

The Business Case for **Establishing the National Index** on Agri-Food Performance Affirming Canada's Agri-Food Sustainability Leadership

Version 1

JUNE 2021























































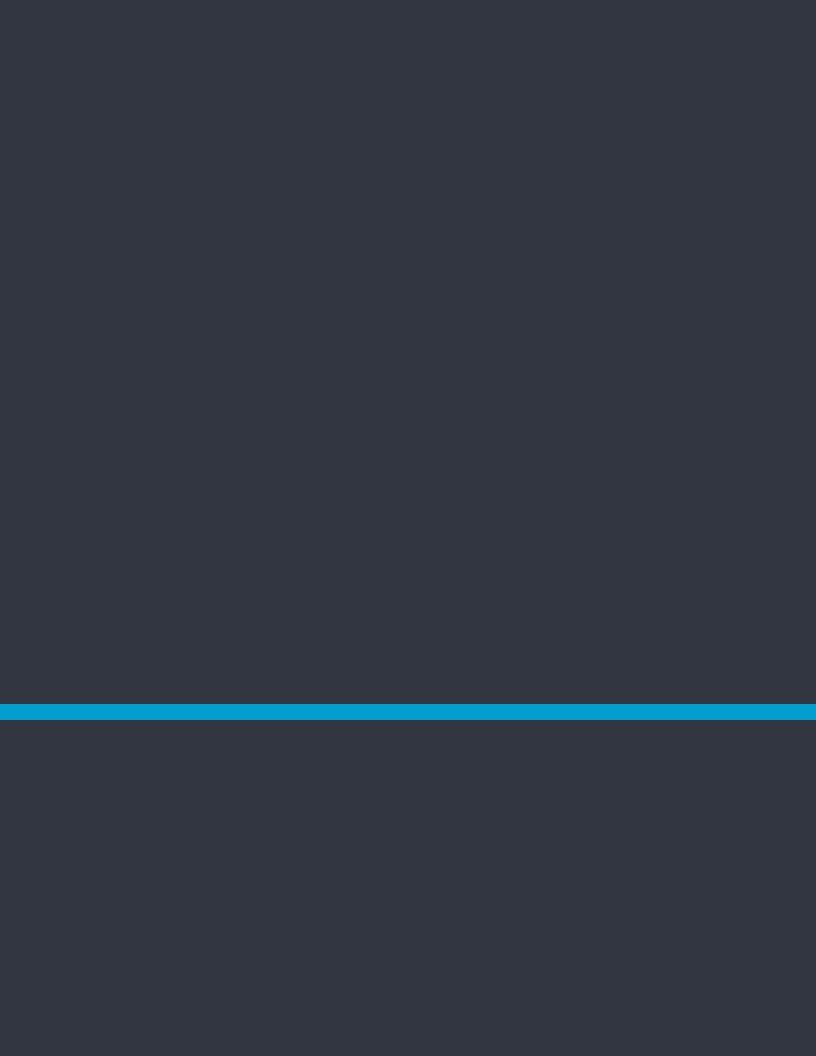












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ABOUT THIS PROJECT

A diverse coalition of thirty-four partners in 2020-2021 have come together to consider the need for and to advance the National Index on Agri-Food Performance.



Twitter key message

Establishing Canada's 1st agri-food sustainability index will affirm Canada's agrifood leadership, create opportunities to add value and mark progress on societal priorities for a more demanding food world.

FOR INFORMATION

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The Business Case for Establishing the National Index on Agri-Food Performance | Affirming Canada's Agri-Food Sustainability Leadership

Version 1

Executive summary

This document presents the business case for the establishment of Canada's first agri food sustainability index as a means to benchmark the sustainability of the Canadian agri-food industry.

The proposed National Index on Agri-Food Performance will be based on globally acceptable metrics relevant to Canada's agri-food context. The index is necessary because agri-food is one of Canada's most important export sectors. Proof of sustainability is increasingly required to compete at home and abroad in an industry that is expected to show progress toward environmental and other societal outcomes. Given the economic importance of the agri-food industry to Canada, we must seize this opportunity to take an international lead in the development of a robust sustainability framework that presents a credible view of performance for Canada's food customers, investors, regulators and consumers. A Centre for Agri-Food Benchmarking with private-public governance is proposed to be set up to develop and publish the index.

A diverse private—public coalition has assembled to advance this priority. Canada needs this index to express and leverage the value of its agri-food sector as a green, world-leading and growth-driving economic engine, which will be essential for a post-pandemic society that wishes to maintain food security while increasing prosperity and protecting the environment. This document seeks input and support-in-principle from stakeholders to make the proposed index a

reality. A funding submission will proceed in the fall of 2021 to launch the development of the index in 2022. Immediate action is therefore required.

The National Index on Agri-Food Performance will allow Canada to present internationally accepted credentials that will be used to grow and protect market share, project a stronger presence on the international stage, and build greater trust in the domestic marketplace. It will inform policy and strategy and support change to facilitate alignment. The index will also confirm meaningful environmental and socio-economic improvements across the Canadian food system.

In the global race to reduce environmental impacts, meet net-zero-emission targets, and improve health and societal outcomes,1 global agri-food is facing unparalleled scrutiny. This is shaping consumer food choices, market access requirements, regulations, standards, shareholder expectations and (increasingly) access to capital. Capital markets are requiring greater transparency of non-financial risks based on environmental, social and governance (ESG) factors. Global indices are benchmarking all aspects of sustainability, but these often ignore the agricultural context in Canada, including the potential for carbon sequestration in the vast areas of Canadian agricultural landscape. Canada must take a lead in the development of sustainability benchmarks to ensure such factors are included. Doing so will affirm the role of the agri-food sector as a critical solution in combating climate change.

¹ UN Sustainable Development Goals (SDGs) and Paris Accord on greenhouse gas emissions. New biodiversity goals are under development

Canada's trusted food value proposition is being challenged by the response of other countries to these developments. The EU believes that its sustainable food is a competitive advantage and is establishing new market access rules and embedding green deal diplomacy into its trade agreements to advance its mission. A new US coalition of producers, ranchers and companies aims to halve the US agri-food carbon footprint in 10 years. Although some Canadian sectors and companies have set bold goals and world-leading practices to advance sustainability (and Canada is among the safest, most sustainable, and most responsible food leaders), the country lacks an up-to-date and integrated picture of sustainability from farm to fork. The proposed Centre for Agri-Food Benchmarking would fill this gap by developing the National Index on Agri-Food Performance, starting with an initial version, "index 1.0". Spanning four priority blocks (Figure 1), the centre would collaboratively develop and validate pertinent science-driven indicators.

The Centre for Agri-Food Benchmarking will benefit from shared private—public governance and funding to ensure global credibility. Key committees with diverse representation spanning the agri-food value chain will be chaired by producers, industry and non-government organizations with the government as vice-chair. Sustainability metrics will be drawn from current benchmarking initiatives, Canada's statistical capacity, and domestic and international platforms to present this high-level view of performance in alignment with national and global food goals.

