



# CHARTING THE WAY FORWARD TO 2020

Discussion Paper

## Growing Forward 2



Government  
of Alberta ■



Government of  
Saskatchewan

Manitoba 



Ontario

Québec 

  
Newfoundland  
Labrador

  
NOVA SCOTIA

  
New Brunswick  
Nouveau Brunswick

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Island*  
CANADA

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Government

  
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Nunavut

Canada 

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## PREFACE

Canada's agriculture, agri-food, and agri-based products sector is a modern, vibrant industry that reflects both Canada's national achievements and the local character of the provinces and territories. It has been adapting to a fast evolving environment through the use of innovative practices and business models, and the adoption of innovative technologies that enable the sector to create new products, lower production costs, and reduce its environmental footprint.

The global environment within which Canada's agricultural sector operates is changing. Demand is rising in response to ever-growing world population, rising incomes, and increased non-food uses of agricultural products. Demand is also shifting. Markets in emerging economies are growing rapidly, while the developed markets Canada has traditionally exported to are growing slowly. In addition, consumers are seeking a broader range of attributes, and climate and resource constraints are affecting production possibilities. By 2020, the world of agriculture, while full of potential, will be different.

Canada has abundant natural resources and know-how to benefit from the opportunities to come. Nonetheless, to safeguard the sector's competitiveness and sustainability, there is a continuing need to adapt policies and practices.

Canada's current agricultural policy framework, *Growing Forward*, is due for renewal in 2013. Federal, provincial, and territorial (FPT) governments are already engaged with stakeholders in discussions on the next policy framework, *Growing Forward 2 (GF2)*. The first phase of engagement was held in spring 2010 and the next phase begins now, both in live events and on the web.

This document, which is intended to provide the basis for a web-based discussion, reflects the outcomes of the initial spring 2010 engagement meetings and subsequent analysis.

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## I. INTRODUCTION

The *Growing Forward 2* (GF2) engagement process aims to stimulate discussion on the future of the Canadian agriculture, agri-food and agri-based products industry. This is an essential step in developing the next federal, provincial, territorial (FPT) policy framework, expected to take effect on April 1, 2013.

GF2 will be an evolution of previous frameworks. Over the past decade, FPT governments have built a strong record of collaboration with each other and industry in support of the sector. The *Agricultural Policy Framework* (APF, 2003–08) focussed on securing the long-term prosperity, profitability and success of the sector. It also sought to position Canada as the world leader for food safety, innovation and environmentally-responsible production. *Growing Forward* (GF, 2008–13) subsequently elaborated on the APF through additional emphasis on competitiveness through innovation, market development, and regulatory improvements, as well as greater flexibility for provinces and territories.

*Growing Forward 2* will build on prior frameworks and dialogue arising from the first round of engagement held in 2010. It proposes to better position the sector for growth by capturing opportunities and addressing challenges needed to succeed in the future.

To identify these policy areas, as well as possible actions, FPT governments have established a comprehensive three-phased GF2 engagement process. It is designed to ensure that all sector interests are heard and that emerging views are fully reflected upon.

*Phase 1 Engagement (May-June 2010)*—This initial step centred on a series of national and regional workshops. Over 400 farm leaders and other key value chain stakeholders engaged with FPT governments on the long-term challenges and opportunities facing the sector. The results from these sessions are available in the summary report, which may be viewed on AAFC's web site ([www.agr.gc.ca](http://www.agr.gc.ca)). The results were used in analyzing the factors that are expected to affect the success of the sector to 2020 and beyond.

*Phase 2 Industry and Public Engagement (February-April 2011)*—This Phase is designed to build on the progress made during the spring sessions. It will provide a forum to hear public and industry views and receive feedback on policy priorities. Phase 2 will consist of bilateral meetings with provincial federations of agriculture, public meetings across the country, meetings with young farmers and innovators, and opportunities for online submissions.

*Phase 3 Engagement (January-March 2012)*—This final phase of engagement is expected to provide FPT governments and industry stakeholders with an opportunity to focus on the development of program options that support the policy priorities identified in Phase 2.

Building on the Phase 1 Engagement results and subsequent analysis, this document supports the Phase 2 Engagement process by offering strategic questions designed to initiate discussion on the main elements of the next agricultural policy framework. It is posted on the AAFC website to assist with the submission of written comments from interested parties. It is the intent of FPT

governments to work collaboratively and collectively to generate inventive ideas that will contribute to a profitable Canadian agri-food industry. They are committed to considering all comments received.

Section II below describes the global and domestic economic environment facing agriculture and assesses it in terms of opportunities and challenges for the Canadian sector. It is within this context that FPT governments have identified the considerations for developing strategies and policies for a competitive, profitable and sustainable sector. This leads to the introduction of the basic structure that is proposed to guide the development of *Growing Forward 2* (Section III). This structure identifies two broad GF2 objectives and two key drivers. These are elaborated on in remainder of the document (Sections IV to VII). They provide the FPT analysis of the elements of the GF2 Framework.

## II. CONTEXT

This section describes the current state and trends of the global agriculture and agri-food market. Looking to the future, questions arise as to whether these trends will continue, how they will affect the Canadian industry, and what opportunities and challenges they represent for primary producers and processors in Canada.

### **Global Agriculture and Food Trends**

Trends in global agricultural markets are defined by changes in demand for and production of agricultural commodities. Demographic, socio-economic, technological and resource-based considerations underlie movements in both supply and demand.

**Population growth is expected to increase demand for food.** World population is expected to increase to 9 billion by 2050, with a resulting growth in the demand for food and new market opportunities for the Canadian agriculture and agri-food sector. The expected increase in demand also raises concerns that current production patterns may not be adequate to provide the necessary food supplies.

**A growing middle class in emerging economies is increasing demand for higher value food products.** Middle-class consumers in China, India and Brazil are increasing their consumption of meat, fish, poultry and dairy products. These, and other countries with emerging economies, are growing importers of higher-value protein food products. Some of the emerging countries, Brazil in particular, are increasing their agricultural production for export.

**World trade in agriculture and agri-food products continues to increase.** The major source of this growth is the increased demand for food driven by population and income growth in emerging economies. Food imports by emerging economies (e.g., China, India) have grown by 300 percent between 1999 and 2008. Growth in food imports by emerging economies is expected to continue into the future.

**Globally, the supply chain, including the retail sector, has changed significantly in the past two decades.** Emerging economies, such as Mexico, Russia, India and China, are witnessing the growth of supermarkets as major food retail businesses. For instance China, which had no supermarket sales in 1990, saw roughly \$100 billion worth of sales in 2006. Additionally, to supply large domestic and global retailers such as Walmart, Tesco and Carrefour, suppliers need to compete world-wide to provide continuous volumes and consistent quality of goods at competitive prices.

**Global retailers and processors are establishing new or adopting existing private standards,** such as GlobalGAP, Sustainable Agricultural Initiative (SAI), the Global Food Safety Initiative (GFSI), and Marine Stewardship Council certification are illustrative of efforts to ensure products meet specific quality and food safety specifications. Similarly, consumer-driven labeling initiatives such as Tesco's "Carbon Labeling" or Carrefour's "Reared without GMOs" [*Nourri sans OGM*] are proliferating.

**Demand for non-food uses of agricultural products continues to grow.** New products, such as biofuels, biofibres, biocomposites and nutraceuticals have the potential to reduce the reliance on fossil fuels and be more environmentally friendly. Biogas from animal and agricultural waste can be transformed into electricity, which can be used in farm operations or sold, providing additional income to farmers.

**Growth in agricultural and agri-food production is affected by natural resource constraints (e.g., land, water).** Per-capita arable land has been declining globally, primarily due to population growth and urbanization. In general terms, global water resources are currently sufficient; however they are unevenly distributed and requirements are expected to increase by 40 percent over the next 20 years. Competition by other users of land and water will increase pressures to use resources more efficiently in the future.

**New technological breakthroughs will help increase productivity and reduce environmental impacts of production.** Historically, new technologies have led to increased productivity and the adoption of more environmentally-sustainable practices (e.g., no-till planting, precision farming). However, the rate of growth in yields has slowed in recent years. Public scepticism of some new technologies (e.g., GMOs) has hampered their more widespread adoption. On the other hand, the public is increasing acceptance of defined health attributes of food and non-food products.

### **Challenges and Opportunities for the Canadian Sector**

Global and domestic trends have been assessed in terms of the opportunities and challenges in existing and new markets, for the Canadian sector, given its a highly-productive resource base on the one hand and the need to stay abreast of ever-changing worldwide consumer demands, on the other. In additions, consumers increasingly expect that the agricultural and agri-food industry contributes to broad outcomes such as population health, food security, and environmental sustainability. There have been suggestions that these could be addressed by industry strategies or a food policy.

**The agriculture and agri-food industry is a significant part of the Canadian economy.** Over the past ten years, the sector has grown by over two percent annually. Primary agricultural production realized \$40 billion in market receipts in 2009, of which about forty percent was processed in Canada. The Canadian industry is equipped with efficient production systems, well-established markets and an enviable resource base. However, it will be challenged to meet new, lower-cost entrants into markets traditionally held by Canadian products.

**Canada is a major player in global markets.** In 2009, the sector reported \$35 billion in exports, comprised about equally of primary and processed foods. Half of all exports were grain and oilseed products, with livestock and meat representing an additional 20 percent. Half of all agriculture and agri-food export sales were destined to the U.S. At the same time, exports to Japan and the EU, to China and Mexico saw significant growth.

**Canadian primary producers and processors rely on access to markets for their long-term profitability.** Given the importance of exports for the sector and in light of the new opportunities expected from the increased global demand for food, especially for higher value products in the large emerging economies, there are market opportunities for Canada. Traditional importers such as the EU and U.S. are largely mature markets and are expected to have less growth potential. A challenge that continues to affect the international trade environment remains the slow progress of both multilateral (Doha Round) and key bilateral trade negotiations.

**The domestic market is very important for the Canadian agriculture and food industry.** More than half of Canadian primary agricultural production is marketed to consumers and processors in Canada. Three quarters of Canadian processed food and beverages is destined for the domestic market. While the industry is facing pressure from foreign competitors, attribute-based opportunities for health and environmentally-conscious Canadians are emerging (e.g., organic, locally-produced).

