

Barton Forward: Optimizing Growth

The risks and opportunities for growth

by
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Presented at the CAPI-AgWest Bio Workshop

Saskatoon
December 11, 2017

Barton Forward Workshop Evaluation

- 1. Comments on Structure of Workshop**
 - 2. Comments on Value of Materials Presented**
 - 3. Comments on Ability to Present My Ideas**
 - 4. Comments on Workshop Venue and Logistics**
 - 5. What worked well? What can we do better?**
- Add a tweetable quote?**

Thanks for your participation!

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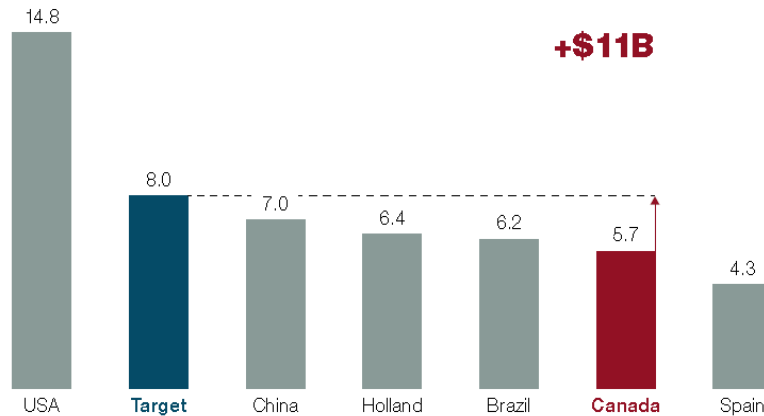
The vision of the *Advisory Council on Economic Growth*



“Canada will become the trusted global leader in safe, nutritious, and sustainable food for the 21st century”—would reflect the strength of our starting position, as well as the global trends we can exploit.”

Exhibit 2 **Canada could target an 8 percent global market share in agricultural products by 2027.**

Exports of agricultural products, 2015
Share of global exports

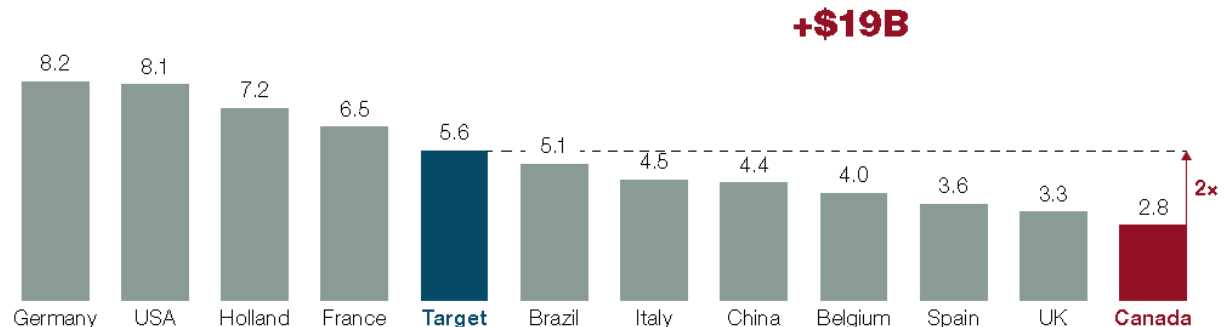


**Goal:
Unleashing Growth**

Source: World Trade Organization

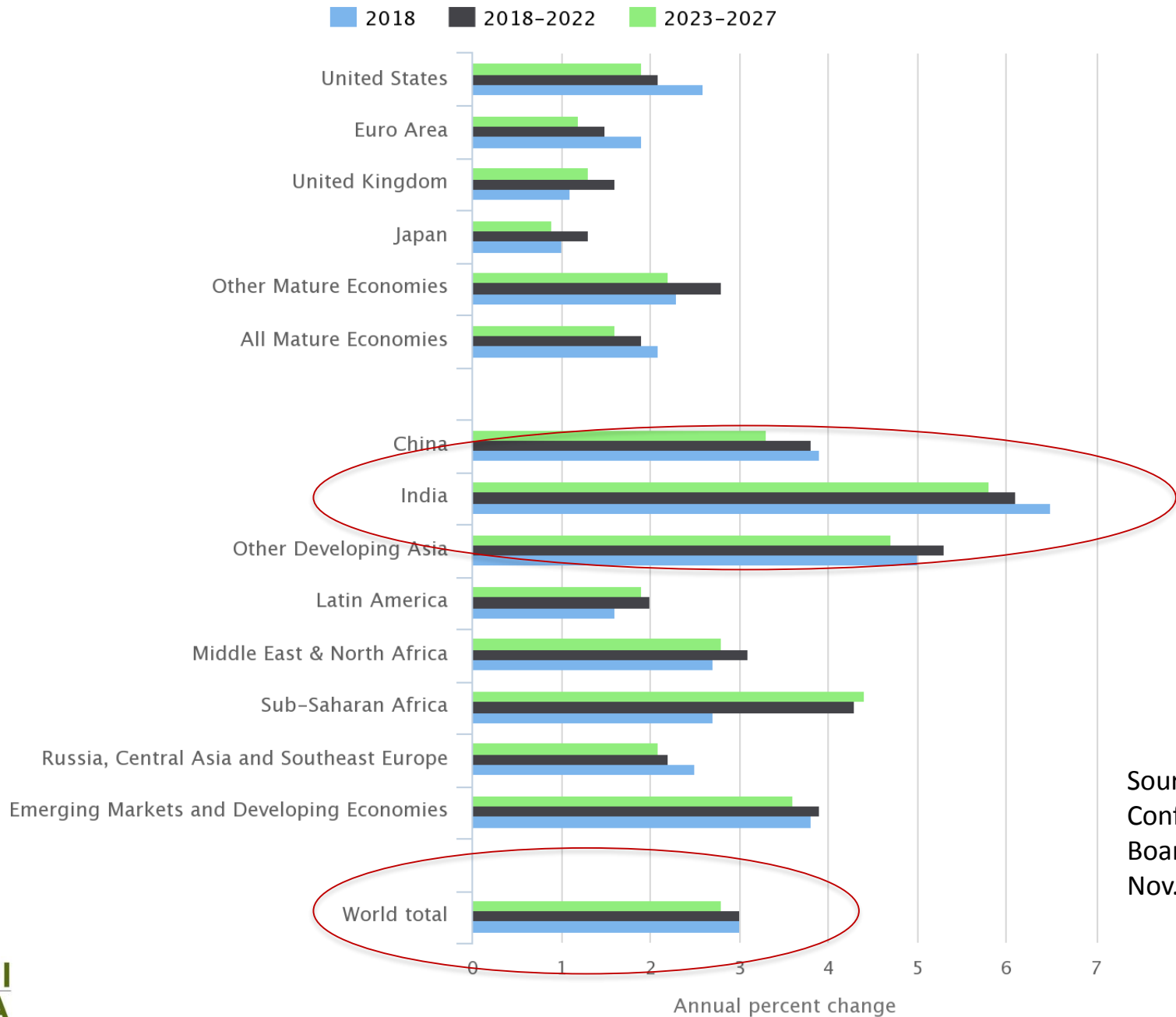
Exhibit 3 **Canada could aim to double its global market share in agfood products by 2027.**

