

UNTAPPED OPPORTUNITIES FOR CLIMATE ACTION

An assessment of food systems in
Nationally Determined Contributions



COUNTRY ASSESSMENT

CANADA



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PREFACE

Integrating food systems transformation into the Nationally Determined Contributions (NDCs) – the national climate actions at the heart of the Paris Agreement, is critical to delivering on interconnected ecological, biodiversity, health, economic, social, and cultural goals. Taking a food systems approach builds climate resilience and results in a diversity of context-specific solutions for food production, distribution, consumption, and waste. Yet, food systems are rarely prioritized in climate policy.

This country assessment is part of a suite of publications that are designed to centre food systems transformation in future climate policy:

1. **Untapped Opportunities for Climate Action: An Assessment of Food Systems in Nationally Determined Contributions**: A summary report providing a synthesis of the 14 country assessments with recommendations and priority actions for policymakers and climate policy advisors
2. **A Practical Guide to Assessing Food Systems in Nationally Determined Contributions (NDCs)**: A guide with a framework designed to enable users to take a food systems approach to developing future NDCs and implementing climate policies.
3. A set of **14 country assessments** examining the latest NDCs of 14 countries from around the world, outlining areas of improvement and opportunity.

Users are also encouraged to read **Confronting the Climate Crisis with Food Systems Transformation: Stories of Action from 14 Countries**, which provides a catalogue of global case studies that complement the suite of materials for policymakers, advisors, and advocates of climate action.

OVERVIEW OF CANADA'S FOOD SYSTEMS

Canada's food systems are significant for their national employment and gross domestic product (GDP) rates. In 2019, the agriculture and agri-food sector accounted for 1 in 8 jobs in Canada, employing over 2 million people,¹ and recent data indicates that most of these jobs are in food and beverage processing.² In the same year, the food and agri-food sector accounted for 7.2% of Canada's GDP. In fact, Saskatchewan and Prince Edward Island are home to the largest share of employment in the agriculture and agri-food sector. In addition, together Quebec, Ontario, and Alberta account for almost 70% of the country's agriculture and food-processing GDP.³ There are, however, structural problems in Canada's food systems.⁴ Canada's Seasonal Agricultural Worker Program employs over half of all Canadian agricultural workers, of which the majority are people of colour. Especially in rural and agricultural communities, Indigenous Peoples as well as people of colour employed in the food sector experience racism and discrimination at the workplace,⁵ which reinforces inequalities that are inherent to the food systems' Temporary Farm Worker Program.

Canada is a large producer, importer, and exporter of food. Around 70% of food consumed in Canada is produced domestically,⁶ and with large surpluses in grains, meat, and fish products,⁷ Canada exports more than 50% of its production.⁸ Consequently, Canada is considered the fifth-largest food exporter in the world,⁹ and food exports in 2019 constituted 83 billion CAD (66 billion USD*),¹⁰ 16% of the total revenue generated that year.¹¹ Top export products include beef, soybeans, pork, wheat, canola, and pulses.¹² Comparatively, Canada is also considered the sixth-largest food importer in the world, mainly acquiring beverages, processed foods, fruits, and vegetables.¹³

Canada's food systems contribute 30 to 40% of Canada's total greenhouse gas (GHG) emissions.¹⁴ Most of these emissions are from land use, energy consumption, and food waste. Agricultural production is responsible for 27% of methane emissions in Canada or 3.5% of total national GHG emissions.¹⁵ Every year, Canada generates 35.5 million metric tons of food loss and waste, 38% of which are considered avoidable, which means that food was still edible when disposed of. At the household level, the most commonly wasted foods are vegetables and fruit, at 30% and 15%, respectively.¹⁶ In turn, approximately 12% of food loss and waste in Canada occurs at the retail level, whereas a further 13% can be attributed to hotels, restaurants, and other food-serving institutions.¹⁷ Food waste is not only economically unfavourable, costing up to 1700 CAD (about 1360 USD) annually for an average single-family household,¹⁸ but is also a large part of Canada's environmental footprint. A recent Canadian study reported that, annually, 56.6 million metric tons of CO₂ equivalent stem solely from food waste.¹⁹ In particular, methane gas is produced when food waste is disposed of in landfills.

The prevalence of obesity has increased significantly over the last 35 years in Canada. According to Obesity Canada, the country's leading obesity charity, adult obesity increased three-fold since 1985.²⁰ And according to the Canadian Community Health Survey 2015–2018, approximately 1 in 4 Canadian adults (26.6%) is currently living with obesity, and obesity rates are higher in rural areas (1 in 3 adults) than in urban areas

* Conversions based on February 8, 2022, exchange rates.

(1 in 4 adults).²¹ Furthermore, a 2016 study found that almost 1 in 7 children and youth is considered obese, with risk factors including lower levels of income, gender (such that obesity rates were significantly higher for boys than girls), and geographical location.²² In addition, obesity is more likely to occur among children with high insulin resistance, type-2 diabetes, hypertension, poor emotional health, and social well-being,²³ and are reinforced by food insecurity.²⁴ In the period 2015 to 2018, 26.6% of adults were obese. With Canada's new Healthy Eating Strategy, which includes the Canada Food Guide discussed below, the government is attempting to tackle this and other food intake-related problems.²⁵ While the Healthy Eating Strategy is an improvement over earlier versions, it is seen as a weak plan that does not cover the breadth of issues related to food consumption in Canada.²⁶