**Concerns about how food is produced have taken on a more prominent profile in the minds of consumers.** The environment (particularly the environmental effects of large-scale farming), animal welfare and human health have raised the profile of food production systems with the Canadian public.

**Global uncertainty over food availability and prices has raised food security concerns as a critical global policy issue.** This is giving rise to calls for a national food policy/strategy in certain jurisdictions. Perspectives and positions differ widely on both the need and value of such a strategy.

**Many of the global trends present opportunities for growth.** Canada is blessed with an abundance of arable land and water. We rank second in the world in terms of total arable land per person, and represent 5 percent of global renewable water resources. The sector is well positioned to benefit from the increased global demand for food, given its resource base, as well as its modern production and trade orientation.

**The Canadian agriculture sector can compete successfully by adapting to changing markets.** The sector has continuously adjusted in many ways and with a variety of business models, by diversifying or specializing, by expanding or developing niche products, etc. While competing on costs will remain critical for the performance of the sector, it will no longer be sufficient. Consumers are also demanding more diverse products, including products with specific attributes based on cultural preferences and views on production characteristics, such as halal, organic and local products. For example, Canadian production has diversified significantly into dried pulses for new export markets, such as Korea and Japan. Domestically, the sector responds to consumer demands with new food products, such as those with various specific attributes (e.g., omega 3 eggs, organic products), or more ready-made and semi-prepared foods. Primary producers and processors are monitoring consumer trends more closely in order to adapt and take advantage of changes in demand in a timelier manner.

## **Considerations for Developing the Next Policy Framework**

**The focus for the next policy framework is to create an enabling environment in which the industry can better address challenges or seize opportunities.** Stakeholder meetings and analysis of the sector identified key issues for consideration. These include the role of innovation for productivity growth and the ongoing efforts to access emerging growth markets. It is also vital to have the right infrastructure in place for improved industry information-sharing to be able to anticipate and adapt to changes in global and domestic markets and in the natural environment.

With this perspective for the industry and given the global and Canadian context outlined above, the following considerations are meant to contribute to the stakeholder discussions.

**Facilitating change and adaptation to a fast and evolving global environment is crucial.** The industry, individually and collectively, relies on its capacity to anticipate and benefit from the changing external environment, pressures and opportunities. While adapting, a dynamic and forward-looking sector will also be able to attract new players with new business models and innovative approaches.

**Consumers and governments are looking at the food-production system in a more integrated way.** This is reflected by increasing interest in food–health connections, production practices, and environmental impacts. Finite natural resources and societal demands require responsible use and management. To ensure its prosperity and sustainability, the Canadian industry needs to manage its resources (natural, financial and people) in a way that takes into consideration both the current and longer term needs of the sector, consumers and society. This involves continuously re-investing in the productive base, using and managing scarce resources responsibly, and enhancing skills and knowledge. This also involves recognizing society’s concerns and “being a good neighbour” (i.e., maintaining or increasing the community’s acceptance of farms and processing firms). Above all, it means paying close attention to evolving consumer demands and responding quickly and appropriately.

**Innovation is a key driver to provide solutions to challenges, as well as to capture new opportunities.** Innovation is essential to increase productivity, increase the resilience of the industry to climate variability, and generate opportunities for the sector to contribute to the needs and well-being of Canadians. Continual innovation and adaptation has contributed to increased yields and the creation of new products and production methods, such as no-till planting, precision farming, and pest and disease resistant crops. Innovation is not only for primary agriculture but throughout the supply chain, such as for the developments of new product attributes. Coordinated public and private sector investments to meet emerging market demands or challenges will be essential for its future competitiveness and sustainability.

**Global markets and consumer demands require effective rules, organizations and networks.** Increased trade, globalization of supply chains, and more exacting consumer demands have increased the importance of rules, regulations, and other market infrastructure. Additional industry capacity and infrastructure investments, such as information and communication

technologies, will be required to enable producers, processors, buyers, and government agencies to adjust effectively to new food safety regulations and buyer assurance standards.

**Many issues that affect the future of the agriculture, agri-food, and agri-based products industry fall outside the mandate of FPT agriculture departments.** Trade, health, labour, transportation, and environment, for example, are the responsibilities of a number of federal and provincial ministries other than agriculture. Horizontal collaboration, therefore, among government departments will be required to develop innovative and effective solutions in partnership with industry.

**Fiscal capacity of government is constrained by an economy in recovery.** In the current fiscal environment, careful identification of government and industry priorities for action is important to achieve the sector's goals. Government, in its enabling role, can facilitate greater industry competitiveness, adaptability, and sustainability. As mentioned above, some issues are not exclusively the responsibilities of agriculture departments, however, this should not hinder efforts to advance the development of integrated solutions for a vibrant and resilient sector.

### III. THE NEXT AGRICULTURAL POLICY FRAMEWORK: *GROWING FORWARD 2*

In the spring of 2010, federal, provincial and territorial governments undertook a first round of GF2 dialogues with representatives of the Canadian agriculture, agri-food and agri-based processing sector in order to develop a common understanding of its current state and the key drivers shaping its future. A summary report of this dialogue (Phase 1) has been prepared and is available on the AAFC web site ([www.agr.gc.ca](http://www.agr.gc.ca)).

Two broad outcomes and two key drivers have emerged as being central to the continuing success of the industry from now until 2020, and beyond.

The two broad outcomes are:

- **Competitiveness and Market Growth:** The sector needs to continually increase productivity, to reduce costs and to respond to consumer demands, such as for high-value products with specific attributes. Competitiveness also means increasing our share of domestic and international markets.
- **Adaptability and Sustainability:** Industry and its individual players have the ability and capacity to anticipate and adjust to changing external environments and pressures (e.g., markets, climate change), to manage the associated risks, and to take advantage of new opportunities. The sector achieves sustainability through the management of its resources (natural, financial base and people), in a way that takes into consideration both current and long-term needs of the sector, consumers and society.

The key drivers to achieve the outcomes are:

- **Innovation:** The sector adopts and implements new technologies and innovations, creating and using knowledge to develop new products, technologies and business management practices that drive down costs, increase productivity and respond to consumer demands.
- **Institutional and Physical Infrastructure:** Effective rules, regulations, standards, organizations, and physical infrastructure allow firms to operate and markets to function efficiently for a profitable sector and the well-being of Canadians.

This document aims to contribute to the discussion this framework. To facilitate this conversation, the following sections expand on the outcomes and key drivers, describing in more detail the current state of the sector and aspirations for the future. The sections also include questions that are designed to generate discussion around the actions that will be necessary to achieve a competitive, profitable and sustainable Canadian agriculture and agri-food sector that provides safe, innovative, and high quality products and services.

**As you review the following sections keep in mind:**

1. *Have we captured the right issues to foster industry success in 2020 and beyond?*
2. *How can industry and government work together to foster a modern, market-responsive, agriculture and agri-food sector that is resilient, competitive and sustainable?*
3. *What are the respective roles and responsibilities of the sector, government and other stakeholders relative to the issues identified that will create the right environment for success to 2020 and beyond?*

#### **IV. COMPETITIVENESS: DEVELOPING DOMESTIC AND GLOBAL MARKETS**

A modern agriculture and food sector is resilient, competitive and sustainable. It depends on how well the sector is able to compete and adapt to shifting domestic and international markets. This section focuses on the key areas of competitiveness and market growth for the sector's performance, which are: competing on cost; meeting requirements for product attributes; maintaining and expanding access to markets; and enhancing Canada's performance in markets.

##### **A Sector that Can Compete on Cost**

**Competing on cost** refers to the capacity of the sector to supply goods of comparable quality at the same or lower cost than its competitors.

One factor in assessing the competitiveness of Canadian agriculture and agri-food sector is how cost-efficient Canadian agricultural producers, manufacturers and exporters are in relation to competitor suppliers. This is influenced by a number of factors, including natural resource availability and use, input prices, labour availability and cost, and scale of operation.

**There are constraints and challenges to resource availability and use.** Canada, as well as competitors, faces challenges on basic inputs (climate, water and energy). Canada has a natural comparative advantage with respect to climate as our winters provide control mechanisms for plant and animal diseases but has higher energy use due to geography. Certain regions in Canada have abundant water supplies in relation to its competitors, but competing industrial and residential water uses are leading to cost increases.

**Input prices are critical to competitiveness.** Generally, costs of animal and plant genetics, fertilizer, veterinary drugs, plant protection products and equipment are comparable with those of competitors. Gaps, to Canada's disadvantage, often exist vis-à-vis the US.

**The sector also has average to high animal yields and plant yields.** These are comparable to competitors in similar climatic regions, but lower than world averages.

**Labour availability and costs are a challenge.** Labour costs in Canada are relatively higher than those of major competitors. However, this disadvantage could be partially offset by the sector's average-to-high output per unit of labour, depending on the commodity group.

**Scale of operation has implications for cost competitiveness.** Analysis at the farm level shows that there are profitable farms of various sizes. The primary processing sector has sufficient scale to compete on cost. However, the scale of the further processing sector is generally less than that of its competitors.

**Infrastructure affects cost competitiveness.** Certain elements of transportation infrastructure could be more reliable and some regulatory impediments to competitiveness have been identified by stakeholders.

**Innovation is critical for improved cost competitiveness.** Innovation can lead to improved productivity and reduced costs. However, despite significant agricultural research, the sector could be more effective in applying knowledge and innovating along the supply chain.

FPT analysis of key factors is summarized in Table 1.