Exports of agri-food products, 2015
Share of global exports



Source: World Trade Organization

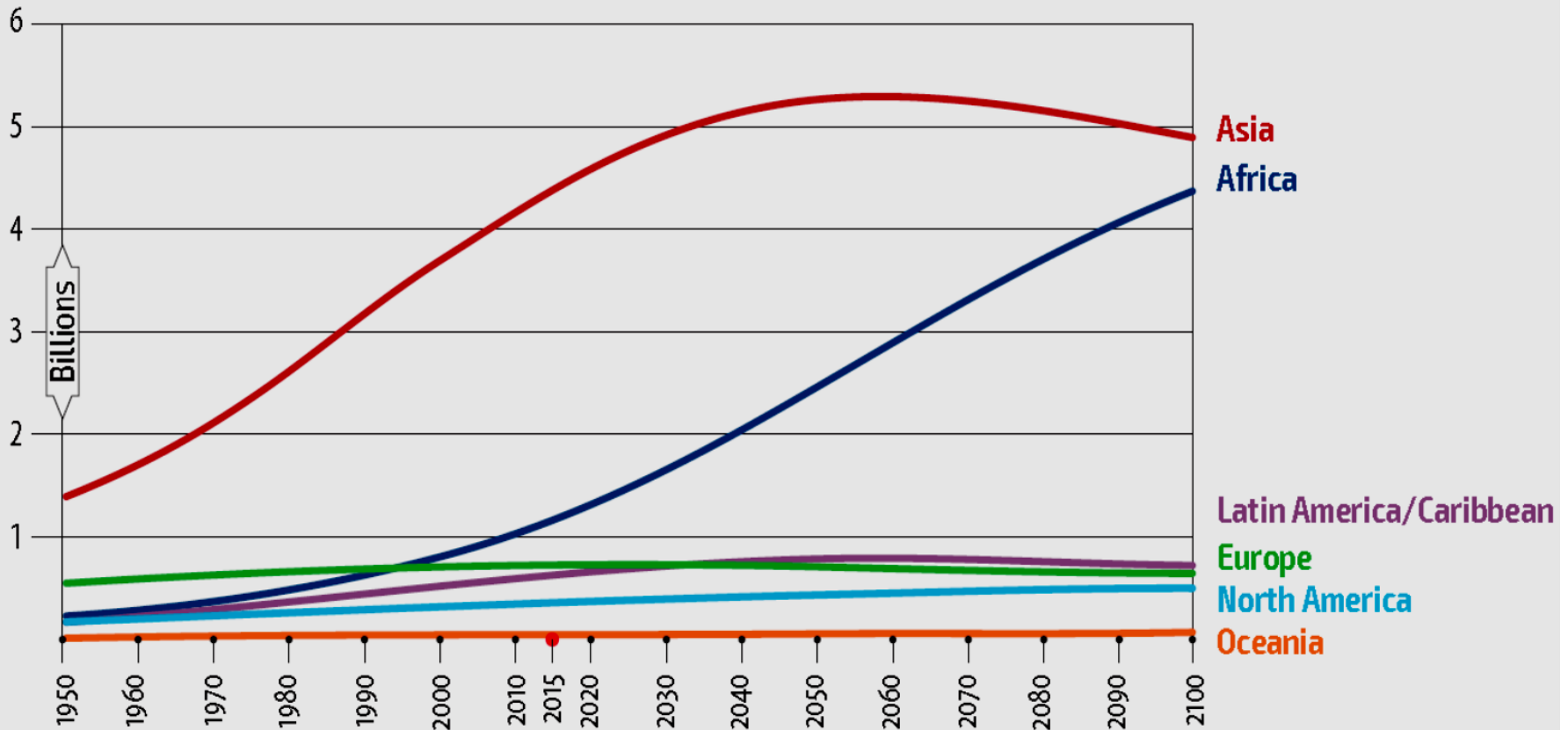
Growth of Gross Domestic Product, 2018–2027



Source:
Conference
Board of Canada
Nov. 2017

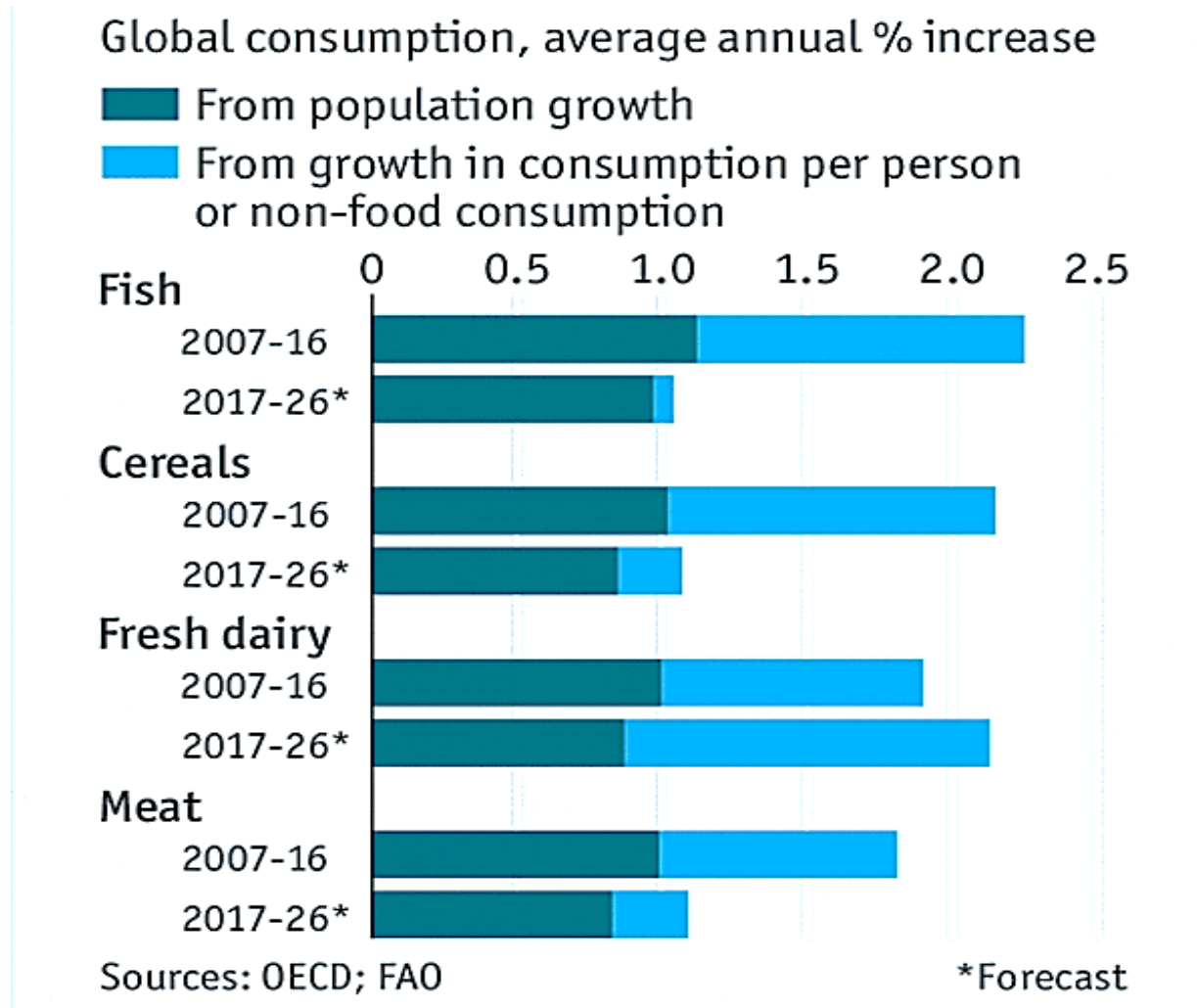
Population growth will not occur where income growth is high

Figure 1.2 Population growth to 2100, by region (medium variant)



Source: UN, 2015.