The new index will facilitate Canada's agri-food ambition by demonstrating its sustainability leadership.² This business case – supported in principle by the private-public coalition shown on the cover³ – is a call-to-action to make this happen.⁴



Figure 1. National Index on Agri-Food Performance priorities.

through the Convention on Biological Diversity.

Although somewhat dated, the direction is clear: "By 2025, Canada will be one of the top five competitors in the agri-food sector, recognized as the most trusted, competitive and reliable supplier of safe, sustainable, high-quality agri-food products and an innovator in value-added products to feed the dynamic global consumer...". A Report from Canada's Economic Strategy Tables, Innovation, Science & Economic Development Canada, 2018.

³ Earlier work on this project (2020) also included Environment & Climate Change Canada, Maple Leaf Foods, National Research Council and the Standards Council of Canada. See Appendix C for list of partners.

⁴ Throughout this document, quote boxes are used to highlight selected and supportive partner comments.

AT A GLANCE VIEW

National Index on Agri-Food Performance

GLOBAL GOALS

Premise

Global agri-food not seen as sustainable, healthy or inclusive—requiring urgent & transformative change

SUSTAINABLE GOALS



Sustainable Development Goals 2030



Global Biodiversity Goals 2030



PARIS2015

Paris Accord: GHG reduction targets 2030



Paris Accord: "race to net-zero" 2050

DRIVING FOUR CHANGES

Trade & new rules dictated by sustainability criteria

About linking market access & regulatory requirements to sustainability goals, domestically & abroad (eg, EU Farm to Fork Strategy).

Can Canadian agri-food compete?

2 Countries, companies, sectors competing on sustainability & trust

About setting targets & verifying progress, incl. for consumer-facing claims. Countries are positioning themselves as being "the most sustainable."

Is Canada ceding sustainability leadership?

3 Benchmarking performance is pervasive & intensifying

About the relevance of global indices. These shape national food reputations & NGO scorecards assess companies/ sectors.

Is Canada leaving valuable metrics off the table?

4 Changing materiality of risk disclosures (ESG*)

About new reporting requirements for companies & supply chains influencing access to capital.

Can Canada attract a greater share of investment?

NEED

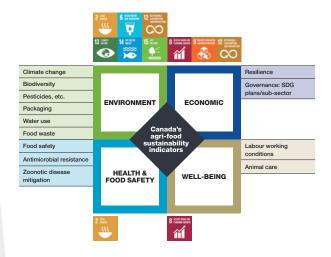
^{*} ESG: environmental, social, governance factors



An integrated picture of sustainability performance

(from farm to retail) for Canada's agri-food sector becomes a key tool to help compete, add value & improve outcomes for people & ecosystems

CANADA'S 1st AGRI-FOOD SUSTAINABILITY INDEX



A national index** is relevant to Canada's agricultural context, synched with global goals & verified globally

Developed by a multi-stakeholder process & rolling-up relevant sector metrics linked with national statistics

Enable competitiveness. Enhance trust.

- Grow / protect market share
- Project stronger international presence
- Affirm Canada's food brand
- Enable marketplace claims
- Agriculture seen as a climate solution
- Demonstrate genuine progress on sustainability outcomes
- New lens to align policy & strategy

RESPONSE VALUE

•

^{**} Proposed index framework under development; initial indicators

Purpose, the ask, overview







Purpose of the business case

National Index on Agri-Food Performance

This business case has been prepared for key stakeholders in order to solicit their feedback and support-in-principle for the development of Canada's first agri-food sustainability index: the **National Index on Agri-Food Performance.**

2 Centre for Agri-Food Benchmarking

By the fall of 2021, a revised business case will be presented, including a financial plan as the basis to formally secure financial and/or in-kind commitments to proceed with the creation of a new **Centre for Agri-Food Benchmarking**. The role of the new centre will be to establish, maintain and publish the index.

Vision

Canada sets the global bar for benchmarking its agri-food sustainability outcomes. The National Index on Agri-Food Performance is universally embraced by the Canadian agri-food community because it creates new economic value for producers and agri-food companies and delivers social and environmental benefits for Canada.

The ask

Stakeholders will be asked initially to consider points 1 and 2:

Input

Provide input to the coalition on the business case (version 1) and proposed project.

Support-in-principle
Provide support-in-principle for this business case as a way to help build momentum around its intent and engage in its further development and refinement. (A separate document outlines

By fall 2021, consider a formal commitment and/or letter of support to ensure successful funding applications (based on version 2.0 of this business case, or addendum).

Overview of the index

participation in this activity.)

- The index enables Canadian producers, agrifood companies, governments and others to champion this country in the domestic and global marketplace. Presenting Canadian agrifood as a vital, world-leading and responsible agrifood provider enables market access, improves competitiveness and provides internationally accepted credentials to back claims being made about food production and supply (including for those sectors that have already established proprietary or sector-specific benchmarking).
- The index is not intended to be prescriptive, but will instead provide customers, investors and regulators with confidence in the sustainability credentials of Canada's ingredients and value-added foods by providing benchmarks for priority sustainability outcomes. The index will facilitate global progress toward beneficial outcomes in terms of health and the environment.

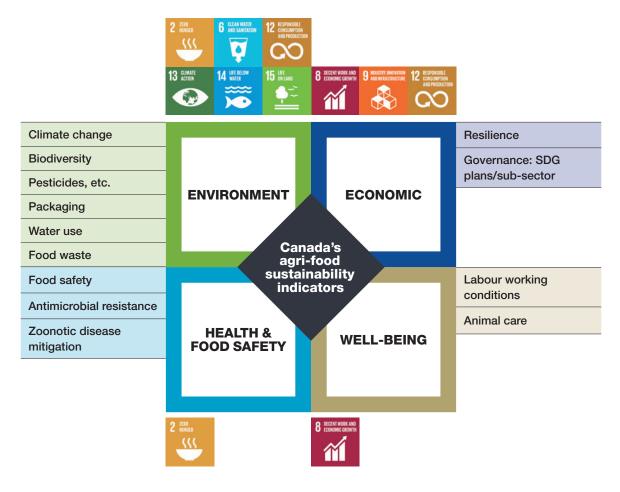


Figure 2. Preliminary indicators cross-referenced to selected UN SDGs.

QUICK VIEW | How the index may look

A high-level view of the proposed index is shown in Figure 2. Four sustainability priority blocks will be addressed, each including a variety of indictors cross-referenced to the UN Sustainable Development Goals (SDGs). These indicators, such as climate change and antimicrobial resistance, are essentially placeholders and are indicative of what could be measured.

QUICK VIEW | How the index would be developed

 The index will be informed by top-down goals such as the SDGs and investor-led ESG factors as well as bottom-up goals based on current producer and company activities in the agri-food sector (Figure 3), as captured by

- commodity organizations or initiatives. We will base the index on science-driven metrics and rely on selected verification platforms to ensure relevance and credibility
- The metrics will also reflect Canada's agricultural context, a key test of materiality. To develop a consolidated set of selected performance outcomes, the national index will rely on available national data and statistics supplied by commodity and sector-wide platforms and not directly from individual producers.