**Table 1—COST COMPETITIVENESS**

	Where We Are	Where We Want To Be
<b>Input Costs</b>	<ul style="list-style-type: none"> <li>• <b>Water:</b> due to an abundant supply of water in general, this is a natural competitive advantage; however, competing industrial/residential use of water is leading to limitations to access and higher costs, and there are significant regional differences</li> <li>• <b>Energy:</b> comparatively high energy needs to due climate and geography</li> <li>• <b>Animal/ plant genetics, fertilizer, pesticides and equipment:</b> generally comparable costs with competitors, but access to new products and technology tends to be slower.</li> </ul>	<ul style="list-style-type: none"> <li>• Maximize the most efficient use of water and energy by the industry</li> <li>• May want to explore alternative energy options</li> <li>• Timely pre-market approvals – need access to inputs at same time frame as competitors</li> </ul>
<b>Yield Productivity</b>	<ul style="list-style-type: none"> <li>• Average to high animal productivity (milk per cow, piglets per litter)</li> <li>• Lower yields for feed grains</li> <li>• In general, plant yields are comparable to like climatic regions but lower than world averages</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain animal productivity advantage</li> <li>• Improve yield in feed grains</li> <li>• Optimize yields based on climatic conditions</li> </ul>
<b>Labour Productivity</b>	<ul style="list-style-type: none"> <li>• Average to high labour productivity</li> <li>• High labour costs</li> <li>• Price of labour is a competitive disadvantage relative to competitors</li> <li>• There are periodic shortages of skilled labour</li> </ul>	<ul style="list-style-type: none"> <li>• Labour productivity increases to offset the competitive disadvantage of labour costs</li> </ul>
<b>Farm Scale</b>	<ul style="list-style-type: none"> <li>• Analysis of farms in Canada show that there are profitable farms at various sizes</li> <li>• However, farms are far more likely to be profitable if they have more than \$100K in annual sales</li> </ul>	<ul style="list-style-type: none"> <li>• Viable business models for all scales</li> <li>• Programs that reflect the needs of various business models and scales.</li> </ul>
<b>Processing Firm Scale</b>	<ul style="list-style-type: none"> <li>• Primary processing sector scale is sufficient to compete domestically and</li> </ul>	<ul style="list-style-type: none"> <li>• No impediments to scale adjustments in</li> </ul>

	internationally, but scale of the further processing sector is generally less than competitors	regulations, programs and policy <ul style="list-style-type: none"> <li>Firms that have high potential to grow from small to large firms and have access to venture capital</li> </ul>
<b>Infrastructure (Regulations)</b>	<ul style="list-style-type: none"> <li>Effective regulatory systems</li> <li>To some extent, comparable to traditional competitors and better than emerging competitors</li> <li>Stakeholders have identified a number of areas where our regulatory implementation leads to competitive disadvantages</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory system that is timely, appropriate to risk, market responsive, and adaptable to innovation</li> <li>Regulatory outcomes that are equivalent to or better than competitors</li> </ul>
<b>Infrastructure (Physical)</b>	<ul style="list-style-type: none"> <li>Dependable and efficient utilities</li> <li>Certain elements of the transport infrastructure are not sufficiently reliable</li> </ul>	<ul style="list-style-type: none"> <li>Increased ability to deliver products</li> </ul>
<b>Innovation</b>	<ul style="list-style-type: none"> <li>Significant agriculture research focused on reducing unit costs</li> <li>Limited research beyond agricultural production</li> <li>We are not optimizing research results</li> <li>It is unclear that there is sufficient innovation along the supply chain</li> </ul>	<ul style="list-style-type: none"> <li>Research focused on reducing costs along the full chain from inputs to market</li> <li>Need to have research results commercialized</li> <li>Comprehensive adoption of innovation</li> </ul>

### **A Sector that Meets Consumer Requirements for Attributes**

**Competing on product attributes** refers to the capacity to supply goods with particular performance characteristics, qualities or specifications relative to the capability of competitors supplying the same goods.

**The ability to deliver product attributes is a requirement for all markets, whether commodity or value-added.** This is influenced by international and national standards, consumer demands and expectations, supplier requirements, and price. For producers and value-chain partners there are significant challenges in keeping up with the speed of development and proliferation of these demands.

**Individual countries use international standards as a base, but often set additional national standards that are implemented in order to meet domestic objectives.** Examples include national meat hygiene standards in the EU (hormone-free), Japan, and the U.S. (meat inspection protocols).

**There are also customer specific requirements.** There are ever-changing consumer requirements for food products (e.g., food safety, seafood sustainability, animal welfare, and

environmental sustainability). Food products such as organic, functional food and nutraceuticals, and green products are increasingly being demanded by consumers and retailers. Industry and government should work together to sustain the sector's competitive position by understanding and keeping pace with changing customer requirements.

**Processors and retailers are relying on private standards.** Interest is high for assurance that food has been produced in an environmentally sustainable and safe manner, with due consideration for animal welfare and preservation of the resource base. Such private standards are normally imposed by individual buyers to support efforts at brand differentiation (e.g., Tesco's "Nature's Choice", KFC's detailed farm-level guidelines for supplying broilers) and consistent quality, or by a third-party (e.g., the Marine Stewardship Council, GlobalGAP, and the Global Food Safety Initiative).

FPT analysis of key factors is summarized in Table 2.

**Table 2—ATTRIBUTE COMPETITIVENESS**

	Where We Are	Where We Want To Be
<b>International Standards</b>	<ul style="list-style-type: none"> <li>Well-positioned to meet international standards—Codex Alimentarius, International Plant Protection Convention (IPPC), World Organisation for Animal Health (OIE)</li> </ul>	<ul style="list-style-type: none"> <li>Continue to influence the development of international standards</li> <li>Maintain and continue to improve our food safety, animal and plant health systems</li> </ul>
<b>National Standards</b>	<ul style="list-style-type: none"> <li>Canadian sector and/or individual firms are positioned to meet many national standards</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade capacity as required by the market and to meet international standards (i.e., traceability systems; organic standards)</li> </ul>
<b>Customer Specific Performance Requirements</b>	<ul style="list-style-type: none"> <li>Some sectors demonstrate ability to meet customer requirements (e.g., Warburton wheat, Japan food service pork)</li> <li>However, benchmarking studies have shown gaps (i.e., red lentils, seed potatoes) – knowledge is incomplete</li> <li>Functional foods and nutraceuticals are emerging market opportunities that are heavily dependent on capacity to meet specific customer and performance requirements</li> </ul>	<ul style="list-style-type: none"> <li>Need to have thorough understanding of customer performance requirements and the sector's ability to meet them</li> <li>The ability of sufficient firms to alter production processes to meet customer requirements</li> </ul>
<b>Private Standards</b> (food safety, biosecurity, seafood sustainability, animal welfare, environment)	<b>Food Safety</b> <ul style="list-style-type: none"> <li>Increasing number of buyers using GFSI-benchmarked schemes for food safety assurance (e.g., Loblaw's, Maple</li> </ul>	<b>Food Safety</b> <ul style="list-style-type: none"> <li>Where a firm needs to meet GFSI it has the capacity to do so</li> </ul>

	<p>Leaf, Walmart)</p> <ul style="list-style-type: none"> <li>Many individual producers/processors complying; comprehensive sector wide approach in horticulture (CanadaGAP), but not in other sectors</li> </ul> <p><b>Biosecurity (Food, animals, plants)</b></p> <ul style="list-style-type: none"> <li>Industry has partnered with FPT governments and academia and are developing national farm-level biosecurity standards for various commodity sectors</li> </ul> <p><b>Seafood sustainability</b></p> <ul style="list-style-type: none"> <li>European buyers demand Marine Stewardship Council certification for fish &amp; seafood products</li> <li>Some species are certified and others are in the process, and some species will not be able to meet (aquaculture)</li> </ul> <p><b>Animal Welfare</b></p> <ul style="list-style-type: none"> <li>Several large buyers applying individual company standards (i.e., KFC, Burger King, McDonalds, Whole Foods)</li> <li>Canadian codes of practice developed and being updated by industry</li> </ul> <p><b>Environmental Sustainability</b></p> <ul style="list-style-type: none"> <li>Several large buyers applying individual company standards (e.g., Walmart, Unilever)</li> </ul>	<p><b>Biosecurity (Food, animals, plants)</b></p> <ul style="list-style-type: none"> <li>Biosecurity standards that are acceptable to markets and adopted by industry</li> </ul> <p><b>Seafood sustainability</b></p> <ul style="list-style-type: none"> <li>Canadian solution to aquaculture that is acceptable by markets</li> </ul> <p><b>Animal Welfare</b></p> <ul style="list-style-type: none"> <li>Codes of practice that are acceptable by markets and adopted by industry</li> </ul> <p><b>Environmental Sustainability</b></p> <ul style="list-style-type: none"> <li>Capacity to measure firm/sector wide environmental performance</li> <li>Ability to influence private standards</li> </ul>
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### **A Sector that Can Access Markets**

**Market access is the ability to sell on both domestic and international markets.** Country-specific measures may restrict access for Canadian products to markets by imposing barriers that are not based on risk, science or principles of equivalence.

Competitiveness is also affected by the access that firms have to a particular market. Despite national and international agreements, various trade measures (restrictions) hinder the sector's ability to move goods across borders. Globally, countries use tariffs, tariff rate quotas (TRQs), and non-tariff barriers to protect their respective agricultural sectors.

**Domestically, there are constraints to internal trade.** Interprovincial trade measures exist affecting the movement of agriculture and food products. Minimizing differences in regulations

and standards between provinces can improve performance in and add efficiencies to the domestic market.

**Internationally, tariffs and tariff rate quotas (TRQs) also remain a factor in many markets.** There continues to be the inconsistent application of rules and obligations set multilaterally and by individual countries (e.g., “applied” tariff rates can vary drastically from one year to the next). In addition, there are issues such as the treatment of competing substitute products (e.g., higher tariff rates for canola versus soybeans). Some countries impose restrictions on products where Canada is a major competitor (e.g., grains, meat and potatoes).

**Non-tariff barriers have become more prevalent.** In more established markets, certain other market barriers, usually taking the form of national standards or arbitrary interpretation of international standards (particularly for plant and animal health or food safety) are becoming obstacles to market access.

**Countries are attempting to negotiate free trade agreements to address market-access issues.** Canada has preferential access to certain markets through reciprocal trade agreements. An example is the North American Free Trade Agreement (NAFTA). Bilateral trade agreements can provide Canada with a competitive advantage. However, our competitiveness to markets is reduced when other suppliers enjoy preferential access.