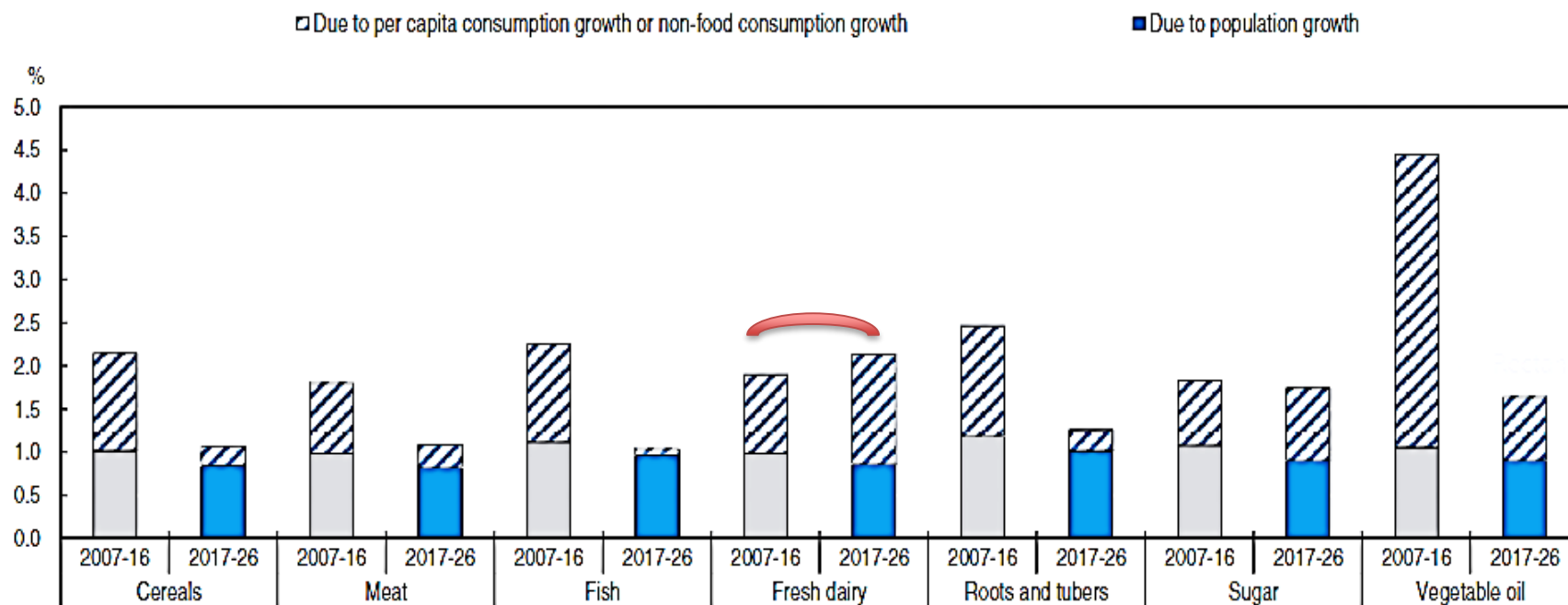
Global consumption will grow at a much slower rate



Economist.com

Global trade to year 2026 will be growing at a slower rate

OECD projects growth in trade volumes, mirroring production growth, with the exception of a few commodities will be much lower than the previous decade.

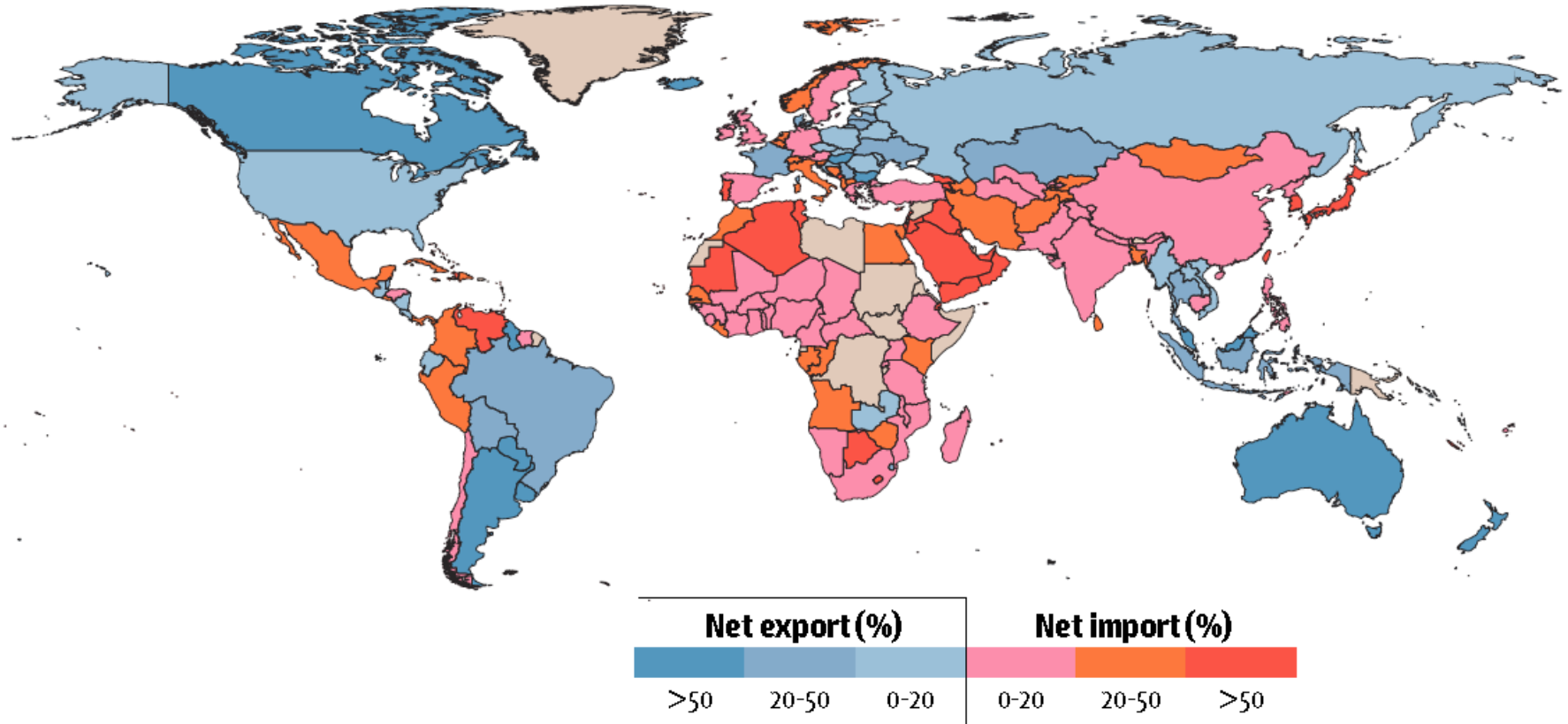


Note: The population growth component is calculated assuming per capita demand remains constant at the level of the year preceding the decade. Growth rates refer to total demand (for food, feed and other uses).

Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

Who will be importing

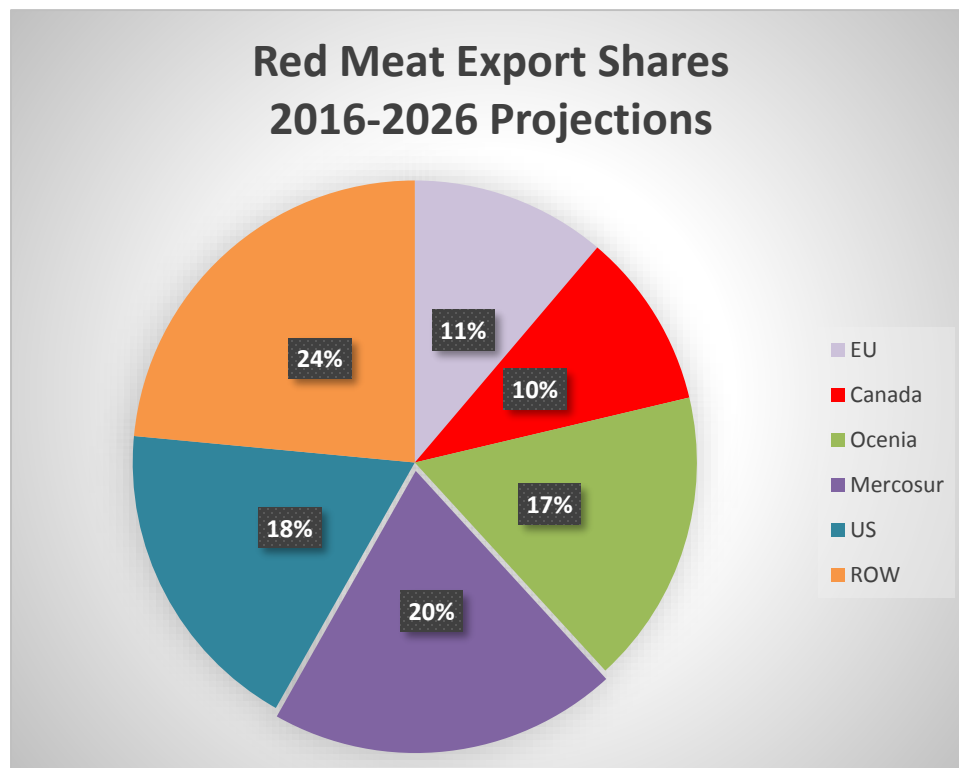
Figure 2.12 Percentage of net food imports in domestic food supply in total calories



Source: FAO Global Perspectives Studies, using 2011 food balance sheets from FAO, 2016a.

Who will be exporting

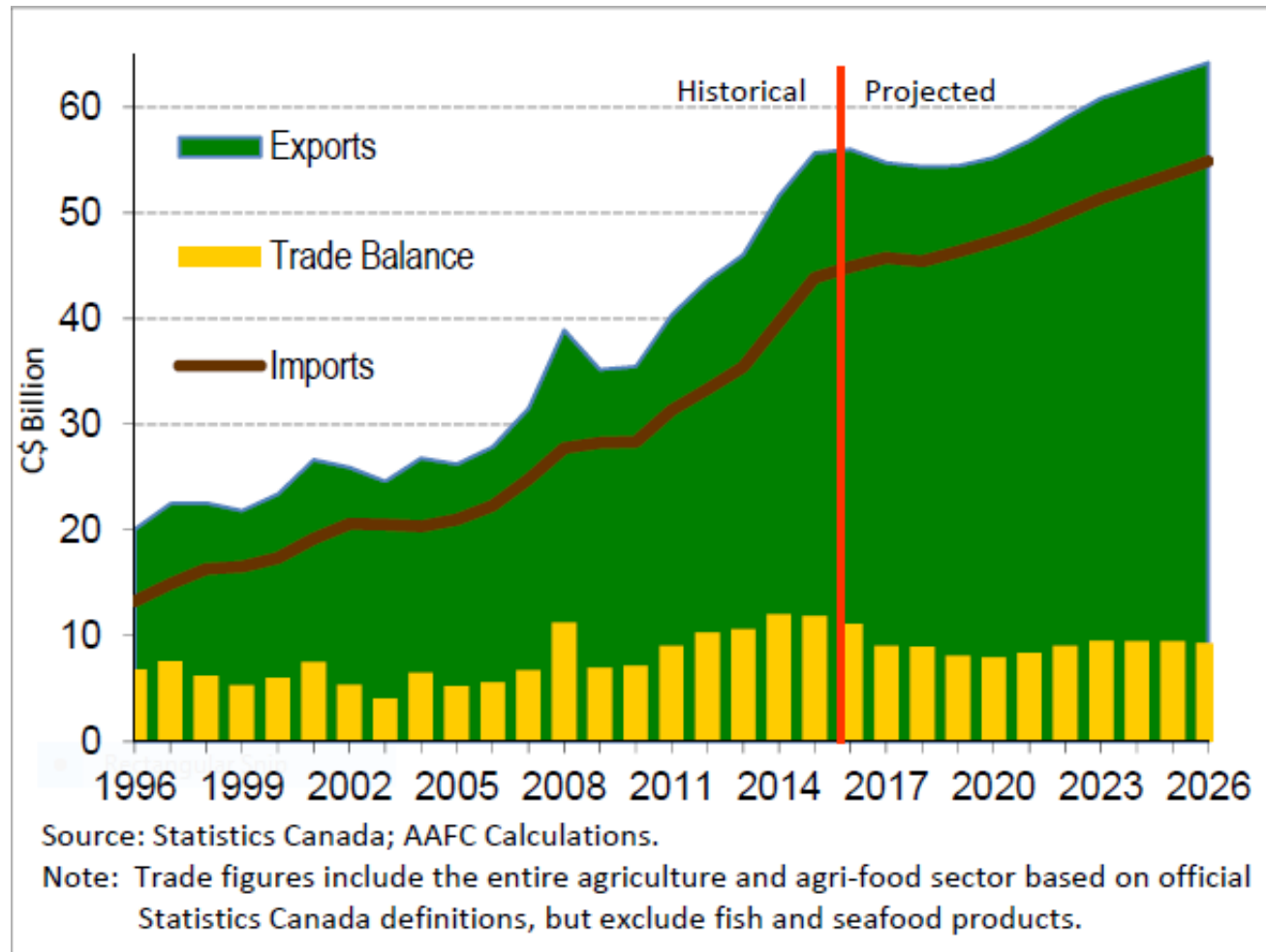
- OECD projects that top five-country export concentration ratio to increase and exceed the current level (above 70%).
- Canada is the 5th global ranked exporter of agricultural commodities, including red meats.
- Importers will continue to be more widely dispersed than exporters.
- A small group of exporters will be trying to sell to numerous small importers
- Expect continued jockeying for export position improvements.



