# Canada’s Agfood Century

## Canadian Federation of Agriculture

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# Agenda

1. **Overview of Advisory Council on Economic Growth**
2. Canada’s Agfood opportunity

# Canada’s economic endowment is mixed and faces risks…

## Strengths

1. **Highly educated workforce**
2. **Strong business environment**
3. **Abundant natural resources**
4. **Fiscal stability** (e.g., low government debt-to-GDP ratio relative to peers)
5. **Political stability** and vibrant democracy
6. **Resurgence in international reputation** and economic relationships

## Weaknesses

1. **Infrastructure gap** (up to $650B)
2. **Lagging investment and R&D** (‘D grade’ on business R&D from the Conference Board of Canada; business enterprise R&D as a percent of GDP at half of OECD average)
3. **Share of global trade and FDI** low relative to global peers – especially outside of North America

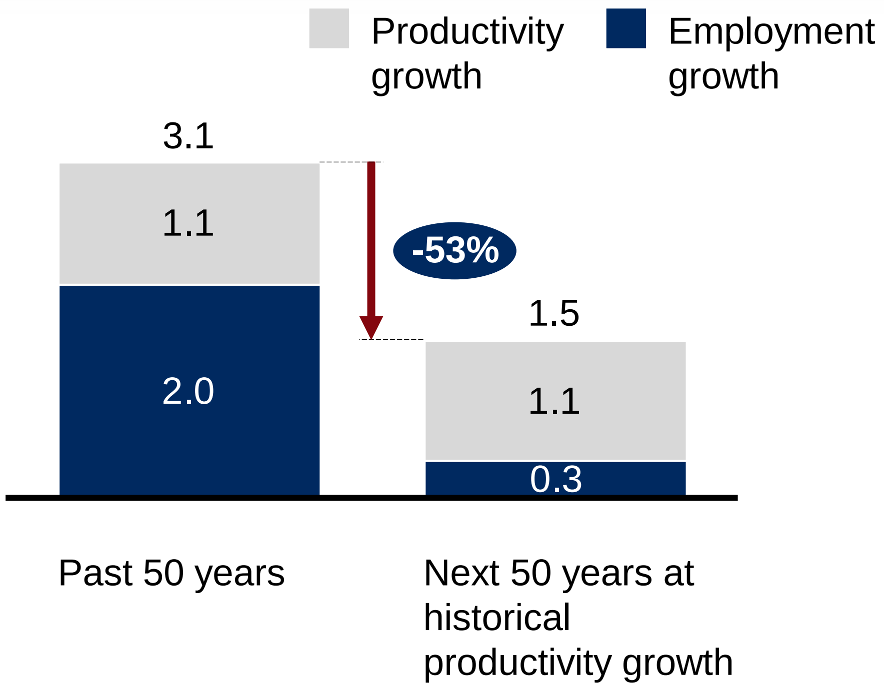
## Risks

4. **Demographic headwinds** - aging - affecting per-capita GDP growth (by 2050 1-in-4 will be 65+)
5. **High proportion of jobs at risk from automation** (almost half in next 10-20 yrs)
6. **Continued underperformance on productivity** could lead to largest decline in GDP growth among developed countries in next 50 years

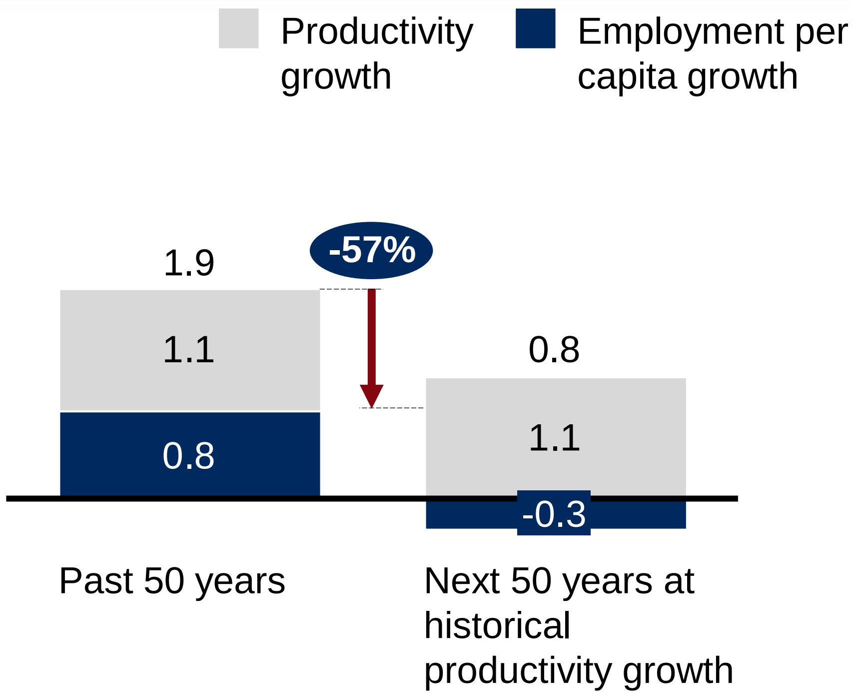
# …and so our economy will need a ‘jolt’ to boost tepid long-term growth…

**Canada** CAGR %

## GDP growth




## Per capita GDP growth




**The Advisory Council on Economic Growth is purposed to lead to a step change in inclusive growth**

NOTE: Numbers may not sum due to rounding.