**International trade rules on subsidies exist.** Differences in magnitude and types of subsidies among countries can impact Canada’s ability to compete in certain markets.

FPT analysis of key factors is summarized in Table 3.

**Table 3—MARKET ACCESS**

	Where We Are	Where We Want To Be
<b>Internal Trade Barriers</b>	<ul style="list-style-type: none"> <li>• There are different standards and regulations that are impediments to internal trade</li> </ul>	<ul style="list-style-type: none"> <li>• Free interprovincial movement of agriculture and food products</li> <li>• Alignment of standards and regulations while maintaining a high standard of safety and consumer protection</li> </ul>
<b>Tariffs</b>	<ul style="list-style-type: none"> <li>• Overall, tariffs remain an issue in key markets</li> <li>• Variability in tariff levels (e.g., bound versus applied tariffs—India)</li> <li>• Processed products (e.g., pork, beef, canola oil, confectionary and other processed foods) remain subject to high tariffs</li> <li>• Inconsistent tariff treatment of substitute products can disadvantage Canadian</li> </ul>	<ul style="list-style-type: none"> <li>• Canada has tariff preference or parity with trade competitors</li> <li>• Elimination or reduction of tariffs on key exports of interest to Canada</li> <li>• Elimination of tariff escalation (e.g., higher tariffs on processed products)</li> <li>• Stability in “applied” tariffs</li> </ul>

	exports (e.g., Canadian canola versus U.S. soybeans)	
<b>Tariff Rate Quotas (TRQs)</b>	<ul style="list-style-type: none"> <li>Many countries impose quantitative restrictions for important products where we are competitive (e.g., grains, meat, potatoes)</li> </ul>	<ul style="list-style-type: none"> <li>Sufficient quota capacity to allow access to Canadian exports</li> <li>More transparent TRQ administration</li> </ul>
<b>Non-Tariff Barriers (TBT/SPS)</b>	<ul style="list-style-type: none"> <li>In general, non-tariff barriers are increasingly the primary obstacle to market access</li> <li>In comparison with other sectors of the economy, agriculture and food exports are subject to more border obstacles (increased inspection) and trade action</li> <li>Diverse regulations in importing countries (e.g., permissible ingredients, labelling, plant approvals, MRLs, etc.) are increasingly problematic</li> <li>Incomplete coverage and inconsistent implementation of international standards</li> <li>More and more trading partners are demanding evidence of the effectiveness of our regulatory systems</li> </ul>	<ul style="list-style-type: none"> <li>An international trading regime backed by transparent and science-based decision-making</li> <li>Complete coverage and consistent application of international standards</li> <li>Predictable regulatory environment in importing countries</li> <li>Timely resolution of technical trade barriers</li> <li>Canada's regulatory outcomes compare favourably with those of trading partners/competitors as a basis to retain/gain market access</li> </ul>
<b>Foreign Subsidies</b>	<ul style="list-style-type: none"> <li>Export subsidies and domestic support of our major competitors distorts global agriculture markets</li> </ul>	<ul style="list-style-type: none"> <li>Complete elimination of export subsidies</li> <li>Minimization of trade distortions due to domestic support especially in the European Union and the United States</li> </ul>

### **A Sector that Performs Well in Markets**

**Market performance is the capacity of firms to compete.** This applies to both domestic and international markets, and is supported by the ability to identify and exploit revenue opportunities in markets where it is cost or quality competitive.

A firm's competitiveness is also determined by its ability to maximize the market income it derives from the goods that it produces and sells. Canada continues to compete well in traditional markets, particularly the North American market, but continues to lag behind major competitors in emerging markets.

**Product differentiation is another factor for competitiveness.** Differentiating products in markets provides an advantage to industry, and there are clear opportunities in the domestic market in fulfilling consumer interest and confidence in Canadian products. However, there seems to be inconsistent performance across the sector in terms of how our products are differentiated in the minds of consumers in both domestic and international markets.

**Improving client service can also help improve market performance.** There is the need for firms to meet client expectations in all non-domestic markets. This ranges from more timely and thorough follow up to product sourcing inquiries (e.g., via our Trade Commissioners and/or trade shows and missions), to investing the more intangible time and patience necessary in personal relationship and trust-building that is fundamental to the business practices of many cultures).

**Image of suppliers/country of origin is important for market performance.** Based on market research, Canada is generally viewed positively in other countries and industry needs to take better advantage of this strength.

FPT Analysis of these issues is summarized in Table 4.

**Table 4—MARKET PERFORMANCE**

	Where We Are	Where We Want To Be
<b>Market/Customer Understanding</b>	<ul style="list-style-type: none"> <li>• Canadian supply comes predominantly from small and micro-enterprises with little capacity/expertise to secure relevant market intelligence</li> <li>• The small number of larger firms tend to have market/customer understanding</li> <li>• Canadian firms have demonstrated a limited ability/interest in accessing global supply chains</li> </ul>	<ul style="list-style-type: none"> <li>• More large firms that can generate their own market understanding</li> <li>• Increased access for small firms to relevant market intelligence</li> <li>• An understanding by all participants along the supply chain of market requirements</li> <li>• Capacity to access global supply chains</li> </ul>
<b>Image of Supplier/Country of Origin</b>	<ul style="list-style-type: none"> <li>• Canada is viewed positively (i.e., pristine environment) and Canadian individuals are perceived as possessing positive attributes (i.e., trustworthiness, reliability) equal/better than major competitors</li> <li>• Canada is relatively unknown as a supplier of agricultural products</li> </ul>	<ul style="list-style-type: none"> <li>• Industry maximizes the income potential derived from Canada's and Canadians' image in foreign and domestic markets</li> </ul>

<b>Product Differentiation</b>	<ul style="list-style-type: none"> <li>• Firms tend to have good knowledge about what attributes consumers are looking for (such as colour, grade, protein content) in traditional markets, but can experience difficulty in identifying and responding to attribute demands in emerging products and markets (i.e., Mexico, India)</li> <li>• Inconsistent performance in terms of differentiating Canadian products in the minds of consumers. (Canada is generally unknown as a supplier of agricultural products, best known products are wheat, salmon, maple syrup)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain knowledge of and responsiveness to product attributes demanded by consumers in existing markets</li> <li>• Attribute demands in emerging markets are effectively responded to</li> <li>• Canadian suppliers consistently and effectively differentiate their products from those of their competitors—Canada well recognized as a premium supplier of a wide range of agriculture and food products</li> </ul>
<b>Client Service</b>	<ul style="list-style-type: none"> <li>• Research indicates a need to improve performance in meeting client service expectations in all non-domestic markets</li> </ul>	<ul style="list-style-type: none"> <li>• Canadian suppliers consistently meet or exceed the service expectations of their clients</li> </ul>

Given the preceding analysis, the following questions are offered to start the discussion on actions related to competitiveness and market growth:

1. *How can the sector use resources more efficiently?*
2. *How do we better use innovation to improve productivity and reduce costs?*
3. *What needs to be done for industry to compete on product attributes?*
4. *What needs to be done to improve industry's ability to access markets?*
5. *How can industry be better positioned to access global supply chains and improve market performance?*

## V. ACHIEVING ADAPTABILITY AND SUSTAINABILITY

The purpose of this section is to stimulate discussion on the goals and strategies to achieve greater adaptability and sustainability. It is recognized that long term prosperity for the sector will be achieved by continuously adapting to a changing environment, and by using sustainable practices in the management of its risks and activities. In this regard, it is critical that industry stakeholders play a lead role in defining the strategies needed to move forward.

**Adaptability** refers to the ability and capacity of the industry and its individual players to anticipate and adjust to changing external environments and pressures, to manage the associated risks and to take advantage of new opportunities.

**Sustainability** is about the sector's management of its resource base (financial, human and natural). It takes into consideration both current and longer term needs of the sector, consumers and society. The objective is a resilient, profitable and competitive industry.

**GF2 provides an opportunity to move forward on each of the economic, environmental and social aspects of sustainability.** To achieve sustainability, industry players are required to manage their financial, human and natural resources. This includes building the ability and capacity to:

- Continuously invest/reinvest;
- Manage risks arising from markets and nature;
- Manage and improve the productive base, people skills, knowledge, etc;
- Use and manage scarce resources responsibly; and
- Recognize society's concerns and be a "good neighbour".

**The adaptive capacity of the sector and its players is crucial.** For example, the adoption of more sustainable practices and new technologies (e.g., conservation tillage) in many cases leads to reduced costs, optimal productivity and environmental improvements. Without adapting, some industries could forego their opportunity to achieve long term sustainability and competitiveness.

**Both industry and governments have key roles to play.** While industry players are primarily responsible for the profitability, risk management and long term sustainability of their businesses, governments' role is to enable the sector to achieve longer-term sustainability, while not impeding adaptability. Governments play their role by working in collaboration with industry. For example, governments provide infrastructure and facilitate market access, as well as the creation and dissemination of knowledge, information and innovation. Governments can also play a role in disaster situations by providing assistance when extraordinary losses occur.

**The framework will encompass more strategically defined and targeted government action.** This is especially true in areas where the private sector lacks capacity or incentive.

- In terms of environmental sustainability, GF2 provides an opportunity to support the sector in its on-going efforts to manage physical resources sustainably and to meet market demand in the face of evolving environmental drivers. To do so, producers and

processors need to have access to innovative technologies, and to meaningful, timely and science-based information and tools. GF2 also provides an opportunity to explore more integrated and targeted approaches that clearly demonstrate farms and firms are part of the solution to complex environmental issues.

- In terms of social sustainability, GF2 provides an opportunity to foster the industry's capacity to recognize and adapt, as needed, to society's changing demands and expectations.
- In terms of economic sustainability, GF2 envisions a sector that successfully manages those risks that threaten the economic viability of businesses and responds to markets. Economically sustainable businesses are able to withstand economic and market shocks, and return to full productive capacity without undue delay.

### **Moving Towards Achieving Environmental and Social Sustainability**

*The capacity of industry to manage its scarce resources responsibly and to recognize society's concerns will be critical to its resilience, profitability and competitiveness.*

#### **Moving Towards Environmental Sustainability**

**While global demand continues to grow, the increase in global supply will be constrained by the finite availability of natural resources and the level of applied technology.** Canada's abundant natural resources represent a significant advantage over most other countries. However, the responsible management of our natural resources will be crucial to the long term prosperity of the sector.

