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Roadmap to Net-Zero Emissions by 2050

Keystone Agricultural Producers (KAP) is Manitoba's general farm policy organization, providing a unified voice for farmers on issues that affect agriculture. KAP represents and promotes the interests of all Manitoba farmers and 20 commodity associations.

Net-zero discussions have increasingly become more prevalent. Government, corporations, and other organizations have made commitments to become net zero by 2050. The goal is ambitious, and the challenge is complex. Approximately, a quarter of Manitoba's total GHG emissions stem from the agricultural sector. Legislation and agreements exist signalling Canada's commitment to reducing GHG emissions. Internationally, 195 countries signed onto the Paris Agreement in 2015. Domestically, the Canadian Net-Zero Emissions Accountability Act mandates GHG emission reduction targets—net zero by 2050. KAP is pleased to respond to the government of Manitoba's consultation on a roadmap to net-zero emissions by 2050.

Net-Zero and More

Net zero is one of many issues in agriculture. Do all farmers have a clear understanding of net zero? No. Do all farmers rank net zero as a top issue? No. Issues change in farming, and how farmers prioritize issues will also change. Achieving GHG reduction targets may be challenging if government overlooks other issues affecting farmers. Rising land values, expanding urban encroachment, increasing input costs, escalating rural crime, soaring property tax increases, and developing trade wars can all become major issues for farmers. Net zero and GHG emissions make up one goal. Improving soil health, water management, and biodiversity can make up other goals. Government cannot ignore the other challenges farmers face when striving toward net zero.

Market-Based Voluntary Incentives

Governments have two options to reduce GHG emissions—legislative changes or incentives. Regulatory changes can benefit farmers. E.g., the biofuel mandate has led to increased demand for oilseeds, particularly in the United States. Regulatory changes have also increased Canadian oilseed crush production. But regulations can also do harm. The added tax under the Greenhouse Gas Pollution Pricing Act increased farm costs for grain drying and barn heating. Manitoba farmers strongly opposed this added cost before its removal in 2025. Farming is a business, and farmers often consider the economics before adopting a practice. Offering farmers financial incentives to adopt sustainable practices can work. But sustainability incentives do not always equate to success. E.g., the Riparian Tax Credit paid farmers to maintain their riparian zones. But few farmers enrolled, and the program eventually ended.

Farmers prefer the carrot rather than the stick. And government needs to balance their ambition with budget constraints before setting expectations particularly with AAFC cutting \$485 million from their budget over the next three years.¹

Review Past Successes

What has worked with farmers in reducing GHG emissions? What has not worked well? Answering these questions will better position government in achieving its goals and developing programs that farmers agree with. Many BMPs offered under the Sustainable Canadian Agricultural Partnership were highly popular and exceeded their intake limit. The same applies for cover cropping, nitrogen management, and rotational grazing offered through the On-Farm Climate Action Funding. Previous policy challenges can offer government opportunities for learning. E.g., Canada's 30 percent fertilizer emission reduction target created wide-spread producer opposition despite being voluntary. And the federal sustainable agricultural strategy is delayed despite its expected 2024 release.²

Methods

Reaching net zero requires reliable and accurate methods to measure GHG emissions in agriculture. But challenges exist in measuring GHG emissions. Each farm is unique and tools such as HOLOS and AgriSuite use aggregate data that provide a broad understanding of GHG emissions on farms. Aggregate data works but does not help users in understanding specific on-farm GHG emissions. E.g., depending on specific practices and conditions, a 150-head-cow-calf farm in the Interlake can generate different GHG emissions compared to a similar-sized farm operating 200 kilometers south. And no standardized method exists to measure these emissions.³ Challenges not only exist with on-farm GHG tools but also with understanding emissions on a regional, provincial, or national level. Environment and Climate Change Canada recognizes these hurdles in the National Inventory Report when discussing emissions from agricultural lands, forestry, and land converted to other uses—e.g.: “The need to separate anthropogenic impacts from large natural fluxes, which is unique to these systems, creates an additional challenge.”⁴ Emissions estimates have improved. And further improvements in methods and modeling require additional funding and research to better understand the current state and future projections.