SOURCE: The Conference Board Total Economy Database; United Nations Population Division; McKinsey Global Institute analysis

# First Wave recommendations

20 October 2016

## 1 Infrastructure Bank and Strategy

- Develop a focused federal **infrastructure strategy**
- Create a Canadian **Infrastructure Development Bank** (CIDB)
- Create a **flywheel for reinvestment**

## 2 Foreign Direct Investment (FDI) Agency

- Create an **FDI agency** to strategically increase inward FDI and to attract anchor companies
- Develop an **FDI strategy** in line with the country's economic growth strategy

## 3 Increased Immigration

- **Streamline entry** for top talent
- Rethink **Express Entry** points allocations to qualify more international students
- Increase annual permanent economic immigration from **300,000 to 450,000** over 5 years

SOURCE: Advisory Council on Economic Growth

# Second Wave recommendations

6 February 2017

## 1 Innovation

- Ease entry for top talent
- Catalyse **Innovation Marketplaces**
- Two new **growth capital** pools
- Leverage **strategic procurement**
- Rationalize **government programming**

## 2 FutureSkills Lab

- Fund innovative **pilot programs**
- Collect new sources of **skills information**
- Help define **skills objectives**

## 3 Unleash sector growth

- Identify **6-8 high-potential sectors**
- Take a new **aspirational and collaborative approach** to sector development
- Pilot the approach in the **Agfood sector**

*Broader recommendations*

## 4 Workforce Participation

- **Define policy principles for under-represented groups**
  - Indigenous people
  - Lower-income Canadians
  - Women with children
  - Canadians over 55

## 5 Global trading hub

- Nurture **North American trade relationship**
- Strengthen links to **large and fast-growing economies (China, India, Japan)**
- Invest in **trade infrastructure**

# Agenda

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– **Strengths to build from**

– Barriers to future growth

– Recommendations to accelerate growth

## Food and agribusiness have a massive economic, social, and environmental footprint

ESTIMATES

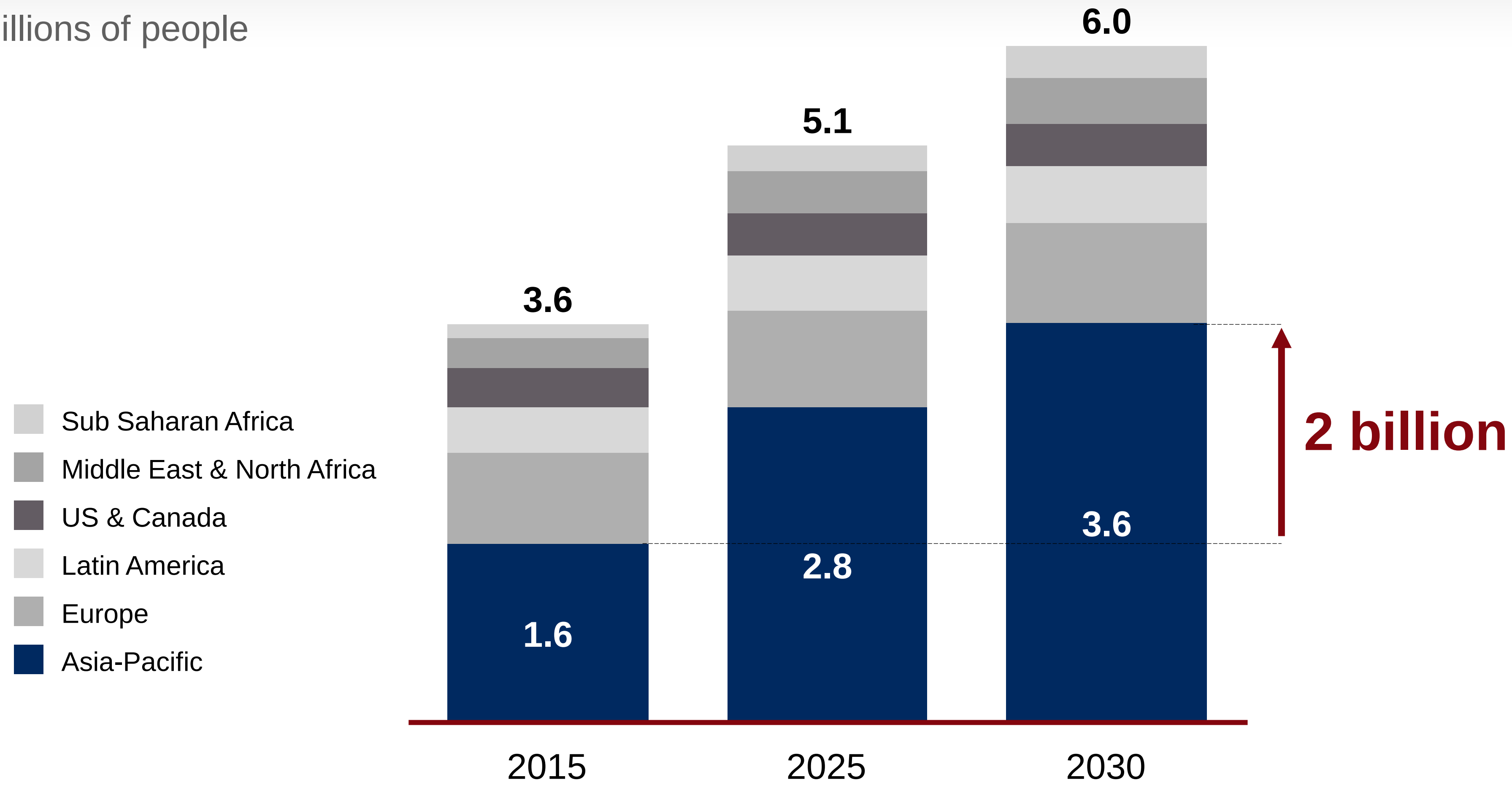
| | |
|---|---|
| $13tr | **Size of food and agribusiness sales across the value chain globally** |
| 10% | **Food** share of global consumer spending |
| 30% | Proportion of **greenhouse gas emissions** related to agriculture |
| 40% | Share of **worldwide employment** in agriculture (including 70% of the “bottom billion”) |
| 70% | Share of **worldwide water consumption** used by agriculture |
| 80% | Share of **undernourished population** that live in rural areas |
| 10,000 | Years of historical **food production** that must be matched in the next 40 years |

SOURCE: World Bank; FAO; McKinsey GHG Abatement Curve and Water Initiative; KPMG – The Agricultural and Food Value Chain 2013