**Some critical successes have been achieved due to sound science, sector tools and innovation (e.g., conservation tillage).** Yet, there remain many challenges (e.g., climate change, water quality and quantity issues), and opportunities to address in an ever more complicated domestic and international landscape. Science will need to keep pace with change to help the sector respond and, if possible, get out in front of these challenges, as well as capitalise on potential opportunities (e.g. agri-green technologies [AGTs], new markets). The development of and support for adopting AGTs represents a potential opportunity to enhance the sector's profitability. AGTs are the application of technologies and processes (both new and existing) that maintain and improve the environmental and economic competitiveness of the sector. They range from bio-process technologies (e.g., bio-energy and other renewable energy sources for farm operations) to agricultural production/remedial technologies and systems (e.g., increased carbon sequestration in agricultural soils under no-till management).

**In concert with an evolving set of tools, new approaches are also worth exploring.** Progress has been achieved to minimize the impact of the sector on the environment through the development and adoption of BMPs (on-farm). Nevertheless, the current Agri-Environmental Risk Assessment/Environmental Farm Plan/Beneficial Management Practice approach may be

insufficient in addressing the complex issues of the day (e.g., nutrient management in Lake Winnipeg and/or Abbotsford-Sumas). To achieve sustainability, a more integrated and focused approach may be more effective.

**Consumers are demanding differentiation around product attributes.** Working to facilitate the use of environmental attributes in the marketplace will accelerate efforts to remain competitive. Both the concepts of “Life Cycle Analysis” (i.e., evaluation of the environmental impact of a product over its entire existence), and “Greening the supply chain” (i.e., industry initiatives aimed at achieving a level of environmental responsibility in the core business practices of their suppliers and vendors), are gaining popularity amongst consumers and retailers. The sector will need to continue adapting in response to these evolving demands.

Table 5 provides a summary of the challenges and potential goals related to environmental sustainability.

**Table 5—ACHIEVING ENVIRONMENTAL SUSTAINABILITY**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Sector environmental challenges: <ul style="list-style-type: none"> <li>- Increasing risks to water quality</li> <li>- Agriculture is a global source and sink of GHG emissions</li> <li>- Concerns over climate change adaptation</li> <li>- Concerns about water scarcity in some areas</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• The sector manages physical resources sustainably to maintain its productive capacity</li> <li>• The sector is able to address domestic and global climate change challenges</li> <li>• Farms and firms have access to meaningful, timely and science-based information and tools</li> <li>• Innovative technologies and approaches are available to producers and processors</li> </ul>
<ul style="list-style-type: none"> <li>• Progress has been achieved to minimize the impact of the sector on the environment through the development and adoption of BMPs (on-farm). Nevertheless, more collaborative and focussed efforts on a broader scale (e.g. watershed) currently underway may be more effective in maintaining the productive capacity of the sector, meeting the requirements of more demanding consumers and communities, and contributing solutions to local and global environmental challenges. Lessons could be drawn from these efforts to guide future activities</li> </ul>	<ul style="list-style-type: none"> <li>• A more focused approach, beyond EFP and BMP, to address critical agri-environmental issues (e.g., nutrient management in Lake Winnipeg and Abbotsford-Sumas), making use of scarce resources and increasing communities’ acceptance of farm and firm activities (i.e., viewed as “good neighbours”)</li> <li>• The role of other actors (agriculture and non-agriculture) becomes more clearly visible and the solution-set is broadened</li> </ul>
<ul style="list-style-type: none"> <li>• Corporate shareholders and consumers are demanding environmentally responsible products</li> </ul>	<ul style="list-style-type: none"> <li>• The sector is capable of accessing new markets based on environmental attributes and continues to retain market access in the face of new global standards</li> </ul>

### Moving Towards Social Sustainability

**Attitudes towards food and food production are changing.** For example, how and where food is produced, how animals are treated, and relations between food and health are growing consumer concerns. Furthermore, some industry stakeholders are interested in a national food policy. Meanwhile, industry's best practices are not widely known and understood by the general public.

**The industry recognizes and adapts to society's changing demands.** This applies both to food attributes and evolving expectations with respect to codes and standards of practices. In addition, consumers need to have access to factual information on industry best practices.

Table 6 provides a summary of the challenges and potential goals on social sustainability.

**Table 6—CONTRIBUTING TO SOCIAL SUSTAINABILITY**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"><li>• Growing interest in a national food policy. Stakeholders (e.g., Canadian Federation of Agriculture, Canadian Agri-Food Policy Institute) have initiated efforts to develop national food strategies, with elements such as: contribution of the sector to population health, viability of the farm sector, environmental sustainability of the Canadian food system, and contribution to global food security</li></ul>	<ul style="list-style-type: none"><li>• Industry and governments have a common understanding of a national food policy</li><li>• The sector positively adapts to challenges and opportunities within a food policy</li></ul>
<ul style="list-style-type: none"><li>• Attitudes towards food and food production are changing (e.g., how and where food is produced, how animals are treated, relations between food and health)</li></ul>	<ul style="list-style-type: none"><li>• Industry recognizes and adapts, as needed, to society's changing demands and expectations</li></ul>
<ul style="list-style-type: none"><li>• Industry best practices (production, transportation, slaughtering) are not widely known or understood by the general public</li></ul>	<ul style="list-style-type: none"><li>• Consumers have access to factual information on industry's best practices</li></ul>

## **Moving towards Achieving Economic Sustainability**

**Governments recognize that sustainability could be achieved through a variety of business structures and models.** Government action takes into account this diversity, when needed, while not impeding adaptability and competitiveness.

**Farms and firms vary in their ability to cope with challenges in an increasingly complex and rapidly evolving environment.** Farms vary widely with respect to structure, enterprise mix, business models, financial and family situations. However, many sources of risk are common to all farmers, ranging from input/output prices and yield risk, to personal injury. But even when facing the same risks, farms vary in their ability to cope with shocks and disruptions, depending on their financial situation (e.g., cash flow, debt level, financial reserves, off-farm income). Similarly, firms along the value chain vary in their ability or capacity to manage risks. Hence, the need for industry players to enhance their ability and capacity to manage their operations/businesses. GF2 aims to foster this capacity to enable entrepreneurs to efficiently manage their businesses in a complex and changing world.

**The number of larger farms is growing.** Over the last decade, the number of farms with farm revenues greater than \$500,000 has more than doubled, from 10,660 farms in 1998 to 23,965 in 2008. Although larger farms tend to be more profitable, there are small and medium-scale farms that are successful business models, and consistently report profit. Diversity also prevails in the processing segment of the agriculture and agri-food sector, with successful business models in a variety of forms.

**The diversity also refers to the demographic characteristics of the sector.** New entrants have different attitudes toward risk than those of well-established or exiting farmers/entrepreneurs. For example, young farmers tend to take more risks and to make greater use of private risk management tools. They may have less capacity to adapt to external pressures (e.g., access to credit, cash available to manage downturns). Nevertheless, young farmers thrive in a diversity of business models and tend to be on farms with higher performance/returns.

**Young farmers are key to the revitalization of the sector.** With an aging farm population, the capacity of the sector to attract and retain a new generation of farmers is an ongoing concern. Young farmers are key to the future of the sector. While building on the success of the previous generation, they bring new ideas and new ways of doing business. However, in the process of transferring farms from one generation to the next, the challenges are real and complex. Hence, industry participants need to be well-informed and have access to various tools and services necessary to ease the transfer of assets, knowledge and responsibilities.

**Government programs need to better recognize this diversity in situations and business models/objectives.** Despite the diversity of business structures and models in the sector, government programs are considered by some as not recognizing this fact. Rather, government action is viewed as a “one-size-fits-all” response. For example, the whole-farm approach is viewed as treating unfairly or discouraging effective business models (e.g., diversification). Under GF2, the programs will continue to respect the key principles such as being equitable, respecting international trade obligations and avoiding countervail measures. However, efforts

will have to be pursued to ensure programs are responsive to a wide range of business models while limiting bias toward any of these.

**Industry-led strategies could help industry players move forward in a challenging environment.** Some industry groups established strategic directions for their sector. For example, the Canadian Pork Council has developed a strategic transition plan through to 2014, and the Canadian Pulse Industry Vision has been defined in “Building on Success”. Although the impact of different industry-led initiatives needs to be assessed, these efforts could be valuable in helping a sector transition through challenging times, to revitalize a sector or to find innovative solutions to market opportunities.

**Both industry and governments have a role to play in mitigating extraordinary business risks.** The respective roles of governments and industry players in mitigating business risks need to be further discussed, in particular in the context of the Business Risk Management (BRM) programs. It has been suggested in the *Agriculture 2020: Challenges and Opportunities* session that the respective roles be defined as follows:

- *Producers* have the primary responsibility in proactively managing risks faced by individual organizations.
- *Industry organizations* have the secondary responsibility in proactively managing the risks of the sector. In this role, they could for example develop private sector risk management tools, develop and share relevant information, offer insurance products.
- *Governments* provide the third level of response by providing assistance for extraordinary losses. Such assistance is provided in a way that does not impede on the sector’s adaptability and competitiveness.

**BRM programs contribute to the economic sustainability of the sector, but may prevent some necessary adjustments.** BRM programming is mostly viewed as contributing to the economic stability of the sector by stabilizing farmers’ income (i.e., reducing downward variability) or providing support when natural perils threaten farmers’ ability to continue operations. Since the launch of the current BRM suite for the 2007 program year, FPT governments have provided over \$6 billion in support to producers. However, some industry stakeholders are concerned that the coverage provided by these programs may be a disincentive for producers to adjust. More specifically, the level of risk borne by government programs overly insulates producers from market signals, discouraging sound risk management behaviour and maintaining some less-efficient producers in business.

**BRM tools are widely used by farmers.** This holds true despite concerns over their lack of timeliness and predictability or their limited capacity to address longer-term pressures. By contrast, some question whether farmers in Canada could make more use of private sector risk management facilities.