Source: AAFC-MTO, 2017

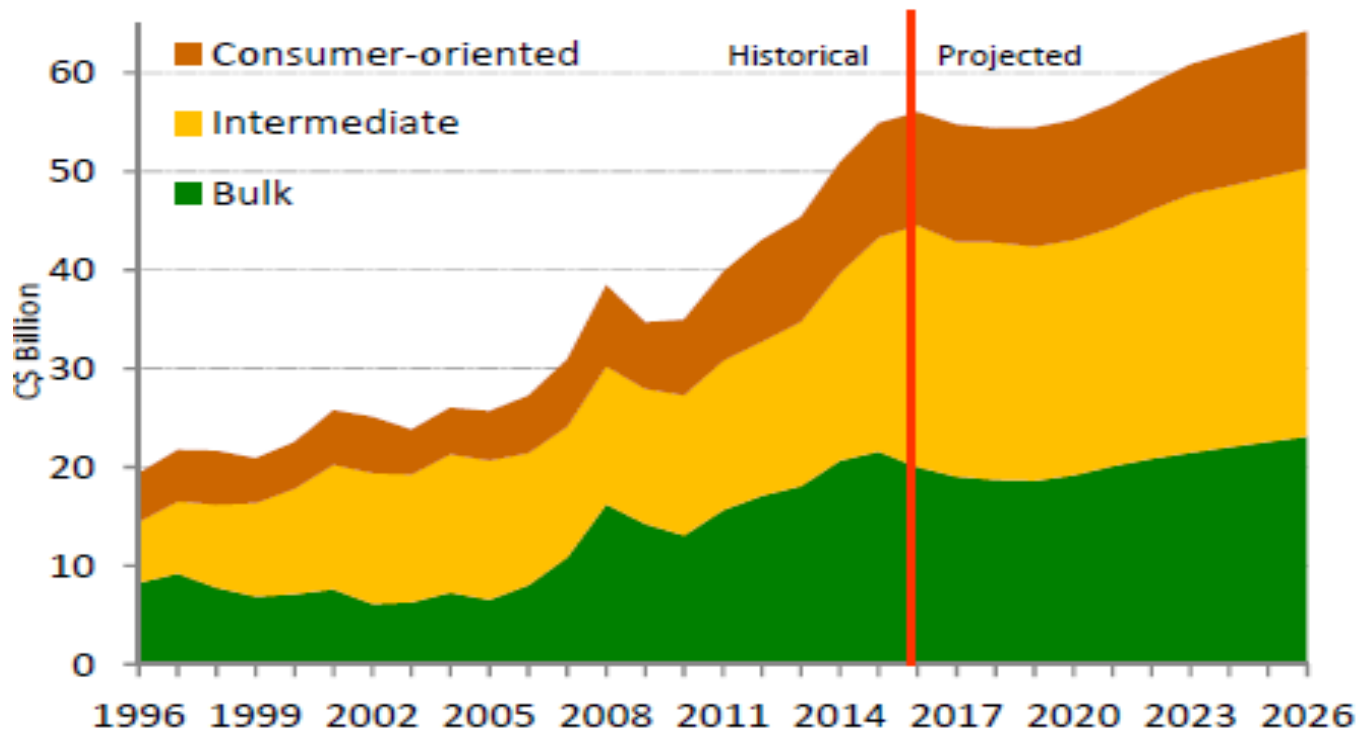
Canada's Agri-food trade

AAFC projects exports of Canadian agricultural and agri-food products to increase 1.4% per year on average and continue to produce a trade surplus.



Canada's Agri-food exports

AAFC projects exports of Canadian agricultural and agri-food products to reach nearly \$65 billion in 2026 with significant increase in the share of intermediate goods.



Source: Statistics Canada; AAFC Calculations.

National food policy is to build “public trust” through sustainable growth

- How do we meet the goals of the growth strategy and the objectives of our Food Policy simultaneously?
- How do we reconcile the growth targets particularly with the sustainable use of resources?
- How do we succeed better in global markets that are glutted with subsidized food?
- Can science help?

National Food Policy

**Increasing access to affordable Food
(nutritious & safe)**

Improving health and food safety

Conserving our soil, water and air

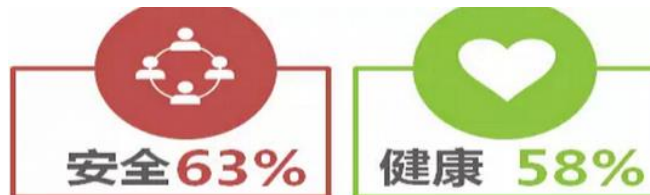
Growing more high quality food

National Food Policy aligns with the demand of fast growing high quality export markets

China Growth Trends

Young middle class consumers showing buying power

“The pursuit of health and safety is the major trend in consumer upgrades in China” – Nielsen Research



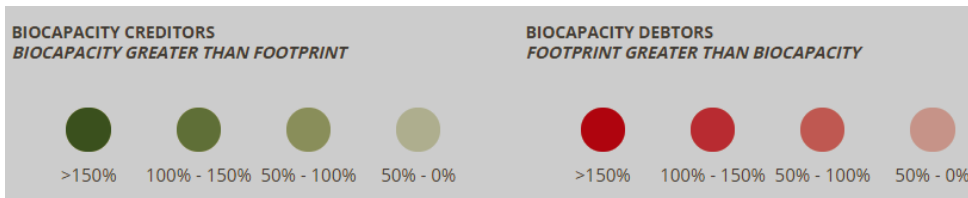
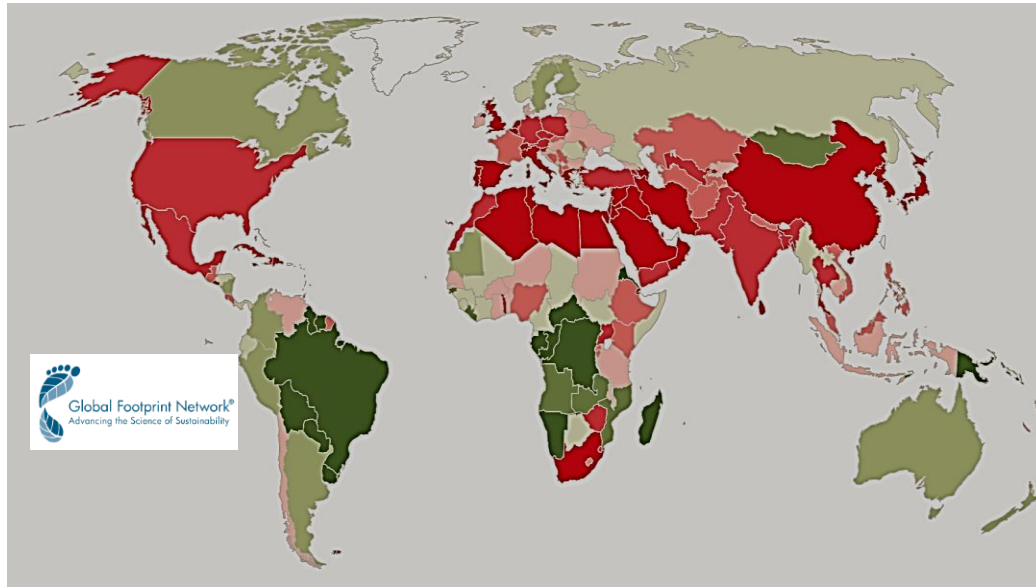
Proposed National Food Policy

Improving health and food safety

Growing more high quality food

By 2030, China will have one billion people with the purchasing power of an average Canadian or Australian

Can we increase food exports while conserving our soil, water and air and what about affordable food?