At the same time, food insecurity persists and is spread unevenly across Canada's provinces and population groups. In 2017 and 2018, 12.7% of households in Canada experienced a form of food insecurity,²⁷ equalling 1.2 million households and including over 1.4 million children.²⁸ The severity of food insecurity ranges from concerns about food accessibility to, in the extreme, lack of food for periods of days. Food insecurity poses a threat to public health in Canada, as it has been linked to chronic diseases and mental health issues. The provinces or regions with the highest rates of household food insecurity in Canada are Nunavut, the Northwest Territories, and Yukon.²⁹ Furthermore, food security in Canada is racially differentiated, with 28.4% of Black Canadian households reporting household food insecurity, compared to 10% for white Canadian households.³⁰

Indigenous Peoples and local communities, as well as women and people living in remote areas, are disproportionately affected by climate change and food insecurity.³¹ A 2009 study showed that household food insecurity in Canada is higher among Indigenous Peoples compared to non-Indigenous households.³² First Nations, Inuit, Métis, and other communities living in remote areas and territories must also pay substantially higher food prices due to high transportation costs and lack of infrastructure. According to interviewees, mental health problems in Indigenous communities are linked to food insecurity.³³ The COVID pandemic has further exacerbated these issues, as transportation to remote communities is restricted and mandatory quarantines hinder Indigenous Peoples from travelling to major cities to purchase foods.³⁴

* Land footprint refers to the estimated hectares in land area required to provide a commodity; see WWF-UK & RSPB, "Riskier Business: The UK's Overseas Land Footprint" (2020). Retrieved from: https://www.wwf.org.uk/sites/default/files/2020-07/RiskierBusiness_July2020_V7_0.pdf.

NDC STATUS

Canada's updated Nationally Determined Contribution (NDC) sets an emissions reduction target of 40 to 45% in 2030 compared to 2005 levels. It reflects an increase in climate ambition compared to the 30% emissions-reduction target put forward in the previous version. The updated NDC also includes a commitment to reach net-zero emissions by 2050. The targets cover all of Canada's economic sectors: agriculture, energy, industrial process, product use, LULUCF, and waste.

While the NDC provides Canada's emissions reduction target, the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) and the Strengthened Climate Plan (SCP) are the main vehicles for its achievement. The NDC states that its target is informed by the climate measures outlined in the PCF and the SCP. Canada's first national climate change plan, the PCF was developed in 2016 and aims to reduce GHG emissions, accelerate green growth, and build climate resilience. The SCP, known by its full name as "A Healthy Environment and a Healthy Economy," was adopted in 2020 and builds on the PCF while also including new federal policies and measures to pursue climate change mitigation and adaptation. Although the NDC summarizes the main programs included under the PCF and SCP, the respective policy documents provide more detail on specific targets and measures.

Canada has further strengthened its commitment to emissions reduction through new legislation. In June 2021, the Government of Canada adopted the Canadian Net-Zero Emissions Accountability Act, which requires the government to set national emissions-reduction targets at 5-year intervals and develop reduction plans accordingly. The intervals coincide with the timing at which countries are expected to update their NDCs. As such, the Act is an additional domestic measure to strengthen commitment to the Paris Agreement and promote continuous action on climate change mitigation.

The following assessment draws on Canada's NDC as well as the PCF and the SCP as the main climate policies pieces. In addition, six interviews were held with key food systems stakeholders representing academia, civil society, farmers' associations, and Indigenous Peoples.

KEY FINDINGS

NDC DEVELOPMENT PROCESS

TABLE 1: NDC DEVELOPMENT: KEY FINDINGS AT A GLANCE

Key findings

- The development of the NDC — as well as the Pan-Canadian Framework for Clean Growth and Climate Action (PCF) and the Strengthened Climate Plan (SCP) — was informed by engagement with a broad selection of stakeholders.
- The development processes of the NDC and its supporting documents appear to reflect a strong consideration of the roles, rights, and self-determination of Indigenous Peoples in climate action.
- A gender-based analysis plus (GBA+) has been conducted for all policies considered under the NDC — as well as the PCF and SCP — to account for the impacts that policies and measures may have on women and other marginalized groups.
- The development process of all climate policies in Canada — including the NDC — reflects collaborative efforts between multiple ministries and is coordinated across the federal and provincial levels.
- Neither the NDC nor the supporting documents seem to have been informed by a holistic food systems assessment.

Areas for improvement

- Provide more transparency in describing the engagement process for external stakeholders — including those relevant to food systems.
- Ensure full engagement of food systems stakeholders and experts, as well as health experts, women, farmers, fishers, and Indigenous Peoples and other traditionally marginalized groups in the NDC development process, including through the Canadian Food Policy Advisory Council.
- Provide more information on how the development of the NDC was coordinated at the local level.
- Conduct a holistic food systems assessment to inform the development of the NDC, highlighting the climate mitigation and adaptation potential of food systems transformation as well as other co-benefits and possible trade-offs.
- Further strengthen policy coherence by extending consultation and collaboration coordination to other ministries, including the Ministry of Agriculture and Agri-Food.

