respondents felt should be the most ambitious at 70%, followed by natural resource extraction (66%), aviation (66%), and manufacturing (65%). Food production was the only activity where opinions were nearly split, with 51% prioritizing innovation and 49% emphasizing stability.

2.4 How the target can benefit people and communities

Participants were asked to identify which climate action co-benefits the Government should prioritize. Many respondents were in favour of prioritizing security-related benefits, particularly improving food, water, and energy security (88%) and protecting critical infrastructure such as power lines (80%). Health benefits like improving water and air quality (79%) and reducing premature deaths and chronic illnesses (71%) are also highly prioritized. Fairness, including involving communities in decision-making (79%) and reducing energy poverty (74%), alongside nature-focused benefits like improving soil quality (78%) and creating healthier ecosystems (77%), also featured prominently. The prioritization of co-benefits was further broken down based on the level of support – participants who tagged them as Important and Very Important. The results are demonstrated in the graphic below.

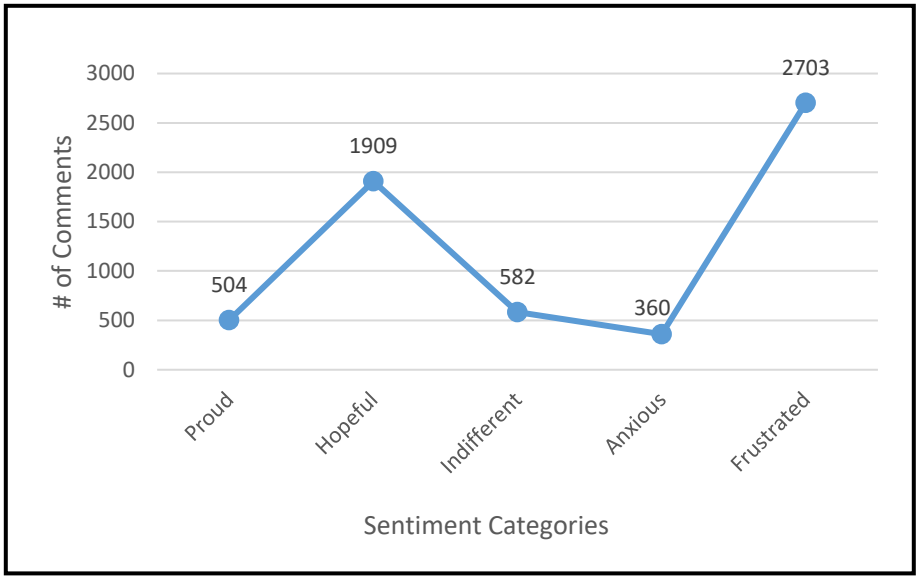
Figure 3. Positive Support Towards Climate Benefits



2.5 Leaving no one behind

A significant portion of respondents (41%) believed that personal choices can have a big impact if enough people move in the same direction. 21% thought personal choices can have a small impact, but only if others contribute, while 18% felt personal choices matter at the local community or project level. The rest believed personal choices make no difference or were unsure. On the topic of community action, the majority of respondents could recall multiple moments over the last few years where they felt they had a chance to act on climate change. Most participants noted frustration with either the outcomes or pace of personal climate actions, but others also expressed hope in successful initiatives.

Figure 4. Emotional Tone



When asked about the barriers to taking personal action, the major obstacles were difficulty accessing government incentives (77%), lack of climate friendly consumer choices (74%), and difficulty of identifying green products (71%), and their cost (77%).

2.6 Emerging solutions for higher ambition

Canadians were provided the option to give their views on emerging climate solutions that could help to achieve targets, such as carbon dioxide removal technologies and Internationally Transferred Mitigation Outcomes (ITMOs). Most respondents who answered the question believed Canada should prioritise reducing sources of pollution at home, even if it requires more immediate actions from Canadians and businesses (51%). Also, of those who answered the question,14% supported maximising flexibility and using every tool available, despite potential risks and future costs, while 15% felt they lacked enough information to answer, and 20% preferred not to answer. This indicates strong support form direct domestic action over more alternative approaches.

Section 3 – Detailed findings from public submissions

3.1 How were the results analyzed

After completing the online questionnaire, participants had the opportunity to share more information through a written submission. Stakeholders were also able to share their views on the 2035 target through a written submission they could upload on a specific upload page. In total, ECCC received over 100 submissions.