# There will be 2.4 billion new middle class consumers by 2030 – of which 2 billion will come from the Asia-Pacific

**Global middle class**[1]

Billions of people

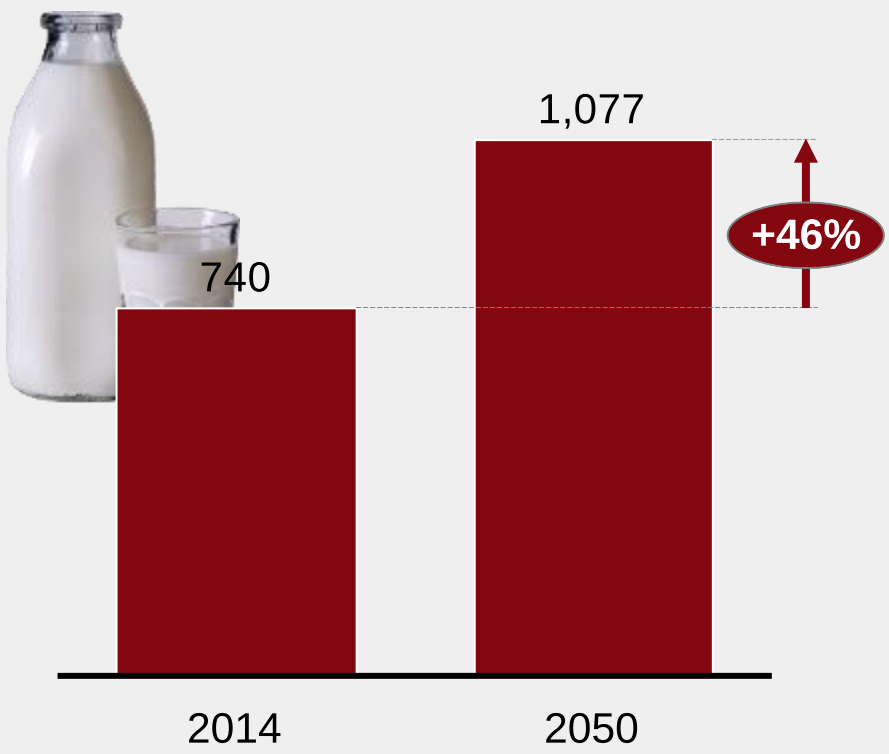



1 Annual disposable income $3,600 and over

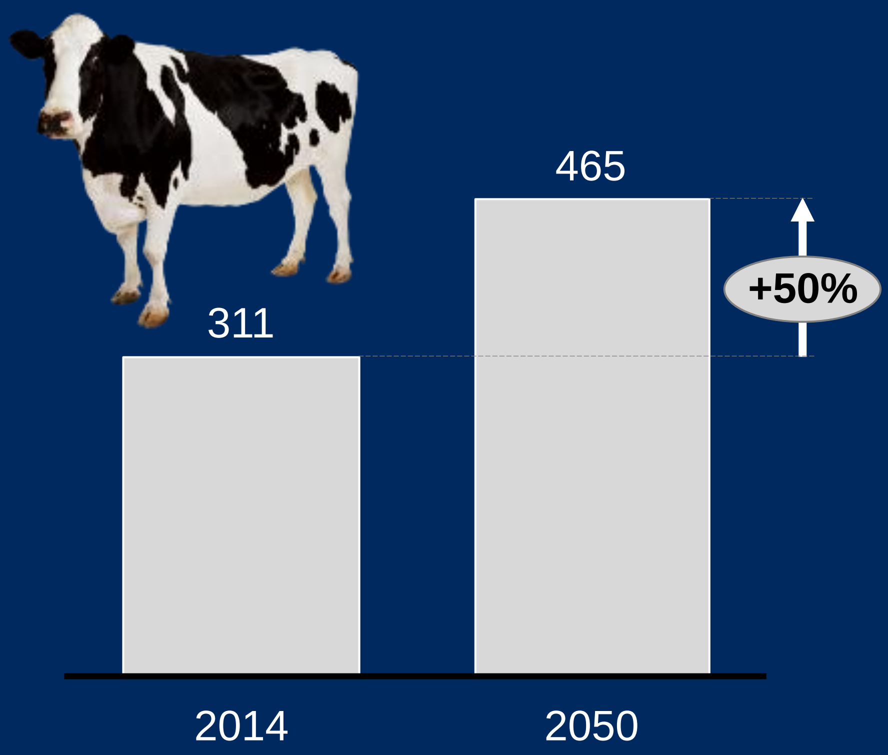
# As incomes grow, caloric intake, especially from proteins, will rise – AgFood will be a huge opportunity