The development of the NDC — as well as the PCF and the SCP — was informed by engagement with a broad selection of stakeholders. All three policy documents state that their respective development processes included engagement with industry, civil society, Indigenous Peoples, NGOs, and the broader public. Specifically for the latter, the NDC indicates that more than a thousand Canadians participated in a public engagement process. Specifically for the PCF, it is indicated that four federal-provincial-territorial (FTP)

working groups have been established to consult with the public, Indigenous Peoples, businesses, and civil society through various means of engagement including town halls, in-person discussions, and web portals. There is, however, no mention of engagement with food and health experts in any of the three policy documents, and one interviewee suggests that stakeholders from the agricultural sector were not consulted.³⁵ Additionally, while the engagement approach described here suggests an inclusive development process for the different policy documents, interviewees suggest that stakeholder consultations are not always meaningfully considered in policy-making.³⁶

The development processes of the NDC and its supporting documents appear to reflect a strong consideration of the roles, rights, and self-determination of Indigenous Peoples in climate action. For the development of the NDC, the Government of Canada established three senior bilateral tables corresponding with the three Indigenous Peoples of Canada — First Nations, Inuit, and Métis — to ensure continuous collaboration. The bilateral tables also aim to engage with Indigenous Peoples as autonomous leaders in climate action and policy development. Furthermore, the NDC’s annex on Indigenous Climate Actions suggests that its development process included the use of the “First Nations Climate Lens”: a conceptual tool that challenges conventional perceptions of First Nations as vulnerable populations and passive recipients of climate change impacts. Rather, the Lens emphasizes and acknowledges the traditional knowledge and expertise for addressing climate change in these Indigenous communities and territories. Adding to what is discussed in the NDC, both the SCP and PCF stipulate the important role of Indigenous Peoples in developing and contributing to Canada’s climate efforts, recognizing the value of their traditional knowledge systems, and acknowledging their contributions in designing climate solutions. While this approach suggests a truly meaningful engagement, one interviewee points out that government consultations with Indigenous Peoples are still limited to a few selected communities.³⁷

A gender-based analysis plus (GBA+) has been conducted for all policies considered under the NDC — as well as the PCF and SCP — to account for the impacts that policies and measures may have on women and other marginalized groups. The Government of Canada is committed to conducting a GBA+ to support the development of all federal policies, programs, and legislation. The analysis covers the conception, design, implementation, and evaluation of policies. The overall aim of the analysis is to prevent any negative impacts on — while maximizing benefits for — women, low-income households, Indigenous communities, and people living in rural and remote areas. As such, the GBA+ has been employed in the development of the PCF, SCP, and subsequently the NDC to prevent the exacerbation of inequalities in society.

The development process of all climate policies in Canada, including the NDC, reflects collaborative efforts between multiple ministries and is coordinated across the federal and provincial level. With the federal Ministry of Environment and Climate Change (MoECC, also known as ECC) acting as the main coordinating body, responsibility for the development and implementation of the climate policies that feed into the NDC is shared across the portfolios of 13 federal organizations. Additionally, coherence and coordination during the development of climate policy is ensured through two inter-ministerial fora, specifically the Canadian Council of Ministers of the Environment (CCME) and the Deputy Minister Committee on Climate Plan Implementation. For the development of the PCF, ministerial tables were also convened and included consultations with the CCME, the Ministers of Innovation, Ministers of Energy,

and Ministers of Finance. Furthermore, the SCP describes the actions and measures that have previously been developed and implemented for each policy area to indicate how newly developed measures and targets build on previous actions. More broadly, as the NDC emissions-reduction target was informed by an assessment of the expected outcomes of the PCF, the SCP, and provincial climate plans, it can be assumed that coherence between the NDC and these policies and measures is maintained. There is less clarity, however, on how the climate policies of other ministries as well as those of cities or territories correspond with the aforementioned plans. It is notable that, as contended by one interviewee, the Ministry of Agriculture and Food has not been involved in the development of the SCP, which may be indicative of this ministry's general involvement in the development and implementation of Canada's climate plans.³⁸ With regard to food systems, it is unclear whether the 2019 Food Policy for Canada (elaborated on under "Content of the NDC") is taken into account in developing the climate policies that inform the NDC, nor if the Federal Ministry of Health was involved.

Neither the NDC nor the supporting documents seem to have been informed by a holistic food systems assessment. While the NDC does describe the general emissions-reduction potential of planned measures for the agricultural sector, there is no holistic consideration of the climate mitigation and adaptation potential of a food systems transformation in the NDC, SCP, or PCF. Although such an assessment may have been used to develop plans at a provincial level, this is not clarified in the NDC.

AREAS FOR IMPROVEMENT

Provide more transparency in describing the engagement process for external stakeholders.

Apart from Indigenous Peoples, neither the NDC nor the supporting documents describe the approaches used to consult external stakeholders, nor do they indicate how external consultation informed decision-making during the development of policies and measures. Describing these processes more clearly and specifying the stakeholders involved would therefore be an important step for increasing the transparency of the NDC and can help improve external validation of the democratic soundness of the development of Canada's most important climate policies.

Ensure proper engagement with and resourcing of food systems stakeholders and experts, as well as health experts, women, farmers, fishers, Indigenous Peoples, and other traditionally marginalized groups in the NDC development process, including through the Canadian Food Policy Advisory Council. While the NDC — as well as the SCP and PCF — state that their development was informed by engagement with external stakeholders, it is unclear whether all key food systems stakeholders have been properly engaged and, in some cases, it is suggested that they may be missing entirely. Furthermore, although a GBA+ is conducted to account for and prevent any disproportionate impacts on women, low-income households, and people living in rural or remote areas, these groups do not appear to have been consulted during the development of the NDC, nor is there any explicit emphasis on their role for implementing or contributing to climate actions. To ensure that the NDC addresses the multitude of climate-related issues and truly reflects a climate change mitigation effort for and by all Canadians, the positions and engagement of the aforementioned stakeholder groups should be elevated. The Canadian Food Policy Advisory Council is an existing channel through which further engagement with food systems stakeholders and experts can be achieved, provided additional funding is available.³⁹ For marginalized groups, engagement

through the use of bilateral tables or working groups similar to those currently used for Indigenous Peoples may be fruitful. In these contexts, it is important to provide adequate resourcing, capacity-building, and compensation to ensure a more level playing field among stakeholders. Finally, the GBA+ as an analysis tool could be extended not only to consider how climate policies may impact or benefit women and other marginalized groups, but also to identify opportunities for engaging and empowering these groups during NDC development and implementation.