Due diligence

The need for a National Index on Agri-Food Performance was explored by 34 partners in 2020–2021 (Appendix A). Their investment enabled a robust outreach and research program



Figure 3. The national index would be informed by top-down and bottom-up goals and metrics.

whose milestones are listed in Appendix B. The program was divided into phases focusing on the overall concept (phase 1, Feb. 2020 to Jan. 2021) and the index governance model (phase 2a, Feb. to April 2021).

Some 350 stakeholders attended webinars with leading domestic and global speakers, along with many one-on-one virtual consultations. Two major reports were published. In October 2020, a scan of sustainability target-setting revealed the extent of

benchmarking across the food system and its implications. In January 2021, a detailed report expressed the rationale for a national index and presented a blueprint (see cover view). The latter report included two case studies on indicator development (greenhouse gas,



sequestration and biodiversity) and an academic paper on global indices.

In April 2021, phase 2a was completed by elaborating on the governance and operational model of the Centre for Agri-Food Benchmarking. The output of phase 2a is this business case which outlines the model and its suggested governance framework (Appendix C). Another objective addressed in this phase was attracting greater global visibility for Canada's initiative by advancing a national index, which is discussed under the value proposition.



Loblaw is committed to reducing its environmental impact and helping to build a resilient food sector. Through continuous improvements, setting measurable targets and investing in our communities, we strive to embed accountability and best practices across our company, brands and through our supply chains. We believe that a national benchmark for agri-food sustainability in Canada will help advance these efforts and continue to build trust in our food systems both locally and globally."

JENNIFER LAMBERT

SR. MANAGER, SUSTAINABILITY, LOBLAW COMPANIES LTD.

Needs assessment & value proposition







Needs assessment

As scrutiny of global agri-food practices intensifies and global goals seek to transform food production,⁵ three clear expectations are apparent:

- The global agri-food community is expected to play an even greater role in helping to achieve these goals.
- The global agri-food community will need to show (and validate) its progress toward these goals.
- Leveraging these actions and insights can be used to create more commercial value for producers and the food sector, thus accelerating benefits for society and the environment going forward – the much desired win-win.

The reasons for benchmarking Canada's sustainability credentials is summarized in Figure 4.

1. THE NEED TO COMPETE ON SUSTAINABILITY

a) Demonstrating stewardship is a differentiator

- Countries are adapting their strategies to demonstrate stewardship and ensure market access for their brands abroad. But advancing a trusted food brand requires vigour; claims must be transparent, genuine and substantiated.
- Even though a number of Canada's commodity sectors and companies have embarked upon their own sustainability benchmarking initiatives, it is clear that national-level responses are being advanced abroad and that driving up greater alignment on global goals is generating new pan-sector activity, as portrayed below:
 - O New Zealand⁶ and Ireland⁷ have developed sustainability dashboards for their export-dependent agri-food sectors.
 - O American producers have assembled a broad coalition to advance a sustainable development strategy that includes becoming carbon neutral/negative by 2035.8



Canada is a global leader in agri-food. We produce and process some of the most safe, nutritious and reliable food in the world. Outcomes-based measures and benchmarking will further substantiate our brand claims around the world. The use of data in developing these benchmarks is an essential component and this work underscores the exponential value of agri-food data."

RAY BOUCHARD

BOARD CHAIR, ENTERPRISE MACHINE INTELLIGENCE & LEARNING INITIATIVE (MANITOBA)

8 U.S. Farmers & Ranchers in Action, 2021.

⁵ For example, achieving net zero emissions, halving food waste, and improving food security (SDGs, Paris Accord goals).

⁶ Synthesis Report, 2019, New Zealand Sustainability Dashboard Project. "Future-proofing resilience of New Zealand agriculture" is in response to consumers in foreign markets increasingly requiring verification of New Zealand Inc.'s "clean-green assertions."

⁷ Origin Green, Bord Bia (the Irish Food Board). With some 90% of Ireland's food production being exported, it "pioneered" the world's first national food and drink sustainability program with measurable sustainability targets across all its supply chains.



Figure 4. Summary of needs assessment.

- O With the financial support from the Australian government, producers there are advancing an *Australian Agricultural Sustainability Framework* to showcase the farm sector's sustainability and biodiversity stewardship.⁹
- O The EU regards its sustainably-produced food as a competitive advantage and has a new Farm to Fork Strategy to advance it.

b) Market access, trade & rules

The context in which the sector accesses markets and competes is changing, ¹⁰ such as:

 The EU is embarking on green deal diplomacy to influence global trade according to its sustainability goals and it is likely to restrict the import of foods deemed unsustainable.¹¹

- President Biden is "positioning the U.S. agricultural sector to lead the shift to net-zero emissions while providing new economic opportunities for farmers."
- The UN "race to net-zero" demands a reinvigorated approach. ¹³ Today, some 140 countries (including Canada ¹⁴) have pledged to meet net-zero emissions by 2050. This is leading to a variety of new policies and regulations here and abroad to enable change. (In response, companies and sectors are announcing commitments to advance their net-zero journeys.)
- The federal government of Canada reflects the growing urgency to fight climate change, protect the health of the environment and support resiliency. Policy initiatives include the first-ever Food Policy for Canada (2019) and commitments to reduce food waste and to reduce national emissions from fertilizers by 30% below 2020 levels. 15

⁹ National Farmers Federation (Australia).

¹⁰ Certification is already required to gain and maintain market access for some products. Canada's agri-environmental performance indicators certify canola to access European and U.S. biofuel feedstock markets.

¹¹ EU Farm to Fork Strategy, 2020.

¹² Fact Sheet: The American Jobs Plan, The White House, March 31, 2021.

¹³ Race to zero campaign, United Nations Climate Change.

¹⁴ Budget 2021 contained provisions to reduce GHG emissions 36% from a 2005 baseline by 2030, achieve net-zero emissions by 2050, and an additional \$200M investment supporting immediate on-farm climate action under the Agricultural Climate Solutions program.

¹⁵ A Healthy Environment and a Healthy Economy: Canada's Strengthened Climate Plan to Create Jobs and Support People, Communities, and the Planet (2020). The government pledges to work with fertilizer manufacturers, farmers, provinces, and territories, to develop a strategy and approach to meet it.

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2. THE NEED TO STEP-UP BENCHMARKING TO OPERATE

a) Canada's reputation is being defined abroad

Canada's sustainability record is being assessed by a host of global indices (with more in development). Earlier work within this project delved into how some of these are ranking Canada and the agri-food sector on meeting global goals and in addressing climate change, environment, nutrition, food safety, animal care and human rights issues. Global benchmarking is now pervasive and mainstream. But most of them do not reflect national circumstances which raises questions about their relevance. The upshot, if we do not measure our own performance, others will continue to do so. Take one example:

O Action against climate change makes up 24% of Yale's *Environmental Performance Index*, a global assessment of environmental and biodiversity performance across 180 countries.¹⁷ European countries dominate that list (16 of the top 20 places). Canada ranks 20th overall. On per capita GHG emissions (a sub-indicator), Canada ranks 168th (but emissions intensity is not measured, a key indicator of this country's leading agri-food sustainability performance). The only indicator for sustainable agriculture is nitrogen, and Canada's ranks 13th on this measure.

b) Attention to global goals & progress is rising

Attention to global food issues will heighten as the countdown proceeds to meet the UN SDGs in 2030. The breadth of these goals is shaping dialogues and actions both domestically and globally, among governments, NGOs and across agri-food supply chains. The focus on climate change, biodiversity and social and health goals will not wane. Three major events will accelerate this attention in late 2021 alone, furthering the attention to global agri-food practices and shortcomings:

- O In September, the UN Global Food Systems Summit will address on the gamut of social, health and environmental issues facing global food.
- O In October, the UN Convention on Biological Diversity will focus in part on the impact of global agriculture and food production on ecosystems and biological diversity.
- O In November, the UN Climate Change Conference will encourage further emissions reductions and profile companies and countries committing to net-zero targets.