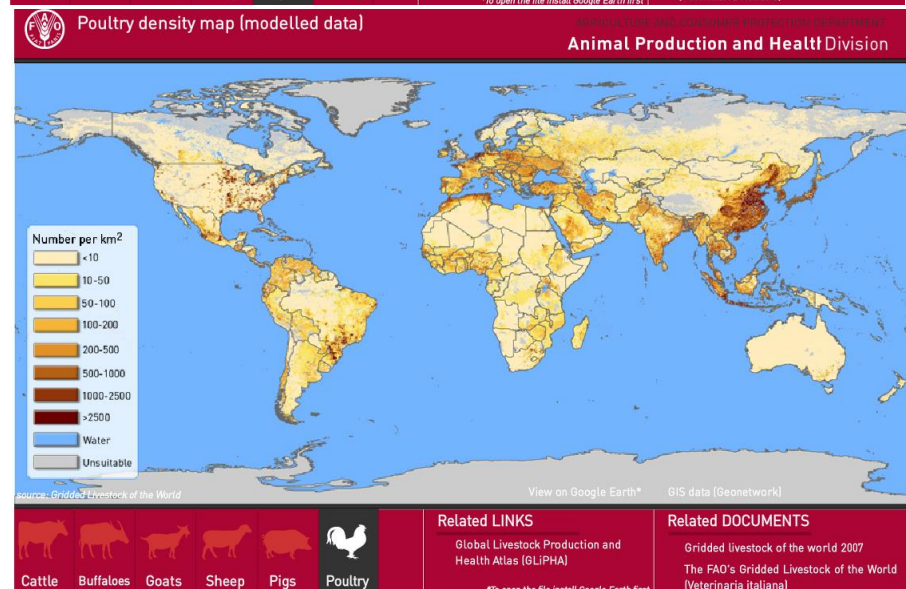
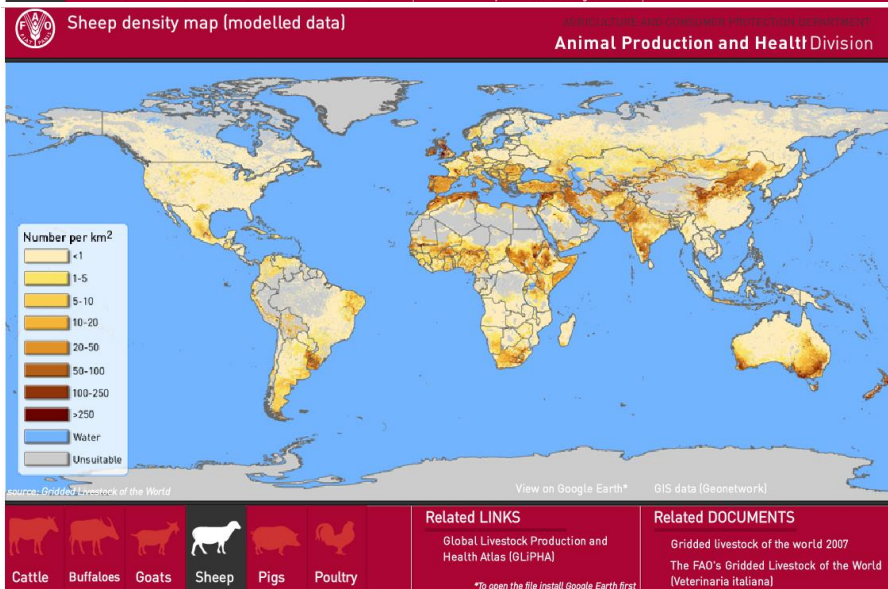
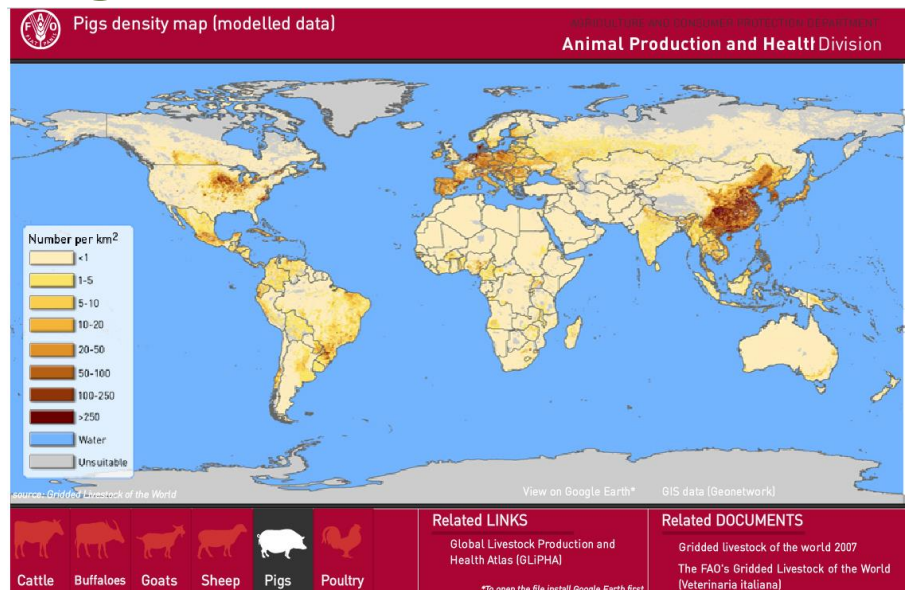
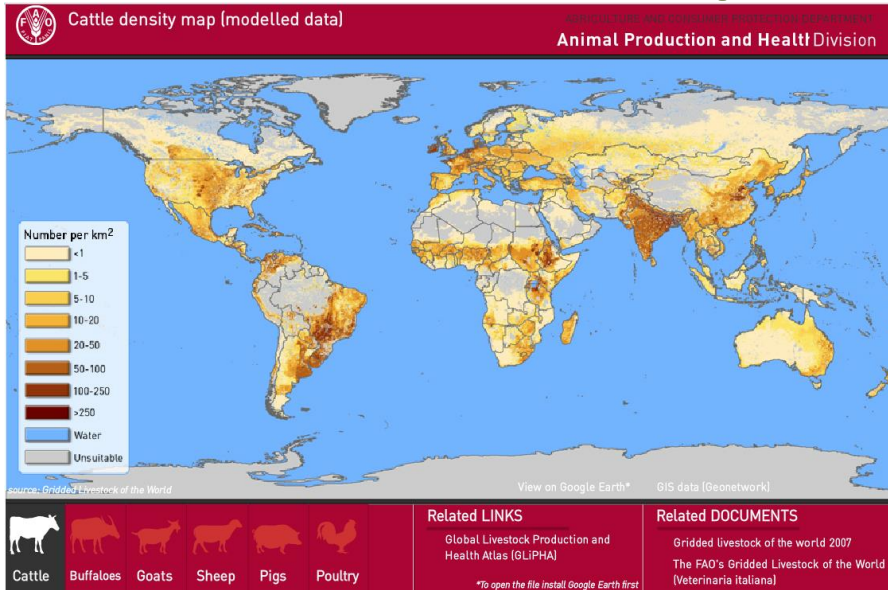
Proposed National Food Policy

Increasing access to affordable food

Conserving our soil, water and air

And without increasing the risks of epidemics

One Health: People, Pathogens and Our Planet[©]



World Bank Study: China may be reaching a tipping point with pollution of land, air and water

污染的负担在中国

COST OF POLLUTION IN CHINA

ECONOMIC ESTIMATES OF PHYSICAL DAMAGES



The World Bank
State Environmental Protection Administration, P. R. China

Pollution crisis is choking the Chinese economy

The Asian colossus is losing 6.5 percent of GDP to pollution-rated costs.

