



Climate Smart-Farming Initiative

Framework for Building a Monitoring, Measurement, Reporting and Verification (MRV) System for Soil Organic Carbon

November 2023

Authors and Contributing Advisors



Pilot MRV Research



Founding Partners

Initial resources to launch CANZA have been provided by: Royal Bank of Canada, Loblaw Companies Limited, Maple Leaf Foods, Nutrien, McCain Foods, and Boston Consulting Group Centre for Canada's Future — with support from The Natural Step Canada, the Smart Prosperity Institute, and the Arrell Food Institute.



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Purpose of this Report

This report provides an overview of CANZA’s approach to developing a Monitoring, Measurement, Reporting and Verification (MRV) system, a key pillar of the CANZA network’s Climate-Smart Farming Initiative that is working to help catalyze decarbonization activities across Canada’s agri-food value chain. It is intended to be used for sharing directions, building collaborations, and gathering ongoing input from farmers, stakeholders and technical specialists.

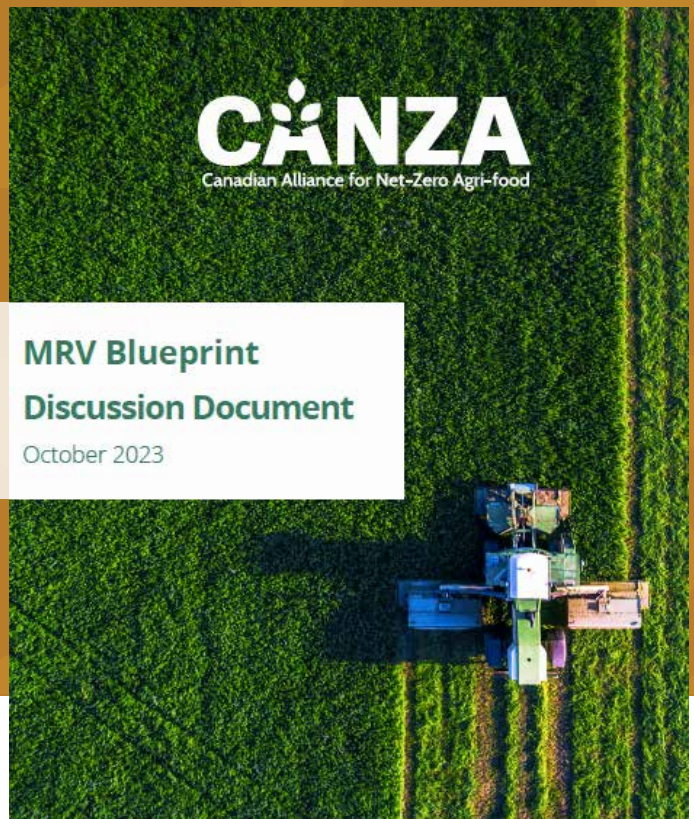
This report is produced as a summary companion piece to the [MRV Blueprint Discussion Document](#) published by CANZA in October 2023 which contains further technical detail.

What is the Canadian Alliance for Net-Zero Agri-food?

The Canadian Alliance for Net-Zero Agri-food (CANZA) is a new national alliance that brings together farmers, ranchers and other actors with varying expertise from across the agri-food system including industry, technology providers, researchers, academics, financial institutions, governments, and the commercial and retail sector. These stakeholders are working together to reduce emissions and support farmers to monetize environmental outcomes through the Climate-Smart Farming Initiative.

Initial resources to launch CANZA have been provided by: Royal Bank of Canada, Loblaw Companies Limited, Maple Leaf Foods, Nutrien, McCain Foods, and Boston Consulting Group Centre for Canada’s Future — with support from The Natural Step Canada, the Smart Prosperity Institute, and the Arrell Food Institute. CANZA is now focused on developing cross-cutting partnerships to collaborate on bold strategies for a net zero circular agri-food system.

The complete MRV Blueprint can be downloaded at canza.ca/knowledge-hub



Common Acronyms and Key Terms

API - Application Program Interface

CSR - Corporate Social Responsibility

ESG - Environment, Social, Governance

GHG - Greenhouse Gas

MRV - Monitoring, Measurement, Reporting and Verification

SOC - Soil Organic Carbon

Carbon Credits - A carbon credit is a measurable, verifiable emissions reduction. One carbon credit represents the reduction or removal of one tonne of carbon dioxide or its equivalent in other greenhouse gases. Businesses that emit less CO₂ than their permitted limit can sell their surplus carbon credits to others that need to emit more carbon than they are permitted. If one party finds it hard to reduce their CO₂ emissions, they can purchase carbon credits from another party who has found it easier to reduce CO₂ emissions.