One interviewee notes that farmers are often neglected during food policy consultations. Creating spaces for farmers to express their views and their roles in changing the food system, as well as meaningfully contributing to policy-making, is essential.⁴⁰ Government entities should also adopt a plain language policy (a commitment to use terminology understood by all involved) to build better understanding and consensus, as well as to facilitate implementation.⁴¹ Another approach is to empower existing farming alliances to participate in policy development. For example, Farmers for Climate Solutions is an alliance of Canadian farmers working together to develop and implement solutions for the climate crisis and inform the development of agricultural policy.⁴²

Provide more extensive information on how the development of the NDC was coordinated at the local level. The NDC makes clear that the development of provincial climate policies is informed by federal plans and frameworks, and that Indigenous Peoples are empowered to develop and implement their own climate actions. Nevertheless, it is unclear how climate policies are coordinated at the local level. For instance, it is not discussed whether any municipal or territorial committees or agencies have been established or engaged during local consultation processes. Providing a more complete description of the different (governmental) bodies involved in these processes, especially at the local level, can enhance accountability as well as prevent misunderstandings about the roles of different actors in supporting the development and implementation of the NDC.

Further strengthen policy coherence by extending consultation and collaboration coordination to other ministries, including the Ministry of Agri-Food and Agriculture, Health Canada, the Department of Crown-Indigenous Relations and Northern Affairs Canada (CRINAC), and Indigenous Services Canada (ISC). It is apparent from the NDC as well as the PCF and SCP that the development and implementation of climate policy involves clear coordination between the MoECC, federal organizations, and provincial ministries that address climate change. It is less clear, however, whether any federal or provincial ministries beyond the climate change policy sphere have been engaged in the process of formulating measures or policies. For instance, interviews reveal that engagement with the Ministry of Agri-Food and Agriculture may have been limited in the NDC development process. It is important to engage with relevant governmental bodies beyond the climate change policy sphere. This can prevent any contradictory or overlapping policies or lacking perspectives and inputs from key stakeholders, which may undermine effective implementation of the NDC.

Conduct a holistic food systems assessment to inform the development of the NDC, highlighting the climate mitigation and adaptation potential of food systems transformation, as well as other co-benefits and possible trade-offs. Food systems transformation holds multiple benefits for climate

change mitigation and adaptation, as well as improving health and creating new opportunities for economic development. Previous research has also established the strong interconnections between climate change, food security, and health in Canada, emphasizing the need to address them in concert.⁴³ As such, conducting a food systems assessment for the NDC can be highly valuable for identifying opportunities to increase the ambition of Canada's climate actions and emissions-reduction targets as well as addressing issues of health and food security. Furthermore, such an assessment can ensure that policies and measures maximize co-benefits and avoid trade-offs.

CONTENT OF THE NDC

TABLE 2: NDC CONTENT: KEY FINDINGS AT A GLANCE

Key findings

- The SCP includes measures to initiate a shift toward sustainable agriculture and engage with marginalized groups in the sector.
- The SCP puts forward measures to reduce emissions from (general) waste.
- The NDC includes a commitment to conserve Canada's natural ecosystems and territories, which is pursued through measures included in the SCP.
- Both the NDC and SCP recognize the importance of enhancing Indigenous food systems and food security, but no concrete measures are included to this end.
- Canada's NDC promotes a shift to a green economy that will create ample new jobs and support the development of green skills.
- The SCP includes large public investments in sustainable agriculture, conservation, and job creation.
- Despite the adoption of the Food Policy for Canada and the release of the new Canada Food Guide in 2019, neither the NDC nor its supporting documents include or refer to any measures that address food consumption, consumption-related health, or measures to promote a dietary shift.

Areas for improvement

- Under the different programs for sustainable agriculture, set criteria or specify what sustainable practices will be promoted as part of the transition toward a more sustainable, healthy, and equitable food system.
- Elaborate on measures for waste management to explicitly tackle food loss and waste.
- For the measures addressing green employment and skills, set targets for job creation in each economic sector to ensure a just transition toward a low-carbon economy that includes sustainable, healthy, and equitable food systems.
- Connect the recognition and support for the role of Indigenous Peoples in climate policy more explicitly to different policy domains, including food and agriculture.
- Integrate food consumption and the promotion of healthy diets in national climate policies.
- Set targets and offer incentives for local and sustainable food procurement by all publicly funded institutions, including schools, hospitals, and prisons.

The SCP includes measures to initiate a shift toward sustainable agriculture and engage with marginalized groups in the sector. The SCP established the Canadian Agricultural Partnership (CAP) with the aim to boost climate-smart agriculture in Canada, seeking to promote and increase the uptake of sustainable agricultural practices. The CAP also seeks to engage under-represented groups in agriculture — including women, youth, and Indigenous Peoples — to help them build entrepreneurial capacity and skills and strengthen their position within the sector. It is, however, unlikely that the CAP will have significant impact

on Canadian food systems.⁴⁴ The SCP also sets a target to reduce emissions from fertilizer use by 30% below 2020 levels by 2030. Finally, without specifying any concrete measures, the SCP states that it will support farmers in diversifying production by growing feedstock for biofuels.