## Worldwide consumption by 2050

### Milk
Millions of tons




### Meat
Millions of tons



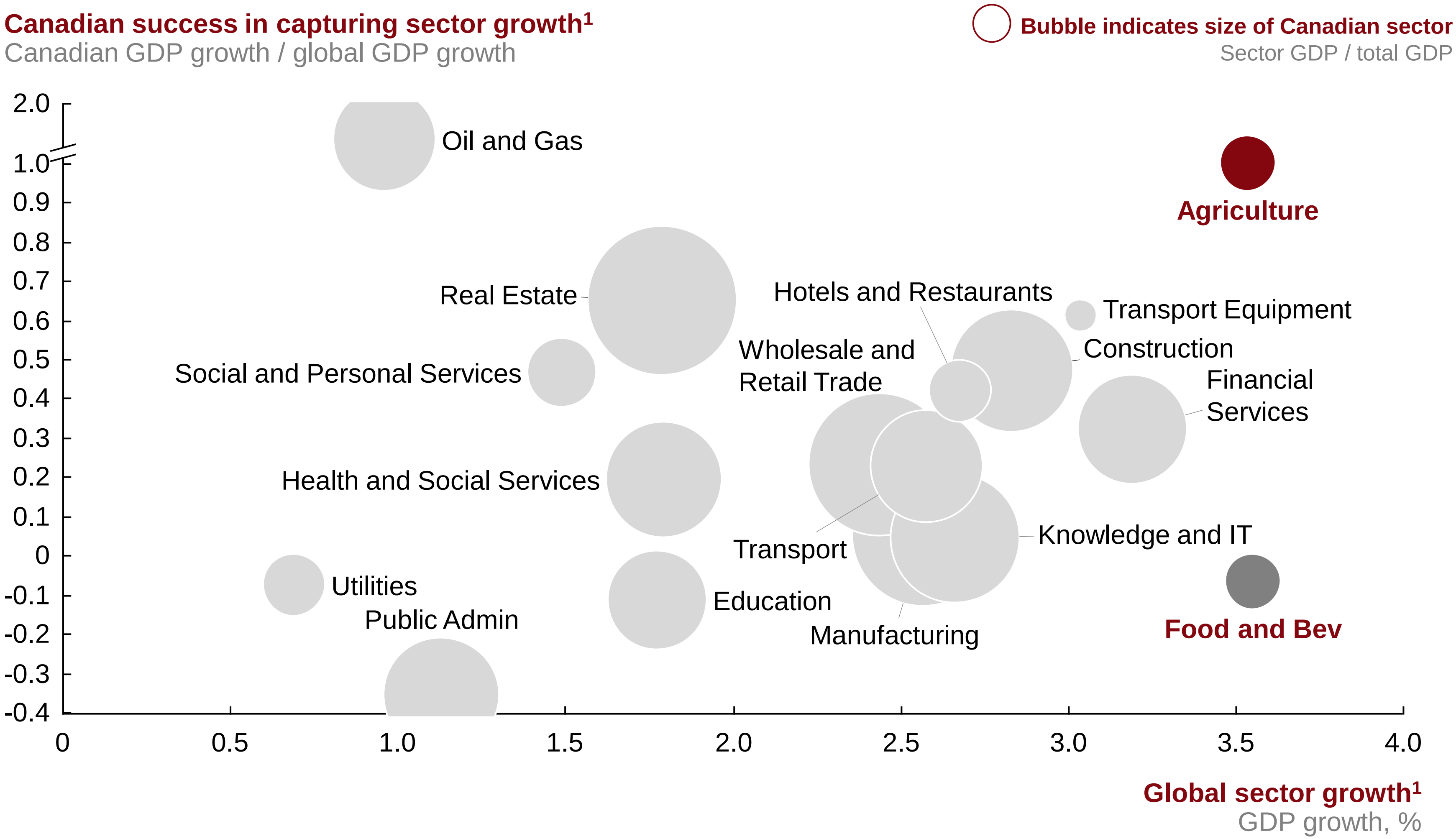
# Canada's Agfood endowment

- **Abundant natural resources** (e.g. freshwater, long coastlines suited to aquaculture, least densely occupied arable land in the world)
- **Strong network of R&D facilities** and universities
- **Sophisticated, ethnically diverse consumer base** that stimulates product development
- **Early adopters** of technology
- **Reliable access** to capital and inputs (e.g., fertilizers, feed, seeds)
- Lowest **per-hectare use of pesticides**
- **Political stability and goodwill** that encourage foreign investment

SOURCE: Advisory Council on Economic Growth

# Agriculture, in particular, has been our growth star over the past five years

**Canada's sector growth momentum relative to global trends, 2010-15**




1 Based on historical GDP CAGR data for 2010 - 2015

# Agfood is Canada's number one job creator …

Natural resources

| Canadian "core strength"[1] sectors | Employment contribution<br>Jobs, 2015 | GDP contribution<br>%, 2015 | Growth<br>CAGR (2010-15) |
|---|---|---|---|
| Agfood | 2.10 million | 6.7 | 1.8% |
| Manufacturing | 1.70 million | 10.5[1] | 1.6% |
| Education | 1.00 million | 13.7 | 1.3% |
| Energy and renewables | 0.95 million | 6.8 | 2.6% |
| Tourism | 0.63 million | 2.0 | 1.5% |
| Forestry | 0.30 million | 1.3 | 3.9% |
| Financial services | 0.78 million | 5.2 | 3.5% |
| Mining | 0.06 million | 3.5 | 2.8% |

1 Export-intensive sectors with strong GDP contribution and/or comparative advantages

SOURCE: MentorWorks; National Energy Board; Natural Resources Canada; Innovation, Science and Economic Development Canada; Conference Board of Canada, TIAC

# … and a force of economic inclusion


SOURCE: Advisory Council on Economic Growth

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– Strengths to build from

– **Barriers to future growth**

– Recommendations to accelerate growth

# We have identified a few major barriers to growth

## 1 Underdeveloped value chain

- Canada only processes **50%** of its own agriculture output
- Food processing supply chains remain underdeveloped – due to **lack of investment** in processing infrastructure and **regulatory environment** (e.g. lengthy permitting processes)

## 2 Low productivity

- In some sectors (e.g. dairy), average size of farms is relatively small, so few achieve **economies of scale**
- **Productivity-enhancing technologies** (e.g. digital) cannot be deployed widely given limited rural internet bandwidth
- Government spending on agriculture **flows largely to risk management** and smoothing grower volatility rather than productivity enhancing investments

## 3 Trade barriers

- Canada lacks preferential trade agreements with **3** of its **5** biggest potential export markets (China, India, and Japan); NAFTA may also need to be renegotiated
- The **Comprehensive Economic and Trade Agreement** with the EU yet to be fully implemented

SOURCE: Canada Advisory Council on Economic Growth

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   - Barriers to future growth
   - **Recommendations to accelerate growth**

# The Advisory Council recommends a few core building blocks to our growth strategy

1. **Set an ambitious aspiration:** we think Canada could aim to increase its annual agfood exports by at least US $30 billion over the next 5-10 years to become a Top 3 agfood exporter

2. **Launch a few bold pilots:** signature initiatives that large and small players can rally behind, putting clear “big wins” on the board (e.g. investigate sectors like aquaculture, oilseed and pulse crops, dairy, and agri-food technology)

3. **Implement the Council’s core recommendations in agriculture sector:** specific programs in infrastructure development, broadening trade agreements in Asia, immigration and FutureSkills Lab, and innovation

4. **Public-private collaboration:** Rally the private sector and government to work together to drive growth