Inset Credits - a verified unit of greenhouse gas emissions reductions with monetary value representing one tonne of CO₂e reduced, avoided or sequestered generated within the same value chain.

Monitoring, Measurement, Reporting and Verification (MRV) - A multi-step process to measure the improvement of GHG caused by a specific activity, with this mitigation measured over a period of time, verified to be accurate, and reported in a pre-defined format.

Offset Credits - a verified unit of greenhouse gas emissions reductions with monetary value representing one tonne of CO₂e reduced, avoided or sequestered generated outside the value chain or industry.

Science Based Targets - Science-based targets provide a clearly-defined pathway for companies and financial institutions to reduce greenhouse gas (GHG) emissions, helping to address climate change. Targets are considered 'science-based' if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement – limiting global warming to 1.5°C above pre-industrial levels.

Scope 3 - Scope 3 encompasses emissions that are not produced by the company itself and are not the result of activities from assets owned or controlled by them, but by those that the company is indirectly responsible for within its value chain.

Value Chain - the series of activities and stages involved in producing a product or service that is sold to consumers, with each stage adding to the value to the product or service.



CANZA's Climate-Smart Farming Initiative

Supporting Farmers in the Net-Zero Transition

The Climate-Smart Farming Initiative embodies a collaborative effort to harness the ingenuity, entrepreneurship, and resources of Canada's agri-food sector to realize an exciting opportunity for Canada's economy and environment. Farmers are already embracing new climate-smart agricultural technologies and practices that sequester carbon from the atmosphere and store it in the soil. This has the potential to improve agricultural productivity, resilience and on-farm returns in ways that can benefit farmers and other food system stakeholders. Agri-food value chains and other industry players are keen to support farmers as they implement these practices and have come to the table looking for ways to unlock new incentives and revenue streams tied to on-farm environmental outcomes.

WHAT IS CLIMATE-SMART FARMING?

Farmers are key stewards of the land, and with the right economic, policy, and community support, they can continue to play a leading role in caring for the land and mitigating climate change. Climate-smart farming refers to agricultural practices and techniques (e.g., reduced tillage, cover crops, diversified rotations, nutrient management, agroforestry, etc.) that are designed to address the challenges posed by climate change, minimize its impact on agricultural productivity and reduce greenhouse gas (GHG) emissions. This involves using methods that enhance farm resilience in the face of climate adversities, use resources more efficiently, and help produce food sustainably while caring for the environment and the well-being of farming communities.

If climate-smart farming can be adopted at a national scale, RBC estimates that Canada's agricultural soils could sequester up to 38Mt of emissions by 2050. This would represent a 19% reduction in agri-food sector emissions by 2050, making meaningful progress towards Canada's net-zero commitments. However, farmers must contend with a three to five year transition phase when adopting certain climate-smart farming practices, which means farmers face new risks, learning curves, and start-up costs. Government and industry support could reduce the uncertainty associated with this period by providing funding, training, and risk management initiatives. Ultimately, in the long term farmers could benefit from both the sale of carbon credits as additional income rewarding farmers' time and capital investments, and further improving land stewardship and increasing the sustainability of food production.

What's in it for Farmers?



Put concisely, developing a reliable and cost-effective system for tracking environmental outcomes (e.g., a monitoring, measurement, reporting, and verification (MRV) system) allows farmers to quantify the positive outcomes (e.g., emissions reductions) generated on their farm when they adopt climate-smart farming practices. It also helps farmers communicate and track the carbon intensity of their products - when all landscape-level GHGs and sequestration can be considered on a per unit of product basis.

These forms of quantification enable monetization - creating the opportunity to sell on-farm environmental outcomes to agri-food value chain actors seeking to reduce their Scope 3 emissions inventory or purchase credits, helping the whole value chain achieve their climate targets. CANZA's initial focus is on Scope 3 emissions reductions, to address agri-food value chain emissions; however, opportunities for offset and inset credit development will be considered as the initiative progresses.