The SCP puts forward measures to reduce emissions from (general) waste. This includes measures to introduce regulations to increase the number of landfills that treat methane emissions from biodegradable materials, likely including food waste, although this is not mentioned explicitly. Additional measures are aimed at exploring and investing in waste management to promote practices such as anaerobic digestion and landfill methane collection and use. Notably, however, outside of the NDC framework, the Canadian government has launched several initiatives, campaigns, and programs to tackle food waste,⁴⁵ although these are unlikely to be sufficient to adequately reduce waste emissions.⁴⁶

The NDC includes a commitment to conserve Canada's natural ecosystems and territories, which is pursued through measures included in the SCP. The NDC states that the Government of Canada is committed to protect and conserve 25% of Canada's land and oceans by 2025, and 30% by 2030. As part of this effort, the government will partner with provinces, territories, NGOs, Indigenous Peoples, municipalities, and private landowners to plant 2 million trees and restore wetlands, peatlands, grasslands, and agricultural lands. The NDC also includes two Indigenous-led conservation programs: the Indigenous Protected and Conserved Areas (IPCA) program and the Indigenous Guardians program. These programs also form a means to further support Indigenous Peoples' rights and self-determination.

Both the NDC and SCP recognize the importance of enhancing Indigenous food systems and food security, but no concrete measures are included to this end. The SCP states that the Government of Canada will enhance responsiveness to address vulnerabilities in Indigenous food systems, and that those measures included within the SCP will work to improve Indigenous food security. Nevertheless, besides these general assertions, there are no concrete measures proposed through which Indigenous food security and food sovereignty are safeguarded, nor are there any measures to support Indigenous access, control, and sovereignty over land.

The NDC also refers to provincial and Indigenous climate plans under its annexes. The following is included:

- *Provincial and Territorial Climate Action:* An overview of the different climate plans developed by Canada's provincial governments, who build on the framework for climate change mitigation and adaptation provided by federal policies under the PCF and SCP. As the reality of climate change and the size of economic sectors differ across the provinces, the respective plans vary in focus and goals. For instance, the climate plans of British Columbia or Ontario focus on mitigation by altering industries and infrastructure, while Saskatchewan and Manitoba put additional emphasis on agriculture and natural ecosystems.
- *Indigenous Climate Action:* The NDC provides a short overview of the National Inuit Climate Change Strategy (NICCS), a roadmap for a partnership between the Government of Canada and the Inuit to address climate change. The NDC also highlights current climate priorities and broad goals of the Métis in mitigation and adaptation. Both plans are also considered to contribute to the NDC target. However,

other than having established distinctive conservation programs led by Indigenous Peoples, no clear link or reference is made to measures that should support this commitment to reduce vulnerabilities in Indigenous food systems.

Canada's NDC promotes a shift to a green economy that will create ample new jobs and support the development of green skills. The NDC states that the Canadian government is committed to ensuring that the transition to a net-zero economy promotes diversification and job creation. The NDC pledges to deliver 500,000 new training and work opportunities as well as launching the Future Skills Initiative to align employees' capabilities with new green employment opportunities. However, it is unclear whether jobs in the food system are also considered within this plan.

The SCP includes large public investments in sustainable agriculture, conservation, and job creation. The SCP includes a 165 million CAD (131 million USD) investment to support the agricultural sector in developing clean technologies that help farmers to adopt sustainable practices. A further 100 million CAD (80 million USD) will be channelled toward establishing the Natural Climate Solutions for Agriculture Fund, which will be leveraged to finance new projects under a yet-to-be developed Canadian Agri-Environmental Strategy. In addition, farmers and grocery store owners will be able to request funding to cover up to 25% of their costs for energy-efficiency retrofits in their business activities. The earlier described commitments and actions to support conservation will be financed through a 3 billion CAD (2.4 billion USD) investment under the SCP. Furthermore, the NDC and SCP indicate that additional funding will be made available for the Indigenous conservation programs through investments in Canada's Nature Legacy Initiative. Finally, the SCP includes a 1.2 billion CAD (960 million USD) investment to deliver on 500,000 new training and work opportunities, and an additional 225 million CAD (180 million USD) investment is made in the Future Skills Initiative. These different investments and measures arguably reflect the need in Canada to provide more incentives and supports to farmers to change on-farm practices and become more sustainable, as currently the short-term costs of adapting sustainable practices may prevent many farmers from initiating change.⁴⁷ Notwithstanding, these investments largely support technological improvements and the development of best practices, which are unlikely to be sufficient to fully transform Canadian agriculture.⁴⁸

Despite the adoption of the Food Policy for Canada and the release of the Canada Food Guide in 2019, neither the NDC nor its supporting documents include or refer to any measures that address food consumption, consumption-related health, or measures to promote a dietary shift. The Food Policy for Canada is a systems-wide approach that circulates around six priority outcomes: 1) addressing challenges faced by communities; 2) connections within the food system; 3) food-related health; 4) Indigenous food systems; 5) sustainable food practices; and 6) inclusive economic growth. To this end, actions to enable growth for actors in the food system, tackle food insecurity, support healthy diets, reduce GHG emissions, and invest in agricultural innovations to maintain high-quality food production standards will be maintained and improved.⁴⁹ Additionally, the policy reviews existing national policies on food labelling, food fraud, and food loss and waste, and builds on existing federal initiatives in the food system. As a supporting governance body, the Canadian Food Policy Advisory Council is bringing in perspectives of different stakeholders with the aim of offering consensus advice to the Minister.⁵⁰ While its creation is encouraging, independent resources for the Council and its members would enable it to better respond to its brief and to provide more of a

counter balance to prevalent private sector dominated lobbying power. For the realization of key objectives and in order to support initiatives, the Government of Canada announced a 134.4 CAD million (107 million USD) investment in the policy from its 2019 federal budget,⁵¹ which will likely be insufficient to deliver on the breadth of the Food Policy.⁵² More recently, as part of its 2021 re-election campaign, the Liberal government included a commitment to invest CAD 1 billion in a national school food program — another arm of the Food Policy for Canada — over a 5-year period.⁵³