Data and metrics play a significant role in tracking and improving environmental measures in the agriculture sector and can help enhance Canada's reputation as a trusted, safe and sustainable food leader. By highlighting these environmental, social and economic benefits, the national index will make Canada more competitive, creditworthy, innovative and responsive on both the domestic and international stage."

STEVEN R. WEBB

CEO, GLOBAL INSTITUTE FOR FOOD SECURITY

¹⁶ A more detailed examination of global indices is found in the October 2020 and January 2021 reports as well as a contributing research paper to this project by the Arrell Food Institute, December 2020.

¹⁷ Environmental Performance Index, Yale Center for Environmental Law and Policy, 2020.

3. THE NEED TO DISCLOSE MATERIALITY OF RISKS/ OPPORTUNITIES

a) Investor-driven environmental, social and governance (ESG)

- Institutional investors and financial institutions are assessing the materiality of non-financial risks and opportunities facing companies, economy-wide, based on environmental, social and governance factors. Despite the need for more standardized ESG disclosures (markets require consistent metrics), ESG is gaining momentum. Capital markets are gauging companies' plans to attain net-zero-emissions, respond to biodiversity pressures and make progress on improving social outcomes.
 - O ESG assets under management have grown by 111% in Canada and 83% in the US between 2014 and 2018.¹⁸
 - The value of global assets held by institutional investors signing up to ESG principles exceeds US\$100 trillion.¹⁹
- Many agri-food companies are publicly reporting on ESG priorities and global goals to their shareholders. Despite this, agri-food companies thus face increasing scrutiny of their ESG performance and our work will be informed by emerging ESG requirements. As companies are obliged to boost their

transparency, they must also disclose the role their supply chains play in advancing sustainability objectives, including for ingredient-sourcing.

b) Influencing the availability/cost of capital

With ESG reporting accelerating, it is starting to influence the availability/cost of capital. While a nascent development, banks are starting to offer large borrowers lower rates if they commit to sustainability targets.²⁰



The opportunity to be the global leader in safe and sustainable food is one that Canada should eagerly embrace. We're uniquely equipped to do so, not only because of our abundant natural resources, but also because of our human resources, reflected in both education and research. This project, which aims to set a national framework for sustainability targets in food, is an important step along the way to the grand vision of Canada's agri-food leadership."

EVAN FRASER

PHD, DIRECTOR, ARRELL FOOD INSTITUTE, UNIVERSITY OF GUELPH

¹⁸ ESG in Food and Agriculture, BMO, Presentation to partners, February 2021.

¹⁹ ESG in Food and Agriculture, BMO, Presentation to partners, February 2021.

Maple Leaf Foods became the first Canadian company to receive sustainability-linked credit terms. BMO Press Release, Dec. 11, 2019.

Value proposition

Figure 5 summarizes the value of benchmarking in terms of improving competitiveness, delivering better outcomes for the sector and the planet and revealing how an index can become a policy lens.

1. DERIVING VALUE FROM SUSTAINABILITY METRICS

a) Canadian agriculture is a global climate solution leader

- Canada has a good sustainability story to tell. One of the most important sustainability factors in Canadian agriculture is carbon sequestration, which offsets the emissions from crops and livestock.²¹ It has been well-publicized to date that crop and livestock production contributes just over 8% of Canada's overall GHG emissions compared to 23% globally.²² But relying on such historic performance is insufficient for a changing food world and a new national index needs to capture a deeper and broader picture of performance across Canadian agri-food.
- Fortunately, benchmarking sustainability is enabled by the fact that farmers, themselves, are driven to improve their own productivity and are early-adopters of innovative practices.
- Improving soil health and minimizing inputs makes good business sense thereby boosting productivity, improving the economics of farming and building resilience to climate change. The widespread adoption of science (such as genomics for crop and livestock breeding) and technology (such as precision agriculture and feed innovation) has led to innovations in best management practices at the farm and ranch level. Many Canadian producers already employ best agronomic practices to achieve these benefits, but more concrete measurements are required to quantify the ecosystem and climate change mitigation benefits of these actions and to identify areas that lack sufficient progress. In short, a compelling national benchmark is only possible by the responsible actions being taken by individual producers and companies all across the country.
- The proposed index will demonstrate to the marketplace that Canada can mitigate climate change and improve other environmental outcomes while remaining a major food producer. This action will enable market access and help to monetize sustainability.



Canada's ace up its sleeve on agri-food sustainability targets is the millions of acres of native grassland, tame pasture and hay lands, forests, hedgerows, wetlands, lakes and streams that occur on our farmlands, which provide habitat for many thousands of wildlife species, from tiny pollinators to birds and large mammals. The stewardship of these lands by producers – and demonstrating this – should be part of our story."

CAROLYN CALLAGHAN

SENIOR CONSERVATION BIOLOGIST FOR TERRESTRIAL WILDLIFE, CANADIAN WILDLIFE FEDERATION

²¹ Efficient Agriculture as a Greenhouse Gas Solutions Provider, CAPI, 2019.

²² Efficient Agriculture as a Greenhouse Gas Solutions Provider, CAPI, 2019. Data is based on AAFC and IPCC data and is estimated and excludes on-farm energy use and energy used in the production of fertilizer. (The UN indicates more recently that the food system accounts for 29% of global GHGs.)

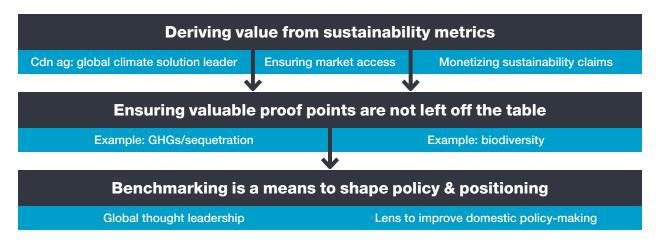


Figure 5. Summary of deriving value from national benchmarking.

b) Ensuring market access

• Trade: Canada has set bold growth targets to expand exports and domestic food opportunities. 23 Achieving those objectives will depend in part on demonstrating sustainability. As noted earlier, the EU's new Farm to Fork Strategy seeks assurance that food imports do not damage the environment. Verifying sustainability from the point of production can help ensure market access. 24 We identified the diversity of such target-setting across the agrifood system 25 which includes producer goals to demonstrate their sustainability commitment. 26

• Market channel: Demonstrating provenance is a value driver and differentiator for many premium foods and beverages. Sustainability is often a non-negotiable market access requirement for ingredient suppliers and is necessary to meet the expectations of targeted consumer segments at retail.

c) Monetizing sustainability

 Benchmarking is opening up ways to reward sustainability. Some producers are now being paid directly to participate in proprietary



Recent events, and the globalization of the food supply, underscore the need to demonstrate the sustainability of the food we produce; the opportunity to do so via a national index is foundational to the ongoing success of the sector."

