

Climate Change

Primary agriculture is responsible for approximately 8% of Canada's greenhouse gas emissions. However, while emissions from other sectors have risen over time, the agricultural sector has demonstrated continuous improvement by both representing a smaller share of emissions within Canada and declining emissions per unit of output. Canadian agricultural producers have also positioned Canada to feed a larger, more affluent global population as harvests become less certain with the impacts of climate change. The CFA acknowledges that climate change is a global challenge that requires action on the part of governments, businesses, communities and individuals. The agricultural sector is unique in that the majority of emissions are from biological processes, not the combustion of hydrocarbons. Producers are also effective managers of natural carbon and nitrogen cycles and the sector provides carbon sequestration. The Canadian agriculture sector represents a significant opportunity for voluntary emission reductions and must be recognized as a valuable part of Canada's climate change solution.

Research

The further development of climate change research capacity is an essential component of any climate change strategy. The CFA encourages the federal government to work with their provincial partners in focusing climate change research on two key themes:

- Emission reduction, avoidance, and sequestration techniques and technology; and,
- Adaptation to lessen the impacts from a changing climate.

These themes will ensure that the agriculture sector will remain resilient and sustainable in the face of increased extreme weather events and climate variability. Research will support the sector to realize long-term solutions to climate change through reliable soil sequestration, and biological and non-biological emissions reductions. The CFA encourages the federal government to define a long-term national climate change research strategy by working with Canadian agricultural producers and the research community to facilitate the identification, coordination and funding of research priorities and technology transfer. To date, forages and grasslands have been under-researched in general, and significantly more needs to be learned about carbon interaction within these agricultural systems, both to increase sequestration and to better quantify changes in carbon stocks over time. Therefore, a focus on research to improve carbon sequestration of cropland, forages, grasslands and ornamentals to reduce emissions across all commodities and all landscapes is required.

Carbon Pricing

The approach that the federal, provincial and territorial governments have taken to pricing carbon differently, using varied approaches and with differing allocation of the revenues produced, significantly challenges the agricultural sector. The overall inconsistency in climate action leads to agricultural producers being negatively impacted to different degrees from one jurisdiction to the next. Similarly, potential opportunities such as offset protocols, research funding and cost-shared funding varies across provinces. This inconsistency in approach develops barriers to investment for some jurisdictions and competitive disadvantages within Canada, as well as in the global market.

A carbon price significantly increases the cost of doing business for agricultural producers. As price takers in the market, agricultural producers do not have an opportunity to pass on the additional costs

of a carbon price to their customers. In fact, it is more likely that increased costs of the processor or distributor will be downloaded to producers who must compete in many cases on a price set by global markets. These increased costs coupled with the thin margins that most producers face is likely to reduce investment in agriculture at a time when it needs to be ramped up as a strategic growth sector and to reduce emissions intensity. This also holds true for available funds to invest in clean technology that would reduce emissions. If agricultural production expands in countries other than Canada to meet the growing demand, it is very likely that global emissions will increase relative to a comparable expansion in Canada. Due to the significant investments that Canadian agricultural producers have made in efficiency, technology and best practices, the responsible global action is to support and boost Canadian production and not hinder its expansion through levying additional costs.

At present, biological emissions are exceedingly difficult to measure and any attempt to impose an external price upon agricultural biological emissions could prove devastating for the industry, overly burdensome to administer and inequitable when compared to natural and biological emissions in other sectors. Agricultural biological emissions are part of natural cycles and therefore should not be subject to a carbon price. However, efforts to reduce biological emissions, through continued research, promotion of technologies, and incentives should be encouraged.

Agricultural producers must compete against producers in other countries that will not have a price on carbon or that will be exempt from it. Analysis has also shown that carbon pricing will not significantly drive down emissions from Canadian agriculture because major efficiencies have already been achieved. These include from significant investments in clean technology and Beneficial Management Practices (BMPs), ongoing education and extension, and the producer's position as a price taker in a variable global market that has driven efficiency. Coupled with this is that fossil fuel use in agricultural production tends to be highly price inelastic; meaning an increase in the price of fuels, from the application of a carbon price or otherwise, does not affect a farmer's consumption of those fuels in the process of producing food. This fact alone suggests the application of price on carbon in the agricultural sector is a questionable approach for reducing emissions. This illustrates that a more effective climate action approach for agriculture would focus on recognizing the environmental co-benefits provided and incentives and investments to reduce emissions further. As managers of both carbon and nitrogen cycles, producers are able to reduce emissions through beneficial management practices, but must also remain adaptable to deal with changing consumer preferences, weather and economic pressures.

In order to improve competitiveness and to support the Canadian agricultural industry as one of the most sustainable in the world, CFA recommends the following:

- Governments must take action to ensure that carbon pricing policy is truly revenue neutral for agricultural producers;
- Biological emissions must remain exempt from both carbon pricing and regulated mandatory reductions;
- All on-farm fuel use, including but not limited to gas, diesel, propane and natural gas, must be exempt from carbon pricing;
- No climate policy should have the effect of directly or indirectly negatively impacting food security;
- Agriculture requires a non-carbon pricing approach that focuses on incentives, adoption of clean technology and management improvements to reduce emissions;

- The co-benefits that agriculture provides must be carefully considered when designing climate policy;
- Canadian agricultural producers should be recognized for their early investments and provision of climate related ecological goods and services;
- Agricultural-based GHG emissions should be considered on an intensity basis to reflect food security needs and the vast differences in efficiencies that exist;
- Greater recognition for the role of clean technology that has and will reduce emissions further; and,
- Governments must strive to achieve greater consistency in climate change policies in order to reduce impacts on agricultural producers.