Unlocking New Incentives Through MRV Development

Developing a high quality MRV system has been a long-standing challenge in the agriculture and land use sectors. Catalyzing climate-smart agricultural opportunities through MRV development will require participation from every member of the value chain, and ensuring that the right mix of innovative thinkers and diverse perspectives provide input into the process at every step along the way. While work is already underway on these issues, the CANZA alliance creates a platform for accelerating progress by advancing high-impact, strategic partnerships, enabling policies, and market incentives.

The first step in unlocking these outcome-based government and industry supports is to develop an MRV system that is regionally representative, cost-effective, and scalable. As mentioned above, a functional MRV system will help farmers quantify and monetize the on-farm environmental outcomes they generate. When an MRV Framework is developed with input from key agri-food value chain players and aligned with relevant GHG accounting standards, industry can also benefit by reporting these on-farm environmental outcomes as part of their Scope 3 emissions inventory or in support of their environmental, social, governance (ESG) goals. This mutually reinforcing benefit creates the conditions for a sustainable transition towards a net-zero agri-food system.

CANZA has started by focussing on soil carbon sequestration and associated changes in other greenhouse gas (GHG) emissions in the first iteration of the MRV system; however, the long-term goal is to develop a comprehensive and holistic MRV system over time that rewards farmers for the full range of environmentally-positive outcomes they generate on their farms.

WHAT ARE A COMPANY'S SCOPE 3 EMISSIONS?

Scope 3 emissions are 'indirect emissions' – those that a company influences but are not under their direct control, excluding the purchase of electricity, heat, and steam. These emissions often account for 90% or more of a company's overall emissions. For most companies in agricultural value chains, agricultural production falls within the Scope 3 classification, hence driving a major challenge within the industry to reduce emissions that they do not directly control.

Developing an MRV Blueprint

In October 2023, CANZA introduced the first draft of its **MRV Blueprint** for public comment and feedback. The purpose of the Blueprint was to actively engage Canada's agri-food sector in the development of MRV technology, tools, and reporting systems to simplify the development of credit and non-credit emissions reduction projects, in order to scale climate-smart farming across the country.

The complete MRV Blueprint can be downloaded at canza.ca/knowledge-hub



To summarize, CANZA's MRV Blueprint has 5 primary objectives:

- 1** Identify and test high-potential monitoring and measurement tools that can support more efficient and reliable direct measurements of soil carbon, as well as appropriate processes for GHG modeling to account for landscape level emissions;
- 2** Align with guidance on Scope 3 emissions reductions, and move towards the inclusion of inset and offset criteria;
- 3** Create an evergreening, predictable, and repeatable technology trialing, calibration, and demonstration process for comparing new MRV tools against the best available industry guidance;
- 4** Lay out an end-to-end MRV process that can be tested and validated through a series of five to eight regional demonstration projects (consisting of several farmers from each region) that reflect the diversity found across Canada's agriculture and agri-food sector; and
- 5** Contribute to the identification of critical enabling science, government, and industry investments needed to close science and data gaps in support of better GHG quantification efforts for Canada's agriculture and agri-food sector.





CANZA's MRV Framework Overview

The following lays out the key tenets of CANZA's MRV Framework and outlines some of the guiding principles governing the Climate-Smart Farming Initiative. While the immediate focus is on helping farmers monetize emissions reductions to help agri-food companies reduce their Scope 3 emissions reductions, there are clear opportunities in the inset and offset credit space as well, which will be explored in future phases of the initiative. Similarly, the MRV Framework starts by focusing on direct measurement of soil carbon sequestration and modeling landscape-level GHG emissions, but will include other relevant environmental benefits in future iterations. Below is **CANZA's 8 point plan** to develop and scale an MRV Framework, and more detail on each can be found in the next section.

1. Co-Develop: Meeting Farmers' Needs

This entire end to end process needs to be developed with farmers, on the farm, and in a way that ensures it is realistic for those who will interact with it most. We need to partner with farmers to understand the diverse needs and contexts present across Canada's landscape, develop strong and open lines of communication, as well as strengthen support networks that allow for ongoing peer-to-peer learning and knowledge transfer. Ultimately, ensuring that we engage farmers and ranchers as solutions providers in climate change.

2. Unlock: Leverage Incentives and Opportunities from across the Value Chain

The growing agri-food industry focus on Scope 3 emissions reductions is a powerful lever for driving new incentives to farmers, who can monetize their emissions reduction efforts, produce lower carbon commodities, and enhance environmental management.

