



Presentation to the New Brunswick's Select Committee on Climate Change
September 1, 2016

The Agricultural Alliance of New Brunswick (AANB) is pleased to be able to present to New Brunswick's Select Committee on Climate Change. The AANB is the province's largest farm organization with close to 800 members. We promote the interests of all farmers and the sustainability and growth of the agricultural industry in New Brunswick. The AANB recognizes the need to reduce greenhouse gas (GHG) emissions and the importance of adapting to our changing environment.

As action to mitigate and adapt to climate change will affect and rely upon the actions of farmers, it is critical to involve farmers in the discussion and implementation of climate change policy.

Most of our comments reflect the official position of the Canadian Federation of Agriculture (CFA), Canada's largest farmers' organization which represents over 200,000 Canadian farmers and farm families, and of which the Agricultural Alliance of New Brunswick is a member.

Before providing our input, we would like to provide you with information on agriculture environment related initiatives currently ongoing in the province.

- 1) The Environmental Farm Plan (EFP) was established over twenty years ago and is administered in New Brunswick by the AANB. It applies to all primary agricultural production sectors and is voluntary and confidential. The EFP is a self-assessment tool that helps producers identify the environmental strengths and potential risks of their farming operation. The plan addresses many aspects including windbreaks, energy efficiency, management of livestock facilities, manure storage and handling, pasture management, soil management, nutrient management, pest management and woodlots, and it provides recommended actions to adopt BMPs (best management practices). An EFP document revision is planned for the next year and this will undoubtedly highlight an increased focus of climate change mitigation and adaptation.
- 2) The federal provincial Growing Forward 2 Framework includes many suites of programs. The Environmentally Sustainable Agricultural Production section of Growing Forward 2 provides incentive funding for many BMPs which farmers may decide to implement, following from their EFP. **Restricted funding in the program is preventing implementation of many BMPs as there presently is an 18 month waiting list for approval.**
- 3) Producers who receive third-party review certification performed by the Eastern Canada Soil & Water Conservation Center (ECSWCC) (of the CCNB) are eligible to obtain partial funding for BMP projects such as: improved manure storage and handling, and manure and

soil erosion control structures. Over 1000 producers in our province have completed EFPs and most of those producers have fully revised their plans within the last 5 years.

The ECSWCC has been playing a vital role in agriculture industry development through training, technology transfer and innovation since 1991. The ECSWCC expertise rely on soil and water conservation, promotion of BMPs, soil, crop and nutrient management, agroforestry, field mapping, applied geomatics and precision agriculture. The ECSWCC works in close collaboration with watersheds groups, communities and other agriculture-related associations and groups.

- 4) There are presently eight agri-environment clubs across the province. The New Brunswick Soil Improvement Association (NBSCIA) administers six agri-environmental clubs across the province and the AANB administers two agri-environment clubs. The clubs actively help farmers in developing, promoting and demonstrating environmentally and economically sound agricultural practices that relate to soils and crops in New Brunswick. The clubs assist with agro-environmental field research, transfer information to their members and hold fields days and tours to promote new & innovative farming techniques.

The AANB strongly believes that agricultural producers are part of the solution. Quality land and water are two fundamental resources for agricultural production, and because farmers are in close connection to the land, they do more to protect and preserve these resources than any other industry.

Research

Firstly, as regards mitigation, there is a significant need for further research capacity and specifically into how agricultural innovations could lead to reduced GHG emissions. There have been many promising practices and technological innovations that have rapidly progressed along the adoption curve in farming that result in reduced emissions. Examples include no-till or reduced tillage practices, bio-digesters, manure and nutrient management plans and practices, reduced application of fertilizers and crop protection practices and in general more effective, timely and accurate application of inputs through the information provided in precision farming, whether it be for livestock or crop producers. It is important to note that these innovations have come without additional government regulation and have been led by market forces and the changing operational needs of farmers.

There are currently many more promising innovations that have yet to be implemented at scale and yet more research ideas that require funding in order to demonstrate feasibility. Current research areas that would lead to significant emissions reduction beyond what has already been achieved include around feed management for ruminant livestock in order to reduce methane emissions, further development of markets to incentivize nutrient and manure management and additional research into the carbon sequestration of crops, cover crops and forages under no-till practices. Additionally, like many industries, agriculture is reliant upon transportation to get products to markets. While farmers will stand to indirectly benefit from emissions reduction in the transportation sector, it is important that transportation costs do not rise to an extent that it places undue costs on farmers.