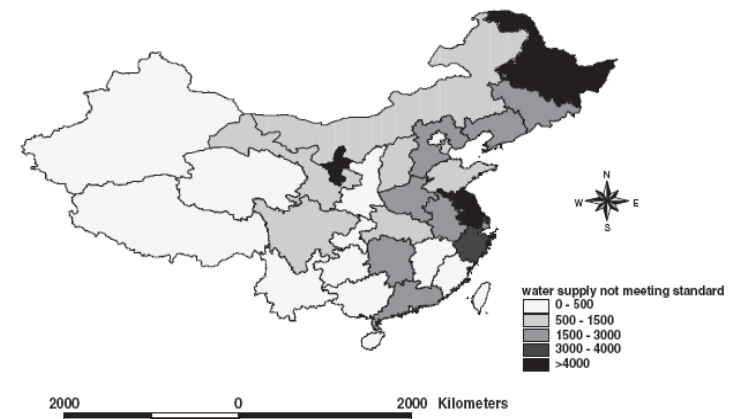
Constance Gustke, special to CNBC.com

Published 9:24 AM ET Thu, 11 Feb 2016 | Updated 9:49 AM ET Tue, 16 Feb 2016



WATER SCARCITY AND POLLUTION

FIGURE 5.2 Polluted Water in Supply in China

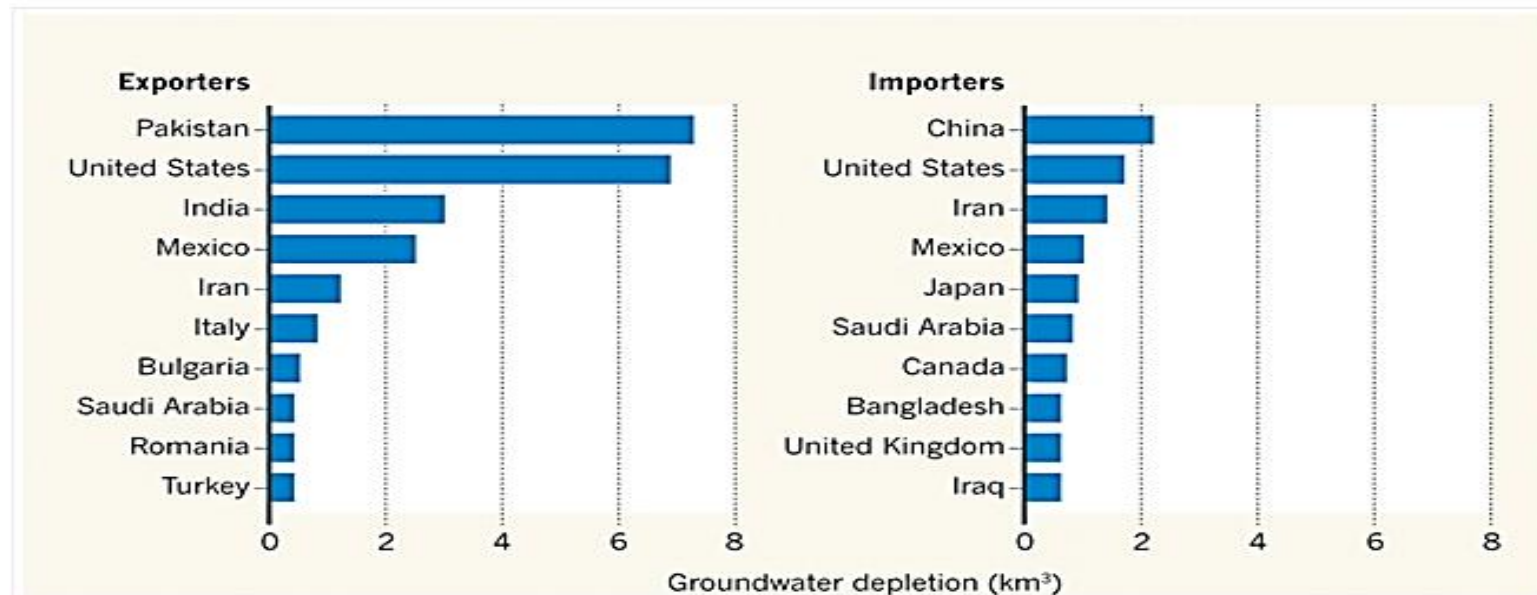


12.3 mil ha (10% of arable land) too contaminated for agriculture

Conserving soil, water and air will sustain profitable growth

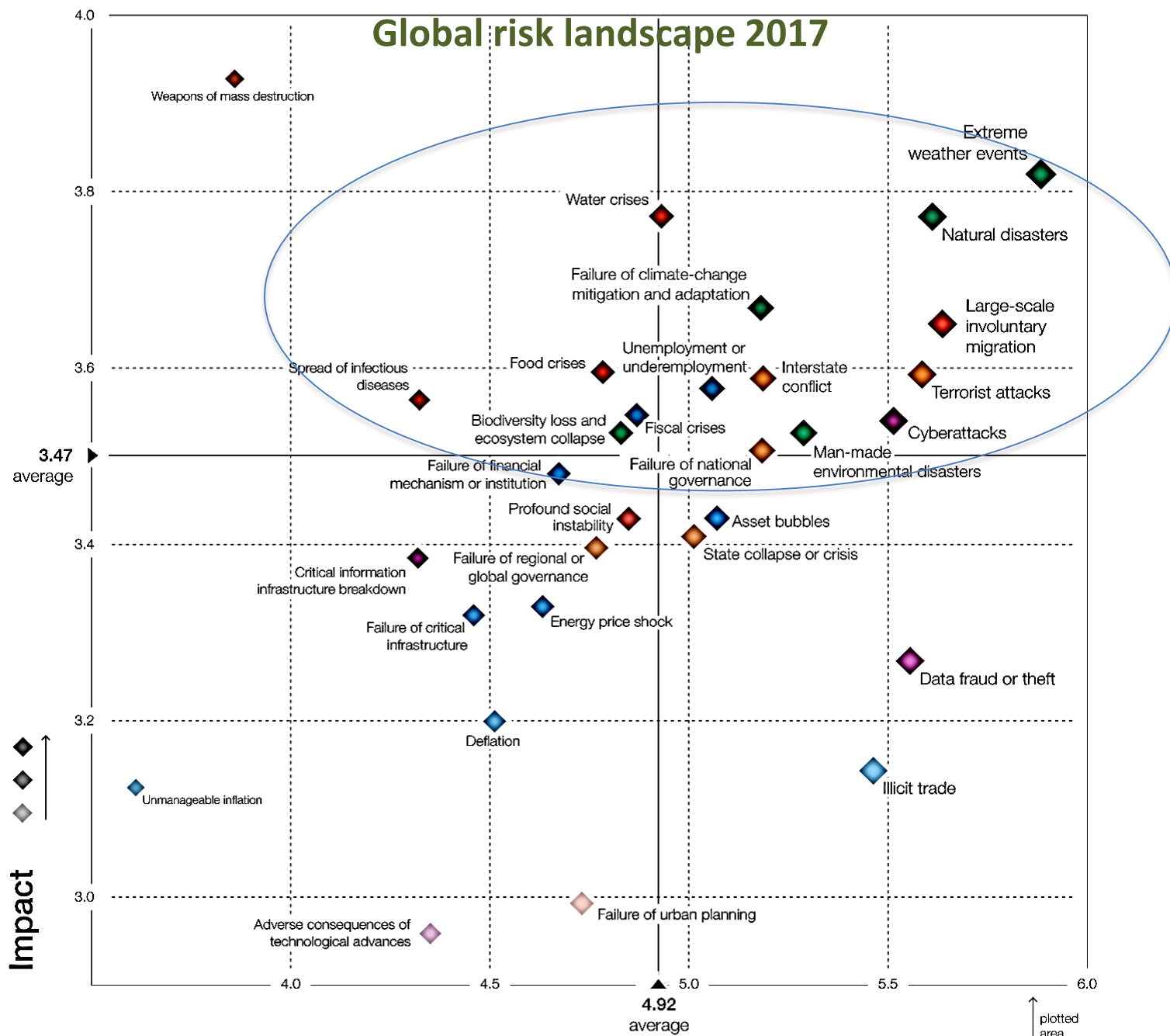
Top ten exporters and importers of ground water depletion embedded in food trade