3. Align: Avoid Reinventing the Wheel with GHG Accounting

Aligning the proposed MRV system with relevant and emerging GHG accounting approaches and principles can streamline data collection and reporting, and unlock the door to monetizing on-farm outcomes and including them in corporate emissions inventories.



4. Innovate:

Develop Cost-Effective, Reliable MRV Tools

The development of reliable, cost-effective, and accessible tools for the direct measurement of soil carbon and modeling of all associated farm level GHG emissions will require an ongoing process for researching, testing and the scaling of promising technologies. Technical details on the pilot and technologies can be found in Section 4 of [CANZA's MRV Blueprint Discussion Document](#).

5. Evolve:

Advance the Science Model for Soil Carbon

CANZA's seeks to advance the state of soil science, and while there is ongoing uncertainty in the soil carbon measurement space, many new processes, discoveries, and technologies are ready to take out of the lab for testing in the field. It will be important for farmers, governments and industry to work together on critical enabling research to close science and data gaps in support of better GHG quantification efforts for Canada's agriculture and agri-food sector.

6. Simplify:

Improve Data Management and Reduce Administrative Burdens

Developing a streamlined and interoperable approach to collecting, managing, and reporting data is a key component of a low cost MRV system. Providing farmers with critical data and decision-making tools can also reduce the administrative burden of participating in a carbon program.

7. Assure:

Build Trust in the Process with External Verification

Assuring that the MRV system aligns with high integrity external verification processes (e.g., ISO, SustainCERT, ICVCM, etc.) is critical for building trust and facilitating high-integrity emission reduction claims throughout the value chain.

8. Collaborate:

Building a National Collaboration, Bringing Together Diverse Opinions & Opportunities

To achieve national relevance, it is critical that an MRV system works in diverse soil types, climate zones, farm types, and production systems. It must address the needs of diverse stakeholders and advance the work and learnings from the variety of successful pilots and initiatives already ongoing across Canada's agriculture and agri-food sector.

Learn More About CANZA's MRV Framework

This section provides more detail on **CANZA's 8 point plan** by laying out key activities, research priorities, and next steps to drive forward on the development of a cost-effective, efficient, and reliable MRV Framework for Canada that helps farmers quantify the outcomes of their climate-smart practices and monetize them for purchase by the agri-food value chain.

1. Co-Develop: Meeting Farmers' Needs

Farmers play a key role as environmental stewards of Canada's agricultural landscapes, and with the right supports from governments and value chain stakeholders, farmers can expand their role in mitigating climate change. Canadian experience shows that there are four key elements to help build trust, demonstrate respect, strengthen support networks, allow for ongoing learning, and engage farmers and ranchers as key solutions providers:

UNDERSTAND FARMERS AND RANCHERS AND THEIR AGRICULTURAL CONTEXT

Every farm is different and as a result, on-field practices must be adaptive. In addition, early adopters are key sources of context-specific information on new or novel practices and can be ambassadors within their community.

CLEAR COMMUNICATION AND DELIVERY OF UPFRONT AND RECURRING BENEFITS

The benefits of participating in climate-smart farming should not be overstated or exaggerated, and in-field soil carbon sequestration practices require an investment of farmer time, energy and inputs. This is why CANZA focuses on collecting actual data through direct measurement tools, and pairs practice adoption and farm-level quantification efforts with new incentives, ecosystem service market opportunities, agronomic support, and data tools or resources.

REDUCE BARRIERS TO AND RISK IN PARTICIPATION

MRVs must be efficient, voluntary, transparent, predictable, interoperable, and safeguard all data collected, while also giving consideration to the development of a robust

market for on-farm environmental outcomes. All collected data should be reported back to farmers to inform them of their progress and on-farm management outcomes.

COMMUNITY SUPPORT, PEER TO PEER NETWORKING AND KNOWLEDGE TRANSFER

Upfront technical and ongoing support from trusted and knowledgeable experts will provide the opportunity for two way knowledge transfer and relationship building. Peer to peer knowledge sharing and community support networks will also be vital to advancing MRV adoption and carbon or ecosystem service programs.

2. Unlock: Leveraging Incentives from the Value Chain

Farmers and companies in food and beverage value chains are increasingly working together to evaluate and reduce their GHG emissions. This trend is driven by both regulatory requirements, and environmental, social, governance (ESG) or corporate social responsibility (CSR) reporting programs, as well as an ambition to reduce their environmental impact to meet the demands of investors and increasing public pressure. The increased focus on sustainability unlocks a mutually reinforcing benefit that can leverage new investment dollars from the agri-food value chain into farmers' pockets.