In comparison to previous guidelines, the 2019 Canada Food Guide more clearly promotes plant-based diets and deemphasizes the consumption of animal protein (to some extent).⁵⁴ This was the first time the Guide was developed by the Ministry of Health without meeting directly with food and beverage industry representatives.^{55,56} Rather, representatives of agricultural interest and lobby groups were invited to participate in the online consultation opened to the general public,⁵⁷ although there is evidence to suggest that interest groups nevertheless sought to influence the development of the Guide through the Ministry of Agriculture and Agri-Food.⁵⁸ Beyond its mandatory use for developing publicly subsidized meals and menus in facilities such as schools and daycares, interviewees indicate that the Guide may have a positive influence on the national perspective on healthy diets by building credibility for plant-based diets.⁵⁹ Neither the NDC, the PCF, nor the SCP, however, make any reference to the Food Policy or the Guide, nor do they indicate how their respective targets and measures may support the Food Policy and vice versa. Interviewees suggest that, both on a policy level as well as across Canadian society, understanding of the link between food consumption and environmental impact is very limited. Even within the new food guidelines, references to the environment are rarely made when promoting plant-based diets or recommending less consumption of meat.⁶⁰

AREAS FOR IMPROVEMENT

Under the different programs for sustainable agriculture, set evidence-based criteria or specify what sustainable practices will be promoted as part of the transition toward more sustainable, healthy, and equitable food systems. While the aim of the CAP, the Canadian Agricultural Strategic Priorities Program (CASPP), and the Canadian Agri-Environmental Strategy are to make agriculture and food production in Canada more sustainable, these programs currently do not specify which practices or technologies are to be promoted or supported. Yet, some practices or technologies may be particularly supportive for transitioning toward a sustainable food system in Canada. As such, it would be beneficial to adopt a sustainable food systems transformation perspective for these programs and to specify what type of practices and technologies should be promoted and supported. In this context, it is particularly important that the concrete criteria and practices that are specified as sustainable are informed by evidence, including international standards. In addition, they should be robustly determined in the public interest and protected from greenwashing (for example, following efforts to protect from lobbying and influence similar to the Canada Food Guide).

Elaborate on measures for waste management to explicitly tackle food loss and waste. Current measures included for waste do not explicitly recognize or address food loss and waste, despite Canada's food waste problem. As such, current measures to target biodegradable waste could be extended to account for food waste in particular. Furthermore, in parallel to food waste management, new measures could be introduced to prevent food waste, such as educational programs to raise awareness about food loss and

waste. Identifying complementary measures in the Food Policy for Canada can be a starting point for better addressing food waste, for instance.

For the measures addressing green employment and skills, set targets for job creation in each economic sector to ensure a just transition toward a low-carbon economy that includes a sustainable, healthy, and equitable food system. Central to the transition to a green, net-zero economy is leaving no one behind. As such, while the NDC and the supporting documents include measures to create new employment opportunities parallel to shifting to a sustainable community, it is important to ensure an equal and fair distribution of new employment and skill development opportunities across different economic sectors in Canada. As previous studies suggest that transitioning toward sustainable food systems creates new job opportunities,⁶¹ it is important to offer opportunities for skill development and employment that meet requirements for realizing this food systems transformation. It is equally important to provide financial support to ensure that current farmers are sufficiently resourced to transition toward more sustainable practices and meet sustainability criteria.

Connect the recognition and support for the role of Indigenous Peoples in climate policy more explicitly to different policy domains, including food and agriculture. The development process of the NDC, PCF, and SCP clearly demonstrate the importance of Indigenous Peoples to Canada's efforts to tackle climate change. However, except for the two conservation programs, this is not explicitly translated into more concrete roles for Indigenous Peoples in measures and policies that feed into the NDC, and no concrete links are made to food systems. This is particularly surprising for the SCP, which as discussed earlier does state that its measures will help support and strengthen Indigenous food systems. Thus, the NDC and the supporting documents could further demonstrate their commitment to empowering and engaging Indigenous Peoples in national climate policies by highlighting what role Indigenous Peoples will have within realizing measures for agriculture and food production. Additionally, measures should be included that tackle the causes of food insecurity among Indigenous communities. This includes addressing the transportation and infrastructural challenges for delivering food products to remote areas and communities in order to increase food affordability and access, as well as provide financial support for local capacity-building and infrastructure to establish thriving Indigenous food systems.⁶²

Integrate food consumption and the promotion of healthy diets in national climate policies. This may be achieved by identifying and exploiting synergies between measures and policies included under the NDC with those included under the Food Policy for Canada. Furthermore, the Canada Food Guide could be used to formulate policies for incentivizing the consumption of healthier, plant-based diets. In particular, the Canada Food Guide could be used to develop federal and provincial mandatory standards for school feeding programs.⁶³ Adopting the Canada Food Guide under the NDC may also simultaneously work for bringing more attention to the link between diets and food consumption and the impact on the environment and climate change. In initiating a shift in diets, however, it is important to account for the cultural identities attributed to food among Indigenous Peoples. Here, the consumption of animal protein is strongly embedded in traditional and inherited ways of fishing and hunting. Policymakers should consider that these forms of meat consumption are less environmentally impactful than conventional production and consumption.⁶⁴