SOURCE: Canada Advisory Council on Economic Growth

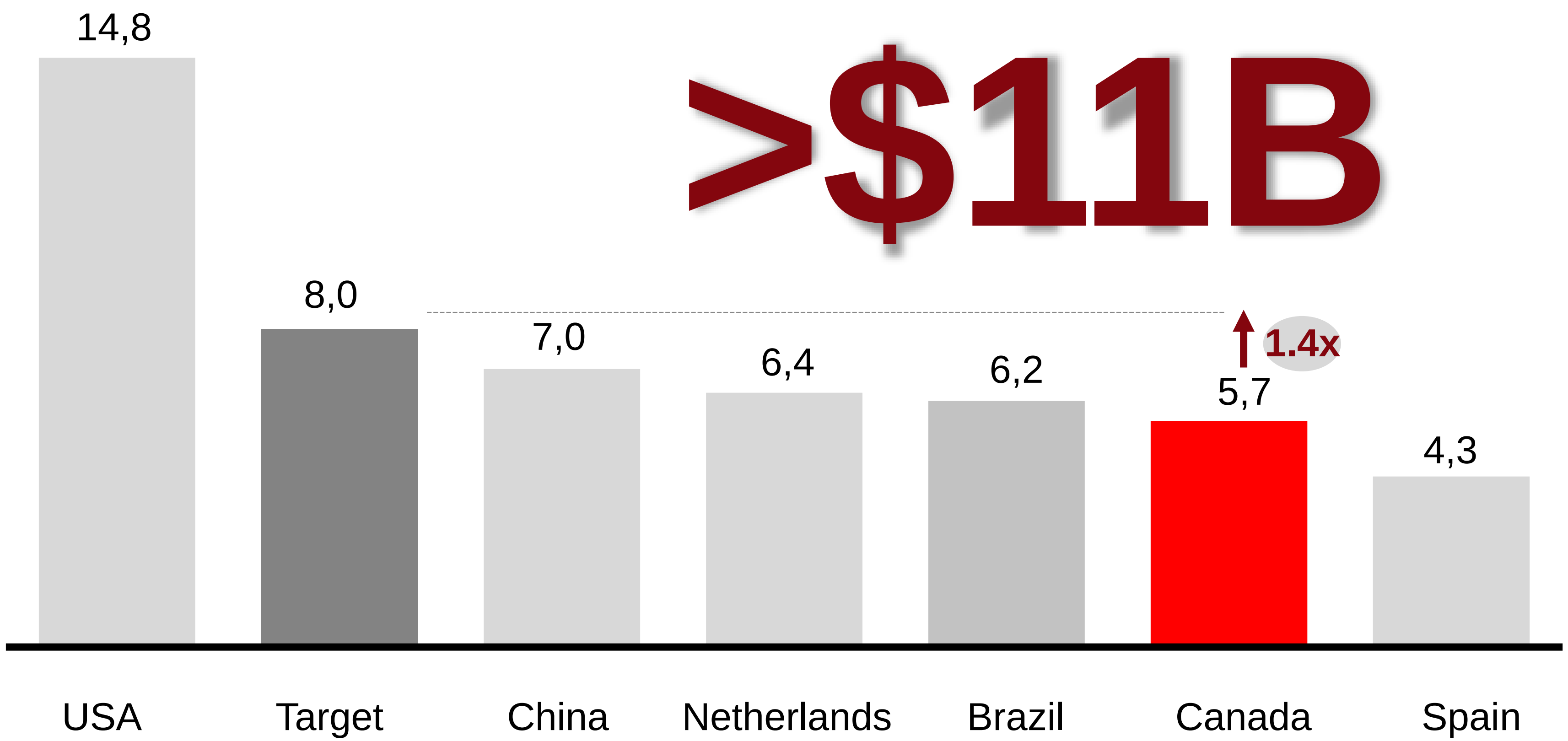
# 1 Canada could aspire to become the trusted global leader in safe, nutritional and sustainable food for the 21st century

“Setting a **bold, overarching aspiration to develop the agfood sector** would help the government **engage the private sector and other stakeholders** to define and **carry out a strategy to clear the path for growth**”

SOURCE: Advisory Council for Economic Growth

# 1 Potential aspiration for agricultural product exports

**Exports of agricultural products[1], 2015**
Share of global agricultural exports, %

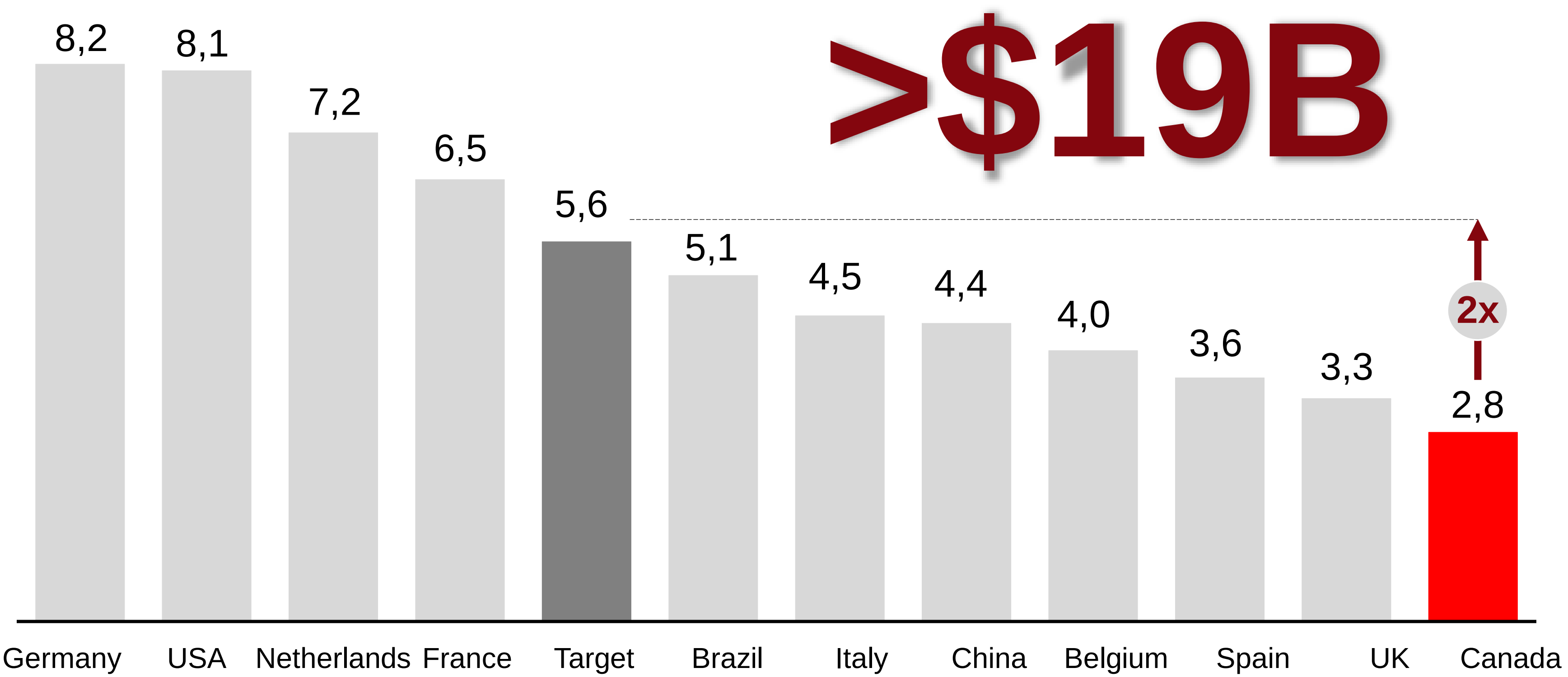



**Canada could target at least an 8 percent global market share in agricultural products by 2027**

1 Agriculture trade defined as live animals, aquaculture), live plants, edible vegetables, edible fruit, cereals, oilseeds, veg plaiting