These are many examples of research priorities that can lead to reduced emissions from agriculture. In order to encourage the pace of these pathways to reduced emissions, it is imperative that additional research funding be allocated in order to support both the primary discovery research that has offered Canadian agriculture many productivity gains as well as throughout the research continuum to bring research discoveries and innovations into the hands of farmers. To this end, it is important that FPT governments share the risk for early adopters by providing incentives for farmers to make the necessary investments in new technology, high-cost new equipment and management changes. There is also great prospects in research creating new applications for agricultural products that will replace fossil fuel based products and can be processed using agricultural waste. Governments should specifically consider providing cost-shared funding through beneficial management practices. Tools, such as the Environmental Farm Plan (EFP) exist which allow farmers to conduct an environmental risk assessment of their operations and identify an action plan to take corrective action. Some provincial jurisdictions are currently incorporating GHG emissions into the plan and so the EFP represents an ideal delivery mechanism for cost shared BMP funding.

Carbon price

While blended examples exist, carbon pricing can generally be split into two different schemes, a carbon tax or cap-and-trade system. A carbon tax will significantly increase the cost of doing business for farmers. As price takers, farmers cannot pass the additional cost of a carbon tax on to consumers or the international market in which they compete. In addition to direct costs on fuels that they use, farmers will also bear the brunt of indirect costs for shipping and fertilizer that will lead to a competitive disadvantage for Canadian farmers. Canadian farmers will face higher costs to produce than our international competitors who are able to produce without carbon taxes. Therefore, agriculture should be exempted from any carbon tax until adequate measures are in place to ensure that such a tax is revenue neutral for farmers. This would require providing farmers more income for the costs incurred while producing ecological goods and services such as emission reduction.

If the PanCanadian Framework on Climate Change (PCFCC) does result in the implementation or support of a carbon tax, an effective cap on industrial emitters to create a market for offset credits must also be created. This would allow agriculture to trade offset credits for all GHG mitigation techniques and practices available. Alberta pursued this route and offers offset payments to farmers who have voluntarily reduced their emissions through a change in practices. This same opportunity should be afforded to farmers across Canada. There should also be a rebate system that acknowledges the competitive risk that carbon tax imposes upon both the domestic and export agricultural markets. Additionally, tax changes can help to incentivize mitigation through accelerated capital cost allowances on 'green' capital investments and should effectively account for the increased cost a carbon tax will impose on Canadian farmers.

Under a cap-and-trade system, there is more incentive for farmers to actively work to reduce GHG emissions and sequester carbon and there is less risk to impacting competitiveness. If a cap-and-trade system is pursued, as has been by some provinces, there will need to be a wide range of carbon offset protocols that provide all agricultural sectors and commodities with an opportunity

to reduce emissions or sequester carbon. This system should allow for the aggregation of producers to create blocks of carbon credits and safeguards to ensure that the benefits will accrue to farmers for the actions they take rather than the credits being claimed on their behalf.

There are many suggestions that can also be made to ensure that offset protocols are both efficient and accomplish the policy aims of encouraging changes to management practices that reduce emissions or sequester carbon. Administration of the offset system should be transparent and cost-effective and verification of offset credits are done quickly and effectively to limit the costs involved and maintain the integrity of the offset system. Variations in regulations, policies, incentives, growing conditions and practices that already exist across the country must be taken into account as protocols are implemented. Specifically, the methodology used to calculate baselines must recognize these differences rather than adopting a normalized national baseline or a broad business as usual approach that would miss the significant diversity that exists in Canada's agricultural sector. Provisions would also need to be included to issue full value offset credits to farmers who adopted techniques and technology to mitigate emissions prior to the development of the market to recognize early investments and provision of climate ecological goods and services and avoid the situation of potentially only compensating the late adopters. Any federal level cap-and-trade must be seamlessly integrated with provincial action or markets to avoid duplication, market confusion and higher costs. If applicable, stacking should be a fully implemented policy to ensure that emission reductions are still applicable in the case of overlapping federal and provincial policies.

Adaptation

Farmers are inherently adaptive and have their livelihoods invested in the unpredictability of weather and other external forces outside of their control. Already, we have seen new crop varieties that have been bred for a shorter growing season to enable their cultivation in new areas of Canada and an increasing focus paid on resilient varieties. Extreme weather events will pose new threats in terms of frequency and severity and farmers will need effective mechanisms in place in order to manage risk and the necessary investments for adaptive actions. Farmers require better information now in order to incorporate adaptation into regular decision-making. This includes more accurate and disseminated information on the expected impacts climate change will have on the sub-regional scale and how different commodities will be affected differently.

Any strategy dealing with adaptation must include the following objectives:

1. Weather - a substantially improved weather forecasting and warning system;
2. Emergency Planning – initiatives are already underway
3. Plant Breeding - a renewed focus and investment in the improvement of plant breeding programs;
4. 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;
5. Investment – a long term investment in transportation and rural infrastructure;
6. Insurance – the enhancement of crop insurance programs;
7. Soil Erosion – continued and increased efforts to control runoff and prevent erosion

Inevitably, adaptive investments to encourage resiliency require some duplication and redundancy. In order to support a strong agriculture sector in Canada that remains resilient to climate change, governments will need to provide both the tools necessary and incentive-based funding to support the mainstreaming of adaptation planning. This is critical not just for the livelihoods of farmers but also to support food security and to ensure a global food supply at reasonable prices in the case of catastrophic crop failures in other growing regions of global staples.