RON LEMAIRE

PRESIDENT, CANADIAN PRODUCE MARKETING ASSOCIATION

²³ The ISED Economic Strategy Table (2018) targets \$85 billion in exports and \$140 billion in domestic sales by 2025.

²⁴ Viterra encourages its canola producers to be sustainably certified to access the EU (Canola Digest, Nov. 2019).

²⁵ Agri-Food Sustainability Targets, A Selected Overview, Oct. 2020 (a research report published by this project).

²⁶ Example: The Canadian Canola Growers Association and the Canola Council of Canada have set a goal to decrease by 40% the land required to produce one tonne of canola.

sustainability programs, for example in the beef²⁷ and crop sectors.²⁸ Similarly, farmers can be paid for carbon sequestration (carbon credits) and for participation in special initiatives to deliver ecosystem services.²⁹

- Companies monetize sustainability in part through the claims they make. One implication of companies pledging to source ingredients more sustainably, such as "100% sustainably," is that they need to commit their supply chains to deliver on these goals. If By equating quality with nutritional value and sustainability, food processors and retailers are creating value—added product and marketing opportunities for producers of sustainable animal and plant—based proteins.
- Digital innovations such as blockchain, use
 of analytics and the internet-of-things (IoT)
 can simultaneously improve productivity and
 enable sustainability claims for companies (and
 producers) such as reducing food waste, finding
 new value from waste-streams and supporting
 low-impact packaging that ensures food safety
 and quality.
- Some companies are also benefitting from lower cost of credit for meeting sustainability targets, mentioned earlier.

2. ENSURING VALUABLE PROOF POINTS ARE NOT LEFT OFF THE TABLE

The national index must ensure that Canada is not leaving value off the table. Work undertaken in this project thus far has revealed that Canada is foregoing an opportunity to utilize its datagathering capacity for the identification of better metrics that respond to rising marketplace expectations. Two case studies were presented to review the current state of metrics, gaps and emerging issues for two key sub-indicators: GHGs/sequestration and biodiversity.

• The GHG study³² highlighted the issue that any sustainability benchmarks must include both *liabilities* (emissions) and *assets* (capacity to



reduce emissions and sequester carbon). The ability of Canadian agricultural soils to sequester large amounts of carbon is an unmissable opportunity to present Canada's sustainability story more fairly and more accurately. The study included these two key points:



A national index will help Canada solidify its position as a global leader in sustainable agriculture across all commodities."

GREG NORTHEY

VICE PRESIDENT, CORPORATE AFFAIRS, PULSE CANADA

²⁷ Beef producers and others in the value chain are financially rewarded a quarterly premium per head by retailers and processors (e.g., McDonald's, Cargill) for supplying Certified Sustainable Beef. An IT system (BIX) traces, shares and verifies the animal data (the chain of custody) among all players to ensure program integrity. McDonald's labels the sustainable beef for its restaurant customers.

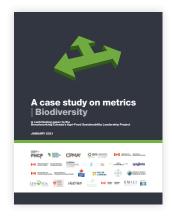
²⁸ Bayer pays farmers (currently available through its pilot programs in the U.S. and Brazil) up to \$9 acre for verifying cover crop and no-till adoption. Improving soil health is good to increase crop yields, it meets company sustainability objectives and carbon credits generated from these activities could be also sold to organizations to meet others' sustainability goals. (Bayer Carbon Program, FAQs). Nutrien announced a program to provide monetary credits to producers to reduce scope 3 emissions. The company estimates that its carbon credit program could directly amount to \$10-\$20 per acre for farmers (2021 Environmental, Social and Governance (ESG) Report).

³⁰ Examples: General Mills, Kellogg's, McDonald's, among others, have 100%-sustainably sourced ingredient goals.

³¹ The bulk of most food companies' environmental impacts and exposures are attributable to their supply chains. Scope 3 emissions (i.e., those occurring in a company's supply chains both up- and downstream) make up an average of 89% of food and beverage companies' total emissions. CDP Supply Chain Report, CDP, 2019/20.

³² Greenhouse Gas (GHG) Emissions & Sequestration, A case study of the Benchmarking Canada's Agri-Food Sustainability Leadership Project, 2021.

- O Canada has a scientifically robust system for monitoring changes in soil organic carbon but better measurements on a national scale (such as reducing nitrous oxide levels) are required to validate the sequestration function of Canada's agricultural soils and quantify their role as a carbon sink; and
- O Most of the available national data on GHG emissions in the agri-food industry focus on direct emissions by producers (a significant part) while largely ignoring the rest of the supply chain (transportation, processing and retail) and overlooking sustainable 4R Nutrient Stewardship practices used to reduce direct emissions, which should also be taken into account. In short, Canada does not have complete data to present a supply chainwide view of emissions, a major indicator of overall environmental performance.
- The biodiversity study³³ also highlighted important issues relevant to sustainability benchmarks, including:
 - O Precision agriculture and related productivity improvements



on farms could enable a greater proportion of marginal or unproductive farmland to be

- returned to nature, which should therefore be another key indicator of a viable and sustainable production system; and
- Tracking genetic diversity within crops is important because greater root biodiversity enables carbon sequestration and increases productivity by improving nutrient use efficiency.

3. BENCHMARKING IS A MEANS TO SHAPE POLICY AND POSITIONING

a) Global thought leadership

We reached out to global organizations such as CDP, CGIAR, FAO, GRI, WBA and WBCSD for advice on index development (Appendix B). These thought-leading organizations are shaping the narrative on what it means to be sustainable and influencing the tone and direction of international food dialogues, such as the 2021 Global Food Systems Summit (GFFS). Although Canada's index is still at the conceptual stage, it is being recognized as a unique, world-leading initiative because it is advancing a credible multistakeholder process to benchmark change from farm to retail. We have also submitted the national index concept to the GFFS secretariat. It is seeking out "game changing" solutions to address global food challenges. We believe that Canada's approach to organize and benchmark progress is worthy. Indeed, Canada's work will be profiled as an example by the World Benchmarking Alliance (WBA). The WBA is developing a toolkit to help guide countries to develop their own food systems



The Government of Canada recognizes the Canadian agriculture and agri-food community for their innovation and commitment towards protecting the environment while ensuring food security for all Canadians, including supporting the development of a benchmark to help the sector demonstrate our global leadership in sustainable food production."