# 1 Potential aspiration for exports of agri-food products

**Exports of agri-food products[1], 2015**
Share of global exports, %




**Canada could aim to at least double its share of processed food exports by 2027**

1 Agri-food trade defined as dairy, coffee, milled products, lac, gums and resins, fats, preparations of meat, sugars, cocoa, preparations of cereals, preparations of vegetables, miscellaneous edible products, beverage

SOURCE: World Trade Organization

# 1 The Council also recommends the government establish bottom-up targets and initiatives for specific sub-sectors

| Example sub-sectors | | Potential targets over next 5-10 years |
|---|---|---|
|  | **Aquaculture** | ▪ Increase global market share from **0.2%** today to **0.6%**<br>▪ Increase exports by US **$2.6 billion** |
|  | **Oilseed and pulse crops** | ▪ Boost oilseed sales by **20%** (or US $2 billion)<br>▪ Increase global market share of pulses from **38%** today to **50%** |
|  | **Dairy** | ▪ Produce up to **6 billion** more marketable liters of milk per year |
|  | **Agri-food technology** | ▪ Increase exports of equipment and digital and scientific services (e.g. genomics) from US **$2 billion** to US **$5 billion** over 10 years |

Other industry sub-sectors to develop targets for could include: **Grains**; **Fruits and vegetables**; **Livestock**

SOURCE: Canada Advisory Council on Economic Growth

# 2 Create 4-6 world-class agfood processing hubs across the country to catalyze growth

### Physical features could include:

- Shared **infrastructure investments** (e.g. road/rail/port connections, crop aggregation and marketing facilities)
- **Tailored agribusiness services** (such as certification, storage)
- **High-speed Internet**
- One-stop **registration centers**
- **Agricultural knowledge and innovation Center** (e.g. model farm)

### Virtual features could include:

- **Organizing body** for collective action
- **Tax advantages** (e.g., Special Export/Free Trade zones)
- **Trade lobbying** and market identification
- Building a **strong agfood brand**
- **Incubating entrepreneurs**

**Canada can learn from similar hubs in the Netherlands, New Zealand, Brazil, Singapore, and the UAE**

# 2 Case study: Food Valley has helped turn the Netherlands into a top agriculture innovation and investment hub

Food Valley NL
Your guidance & support partner

**Food Valley NL** was founded in 2004 to support the development of an agfood innovation cluster that brings together universities, research centers, start-ups, and large agfood companies.

## Key components of Food Valley

### University and research institutions

20 research institutions, like Wageningen University; >10,000 researchers working across agfood value chain

### Private companies

>2,600 ag and food companies across the entire value chain located in the “Food Valley” region of Wageningen, NL

### Government support & investment

Identified Agfood as a “top sector;” supports public-private R&D partnerships

### International partnerships

Partnerships with global agfood networks, such as Food Innovation Network Europe (FINE)

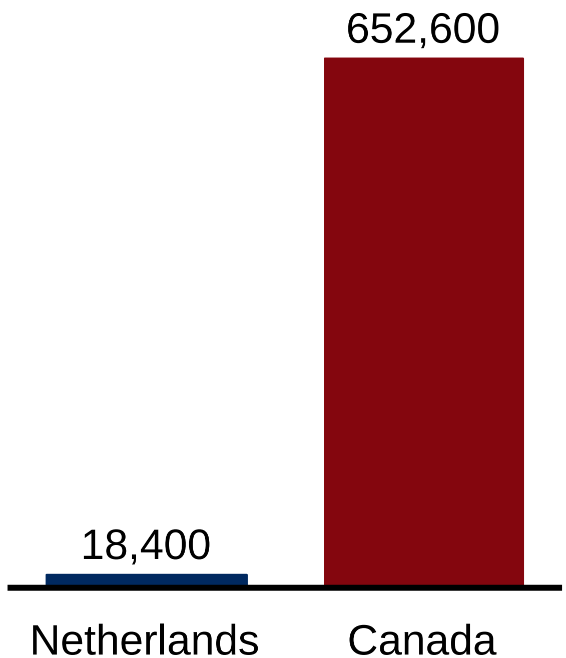
## Results

- **2nd largest exporter** of agfood products globally
- Agfood represents **21%** of NL exports
- **4** Dutch agfood companies are in the **world’s top 30**
- **85%** of the Dutch ag and food research is located in **Food Valley**
- **164** nationalities represented

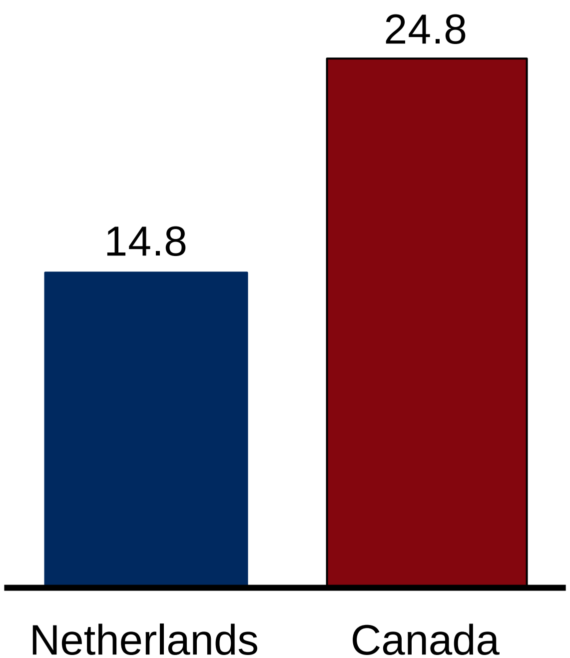
SOURCE: Wageningen Business Generator, Food Valley, Food Innovation Network Europe, press releases