Food Security

Exporters ship Manitoba agricultural products worldwide. Not only does this commerce stimulates economic activity but also contributes to food security. And a net-zero plan must not ignore how farmers contribute to food security. Despite this contribution, millions of Canadians face food insecurity every year.⁵ Complex phenomena affect food security (e.g., income, employment, war, drought, floods, and other social factors). Ensuring an adequate food supply assists with food security, and farmers strive every year to sustainably increase their farm production. But farmers also face increasing challenges to produce more agricultural product every year. Droughts and floods do not help. Urban sprawl, high land values and input costs, and public scrutiny over current farm practices add to these challenges. And farmland area has decreased over time. Essentially, farmers have produced more while using less land. Government must recognize the important role farmers play in food security, and how food production promotes social stability.⁶

¹ <https://agriculture.canada.ca/en/department/transparency/departmental-plan/2025-26-departmental-plan>

² <https://agriculture.canada.ca/en/department/transparency/public-opinion-research-consultations/sustainable-agriculture-strategy/what-we-heard-report-sustainable-agriculture-strategy>

³ <https://capi-icpa.ca/wp-content/uploads/2024/06/Getting-to-zero-The-complexities-of-achieving-June-2024.pdf>

⁴ https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-1-eng.pdf

⁵ <https://www.statcan.gc.ca/o1/en/plus/6257-canadians-are-facing-higher-levels-food-insecurity>

⁶ <https://www.csis.org/analysis/dangerously-hungry-link-between-food-insecurity-and-conflict>

Many Strategies

Farmers find themselves awash in information. Sustainability and net zero are no different. Private companies have increasingly made net-zero targets as shown through the Science Based Target initiative. And consumers have become more aware of their food origins—adding to the sustainability and net-zero discussion. Finally, all levels of government have spoken about net-zero targets. These discussions and strategies have created an outcome that farmers may have difficulty in following. Farmers may wonder how these strategies apply to their farm. Often organizations develop strategies without consideration of how they fit with other net-zero or sustainability targets. Not all strategies are alike. Developing and implementing a net-zero strategy that stands out among the many other sustainability targets and roadmaps becomes increasingly difficult. Government must reflect how their messaging will resonate with farmers. Collaboration with farmers remains key.

Agriculture as a Solution

Agriculture has untapped potential. Compared to many other industries, agriculture can remove emissions through carbon sequestration. Researchers have shown these effects.⁷ Farmers have created these effects. For many years, farmers have adopted zero-till or reduced tillage on their farm. These practices can improve soil health and generate higher yields. And these practices have also sequestered billions of tonnes of carbon in the past 35 years.⁸ Farmers have also incorporated cover crops, crop diversification, shelterbelts, rotational grazing, and legumes into their operation—all having positive effects on carbon sequestration. Plus, livestock farmers have maintained prairie grasslands that act as a vital carbon sink. Most practices have happened without third-party incentives. Farmers incorporated these practices because it made sense for their operation, whether for economic, environmental, or personal reasons. How can government further build on carbon sequestration in agriculture? (1) Reward early adopters. (2) Increase incentives for practices that promote carbon sequestration. (3) Increase funding for carbon sequestration research.

Additional Challenges

Although agriculture has significant potential through increased carbon sequestration, significant barriers exist to achieve net zero. Consider the diversity of agriculture. Farmers produce many different commodities, and these specific production practices come with unique challenges in reducing GHG emissions. Enteric fermentation is one example. This digestive process naturally occurs among livestock, and livestock emissions account for more than half of Canadian agriculture's GHG emissions.⁹ Strategies exist to reduce these emissions (e.g., feed additives and diet reformulation), but the costs associated with these strategies can add up. A second example involves Manitoba's rural energy supply. Due to its energy-intensive nature, farming requires an on-demand energy supply. Farmers need their equipment to operate when needed. Even in 2025, farmers have difficulty obtaining three-phase power to operate their grain dryer. And natural gas expansion in rural Manitoba is costly. These barriers, whether its electricity or natural gas, prevent increased on-farm energy efficiency. The third example involves land. Carbon sequestration not only has potential but also limitations. Soils have a finite soil organic carbon capacity, and an equilibrium level occurs after time.¹⁰ And not all beneficial management practices will produce similar results—variability exists. Think about the challenges in using zero-till in heavy-clay soils (i.e., the Red River Valley). No one-size-fits-all approach exists. And recognizing the challenges in agriculture will assist policymakers when developing strategies.

⁷ <https://www.sciencedirect.com/science/article/abs/pii/S0167198723003264>

⁸ https://publications.gc.ca/collections/collection_2025/eccc/En81-4-2023-1-eng.pdf

⁹ https://www.policyschool.ca/wp-content/uploads/2021/11/JSC5_GHG-Emissions_Fouli-et-al.pdf

¹⁰ https://cca-reports.ca/wp-content/uploads/2021/03/Carbon-Sinks_EN_CH-4_Agriculture-Grasslands.pdf

Thank you for the opportunity to provide feedback on the net-zero emissions roadmap. If you have any questions about this submission, please contact KAP Policy Manager, Neil Van Overloop, at neil.vanoverloop@kap.ca.

Sincerely,

A handwritten signature in blue ink, appearing to read "Colin Hornby". The signature is stylized with a large, sweeping loop at the end.

Colin Hornby

General Manager, Keystone Agricultural Producers Inc.