Table 7 provides a summary of the challenges and potential goals on economic sustainability.

**Table 7—CONTRIBUTING TO ECONOMIC SUSTAINABILITY**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Diversity in structure (specialization or diversification, etc.) is used successfully to manage risk</li> <li>• The number of larger farms is increasing, but there are still producers at every size level demonstrating profitability and an ability to adapt</li> <li>• BRM programming provides substantial assistance to producers facing difficult times, across regions and commodities. However, government responses are not viewed as supporting the diversity of situations and business models/objectives:               <ul style="list-style-type: none"> <li>- “one-size-fits-all”</li> <li>- caps</li> <li>- whole-farm approach</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Continue to have a wide range of business models that are successful in adapting to proactively manage their risks and achieve market-based profitability</li> <li>• Information on successful business models, throughout the range of sizes and structures, is shared among producers</li> <li>• Programs that encourage producers to take appropriate measures to manage their operations, while limiting bias toward any business model (size, specialization or diversification strategy)</li> </ul>
<ul style="list-style-type: none"> <li>• Industry players face an increasingly complex and rapidly evolving environment; yet, they have different abilities to cope with these challenges</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced capacity of industry players to manage their operations in this complex environment (e.g., managing costs, increasing productivity or capturing higher value by differentiating products; managing risks of personal injury)</li> <li>• Informed and skilled entrepreneurs that efficiently manage their business to respond to markets and adapt to changes</li> </ul>
<ul style="list-style-type: none"> <li>• Some sectors are successfully using industry-led strategies to address challenges or seize opportunities (e.g., to transition during challenging times, to revitalize the sector)</li> </ul>	<ul style="list-style-type: none"> <li>• Industry is leading the development of longer-term vision and strategies to guide future market growth and to address broad transitional needs</li> <li>• Strategies are successfully implemented to produce results for the sector</li> </ul>
<ul style="list-style-type: none"> <li>• BRM programming contributes to economic sustainability by stabilizing income</li> <li>• Industry is concerned with longer-term income pressures as well as with timeliness and predictability of program payments</li> <li>• The respective roles of governments and industry players in mitigating business risks are being reconsidered.</li> <li>• Some programs could impede adaptation in the sector by insulating producers from market signals; they could also discourage sound risk management practices</li> <li>• Limited use of private sector risk management tools</li> </ul>	<ul style="list-style-type: none"> <li>• Producers have the primary responsibility in proactively managing risks faced by individual operations</li> <li>• Industry organizations have the secondary responsibility in proactively managing the risks of the sector (e.g., information sharing, development of private sector risk management tools)</li> <li>• Governments provide the third level of response in managing risks (i.e., assistance for extraordinary losses). Such assistance does not impede on the sector’s adaptability and competitiveness</li> <li>• Private sector offers insurance products for the risks faced by the sector, and industry has the capacity to insure against these risks</li> </ul>

<ul style="list-style-type: none"> <li>• Limitations on young farmers' capacity to enter the sector: <ul style="list-style-type: none"> <li>- Farm transfers are complex</li> <li>- Difficult for young people who do not have access to family farm assets to enter the sector</li> <li>- Young farmers have higher debt level and tend to make more use of private risk management tools (e.g., futures and options)</li> </ul> </li> <li>• Nevertheless, young farmers thrive in a diversity of business models and tend to be on farms with higher performance/returns</li> </ul>	<ul style="list-style-type: none"> <li>• Succession plans are successfully implemented for the transfer of farms to the next generation</li> <li>• New generation of educated, skilled and entrepreneurial farmers who are successfully managing their farm business</li> </ul>
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Given the preceding analysis the following questions are offered to start the discussion on actions related to achieving adaptability and sustainability:

1. *What are the risks faced by industry that could be proactively managed? What are the best proactive risk management tools?*
2. *How can industry (industry organizations and industry players) play a more effective role in developing the capacity to adapt and be sustainable?*
3. *What knowledge, skills, tools or services are necessary to :*
  - a. Further enhance industry players' ability/capacity to proactively manage their risks and achieve market-based profitability?*
  - b. Ensure that reliable, meaningful and timely information on best practices is available to support adaptability and sustainability?*
  - c. Support the next generation of farmers?*
4. *How can governments play its role, recognizing the diversity of situations and business models:*
  - a. Without impeding adaptation to market signals?*
  - b. Without displacing private risk management tools?*
5. *What are the right environmental priorities for action to achieve longer term sustainability?*
6. *What are the most effective approaches and tools to adjust to environmental challenges and opportunities for farms and firms?*
7. *How can the broader set of FPT policies be integrated to achieve a range of adaptability and sustainability objectives?*

## VI. INNOVATION

Innovation is an important driver in achieving the two main outcomes of GF2: improving the competitiveness of the sector; and achieving adaptability and sustainability.

Over the years, innovation has contributed to increased yields and disease protection, new products and production methods, lower production costs and minimization of the sector's environmental footprint. The adoption of new business practices and market models have also allowed the sector to respond to new local and global challenges.

**Innovation includes both the development of new products and new business practices.**

During the spring 2010 engagement sessions, stakeholders noted that the profitability of the sector depends on its ability to respond to opportunities and compete in domestic and foreign markets. It was also emphasized that greater collaboration among all stakeholders, increased sector engagement, and sustained research funding would help the sector to innovate and be more responsive and competitive.

**Competitive pressures drive innovation.** It is for this reason that the Competitiveness and Adaptability and Sustainability sections have identified a number of areas where innovation can help the sector achieve long-term prosperity.

To this end, various players along the agri-innovation system have a role to play. Governments are often best positioned to establish an environment where innovation can thrive, and provide for effective and appropriate economic incentives for innovation and risk taking. Governments can also invest in activities that derive a public benefit, or risk-share on projects where the risk is too great for industry to take on alone. As the innovation process nears the commercialization stage, however, industry is best positioned to set priorities and make investments accordingly.

**For the purposes of this discussion, innovation is considered as an integrated system.** This integration involves the following areas of activity: knowledge creation, knowledge application, knowledge diffusion, and knowledge adoption or product commercialization. The aim here is to generate discussion on how government and industry actions related to these four areas can support the sector's ability to compete and be sustainable.

### **Knowledge Creation and Application: A Means to an End**

Knowledge creation refers to the basic knowledge that is generated and collected by scientists, business analysts or others who develop theories and approaches, with potential application to a variety of specific problems in different sectors. Knowledge application in the context of this paper is used to describe the application of that basic knowledge to solve concrete problems and issues in the agriculture and agri-food sector (i.e., applied research). Canada's ability to create and apply knowledge is on par with, if not higher than, that of our major competitors.

**Research is a key driver for the discovery and development of new concepts and technologies.** As was indicated during the engagement sessions in spring 2010, developing knowledge and applying it can improve the sector's economic and environmental performance. It achieves this through improving productivity and minimizing environmental impacts.

**Knowledge creation and discovery extends beyond the borders of any one province or country.** It is important to access useful ideas generated by others. The majority of agriculture related innovation happens outside Canada. By being a more active participant in regional and international innovation communities, Canadian producers and processors can gain access to new ideas, business models and approaches that can improve both the competitiveness and sustainability of the sector.

**There is wide agreement that a more collaborative approach to knowledge creation and application is critical.** In the past, governments have taken a leading role in conducting basic and applied research related to the agriculture and agri-food sector. Recent programs such as *Growing Forward's* Agri-Science Clusters have moved towards a more open innovation model by encouraging the development of clusters/networks which include governments, universities, and the industry.

These types of programs enable the sector to play a role in the focusing and setting of research priorities, building capacity through incremental investments and executing research agendas. Moving forward, increased sector engagement is important as industry is best positioned, as the primary beneficiaries of most innovation investment, to set the sector's strategic direction based on the interplay among the various players (producers, processors, retailers, etc.) along the value chain.

**Governments can further encourage sector investment in research by creating a more favourable environment.** This can be achieved through an intellectual property (IP) system that stimulates investment. It needs to do so without hindering the creation and sharing of knowledge, while simultaneously improving the knowledge base, and leveraging or building new infrastructure, both physical and regulatory, to support and encourage sector and inter-institutional collaboration.

FPT analysis of these issues is summarized in Tables 8 and 9.

**Table 8—KNOWLEDGE CREATION**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Canadian agricultural research is predominantly funded and delivered by public institutions</li> <li>• Focus on applied supply-side innovation where opportunities also lie in demand-driven innovation</li> <li>• Opportunity to expand on existing international research partnerships</li> <li>• Perception of limited return on private sector research investments in particular commodities</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement of the sector in developing and delivering research agendas coordinated with long term innovation strategies</li> <li>• Open innovation systems balance research to address shorter term, specific issues versus longer-term discovery-driven research ('push-pull')</li> <li>• Mechanisms are in place to support early adoption of knowledge from international partners</li> <li>• Agriculture is viewed as a rewarding long-term investment</li> </ul>

**Table 9—KNOWLEDGE APPLICATION**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• New knowledge faces barriers to application into commercial products</li> <li>• Experimentation is viewed as high risk and a challenge for some business (e.g., time and resources)</li> <li>• Intellectual property (IP) rights can interfere with sharing/using knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Industry/Government/Academia provide an enabling environment for the application of knowledge</li> <li>• Increased sector capacity to identify and explore opportunities</li> <li>• Increased sector capacity to explore and experiment with new products, technologies, processes and practices</li> <li>• A move towards open innovation where IP rights exist and reward investment but do not hinder the creation of new knowledge</li> </ul>

### **Knowledge Diffusion and Adoption: A Path to Success**

**Knowledge creation and application can help create solutions to issues in the sector.**

However, applying research to develop innovative products, processes, and approaches and their commercialization is important for the immediate economic success of the sector. Given the production constraints and market opportunities that the global agricultural sector is likely to face in the future, efforts to turn research ideas into innovation that has the potential to lead to major breakthroughs along the entire food, feed, fibre, and fuel supply chains are required.

**Currently, there is varying capacity across the value chain to absorb and disseminate information.** Both pulses and canola are good examples of how industry groups are working together to disseminate information, as well as how promoting and encouraging investment, can lead to positive short and long-term returns.