# 2 Because of initiatives like Food Valley, the Netherlands is now one of the world's top agfood exporters despite limited natural resources

**Arable Land**
km$^2$




**Agriculture GDP[1]**
USD billions, 2014




Despite only having **3%** of Canada's **arable land**, the Netherlands produces the equivalent of **60%** of Canada's annual **agriculture GDP**

1 2014 Agriculture GDP, value added (constant 2010 US$), World Bank national accounts data, and OECD National Accounts data files

# 2 Case study: Embrapa transformed production in Brazil's "*Cerrados*" (Brazil's savannah)

Embrapa

**Embrapa** was founded in 1973 as a public-private research company to turn the *Cerrado* – one of Brazil's least productive regions – into one of the world's leading lands

| Embrapa did 4 things to make the *Cerrado* fit for farming … | … as a result, Brazil is now one of the largest agfood exporters globally |
|---|---|
| 1 Improved the **productivity of *Cerrado* soils** by reducing the acidity levels, increasing the nitrogen levels and reducing the need for fertilizers | In the 1970s, the *Cerrado* was considered unfit for farming; today it accounts for **70% of Brazil's farm output** |
| 2 Created **new varieties** of grass by cross-breeding varieties from Africa, allowing parts of the *Cerrado* to be turned into pasture | 30 years ago, it took Brazil 4 years to raise a bull for slaughter. Now, the **average time is 18-20 months**. |
| 3 Turned soyabeans (which are a temperate-climate crop) into a **tropical crop** by cross-breeding | Brazil is now the world's **2nd largest soybean producer**, after the U.S. |
| 4 Pioneered new **operational farm techniques**, such as forest agriculture & livestock integration to rescue degraded pasture lands and "no-till" agriculture to retain more nutrients in the soil | In 1990, Brazilian farmers used "no-till farming" for 2.6% of their grains; today it is **over 50%.** |

SOURCE: Embrapa, The Economist

# 3 Example agfood initiatives across the four key council recommendations

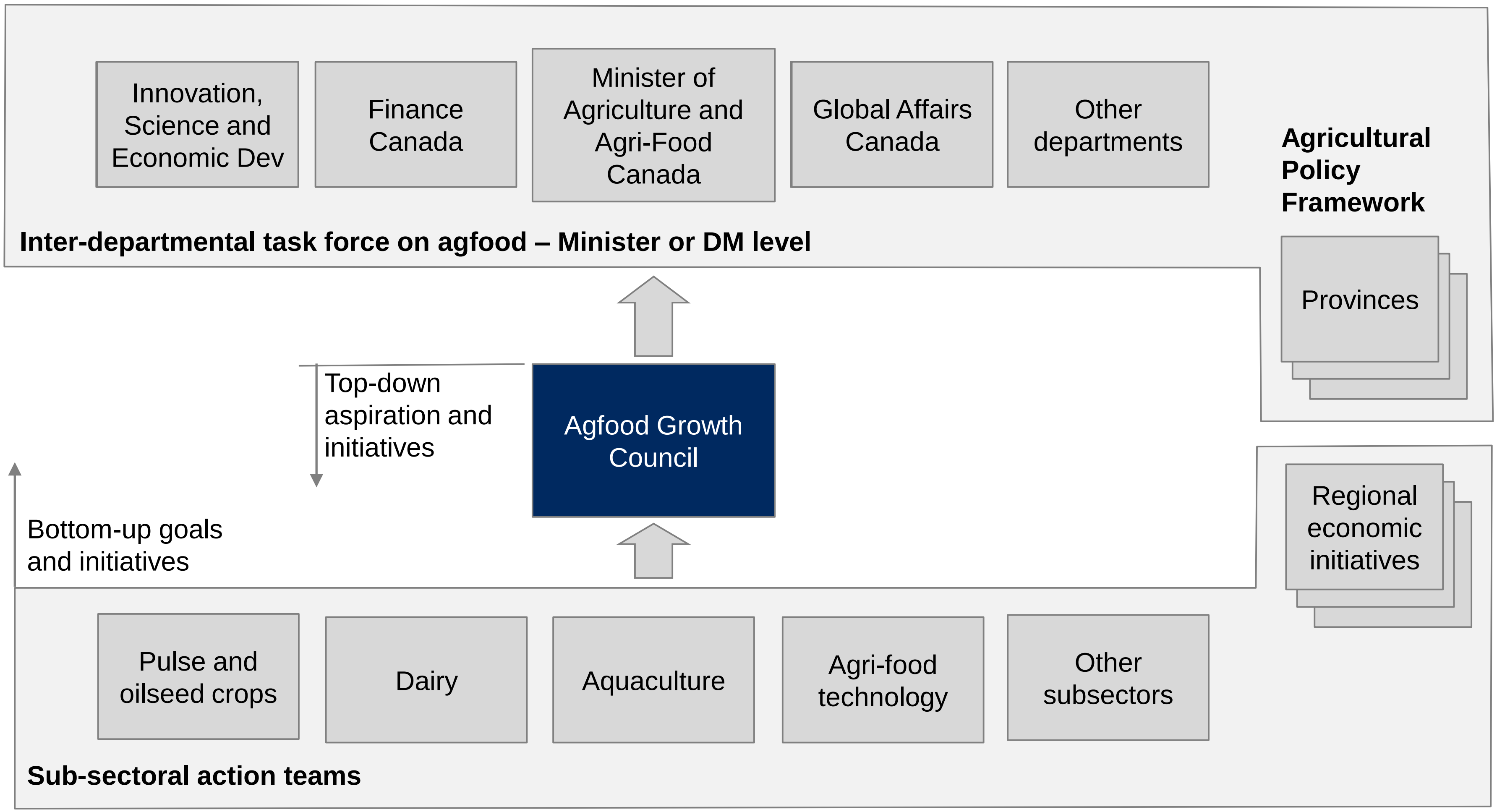
| | |
|---|---|
| **Broadening trade agreements in Asia** | ▪ Seek **preferential trade agreements** with key agfood export markets, prioritizing China, India, and Japan<br>▪ **Enhance Canada's reputation/brand** as a source of "trusted food"<br>▪ Coordinate and combine **special economic** and **export-zone incentives** from federal provincial, and municipal authorities |
| **Infrastructure development** | ▪ Use **newly proposed infrastructure bank** for projects connecting agfood hubs with global markets (e.g. "hub and spoke" projects connecting agfood hubs with one another and global markets, incentives to decongest rail and port networks for advanced logistics, etc.)<br>▪ Launch national plan for **high-speed internet access** for Canadian farms<br>▪ **Reform regulations** that stifle or deter investments in agfood assets and |
| **Immigration and FutureSkills Lab** | ▪ Use **FutureSkills Lab** for "future of agfood" training and reskilling programs<br>▪ Attract & retain **top global talent** in agfood R&D (e.g. expediting visas, fellowships)<br>▪ Attract talent from **adjacent sectors** (e.g. biotech, pharma) to accelerate development of new technologies for farming and food processing |
| **Innovation** | ▪ Encourage development of private-sector led **innovation marketplace** centered on raising agfood productivity by:<br>– **Connecting start-ups** with establish companies<br>– Drawing **commercial concepts** out of university research centers<br>– Providing **initial funding** to help offset the risk of pilot projects |