MARIE-CLAUDE BIBEAU

THE HONOURABLE MINISTER OF AGRICULTURE AND AGRI-FOOD (quotation from an Oct 29/20 project press release)

³³ Biodiversity, A case study of the Benchmarking Canada's Agri-Food Sustainability Leadership Project, 2021.

indices, such as its own new Food and Agriculture

As pressure builds for countries to demonstrate their progress toward sustainable food production, early indications are that Canada's index could become a key tool to project this country's national interests abroad.

b) Benchmarking is a new lens to improve policy-making

The two case studies revealed that discussing performance indicators prompts policy issues that may enable or hinder benchmarking. Once operational, the index could therefore become an important new lens through which to consider policy choices, as shown in the three examples below:

• Programming: Providing credits to farmers who undertake projects that sequester or draw down GHG emissions (such as livestock manure management to improve soil organic carbon) requires the proper measurement of uptake by producers. Environment and Climate Change Canada has discussed the publication of penetration rates measuring the uptake of these protocols as the percentage of total potential uptake by producers. Aggregated producer data (collected by sector data platforms) could be considered as a metric for the national index, but the case study revealed how government and agri-food players could work through

what may need to happen to achieve better measurement.

- Research: The use of extensive collections of crop and forage biodiversity in established seed stores offers a rich new source of natural material to enhance crop breeding for many desired traits, including root depth and carbon sequestration. However, better methods for the measurement and modelling of soil carbon, coupled with policy and market incentives, will be needed to stimulate such innovation, deliver climatemitigating strategies, and add value through both the productivity and market accreditation of such green approaches.
- Public policy direction: The reliance on producers to assume full responsibility for the adoption of sustainability benchmarks raises important public policy issues. It is necessary to avoid benchmarks that make farmers bear the brunt of such measures and this could be addressed by policy options that compensate for producer needs and incentivize the drive towards sustainability.

In short, the development of the national index will provide another means to bring diverse policy issues forward.



Canadian food production remains strong from an environmental perspective but successes must be measured and shown effective for us to effectively compete on a world stage. Combining these environmental efforts with steps to develop and diversify markets, investing in innovation and developing a modern regulatory and infrastructure network are critical to Canada fully achieving its stated economic goals."

MICHAEL GRAYDON

CEO, FOOD, HEALTH & CONSUMER PRODUCTS OF CANADA

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³⁴ WBA is also working jointly with the UK Food Foundation. (WBA correspondence, April, 2021.) The WBA index will track the sustainability performance of the world's largest 350 food and beverage companies.

The National Index & The Centre for Benchmarking







Considerations

NATIONAL INDEX ON AGRI-FOOD PERFORMANCE

a) Index version 1.0

This initiative is about developing a National Index in late 2022 or early 2023 (version 1.0 that can be improved upon in future iterations). It would include four priority blocks (environment, health/food safety, wellbeing and economic), each cross-referenced to relevant UN SDGs (Figures 2 and 6).

b) Indicator-development thus far (case study method)

Figure 6 shows possible indicators assigned to each block. Although they are not a complete representation of the four blocks, two indicators from the environment block were selected for case studies as templates to review the metrics: climate change (GHG and sequestration) and biodiversity. The case studies identified new sub-indicators for these priority issues. Selected sub-indicators and their benefits were addressed in the preceding value proposition section (items 2a and b). Briefly, these cases revealed that diverse stakeholders could work together to identify baselines, gaps and opportunities in the metrics to better present Canada's sustainability credentials. The case study method can also be deployed to develop the other indicators.35

c) Collecting data

The process of developing the indicators would rely on data supplied mainly by commodity and sector-wide platforms and not directly from individual farmers. As is a matter of course, any use of national statistics will be aggregated so to protect respondent confidentiality.

d) Index intent – how it will be used (and not used)

- The national index is designed to present a consolidated view of sustainability to the marketplace. It is not intended as a prescriptive tool to dictate actions at the individual farm or company level. But stakeholders may nevertheless use this index as a high-level reference to benchmark against a national picture of performance outcomes. (How stakeholders might leverage the index further is outlined in the earlier value proposition section.)
- The national index is an opportunity for the agri-food sector and non-governmental organizations to (1) recognize the environmental value that agricultural producers bring to Canadian farmland and (2) identify critical areas that can be targeted to improve environmental sustainability within the agrifood system, allowing collaborative work towards solutions. When fully implemented, the national index should achieve meaningful and ongoing environmental improvements in the Canadian agricultural landscape.

e) Operating principles

Participating stakeholders involved in developing the national index would be expected to follow the principles identified in our January 2021 report:

 Urgency: With other countries aligning to meet global goals, Canada's agri-food system players are motivated to advance this country's first agri-food sustainability index.

³⁵ Note: Although not addressed by a case study, some guidance is also offered on the economic block, which should emphasize leading (not lagging) economic indicators. This direction may become vital to mark Canada's agri-food sustainability leadership, and measure new value as producers and companies respond to a food system in transition to a low/net-zero carbon and more circular economy (e.g., generating revenue from waste streams). This will ensure that Canada's sustainability index remains relevant as measures and expectations of global food leadership evolve, such as measuring the availability of sustainable finance options.

Global goals	Priority block	Indicators	Sub-indicators
2 AND SOURCE STORY OF THE PROPERTY OF THE PROP	ENVIRONMENT	Climate change	Existing sub-indicators: GHGs emissions for primary agriculture Soil organic carbon; Soil organic carbon change
			Proposed new sub-indicators suggested from case study: • A complete supply chain-wide view of agri-food system GHG emissions is not available in sufficient detail but could be developed with some marginal additional work (some manufacturing company data is currently available) • Soil organic carbon change metrics can be better informed by nutrient stewardship practices (N ₂ 0)
		Biodiversity	Existing sub-indicators, in addition to a suite of agricultural sustainability indicators, biodiversity-specific track: • Soil Cover Days; Wildlife Habitat Availability on Farmland • Insect habitat availability; Soil microbiology indicator (under development)
			Proposed new sub-indicators suggested from case study: • Genetic diversity; Habitat change / Marginal land ratio; Farmland birds; Wild insect pollinators
		Pesticides, etc.	
		Packaging	
		Water use	
		Food waste	
8 ECONOCIONAL DE SENERAL DE SENER	ECONOMIC	Resilience	
		Governance: SDG plans/ sub-sector	Note: This project phase did not allow for the development of case studies for these or other potential sub-indicators. This list is indicative only.
2 300	HEALTH & FOOD SAFETY	Food safety	Choice of sub-indicators needs to be determined
		Antimicrobial resistance	by marketplace-driven expectations and requirements, national and global commitments and by choosing measures that reflect Canada's agriculture and food context.
		Zoonotic disease mitigation	
8 interest with and interest control of the control	WELL-BEING	Labour working conditions	
		Animal care	

Figure 6. National index showing detailed sub-indictors from two case studies on climate change and biodiversity.

- Shared understanding of sustainability: Economic sustainability (viability) of farms and companies is linked to environmental and social sustainability. Commercial viability metrics are informed by investor-driven disclosures of nonfinancial indicators (ESG factors).
- Relevance to Canada: Indicators reflect Canada's agricultural context.
- *Credible*: Indicators are science-based and/or consistent with global best practices.
- Data limitations: Recognize that not everything can be measured. There are costs and trade-offs to metric selection.
- *Materiality*: Indicators measure what is intended.
- Verifiable: The index is third-party reviewed.
- *Reviewable*: The index is updated to meet emerging needs.
- Transparent: Publish results and methodologies.