As mentioned in the first section of this document, a reliable and cost-effective MRV system allows farmers to quantify the emissions reductions generated on their farm when adopting climate-smart farming practices. There are a few different ways that an MRV can provide access to value chain incentives, which can mainly be characterized as either credit and non-credit mechanisms. These monetization pathways are described in more detail in the following table.

There are currently 3 major mechanisms that farmers can use to access value chains incentives for reducing their on-farm emissions:	
OFFSET CREDITS:	Purchasing a verified unit of emissions reductions generated by another company.
INSET CREDITS:	Purchasing a verified unit of emissions reductions generated within the same value chain.
SCOPE 3 EMISSIONS REDUCTIONS:	Investing in one's own value chain to support activities that result in a reduction of emissions, which can then be reported as part of the corporation's Scope 3 inventory.

CANZA's initial focus is on Scope 3 emissions reductions, as there are growing expectations for companies to reduce their own value chain emissions before turning to purchasing credits. This is reflected in guidance for target setting recently published by the Science-Based Targets Initiative, which limits the use of purchased credits to meet GHG targets; specifically, companies working in the forestry and agricultural sectors cannot purchase credits to achieve their Scope 3 emissions until they have mitigated as much of these emissions as possible.

3. Align: Avoid Reinventing the Wheel with GHG Accounting

Farmers wishing to transition to climate-smart practices can benefit from the growing corporate interest in emissions reductions and credits. Several GHG accounting standards and crediting protocols for all 3 carbon monetization pathways (i.e., inset, offset and Scope 3 outcomes) have been developed to guide companies as they invest in farmer-led projects or practice change. GHG accounting standards play a vital role in incentivizing farmer-led projects by setting out minimum requirements

regarding the environmental outcomes being tracked and sold and by creating alignment with corporate reporting standards.

Instead of reinventing the wheel when it comes to GHG accounting, there is a better opportunity to align with the existing requirements set out in leading GHG accounting and carbon market guidance documents (e.g., ICVCM Core Principles, SustainCERT Value Chain Interventions, Verra, GHG Protocol's Land Sector and Removals Guidance, etc.). Each set of guidance documents has slightly different requirements and each carbon monetization mechanism must adhere to a different set of standards.

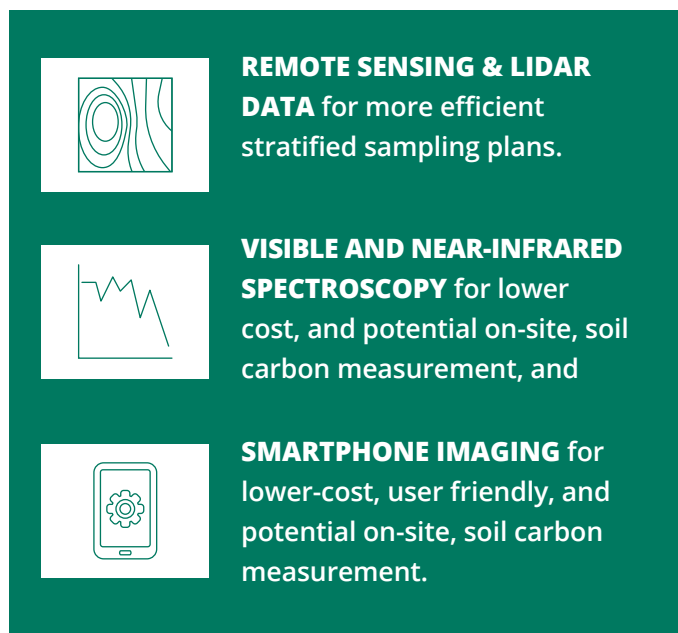
CANZA is actively engaging key experts in the space (e.g., Nature United, ALUS, Deloitte, Viresco Solutions, and others), to determine the most appropriate path forward for generating a Scope 3 emissions reduction that includes soil organic carbon (SOC) sequestration and other relevant landscape level GHG emissions resulting from sustainable practice adoption. Where relevant, inset and offset criteria are also being considered for future development and demonstration projects.