# 4 Rallying the private sector and government to work together

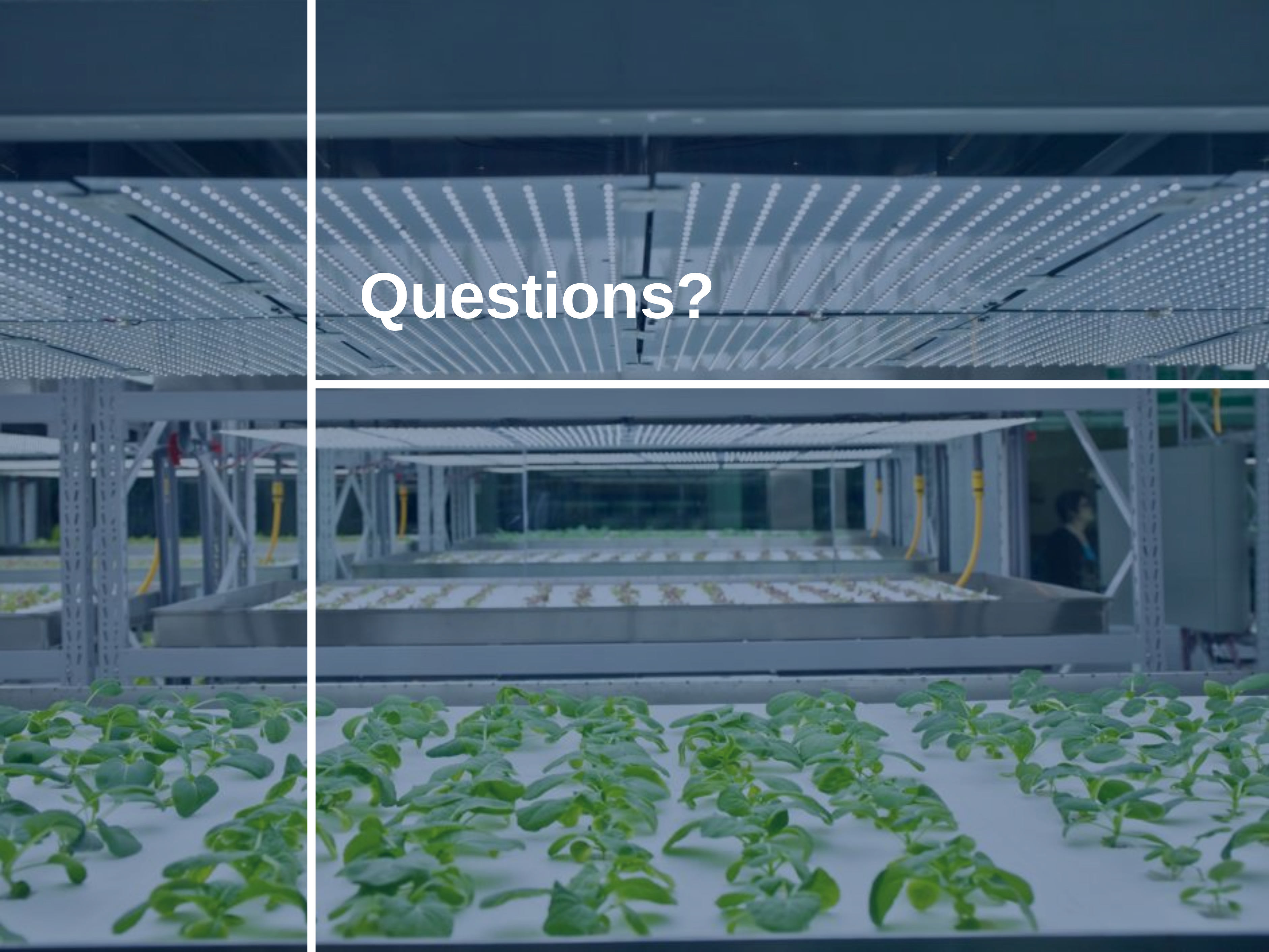
1. **Convene the private sector –** stand up private sector body of 10-15 visionary leaders to champion the sector, set a bold ambition, and identify obstacles to growth
2. **Convene government** – consider an interdepartmental task force on agfood, chaired by the Minister of Agriculture and Agri-Food Canada (AAFC) and supported by the Prime Minister
3. **Engage the provinces** – Expand the Agricultural Policy Framework to include growth-oriented objectives and initiatives
4. **Launch pilot projects** – E.g., the creation of 4-6 world-class agfood processing hubs across the country in conjunction with private sector, provinces, and host municipalities to ease hurdles faced by SMEs (as demonstrated in the Netherlands, Brazil, New Zealand, South Korea, etc.)
5. **Deliver differently** – E.g. use clear milestones and transparent performance tracking

# 4 The federal government should adopt a new, bold approach in developing and implementing a sector growth strategy

ILLUSTRATIVE




SOURCE: Canada Advisory Council on Economic Growth



# Questions?