A specific approach was developed by ECCC to analyze the submissions received. Three categories were established under which the information would be analyzed:

1. Views on Canada's approach to climate policy
2. Views on 2035 climate ambition and actions to meet the target

3. Views on Canada's path to net-zero

3.2 Views on Canada's approach to climate policy

Submissions received from stakeholders often expressed that Canada is not on track to meet its 2030 emissions reduction target of 40-45 percent below 2005 levels and that the Government should fully implement some key measures, including the Canada Green Buildings Strategy (since adopted in July 2024) and the *Sustainable Jobs Act* (since adopted in June 2024), the Clean Electricity Regulations and the Investment Tax Credits (ITCs) presented in recent budgets. Many stakeholders felt the current climate policy context was incoherent**,** expressing that some Government priorities were in conflict – such as investments in the oil and gas sector. Others identified challenges with the institutional framework, such climate governance that spans across various federal departments. Many submissions emphasized the importance of cooperation between federal and provincial governments, with some also noting the importance of municipal action. Numerous stakeholders highlighted the need to engage non-governmental organizations, the private sector and civil society to mitigate the impacts of policy on groups that could be disproportionally affected. This is particularly true of Indigenous Peoples, whose considerations are vital to numerous stakeholders.

3.3 Views on 2035 climate ambition and actions to meet the target

A strong number of stakeholders indicated that Canada's 2035 target should be ambitious, fair, realistic and aligned with net-zero. For many, bold ambition would serve to put Canada on track to reaching net-zero, send clear policy signals to the private sector, and position Canada as an international leader. Some stakeholders raised the theme of fair share and historical emissions as justification for an ambitious approach, while other submissions also raised the need to protect human rights and Indigenous stewardship, and apply the principles of equity, inclusion, and social justice in climate efforts. A smaller number of stakeholders favoured a realistic approach to target-setting. Accounting for Canada's national circumstances, affordability issues and regional economic differences were common concerns of an overly ambitious target. Many noted that future ambition should be based on Canada's current emissions trajectory.

Some respondents argued that decarbonization should be prioritized over removals, credits, and Internationally Transferred Mitigation Outcomes. Others had the opposite view, noting that clean technologies and credits should be used more heavily to mitigate negative economic impacts from the transition. Submissions noted that the 2035 target should be based on science while also considering key industries' specific realities (i.e., heavy industries, mining, agriculture). Consideration of the knowledge and interests of Indigenous Peoples was also strongly encouraged by many stakeholders. Affordability, international competitiveness, and profitability were other key interests.
Lastly, some stakeholders shared examples of what the 2035 target should be. For illustrative purposes, one stakeholder suggested the 2035 target should be 80% below 2005 levels to take into considerations Canada's fair share. Another stakeholder suggested a target of 50% below 2005 levels to achieve net-zero in 2050 and account for challenges of meeting the 2030 target.

3.4 Views on Canada's path to net-zero

Some submissions indicated that Canada should achieve net-zero sooner than 2050, even as early as 2040, to avoid the worst impacts of climate change. Other submissions were skeptical towards the objective of net-zero by 2050. Some other submissions noted that even if their sector is committed to net-zero by 2050, many opportunities for the sector will require time,

collaboration, and innovation. Organizations from the agricultural sector also noted the need for increased investments to support the transition to a net-zero economy.

Views varied on how the transition to net-zero should be undertaken. Many submissions highlight carbon dioxide removal technology as an important means of progressing toward net-zero, while others are skeptical about the technological feasibility of this approach. Some hold that to rely on CDR and other such technologies for future emissions may divert essential focus from other pathways such as electrification and renewables. Broadly speaking, stakeholders tended to favour cooperation across and within levels of government to promote unity across efforts. Some saw a need for a shift in behavioural norms in addition to top-down policy, and a holistic, systems-based approach to mitigation was suggested by others.

Many believed that “green strings requirements” should be attached to all new investments and tax credits. A common value was growing the economy and protecting the environment simultaneously, through public investments in green jobs, carbon dioxide removals and sectoral sustainability. Net-zero industrial policy and sending clear policy signals were important to stakeholders to facilitate their long-term planning. Many had ideas for decarbonizing specific sectors, including using zero-emission fuels for marine, rail, and aviation. Funding public transit and intercity transit, electrifying end-use energy, and advancing a clean electricity grid (particularly in rural areas) were also common options. Education was mentioned as well, to help stakeholders and civil society better understand the options available to them (e.g., heat pumps, zero emissions vehicles, tax credits) and their benefits for the environment.

4. Conclusion

Setting Canada’ 2035 national emissions reduction target is not a task that the Government of Canada can undertake alone; engaging with provinces and territories, Indigenous Peoples, industries, municipalities, the Net-Zero Advisory Body, and all Canadians was key. The Government of Canada has been engaging with these partners through the year 2024 and as required by the *Canadian Net-Zero Emissions Accountability Act*, will set the 2035 emissions reduction target by December 1st, 2024.

The Government of Canada would like to thank individuals and organizations who took the time to provide input to inform the considerations for Canada’s 2035 national emissions reduction target. Your feedback will help the Government better understand your views on climate action in the next decade.

Pursuant to the Act, the Government will publish a 2035 Emissions Reduction Plan by 2029. The plan will provide a roadmap on how Canada will achieve its 2035 emissions reduction target.