4. Innovate: Develop Cost-Effective, Reliable MRV Tools

In 2023, CANZA initiated its first pilot project in Saskatchewan with Hebert Grain Ventures, which operates a large-scale grain and oilseed farm. The goal of the pilot project was to develop a measurement and monitoring tool prototype that is cost-effective, accurate, and simple to use, but that could also be applied in many different types of production systems and soil types to align with the diversity present across Canada's agriculture sector. This pilot will continue testing innovative technologies over the next 6 months with the goal of making the direct measurement of soil carbon sequestration a lower-cost and less onerous activity. While soil carbon will be directly measured, the impact of practice change and soil carbon sequestration on landscape level GHG emissions will be considered using a whole farm model in all cases.

The pilot project focuses on testing three novel technologies against industry best practice for carbon credit generation from agricultural landscapes. More on

the science and technology model can be found in the [MRV Blueprint Discussion Document](#) published by CANZA in October 2023. In brief, three main tools for soil organic carbon stock quantification for potential application in an MRV system are being tested:



REMOTE SENSING & LIDAR DATA for more efficient stratified sampling plans.

VISIBLE AND NEAR-INFRARED SPECTROSCOPY for lower cost, and potential on-site, soil carbon measurement, and

SMARTPHONE IMAGING for lower-cost, user friendly, and potential on-site, soil carbon measurement.

Each tool is tested against traditional best practices for soil sampling and laboratory analysis, and will undergo a rigorous comparison on metrics like accuracy, uncertainty, and cost. The results of the pilot will be publicly available once the analysis has been completed in Spring 2024 and these tools will begin broader testing and implementation in other farm contexts starting in late 2024. Additionally, the Saskatchewan pilot supported the development of an 'evergreening' technology testing process - where newly invented or upgraded existing tools can be introduced into the MRV system and tested repeatedly across Canada to verify their reliability against current practices.

5. Evolve: Advance the Science Model for Soil Carbon

The previous section focused on the technologies CANZA is testing, while this section focuses on how these technologies fit together into a scientific model for generating carbon credits and Scope 3 reductions. CANZA's science model (currently under development) focuses on four key aspects (found in Section 4 of [CANZA's MRV Blueprint Discussion Document](#)):

- Establishing a credible baseline of existing soil carbon stocks that relies on an efficient and stratified sampling plan developed with remote sensing technologies.
- Forecasting soil carbon sequestration over time using appropriate and accurate models to compare outcomes under a business as usual scenario and a scenario including new practice changes.
- Employing new tools to collect baseline, activity, and ongoing farm-level data points to streamline the program participation experience and reduce the administrative burden.
- Testing novel and emerging tools against tried and true conventional soil sampling methods to establish the reliability and uncertainty of their soil carbon estimates, opportunities to reduce costs, and opportunities to simplify the measurement process.

It is important to recognize that science is always evolving and improving, which is good news for farmers and buyers interested in soil carbon sequestration. Measuring changes in soil carbon stocks is challenging because soil carbon accumulates slowly over time, and measurement often involves a tradeoff between cost and uncertainty. Traditional measurement based on soil sampling is costly and the cost only becomes reasonable for credits when applied to many hundreds or thousands of fields together. Alternative SOC quantification approaches, like remote sensing and other aerial imagery technologies, are not used to verify soil carbon stocks within MRV systems due to their high uncertainty - unless they can be adequately calibrated and validated, which is very costly. Regardless of the method, careful management of all aspects of SOC stock quantification is needed to achieve estimation of SOC stock changes with low uncertainty.

CANZA is working to advance the soil carbon science model in several key ways, including substantial data collection efforts to validate emerging soil carbon measurement tools and calibrate biogeochemical models, and the establishment of national reference sites across Canada that can be used to establish new baselines and test models that expand the scope of practices that can generate a carbon credit or Scope 3 reduction. CANZA's demonstration sites provide great testing opportunities for advancing the science model and new and emerging technologies.



6. Simplify: **Improve Data Management & Reduce Administrative Burdens**

New MRV tools produce a wealth of data that must be managed and analyzed to ensure farm management practice changes result in GHG emissions reductions. To facilitate reporting and verification of these changes, it is vital to reduce the administrative data collection and reporting burden on farmers and to integrate monitoring or reporting platforms with Application Program Interfaces (APIs) and farm management operating systems with which they are already familiar (e.g., John Deere, Agrible, Trimble, etc.). For the MRV to work at scale, data interoperability from all equipment, software, and remote sensing brands will be required. All of this needs to be done while prioritizing data privacy and protection, and with transparent data use policies in place.