Canadian farmers and ranchers have a long proud history of leading the world in delivering safe, nutritious food and food products to consumers both domestically and across the globe. The development of a national index on sustainability is the next step towards ensuring the highest standards of our food production footprint will continue to deliver the confidence and security consumers look for in Canadian food products."

KEITH CURRIE

1ST VICE PRESIDENT, CANADIAN FEDERATION OF AGRICULTURE

THE CENTRE FOR AGRI-FOOD BENCHMARKING

Establishing and operating the Centre for Agri-Food Benchmarking would be guided by a checks and balances governance model to fulfill the objectives listed below and summarized in Figure 7. More details of the proposed governance framework are provided in Appendix C.

a) Establishing the Centre for Agri-Food Benchmarking

A neutral and authoritative centre, co-funded by the government and industry and housed by the government would prepare, maintain and update the index. The index will be validated by experts in Canada and abroad, thus further ensuring global credibility.

b) Governance

- The sector-driven governance structure will ensure accountability for the use of public and private funding and will operate in collaboration with food system stakeholders.
- The leadership, representation and diversity of committees (referenced below) will be instrumental to advance good governance practices and effectiveness.

c) Linking to data collection platforms

Existing and emerging data systems will be leveraged to collect and consolidate metrics efficiently. The centre will link metrics data platforms and/or protocols from the Canadian

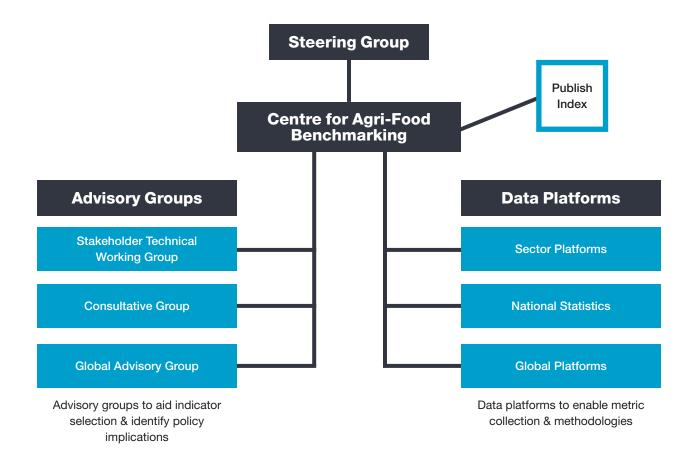


Figure 7. Centre for Agri-Food Benchmarking governance framework.

agri-food sector, from the government (e.g., national statistics) and from global bodies. Future work will determine the most suitable platforms/protocols and how to integrate them.

d) Committees

To select and validate the indicators, the centre would establish four key advisory committees: a steering group chaired by producers, a technical advisory group chaired by agri-food industry representatives, a consultative group chaired by NGOs, and a global advisory group chaired by academic researchers, with a government representative serving as vice-chair in each case. Each committee would benefit from inclusive representation from across the broader food system, including adjacent sectors.

The proposed roles of the committees are summarized below, recognizing that formal terms of reference will be needed:³⁶

Steering Group

CHAIR / producer.

FOCUS / sets direction and priorities for the centre and has oversight for index integrity.

MEETS / several times per year.

Stakeholder Technical Working Group

CHAIR / industry.

FOCUS / scopes out the most pertinent indicators and assesses their materiality to help construct the index. **CASE STUDIES** / may be used to enable this indicator-development process.

SUB-SECTOR GROUPS / ad hoc sub-sector groups may be engaged to broaden input from stakeholders and technical experts.

KEY GUIDING QUESTION / "Are selected index indicators relevant, material and based on science?"

MEETS / several times per year.

Consultative Group

CHAIR / NGO.

FOCUS / engage civil society, Indigenous, adjacent sectors and others in the agri-food sector. For efficiency, this group would engage other existing government consultative processes for feedback, such as the federal Food Policy Council and the Sustainability Roundtable.

KEY GUIDING QUESTION / "Is the index relevant domestically?"

MEETS / twice per year.

globally?"

Global Advisory Group

CHAIR / academic researcher.

FOCUS / engages global benchmarking, standards and policy organizations for guidance and feedback.

KEY GUIDING QUESTION / "Is the index relevant

MEETS / once or twice per year.

e) Performance measures

An annual update would be required to evaluate the success of the project with specific performance milestones, including:

- Steps leading up to and launch date of the first index
- Engagement of stakeholders
- Progress to develop specific index indicators
- Performance of the centre's steering and advisory committees
- Accountability and disbursement of funds

³⁶ Further work is required to delineate committee roles in the context of how centre staff will function. While there are different levels of responsibility and accountability, the work of the committees and the centre are complementary.

f) Selected risks and risk mitigation

Conceivably, developing such an index could face a broad variety of risks. Some key risks are flagged below (see Figure 8). The centre is encouraged to scope out a broader set of risks and mitigation measures.

Risks and risk mitigation in developing the National Index on Agri-Food Performance					
Category	Key risk	Risk mitigation			
	Greenwashing (SDG-washing), not being science-based. Being co-led by the sector, indicators may be selected only report on positive steps to meet global goals but do not address shortcomings or lack of progress.	Index will look to global best practice and verification protocols at home and abroad to ensure indicator integrity. Diverse committee memberships will allow for such concerns to be aired. The Global Advisory Group will advise on this approach.			
Indicator selection risks	Inadequate scope of indicators, such as not including certain food insecurity or human health measures, could undermine the credibility of the index.	All global indices are faced with restrictions and <i>index 1.0</i> will need to define its scope (it cannot be expected to measure <i>everything</i>). The measurement of nutritional quality, food safety, health impact and other food-related social indicators needs to be considered by index advisory groups.			
	Selecting metrics that measure the wrong thing and/or create unintended consequences.	This issue confronts all global indices. Selecting the most appropriate indicators is a key function of the centre and the Stakeholder Technical Working Group, which will need to weigh, correlate and assess the trade-offs (as part of deciding the final basket of indicators).			
Operational risks	Duplicating efforts creates inefficiencies and undermines credibility.	Duplication will be avoided. Developing the index requires work with sectoral and government benchmarking initiatives.			
	5. Being housed in government, the centre will be slow and bureaucratic.	While attention to due process and proper accountability is required, the centre will have an announced timeline to launch the index. Being sector and food system-led will help advance the work, especially if collaboration and consensus can be largely achieved.			
	6. Protecting producer/company data privacy.	The index will rely on intermediaries to help consolidate the metrics from producer/ sector organizations. A privacy policy will be developed.			
	7. Adequate funding not secured.	This business case is designed to check-in with key stakeholders to ensure this is a pragmatic and compelling plan – that an index is necessary to fulfil Canada's food ambition and that support is fundamental.			