Set targets and offer incentives for local and sustainable food procurement by all publicly funded institutions, including schools, hospitals, and prisons. Local and sustainable food procurement refers to food-purchasing practices that prioritize locally and sustainably grown ingredients and promote dietary shifts.⁶⁵ By moving away from imported or long-distance ingredients, transport-related carbon emissions are significantly reduced. In turn, through intentional purchasing, preparation, and education, food waste is minimized. Finally, plant-forward menus that are evidence-based and aligned with the Canada Food Guide can be used to champion healthy and sustainable eating. The adoption of the Canada Food Policy and the more recent commitment by the incoming Liberal government to school food offer a valuable opportunity to advance these policy mechanisms that lower carbon, protect biodiversity, and build sustainable livelihoods in Canada.

IMPLEMENTATION OF THE NDC

TABLE 3: NDC IMPLEMENTATION: KEY FINDINGS AT A GLANCE

Key findings

- The implementation of the NDC involves a complex governance structure that partially draws on the PCF.
- Monitoring of the NDC appears to be at least partially covered by the PCF and national legislation.
- To facilitate the uptake and implementation of agriculture practices as part of the NDC, the SCP has launched regional science-farmers collaborative programs known as Living Labs.
- Under the SCP and PCF, multiple public investments have been made — and more are underway — to support the transition to sustainable agriculture and strengthen conservation of agricultural and natural ecosystems.
- While several elements have been considered for the implementation of the Canadian NDC, interviewees indicate that implementation challenges remain.

Areas for improvement

- Establish platforms that empower and resource marginalized groups, civil society, and other stakeholders to actively engage in the implementation of measures under the NDC, SCP, and PCF.
- Address stakeholder fragmentation and power imbalances in Canada in order to realize strong and sustained implementation of policies that address climate change and transform food systems in the public interest.
- Clarify how the different policy documents and climate policies that feed into the NDC are monitored, and whether the monitoring process is informed by external engagement.
- Provide more (financial) support for scaling up local food community initiatives, not only to increase the uptake of sustainable food production practices but also to drive food system change.

The implementation of the NDC involves a complex governance structure that partially draws on the PCF. According to the NDC, the PCF establishes the governance structure that coordinates the implementation of all the climate policies included in the NDC. The earlier mentioned inter-ministerial fora — the CCME and the Deputy Ministry Committee on Climate Plan Implementation — play an important role in the coordination of this implementation process. Specifically for the implementation of measures under the PCF, federal, provincial, and territorial governments work together and engage in ministerial tables. However, according to interviews, the Canadian governance structure is considered highly fragmented, with different levels of government engaging ineffectively. This can often lead to the partial or weak implementation of government programs and measures.⁶⁶

Monitoring of the NDC appears to be at least partially covered by the PCF and national legislation. Progress on PCF implementation — whose measures feed into the NDC — is published annually through

a synthesis report that is made publicly available online. Additionally, the Canadian Net-Zero Emissions Accountability Act, which formalized the emissions-reduction target set under the NDC, requires annual reporting on the current emissions-reduction trajectory. It is unclear, however, whether this also involves reporting on progress related to NDC implementation and impacts. For both the Act and the PCF, it is also unclear whether they collectively cover the monitoring process for the NDC, especially as no information is provided on the monitoring process for the SCP.

At least part of the monitoring process for the climate policies included in the NDC relies on engagement with non-governmental stakeholders and external advice. For the PCF, the government engages with external experts to inform the monitoring process. This includes engagement on how to assess the effectiveness of the measures included in the PCF as well as identifying best practices for realizing policy targets. Additionally, Indigenous Peoples are engaged in the monitoring process under the PCF through joint committees and Indigenous expert panels to provide recommendations on PCF programs and measures. For conservation measures under the SCP, the IPCA and Indigenous Guardians programs empower Indigenous Peoples to participate in the implementation and monitoring of Canada's commitment to conservation. Key stakeholders — including Indigenous Peoples — participate in the review and enhancement of emissions-reduction targets under the Canadian Net-Zero Emissions Accountability Act. More specifically, Indigenous Peoples can develop indicators for monitoring that reflect their climate change priorities.

To facilitate the uptake and implementation of agriculture practices as part of the NDC, the SCP has launched regional collaborative programs. The SCP launched the Agricultural Climate Solutions (ACS) program to establish regional hubs — more commonly known as Living Labs⁶⁷ — for collaborations between farmers, scientists, and other sectoral stakeholders in each province to develop and share knowledge and best management practices in agriculture to mitigate climate changes. These hubs should support and facilitate the implementation of measures for sustainable agriculture as part of the efforts to mitigate climate change under the SCP.

Under the SCP and PCF, multiple public investments have been made (and more are underway) to support the transition to sustainable agriculture and strengthen conservation of agricultural and natural ecosystems. Under the PCF, 10 million CAD (8 million USD) have been invested in establishing the CASPP, which provides funding for enterprises to enhance environmental sustainability in the agricultural sector. As part of the SCP, an additional 200 million CAD (159 million USD) investment has recently been committed to support on-farm climate action to accelerate emission reduction, and 60 million CAD (48 million USD) has been committed over 2020–2022 for the Nature Smart Climate Solutions Fund to protect wetlands and plant trees on farms.