Recommendations

1. Primarily, FPT governments must involve farmers in the development of climate change policy and work towards a framework that recognizes the contributions that farmers have made in reducing emissions and the significant opportunities for farmers to continue to do so in a resilient and adaptive sector. Farmers are in a unique position requiring special consideration as their product is food. Therefore the impacts of climate change must be fully considered and specific attention focused to ensure a resilient agricultural sector. This means that enabling research, policies and programs will support understanding of the impact of climate change for farmers and the most effective means to reduce the potential damage caused. Further investments in understanding and communicating the technical scientific knowledge and data on climate change forecasts and impacts remains needed for the agricultural sector.
2. In the development of the PCFCC, FPT governments must ensure that variations in how provinces and territories implement carbon pricing and climate change policy as a whole does not have the effect of disadvantaging farmers from one province to another. Furthermore, action on climate change must not come at the expense of food production. Farmers provide strong stewardship of the land and with the right incentives will be able to continue to provide important ecological goods and services as they relate to reductions in GHG emissions and carbon sequestration.
3. Any pricing of carbon must include the opportunity for carbon offsets and the involvement of farmers in the development of offset protocols. Farmers must be able to take advantage of the incentives to take action on climate change regardless of the province or territory in which they reside and which commodity they produce. **A national carbon price which recognizes the ecological goods and services provided by farmers could also be built upon to expand into other areas where farmers contribute to public goods and services such as water quality, water management, biodiversity and habitat for example.**
4. Investments in clean technology and infrastructure may also greatly reduce the carbon footprint of energy that many farms are currently forced to use. In many rural areas, there is no access to natural gas which could greatly reduce the energy costs for farmers and also transition many to a cleaner burning fuel and energy source. Increase governmental assistance and provide education for agricultural producers for upgrading facilities and for the construction of new buildings to adopt efficiency technologies (i.e. water heating for facilities though renewable energy). Some of the most advanced technologies that would serve to reduce GHG emissions on-farm remain cost-prohibitive for many farmers. Cost-shared funding should be implemented in order to make

products such as the equipment and technology for precision agriculture, bio-digesters and other investments that reduce GHG emissions more affordable. Stimulating soil carbon sequestration in agricultural fields: Soil carbon losses (by erosion, exportation, etc.) should be limited by implementing soil & water conservation works and soil carbon stocks should be strengthened by favoring carbon inputs through cover cropping, grassland maintenance, manure and compost utilization and agro-forestry systems.

5. Federal support for the bioeconomy through the development of a national strategy and targeted investments can also create the market for agricultural waste products and purpose-grown crops as feedstock for plastics, composites, fibre and fuel that many agricultural producers have been waiting to supply but that Canada currently lacks the processing facilities. These products in general have a lower GHG footprint than those derived from fossil fuels and will need to be a part of the solution to transitioning to a green economy. There remains a significant opportunity to expand the conversion of agricultural wastes into energy.
6. **Inspiring changes in management practices on the ground are best pursued through incentives building upon existing structures and programs that farmers already are familiar with and use and which have incorporated a continuous improvement approach.** For example, strengthen the Environmental Farm Plan to reflect society's increased desire for action on Climate Change. Incentives linked with Beneficial Management Practices (BMPs) and the Environmental Farm Plan, and reduced participation fees for business risk management programs are key vehicles that can be used to incentivize climate-smart practices resulting in reduced emissions, increased sequestration and continuing productivity gains for the agriculture sector as a whole.
7. Agriculture must be involved in a cross-sectoral approach to address both mitigation and adaptation due to diverse nature of agricultural practices, geographic dispersion of farms and the integration of farmers in rural and urban communities: adapting maintenance of non-designated roads used by agricultural operations to respond to the threat of severe weather events; preparing for extreme weather events through improved technology, mitigation and practices, for example increased water filtration capacities during storms and terraces development to address soil erosion.

Farmers will need to be involved and recognized for the role that they will play in both reducing emissions, sequestering carbon and adapting to climate change. All the while, recognizing the need to continue to boost agricultural production through sustainable intensification to feed a growing world that will be more vulnerable to food production shocks.

These recommendations that we are presenting to you are only a glimpse of the opportunities within the agricultural sector in adapting to climate change. We are pleased to be involved as stakeholders to the Select Committee on Climate Change and hopeful that we will continue to be included in the future. Tremendous uncertainties exist on how climate change will affect the agricultural sector and the food system directly and indirectly. The Agricultural Alliance of NB is

prepared to further discuss with government how climate change may affect and be impacted by the agricultural sector and how agricultural producers can respond to these challenges.

Better managing the known risk, promoting research, innovation and measures for adaptation and resilience will permit New Brunswick to successfully prepare for our future. To be successful, government policies and programs will require thoughtful adjustments to help industry in better adapting to climate change.