**The adoption of new processes can strengthen the sector's ability to adapt and respond to market changes.** This includes new business models and approaches, as well as new products and product attributes. Canada's agricultural sector has proven itself capable in this area. The creation of new products such as canola, a new variety of cherries, Shepody potatoes, pre-cooked bacon, the reformulation of many products to reduce trans fats, fresh-seal packaging, and the adoption of new processes like zero tillage and integrated pest management systems are just a few examples.

**The dissemination of up-to-date information is critical in adoption and commercialization.** The importance of producers receiving timely information about new practices or processes developed either domestically or abroad that could positively impact productivity, was emphasized by stakeholders. It was also noted that having accurate market signals is important to help producers and processors make more informed and proactive decisions about the need to change their business operations.

**The sector's capacity to adopt innovation, use new technologies and processes, and bring new products to market is also important.** Despite proven examples of success, in general, the rate of return to private investment in agriculture is seen as lower than those of other sectors. The latter tend to exhibit shorter product development cycles, lower investment requirements, or higher margins. In addition, an access to capital problem continues to exist for higher risk endeavours. This problem is further exacerbated by uncertain regulatory pathways and government programs that mask incentives to innovation.

**Extension and ongoing education services and sector support are also very helpful for knowledge and technology dissemination and adoption.** Both government and sector extension and education services can enable producers and processors to identify new market opportunities. These services support the exploration of ideas and best practices developed domestically and abroad, and assist in better identifying those that would be useful to respective business situations.

**Achieving innovative outcomes require governments and the sector to work collaboratively.** Encouraging commercialization requires access to adequate information, access to capital in its various forms (i.e., angel, venture and traditional loans), transparent regulatory pathways, enhanced intellectual property (IP) systems, as well as an environment (consumer base) that encourages and supports the development of new technologies and products. This can best be achieved through collaborative efforts.

Potential points for consideration therefore, include how government programs can further facilitate private sector engagement and investment in agriculture, and how knowledge can be more effectively used to inform consumers as well as the sector. Finally, how regulations can be

streamlined to facilitate and encourage investments in research and development, innovation and commercialization.

It is envisioned that greater collaboration at the local, regional, national and international levels, through an open innovation model, can enable the application of market, social, scientific, and foresight knowledge to drive down the societal costs of the sector (environmental impacts, etc.). As well, such collaboration will help the sector reduce production costs, adopt new business practices, and develop new products and product attributes.

FPT analysis of these issues is summarized in Tables 10 and 11.

**Table 10—KNOWLEDGE DIFFUSION**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Access and capacity to absorb innovation-related information by users is uneven</li> <li>• Sector capacity for technological transfer varies</li> </ul>	<ul style="list-style-type: none"> <li>• Sector awareness of and access to innovative products, processes, practices, and business models</li> <li>• Increased sector leadership to build capacity to explore and adopt new products, technologies, processes and practices</li> <li>• Increased sector capacity for technological transfer</li> </ul>

**Table 11—KNOWLEDGE ADOPTION**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Capacity to adopt innovation and bring to market new products/processes varies</li> <li>• Agriculture is seen as providing limited returns on investment as compared to other sectors</li> <li>□ • Good regulatory framework, but unclear regulatory pathways limit adoption and/or commercialization of new bioproducts</li> <li>• Some government programs reduce the pressure to innovate</li> </ul>	<ul style="list-style-type: none"> <li>□ • Producers and processors have the capacity and tools to adopt new technologies/practices and invest in innovation as a business strategy</li> <li>• More coordinated and simpler assistance programming by governments and industry</li> <li>• Innovation in the agricultural sector is seen as a viable area of investment</li> <li>□ • Various types of public and private investment funds available to the sector</li> <li>• Transparent and predictable regulatory pathways</li> <li>• Government programs do not mask market incentives for innovation</li> </ul>

Given the preceding analysis, the following questions are offered to start the discussion on actions related to innovation in agricultural, agri-food, and agri-product sector.

1. *How can the sector attract new investment into agriculture?*
2. *How can we improve our collaborations – regionally, nationally and internationally?*
3. *What role should industry, academia and government play to facilitate innovation at each stage of the innovation process?*
4. *How do you see innovation becoming part of the sector's strategy to address risks?*
5. *In your opinion, what are the key incentives to foster innovation?*

## VII. INSTITUTIONAL AND PHYSICAL INFRASTRUCTURE

This section defines infrastructure and its linkages to the two broad GF2 objectives. It provides a recap of current challenges and opportunities associated with infrastructure for the Canadian agriculture, agri-food and agri-based industry, as raised in the previous sections. They are reviewed in order to help stakeholders identify priority areas.

Infrastructure is divided into two categories:

- **Institutional:** Laws and regulations, trade agreements, standards, and rules that impact production and marketing of goods and services. Institutional infrastructure also includes agencies and organizations that support sector productivity, including industry associations, trade and marketing agencies, community organizations, and educational institutions.
- **Physical:** Publicly and privately-owned assets that support the sector, such as information and communication technologies, offices, research laboratories, water management, railways and distribution systems.

**Infrastructure policy requires industry, intergovernmental and interdepartmental cooperation.** Many infrastructure issues are beyond the core mandates of FPT agricultural departments (e.g., environment, broadband, labour regulations). Therefore interdepartmental and intergovernmental collaboration, in addition to government-industry dialogue is required and will be reflected in policy development and implementation.

### **Infrastructure in the Context of *Growing Forward 2***

**Infrastructure supports competitiveness and market growth.** Regulations and rules, such as food safety, plant and animal health, and environmental protection and grading regulations, facilitate well-functioning domestic and international markets.

**An export-dependent country like Canada relies on its trade infrastructure to be competitive.** Bilateral and multilateral trade agreements and trade promotion efforts are essential. Private and public standards are increasingly becoming global buyers' requirements, and enable producers and processors to profit from specific management practices. Efficient transportation and distribution systems affect competitiveness in today's increasingly globalized market.

**Infrastructure facilitates sustainability and adaptability.** Regulations and processes need to keep pace with changing technologies and market environments. Regulations must not be at odds with each other. In the same way, regulations and government policy need to be aligned to be effective, for example the development of industrial crops and the marketing of products with specific attributes.

**Collaborative sector-wide strategies allow for a coordinated industry response to changes in markets.** Industry collaboration would promote industry-led R&D strategies for the development of innovative products and practices that the market is demanding.

**A healthy natural environment is required for sector sustainability.** Environmental regulations support the sector's stewardship efforts, as do organizations such as conservation authorities, which are strongly endorsed by primary producers. The challenge is to balance necessary regulations with associated costs, especially for producers upon whom the costs often fall.

**Industry organizations facilitate the adaptability of the Canadian sector.** The organizational infrastructure, consisting of various industry associations and public agencies, provides information on market trends, and product and technology innovations, to help producers and processors innovate and compete. The effectiveness of these networks will be important to sustainability and adaptability in the future. Food policy discussions emphasise the benefit of linkages between producers and consumers and facilitate new opportunities for farmers and processors.

**Modern information technologies and other physical infrastructure contribute to sector sustainability.** Implementation of biosecurity, traceability and attribute standards will require advanced technologies. Modern information and communication technologies (ICT), like the internet, provide access to information, business tools and government services that sometimes are not available in other formats.

### **Primary Agriculture**

Analysis of primary agriculture sector infrastructure identifies industry-wide challenges and opportunities. While production, marketing and transportation practices differ among sectors, the related infrastructure issues are similar, as explained below.

**Modernization of the regulatory system will spur competitiveness and innovation.** Health claims and product fortification, as well as access to more effective and lower cost inputs, are areas where more efficient approval processes would contribute to increased industry competitiveness. The lack of regulatory pathways is hampering innovation efforts (e.g., the commercial scale production of crops for plant molecular farming such as bio-plastic in oilseeds).

**Greater global trade increases the need for strong plant, animal, health, and safety regulations.** Stakeholders recognize the importance of health and safety regulations and view them as a selling feature in international markets. However, regulatory changes are needed to eliminate unnecessary barriers to trade and to promote a level playing field in the global market place.

**Good access to market intelligence can help producers make better strategic business decisions.** Primary producers need to have information on market trends, such as the products and production practices consumers and processors are looking for. Infrastructure to support the sharing of market intelligence and new technologies is limited. Adequate industry access to information, and the ability to respond, will enable industry to acquire and adopt technologies and new product lines quicker.

**Attribute standards become important for domestic and international competitiveness.** The Canadian primary agricultural sector is adapting to the increasingly widespread consumer and buyer demand for attributes. Some sectors have developed their own standards such as on-farm food safety programs, while others have adopted third party systems (e.g., GlobalGap, Humane Certified eggs). However, in some cases, foreign national attribute standards restrict the sale of domestic product internationally (e.g., buyer requirements related to animal welfare), and a consistent approach to standards development and administration would allow industry to capture the full value of compliance. The greater importance of standards necessitates the need for standards-auditing infrastructure, and the ability of stakeholders to influence standards development and enforcement.

**Coordinated information sharing on biosecurity and traceability can protect the sector and keep markets open.** Plant and animal health policies: (i) support comprehensive risk mitigation and management strategies (e.g., including enhanced biosecurity practices, traceability systems, and surveillance); (ii) support and control threats to the plant and animal resource base underlying the food system and the environment; and (iii) affirm a reputation as a provider of safe and healthy foods, thereby keeping markets open. The National Agriculture and Food Traceability System (NAFTS), beginning with livestock and poultry, is one example where industry and governments are working together to achieve these goals.

**A collaborative industry can develop effective long-term strategies.** The relationship among the various players-(e.g., producers, processors, and buyers), is complex, and a lack of collaboration can lead to lost opportunities. Forward-looking cooperation can help the sector adapt to change and advance on issues, such as economic conditions; foreign market trends; consumer demands; and research and development (R&D) of innovative products and processes.

**The agriculture and agri-food industry relies on effective transportation and distribution infrastructure.** Reliability of service, particularly as it relates to railways and port facilities, continues to be a primary issue for many agricultural shippers to remain competitive. At the same time, the rationalization of the transportation network does not complement agriculture's drive for value in niche markets and specialty crops (e.g., need for sufficient capacity for shipping diversified product in containers). Effective management of the logistics along the value chain, ensuring the timely arrival of products to the end-user, is important.