While several elements have been considered for the implementation of the Canadian NDC, interviewees indicate that implementation challenges remain. One interviewee notes that the goals for agriculture included under the different policy documents informing the NDC are not accompanied by more detailed measures that clearly outline the activities, actors, and budget necessary for implementation. Limited engagement with agricultural stakeholders during policy-making has been identified as one of the contributing factors to this implementation gap.⁶⁸

AREAS FOR IMPROVEMENT

Establish platforms that empower and resource all marginalized groups, civil society, and other stakeholders to actively engage in the implementation of measures under the NDC, SCP, and PCF.

Using similar approaches as those for Indigenous Peoples, marginalized groups and stakeholders should also be more involved in the implementation of the NDC. Especially among farmers, there is untapped potential for engaging with large coalitions that are willing to implement sustainable practices for agriculture in order to address climate change.⁶⁹ As such, additional platforms and programs could be established to engage with additional stakeholders and broaden participation in the implementation of climate actions. To be truly inclusive, these platforms should be adequately resourced, including through capacity-building and training.

Address stakeholder fragmentation and power imbalances in Canada in order to realize strong and sustained implementation of policies that address climate change and transform the food system.

While the framework used for implementing measures and policies under the PCF suggests efforts to overcome issues of stakeholder fragmentation in the operationalization of climate policy, this could be strengthened with additional mechanisms. For instance, committees or governmental working groups representing ministries, governmental departments, as well as different levels of government could be established to coordinate the effective implementation of climate change and food policies.⁷⁰ In this regard, broadening the participation of the Canadian Food Policy Advisory Council to include government officials and stakeholders working on Canada's climate policies can be an effective measure to reduce fragmentation, prevent overlaps in implementation, and build synergies across institutions. Such an approach would require that further funding is channelled to the Canadian Food Policy Advisory Council. In turn, FTP agreements can also be helpful for harmonizing regulatory approaches.⁷¹ Finally, addressing stakeholder fragmentation also requires a recognition of the power imbalances that exist throughout Canadian food systems, as well as efforts to address it, for example, by channelling resources to associations that represent marginalized food systems stakeholders.

Clarify how the different policy documents and climate policies that feed into the NDC are monitored, and whether the monitoring process is informed by external engagement.

The different policy documents and the NDC only include partial information on how the implementation of associated measures is monitored. While it is clear that the Canadian Net-Zero Emissions Accountability Act will be used to track progress on emissions-reduction targets, it is less clear how this process is structured, and whether it is to function as the main monitoring mechanism of the NDC. Although the PCF details its own monitoring mechanism, the link to the NDC monitoring process is less clear, and the SCP does not provide any detail on the monitoring of its measures and actions at all. Clarifying this monitoring framework is important for streamlining implementation, as well as to indicate where and how external stakeholders are engaged, and how research or other assessments are used to improve climate actions.

Provide more (financial) support for scaling up local food community initiatives; not only to increase the uptake of sustainable food production practices but also to drive food systems change.

According to multiple interviews, several food initiatives led by local communities across Canada have the potential to introduce alternative and sustainable approaches to food production and consumption.⁷² In addition, these initiatives can generate more community cohesion and safety, greater

cultural expression, reduced social isolation, and ultimately better health and well-being.⁷³ Often, however, these initiatives face significant barriers when they attempt to scale up and grow, and the Canadian government lacks appropriate programs to support them.⁷⁴ By strengthening these initiatives, the Government may indirectly enhance the implementation of NDC measures for sustainable food production, as well as improve public participation in food systems transformation.⁷⁵ This could be done, for instance, by extending already existing financial programs (such as the CAP) to also allow for financial support to local food initiatives, or by designing additional, tailored subsidies and fiscal policies.

CASE STUDY SUMMARY

Nourish, Canada

Focused on the interface between food and healthcare, Nourish is a Canadian community of practice and collaborative initiative that empowers healthcare leadership in climate action and health equity. Nourish envisions a future *“where the health of people and the planet are supported by a healthcare system that centres prevention, equity, and sustainability across the continuum of care.”* They aim to accelerate a local and global movement where healthcare institutions work in collaboration with place-based community actors and provincial/territorial governments to address upstream social and ecological determinants of health. Working through the lens of food, they aspire to shift practice and policy to transform food served in hospitals and long-term care and to nourish preventive health for communities toward a planetary healthcare system.

Nourish has conducted a holistic food systems assessment and an inclusive program of stakeholder engagement, with strong representation from Indigenous Peoples/groups and the health community, to identify a program of work that highlights climate mitigation and health co-benefits. Partnership and collaboration are the critical foundation of Nourish’s work, underlying their objectives of narrative shifting and movement-building in both the health and food systems, through the collective power of engaging with its diverse systems actors.

Nourish plays the role of a “field catalyst,” building an agile leadership community of diverse players with a shared commitment to change systems that none could accomplish on their own. By supporting “anchor leadership” in healthcare and encouraging collaboration with communities, they build evidence for other adopters to follow, and credibility for new practices and policies focusing on climate leadership through food.

The Nourish team have coached, trained, and guided a team of healthcare innovators and food/health systems change leaders who have implemented a variety of projects within their own healthcare organizations and several collaborative projects. These include Indigenous food pathways, food for health policy, sustainable menus, values-based procurement, and measuring patient food experiences. Nourish focuses on reducing food waste and shifting toward more plant-based diets within the healthcare sector as some of the most significant strategies for reducing carbon emissions — for example, through changing hospital menus, food service operations, and procurement. There is explicit recognition and support for the role of Indigenous Peoples in climate policy and a strong focus on recognizing the unique needs and relationships of Indigenous People and communities in ways that are rooted in culture, land, and place.

Further information and access to the detailed case study can be found [here](#).

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