Figure 8. Risks and risk mitigation in developing the National Index on Agri-Food Performance.

g) Financial plan

Funding is required to establish and operate the Centre for Agri-Food Benchmarking as well as to develop the indicators for ultimate publication and maintenance of the index. Funding would be co-shared from public and private financial and in-kind contributions.³⁷ The initial high-level financial plan would include:

- Sources and amounts of funding; ratio of private-public funding
- In-kind (non-cash) contributions
- Budget; estimated operating, administrative costs over a specified period of time (TBC)

h) Next steps

This business case is advanced by a coalition of private-public partners and will be used to engage key agri-food stakeholders and build support to establish the Centre for Agri-Food Benchmarking. Three steps are envisaged (subject to change):

- Outreach and feedback, May-July 2021
- Development of version 2, Summer 2021
- Final business case for securing financial and/or in-kind commitments, early fall 2021

i) Conclusion

The coalition of partners strongly believes that a Canadian-developed and globally-relevant sustainability benchmark will become established as a key tool to champion Canada as a vital, responsible and leading agri-food provider in a world seeking to transform how food is produced and supplied.

³⁷ To date, conducting the preliminary phases of work in 2020-21 (i.e., affirming the need for such a national index concept, stakeholder outreach, concept design) was cost-shared by the private and public partners.

Appendices







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Appendix A | Selected activities

Note: Selected links are used below; multiple partners' respective websites linked to noted material.

Phase 1 (Feb. 2020 - Jan. 2021)

- Webinar: Global context, April 16, 2020: https:// arrellfoodinstitute.ca/index-agri-food-performance/
- Webinar: Metrics & benchmarks, Sept. 16, 2020: https://www.gifs.ca/events/details/ national_index_on_agrifood_performance_webinar
- Webinar: Policy & strategic implications, Nov. 18, 2020: http://emilicanada.com/ national-agri-food-index-initiative/
- Research report: Agri-Food Sustainability Targets, A Selected Overview, Oct. 2020: https://www.fhcp.ca/ News/View/Articleld/518. Includes:
 - Press release: New report signals importance of environmental targets as Canada aims for agrifood leadership, Oct. 29, 2020.
- Final report: Benchmarking Canada's Agri-Food Sustainability Leadership – A Roadmap, Jan. 2021: https://www.proteinindustriescanada.ca/news/report-champions-a-new-sustainability-in-dex-for-canadas-agri-food-sector. Includes:
 - Press release: Report champions a new sustainability index for Canada's agri-food sector, a key

- tool to help compete, add value and improve societal outcomes, Jan. 28, 2021.
- Greenhouse Gas (GHG) Emissions & Sequestration, A case study of the Benchmarking Canada's Agri-Food Sustainability Leadership Project, Jan. 2021.
- Biodiversity, A case study of the Benchmarking Canada's Agri-Food Sustainability Leadership Project, Jan. 2021.
- Global Indices Research, A contributing paper, Arrell Food Institute, U. of Guelph, Dec. 2020.

Phase 2a (Feb. - April 2021)

- Webinar: Canada's Sustainability Index on Agri-Food: Final Report from Phase 1, Feb. 2, 2021: https://cpma.ca/industry/sustainability/ national-index-on-agri-food-performance
- Webinar: Global Food Systems Summit Dialogue, Arrell Food Institute, U. of Guelph, Feb. 21, 2021: https://arrellfoodinstitute.ca/event/ food-systems-summit-dialogue/

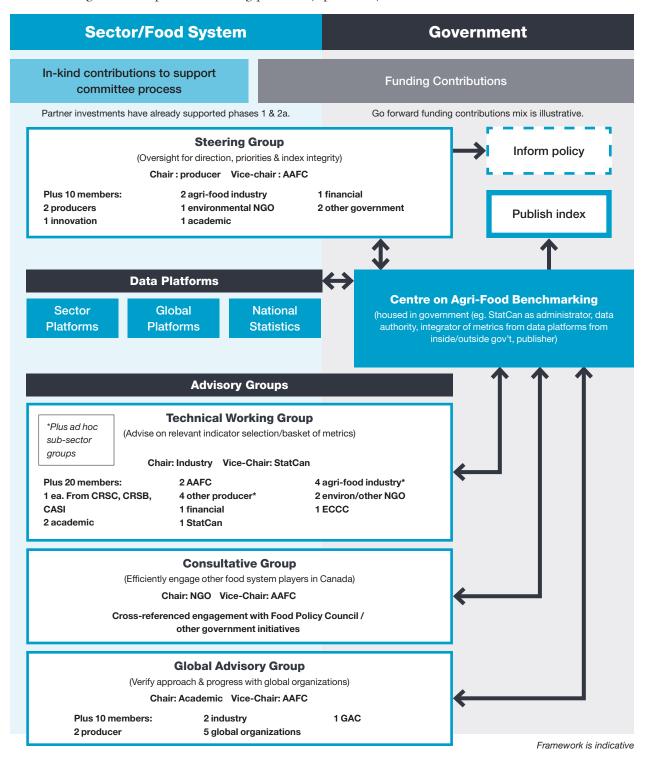
Selected outreach is shown below (both phases; either as part of above webinars and/or one-on-one dialogues):

Global outreach (phases 1 and/or 2a)	Domestic outreach (phase 2a)
Alliance of Bioversity International, Consultative Group on International Agricultural Research (CGIAR)	Canadian Agri-Food Sustainability Initiative (CASI)
• CDP	Canadian Forage & Grassland Association
European Commission	Canadian Roundtable for Sustainable Beef (CRSB)
Food and Agriculture Organization (FAO)	Canadian Roundtable for Sustainable Crops (CRSC)
Global Alliance for the Future of Food	Field to Market
GRI (Global Reporting Initiative)	Manitoba Protein Consortium
U.S. Farmers & Ranchers in Action	SAI (Sustainable Agriculture Initiative) Platform
World Benchmarking Alliance	Sustainable Agri-food Traceability Platform (SAFT)
World Business Council on Sustainable Development	Universities: Simon Fraser, Saskatchewan, Guelph, Dalhousie

Note: The January 2021 report includes the complete list of organizations that attended webinars in phase 1.

Appendix B Governance framework

The following chart was produced during phase 2a (April 2021):



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Appendix C | Partners

Phase 2a Partners, 2021

(Steering Group *)

Agriculture & Agri-Food Canada*

Alltech

Arrell Food Institute, University of Guelph*

Bayer Crop Science

Birds Canada

BMO

Canadian Aquaculture Industry Alliance

Canadian Federation of Agriculture*

Canadian Horticultural Council

Canadian Produce Marketing Association*

Canadian Wildlife Federation

Chicken Farmers of Canada

Le Conseil de la transformation alimentaire du Québec

CropLife Canada

Ducks Unlimited Canada

Enterprise Machine Intelligence & Learning Initiative

Farm Credit Canada

Fertilizer Canada*

Food, Health & Consumer Products of Canada*

Global Institute for Food Security*

Lakeland College, Alberta

Loblaw Companies Ltd.

Manitoba Agriculture & Resource Development

Nutrien*

Protein Industries Canada*

Pulse Canada

Statistics Canada*

Syngenta*

TrustBix Inc.*

World Business Council on Sustainable Development

Phase 1 Partners, 2020

included many from above and the following:

Environment & Climate Change Canada

Maple Leaf Foods

National Research Council

Standards Council of Canada

Other support

Translation

Statistics Canada

Design production support

Global Institute for Food Security

Design

Janice Van Eck

Photography

AdobeStock, Chicken Farmers of Canada, Food, Health & Consumer Products of Canada, Loblaw, Nutrien, Shutterstock, Thinkstock

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