Offsets and Opportunities

Governments must include opportunities for producers to be appropriately recognized for emissions reduction and carbon sequestration in climate policies. This requires additional investment in research into carbon sequestration of native pastures, tame forage crops, all other crops and their management practices, wetlands and forested lands across all soil types and landscapes. Further research must also be directed on reducing emissions from enteric fermentation, nutrient management and other sources. Government must include agricultural producers in the designs of programs in order to ensure relevancy and ease of use for producers in order to support strong participation rates. Agricultural producers have found it difficult to see value in offset protocols where they exist or are in development. This, in part, is due to the low rates of return that have been offered to date and the administrative burden of participation and verification. As a result, participation rates in offsets have stagnated, yet innumerable more producers are actually qualified for the offset through their current practices. As Canadian jurisdictions develop their own climate policies, programs must be designed to be more relevant to agricultural producers and to build upon successful incentive-based programs to drive practice change and investments.

In general, practice has demonstrated the effectiveness and efficiency in pursuing incentive-based programs with the agricultural sector rather than through regulations. There are successful programs such as cost-shared funding that has been delivered through Environmental Farm Plans and Beneficial Management Plans (BMPs) that have driven targeted investments at the farm level. This program and others must receive additional investments and a review for most efficient actions that would reduce emissions or boost adaptation. An incentive-based approach would also take advantage of tax policies like accelerated capital cost depreciation for clean technology and design offset protocols with efficiency and the protocol user in mind.

One of the challenges for agricultural producers has been governments' focus on only supporting offset protocols and providing compensation for projects that strongly demonstrate additionality. Agricultural producers are inherently adaptable and are stewards of significant carbon stocks through best management practices such as zero and minimum tillage, shelterbelts, woodlots, wetlands, forages and grasslands. However, economic pressures do not support maintaining these carbon stocks and without strong incentives to producers to manage them effectively, land-use based emissions will continue to occur. There is no business as usual for the agricultural sector in managing carbon stocks; variable product prices and changing consumer preferences can result in both significant land use changes and greenhouse gas emissions, as producers respond in order to remain financially viable.

A related challenge posed by offset protocols is that they can have the effect of rewarding those who are late to change and providing nothing to early adopters. Using conservation tillage as an example, more degraded soils have a higher potential for carbon sequestration, yet the producer who made an early change from conventional tillage has less opportunity for sequestration, is managing a larger carbon store and is not recognized for their early management/technological change. The forestry sector has developed programs to protect old growth forests from land use change that would result in significant emissions, and a similar recognition of this possibility for agriculture must be explored. Offset protocols or other initiatives should be developed that reward producers for maintaining carbon stocks, and this is all the more important as costs of production continue to rise with carbon pricing.

In order to incentivize agricultural producers to take climate action, the following is recommended:

- Governments must invest in incentives for producers to invest in clean technology and practices, such as accelerated capital cost allowances, rebates, grants and cost-shared funding;
- Recognition from governments that the agricultural sector is unique and requires an approach to climate action that is different than other sectors in order to be effective;
- Governments recognize that agricultural producers are stewards of carbon stocks and develop programs to incentivize their best management;
- Recognition of the increased carbon sequestration that has taken place with yield gains.
- Investment in programs that incentivize producers to make management decisions that avoid land use emissions; and,
- Offset protocols, including voluntary offsets, must be designed in order to be workable and practical for agricultural producers with minimum administrative constraints to participation. This approach is required in order to incentivize participation and includes:
 - A transparent and meaningful partnership with agricultural producers to develop climate change policies and offset protocols;
 - A broad range of offset protocols across all sectors and commodities.
 - Allowing the aggregation of agricultural carbon offset projects;
 - Stacking of credits;
 - A fair price to the producer for their voluntary emissions reduction or sequestration;
 - Recognition of the early investments and actions that producers have taken to address climate change;
 - Effective and efficient verification of offset credits to minimize administrative costs;
 - Recognition that there is no need for costly on-farm verification of every operation and adopt risk-based sampling for verification of credits;
 - Utilization of measurable science and Beneficial Management Practices rather than impossible to prove permanency;
 - Exploring the development of a buffer reserve with a risk premium to manage risk of reversals instead of proving permanency; and,
 - Transparent and cost-effective administration of climate policy.

Adaptation

Agricultural landscapes are vulnerable to climate change impacts, but can also provide Ecological Goods and Services (EG&S) when it comes to building landscape scale resiliency. Agriculture can support Canadians and municipalities in adaptation through water management in times of both drought and

flooding, and water quality improvements. Furthermore, agriculture supports landscape scale adaptation through soil conservation, air quality and localized cooling during heat events. Agricultural adaptation is critical for predictable yields that support food security, to support rural livelihoods and to grow a strong Canadian economy. The CFA believes that agricultural activities make the best use of arable land, and that agriculturally managed landscapes provide EG&S while producing food, fibre and fuel. The CFA urges the government to continue to direct resources towards understanding the impacts of climate change and to developing the tools, strategies and research needed to ensure Canadian agriculture remains resilient and sustainable.

Any adaptation strategy should focus on the following objectives:

- Weather - a substantially improved weather forecasting and warning system,
- Plant and animal breeding - a renewed focus and investment in the improvement of breeding programs,
- Research and investment in technologies to reduce livestock heat stress,
- Pest management – significant research and effort must be placed on further developing integrated pest management techniques and understanding new pests and vectors that will emerge as the climate changes,
- Investment – a long term investment in transportation and rural infrastructure,
- Insurance – the enhancement of agricultural insurance programs.