**ICT infrastructure is important to rural areas.** Most regions in Canada have cost-effective access to information and communications (ICT) infrastructure, such as broadband, which allows entrepreneurs to consider new business models (e.g., e-commerce and direct marketing) and offers access to government services and educational resources. Despite the broadband "backbone" across the country, some rural areas lack "last mile" connection to it. Local

communities and co-operatives are stepping up to fill these connectivity gaps, but they require additional capacity to build knowledge and local consensus.

**Biosecurity systems require new equipment.** The implementation of biosecurity standards requires physical infrastructure. Needed equipment ranges from on-farm equipment like air scrubbers, ante-rooms, GPS systems, and surveillance systems, to other communications and data networks that connect laboratory facilities, such as those affiliated with the Canadian Animal Health Surveillance Network (CAHSN).

**Agricultural producers depend on their watershed for safe and efficient production.** At the same time, their practices impact the environment. Watershed health and on-farm water needs are interlinked issues that need to be well managed for the agricultural sector to be resilient in the long term.

FPT analysis of these issues is summarized in Table 12.

**Table 12—PRIMARY AGRICULTURE**

Where We Are	Where We Want To Be
<ul style="list-style-type: none"> <li>• Canada has a strong regulatory framework that supports food safety and quality, plant and animal health and the environment; however, some regulations are not aligned with competitive context: <ul style="list-style-type: none"> <li>- restricted access to lower cost and/or more effective imported pesticides</li> <li>- limited international harmonization</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory and legislative framework that is effective, timely and transparent</li> <li>• Comparable requirements with major trading partners</li> <li>• Internationally recognized standards for attributes</li> </ul>
<ul style="list-style-type: none"> <li>• Current intellectual property (IP) rules may inhibit innovation (e.g., plant breeders' rights)</li> </ul>	<ul style="list-style-type: none"> <li>• IP rules that balance incentive for innovation without increasing costs to producers</li> </ul>
<ul style="list-style-type: none"> <li>• Inadequate infrastructure to ensure accurate capturing of market conditions and trends, including standards</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate, real-time, consistently available consumer trend information</li> </ul>
<ul style="list-style-type: none"> <li>• Complex arrangements with industry organizations creates difficulty in resolving cross-cutting issues such as R&amp;D and strategic long-term planning</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinated industry organizational arrangements to agree on cross-cutting issues</li> </ul>
<ul style="list-style-type: none"> <li>• Inadequate service/lack of timeliness of rail transportation</li> <li>• High transportation costs; long distances from ports, processors and food distribution hubs</li> </ul>	<ul style="list-style-type: none"> <li>• Efficient and cost-effective transportation and food distribution capacity</li> </ul>
<ul style="list-style-type: none"> <li>• Well established bulk transportation, but difficulty of Identity Preservation (IP) to allow end-use specific attribute</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation capacity to service bulk and products with specific attributes (e.g. containers) for IP</li> </ul>
<ul style="list-style-type: none"> <li>• Insufficient infrastructure for information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Effective and inexpensive information and telecommunications infrastructure, e.g. broadband in rural areas</li> </ul>
<ul style="list-style-type: none"> <li>• Water management is a concern in some regions</li> </ul>	<ul style="list-style-type: none"> <li>• Adequate and sustainable water infrastructure</li> </ul>

## **Processing Sector**

Analysis of the processing sector identifies infrastructure challenges and opportunities that, when addressed, will help the sector thrive.

**Collaborative sector-wide strategies allow for a coordinated industry response to changes in markets.** Industry collaboration would promote industry-led R&D strategies for the development of innovative products and practices that the market is demanding. Special organizational models and funding infrastructures can facilitate adequate R&D investments and activities, as is already the case in countries such as Australia.

**Current industry competitiveness is hampered by difficulty attracting and retaining workers.** Processors and farmers across the country have highlighted that a lack of available skilled and unskilled workers is preventing production facilities from running at full capacity and greatest efficiency. Across the country, firms train workers in the operation of sophisticated equipment only to see them leave for higher wages in other industries. The meat processing and horticultural industries, in particular, utilize and appreciate the temporary foreign worker program; however, the program's perceived shortcomings are its administrative burden and a two-year limit for work with one employer. There is a need for responsive labour regulations.

**Canadian processors indicated that differences in regulatory requirements and standards with key trading partners create barriers to competitiveness.** More effective approaches to regulation would reduce red tape and lead to lower costs, while maintaining high standards of public health and safety, and protecting the environment.

**Interprovincial trade barriers inhibit domestic industry sales.** Divergent production and outdated and prescriptive marketing regulations limit Canadian processors ability to sell to consumers across the country. It also prevents firms from producing on the most cost-effective scale. Harmonized and streamlined provincial regulations would eliminate or reduce barriers.

**Trade agreements that reduce or eliminate tariff and non-tariff barriers will support market growth.** Globalization is dramatically changing the way food is produced, packaged, distributed and sold. Some sanitary and phytosanitary requirements in other countries create barriers to trade for Canadian products. Ongoing efforts to reduce these barriers through bilateral and multilateral agreements support market growth and sustainability.

**Effective marketing infrastructure helps to provide access to domestic and international markets.** Marketing systems and trade agreements are becoming more sophisticated in response to more-exacting consumer demands. Greater access to information on markets, technologies, and new business models allow individual processors and industry as a whole to make strategic marketing decisions, such as complying with and adapting to voluntary private standards, and reformulating Canadian products to meet offshore demands and tastes.

**Trade technology and infrastructure is advancing among competitors.** Important Canadian trading partners and competitors (e.g., U.S., Australia, New Zealand and the European Union) have made significant investments in electronic interface technology and infrastructure to

facilitate trade, which provides their sectors with a competitive edge. Current processes to facilitate Canadian agrifood, plant and animal imports and exports are primarily paper-based or executed using older, disparate systems.

**Effective distribution systems are required offshore to enable the sale of value-added consumer ready products.** The current offshore distribution systems (cold chain management) are not well developed to accommodate consumer ready products. An enhanced distribution system would improve the sector’s ability to market Canadian products with higher-value attributes in international markets.

FPT analysis of these issues is summarized in Table 13.

**Table 13—PROCESSING SECTOR**

Where we are	Where W Want To Be
<ul style="list-style-type: none"> <li>Lack of R&amp;D focus on innovation in products with specialty attributes for processing</li> </ul>	<ul style="list-style-type: none"> <li>Companies have capacity to modernize and have access to leading process and production technologies in off-shore markets</li> </ul>
<ul style="list-style-type: none"> <li>Difficulties attracting and retaining workers</li> </ul>	<ul style="list-style-type: none"> <li>Responsive labour regulations</li> </ul>
<ul style="list-style-type: none"> <li>Canadian regulatory environment around health claims and novel products is more rigid to that of the US</li> </ul>	<ul style="list-style-type: none"> <li>A modern regulatory and legislative framework that supports industry in the global marketplace to encourage innovation and products with health attributes</li> </ul>
<ul style="list-style-type: none"> <li>High level of retail concentration creates obstacles for small and medium-sized enterprises</li> </ul>	<ul style="list-style-type: none"> <li>Industry-led responses to retail demands</li> </ul>
<ul style="list-style-type: none"> <li>“Thickening of US border” increases costs for Canadian operations and tariffs and non-tariff barriers in off-shore markets</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory requirements that allow increased access to new markets, specifically off-shore</li> </ul>
<ul style="list-style-type: none"> <li>Lack of organizational capacity for information sharing with primary processors</li> </ul>	<ul style="list-style-type: none"> <li>Firms have access to market intelligence and capacity to reformulate Canadian products to meet off-shore demands and tastes</li> </ul>
<ul style="list-style-type: none"> <li>Distribution systems in many off-shore markets (e.g., cold chain management) are not well developed to accommodate consumer ready products</li> </ul>	<ul style="list-style-type: none"> <li>To be able to market Canadian attribute products in international markets</li> </ul>
<ul style="list-style-type: none"> <li>Current certification systems are primarily paper-based; where technology exists, systems are outdated and not integrated</li> </ul>	<ul style="list-style-type: none"> <li>A modern electronic certification system to support and facilitate all agrifood, plant and animal health imports and exports</li> </ul>

Given the preceding analysis the following questions are offered to start the discussion on agricultural infrastructure:

1. *How could industry organizations play a role in resolving cross-cutting issues such as R&D and strategic long-term planning that affect various members of the supply chain?*
2. *What mechanisms and tools would best enable the sector to respond to and benefit from public and private standards?*
3. *What are the regulatory issues that impact industry competitiveness, adaptability, sustainability and innovation? And how should they be addressed?*
4. *What are the longer term priorities for investment in systems such as Information and communications technologies, transportation and water infrastructures?*

## VIII. CONCLUSION

This discussion paper, with its overview of the sector and market trends and discussion of industry objectives and drivers, is meant to help Canadians participate in the development of the next policy framework.

Earlier industry engagement meetings and analysis of the sector identified key issues for consideration. This resulted in the basic structure to guide the development of *Growing Forward* 2, consisting of two broad objectives and two drivers. Facilitating change and adaptation to a fast and evolving global environment is crucial, as is addressing food policy with a balanced approach to food and non-food uses of agricultural resources and products. Innovation is a key driver to provide solutions to challenges the sector faces, as well as to capture new opportunities. Effective rules, organizations and networks will be essential underpinnings for the sector to respond successfully to and thrive in dynamic global markets and ever-changing consumer demands.

Even though many issues that affect the future of the industry fall outside the mandate of FPT agriculture departments, and despite the current fiscal constraints of governments, targeted, joint efforts by industry and governments will help the sector to be vibrant and resilient in the medium and long term.

Phase 2 Engagement with the sector, being held in March and April 2011, will provide a forum for public and industry views and allow FPT governments to receive feedback on policy priorities. A third and final phase of engagement will subsequently focus on the development of program options to support the policy priorities identified in Phase 2.