Remote sensing tools might be the gold standard in reducing administrative burdens and collecting data, as pairing these tools with machine learning and AI models can almost completely automate certain aspects of the monitoring or reporting process. As mentioned before, there is clear value in using an online dashboard to enable participating farmers to track their progress and outcomes to enable knowledge transfer. More details on the research to develop the monitoring and reporting platform will be released in the coming months and CANZA will be engaging with key stakeholders to inform its development. The goal will be to put these research activities into action and test out the new tools as early as April 2024.

7. Assure: **Build Trust in the Process with External Verification**

Over the next six months, CANZA will continue to engage with key stakeholders on the most appropriate verification pathways for its MRV system. Depending on the type of carbon outcome generated (e.g., Scope 3, inset, or offset), verification requirements differ. For instance, verification is not always required for a Scope 3 emissions reductions, whereas it is generally a key feature of any offset or inset; however, it should be noted that some companies in the Scope 3 reductions market are still seeking some form of verification to ensure the integrity of their purchase and corporate reporting.

Verification is a valuable tool that helps minimize discrepancies and ensures the accuracy or environmental integrity of the emissions reductions generated. Verification is also an important mechanism for reducing any sentiments of greenwashing, and strong, transparent verification guidelines can strengthen consumers' trust - for example, when environmental programs extend to product labeling initiatives.

Based on an initial scan and recommendations from key stakeholders, ISO 14064-3 and SustainCERT's Value Chain Interventions guidance have been suggested as appropriate verification guidelines. There will be several opportunities for stakeholders across the agri-food value chain to engage in this phase of CANZA's work over the coming months.

8. Collaborate: Building a National Collaboration, Bringing Together Diverse Opinions & Opportunities

Working alongside producers, subject matter experts, and teams of university soil scientists, CANZA has made significant progress on designing an MRV Blueprint for testing cost-effective, reliable, and easy to use soil carbon measurement tools and landscape level GHG models, with the objective of facilitating Scope 3 emission reduction initiatives (as well as insets and offsets in future iterations) across Canada's agriculture and agri-food sector value chains.

With measurement technology testing and fine-tuning well underway in the Saskatchewan pilot, the focus is now on expanding the scope of the initiative to continue development, testing, and validation through regional demonstration projects across the country. This will include validating the business model for both credit and non-credit pathways, and continuing to explore the various tools used for reporting (i.e., data collection, data management, etc.) and verification to develop the best collection of tools into a fully fledged MRV system. Customizing the tools for different regional contexts is key to developing a national MRV system that is inclusive, affordable, user-friendly, and tailored to the needs of the whole value chain in order to reduce emissions.



It will also be important to continue expanding the scope of CANZA's MRV. Several climate-smart farming practices have benefits beyond GHG emissions, and a system that does not holistically consider all of the relevant outcomes is likely not rewarding farmers to the full potential. Partnerships between Canadian governments and industry, similar to those in other countries such as Australia and the USA, could stimulate MRV technology and process innovation through programs and incentives, such as through 'Innovation Challenge' approaches.

Future consumer demand for climate-smart products will also play a role in driving the transition to climate-smart farming. CANZA will continue to work with partners and collaborators to expand the farm-level MRV into a framework that works across the value chain—from farm through processing gate.

Uplifting all of this is the important work already being undertaken by many groups, associations, NGOs, government and industry players. To avoid duplication and further current learnings and successes, CANZA is engaging with industry partners, governments, key farm groups and co-ops, universities, and other environmental NGOs to find collaborative opportunities for these demonstration projects over the next five years.



Your Feedback is Important to this Process.

CANZA is actively seeking input and engagement with stakeholders, enabling all of us to truly harness the power and momentum needed to address the pressing issues at hand. We are calling on all hands to come on deck and assist in the development of a national MRV initiative for the Canadian agri-food sector. We happily welcome you to reach out to us at team@canza.ca if you have input, or ideas, or wish to collaborate on this important work.



Our Vision

A circular, net-zero agri-food system for Canada.

Our Mission

Mitigate 150 Mt of emissions from Canada's agri-food sector by 2050.

Join us at canza.ca

A solution space of The Natural Step Canada in partnership with the Smart Prosperity Institute