From
Environmental science: Eating ourselves dry
Maite M. Aldaya
Nature 543, 633–634 (30 March 2017) | doi:10.1038/543633a



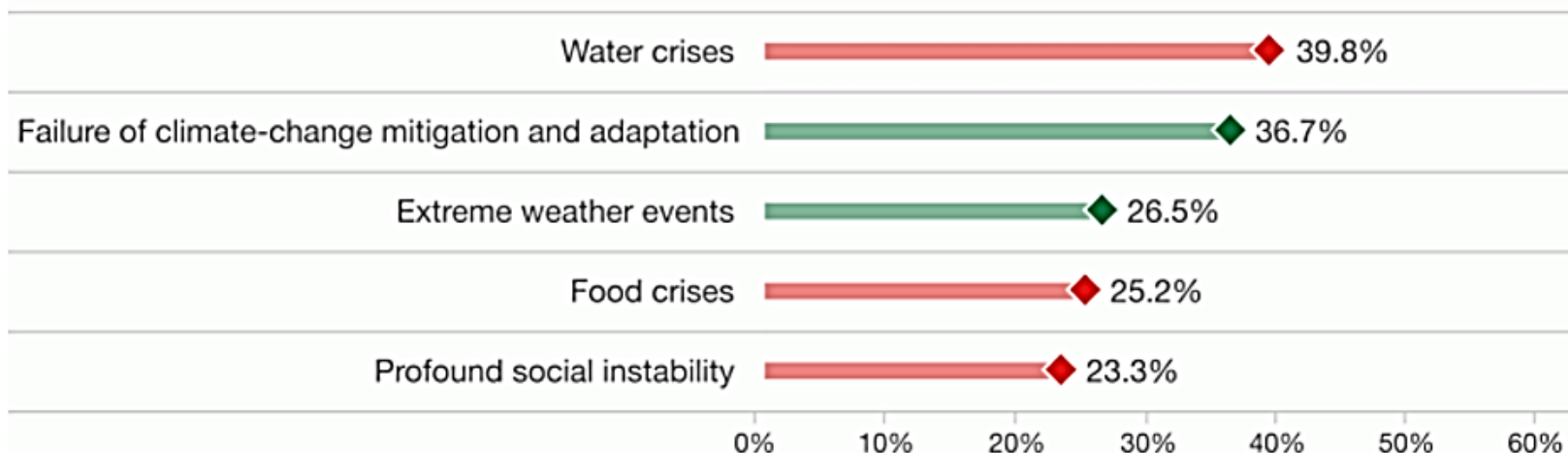
Canadian agriculture is largely rain dependent

Globally 11% of all food traded internationally relies on groundwater depletion.



World Economic Forum Global Risks

For the next 10 years



Source: Global Risks Perception Survey 2015, World Economic Forum.

Plus:

The “new” one health crisis –infectious zoonotic disease, antimicrobial resistance, mushrooming chronic disease

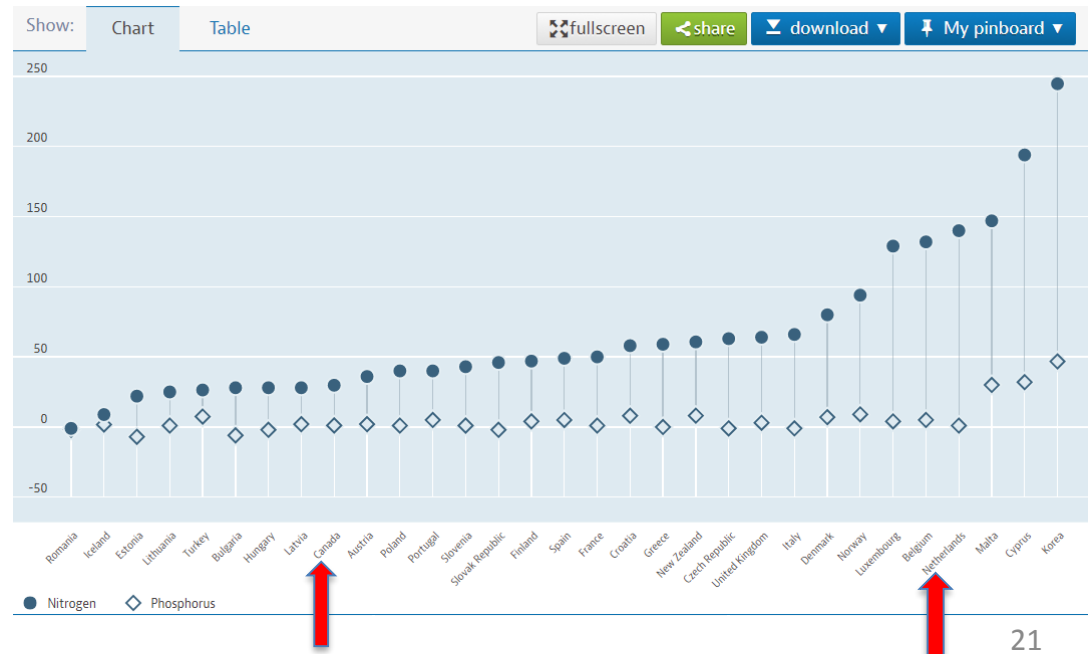
Netherlands' success growing agri-food exports using intensive production comes with high environmental cost

- Agriculture generates €10,341 million annually
- Negative externalities €1,868 million annually (mostly GHG & water)
- External benefits €263 million,
- Net external costs €1,605 million or 15.5% of production (€988.4 per hectare compared to €20 to 64 per hectare in the US) *G. Cornelis van Kooten, et.al.*

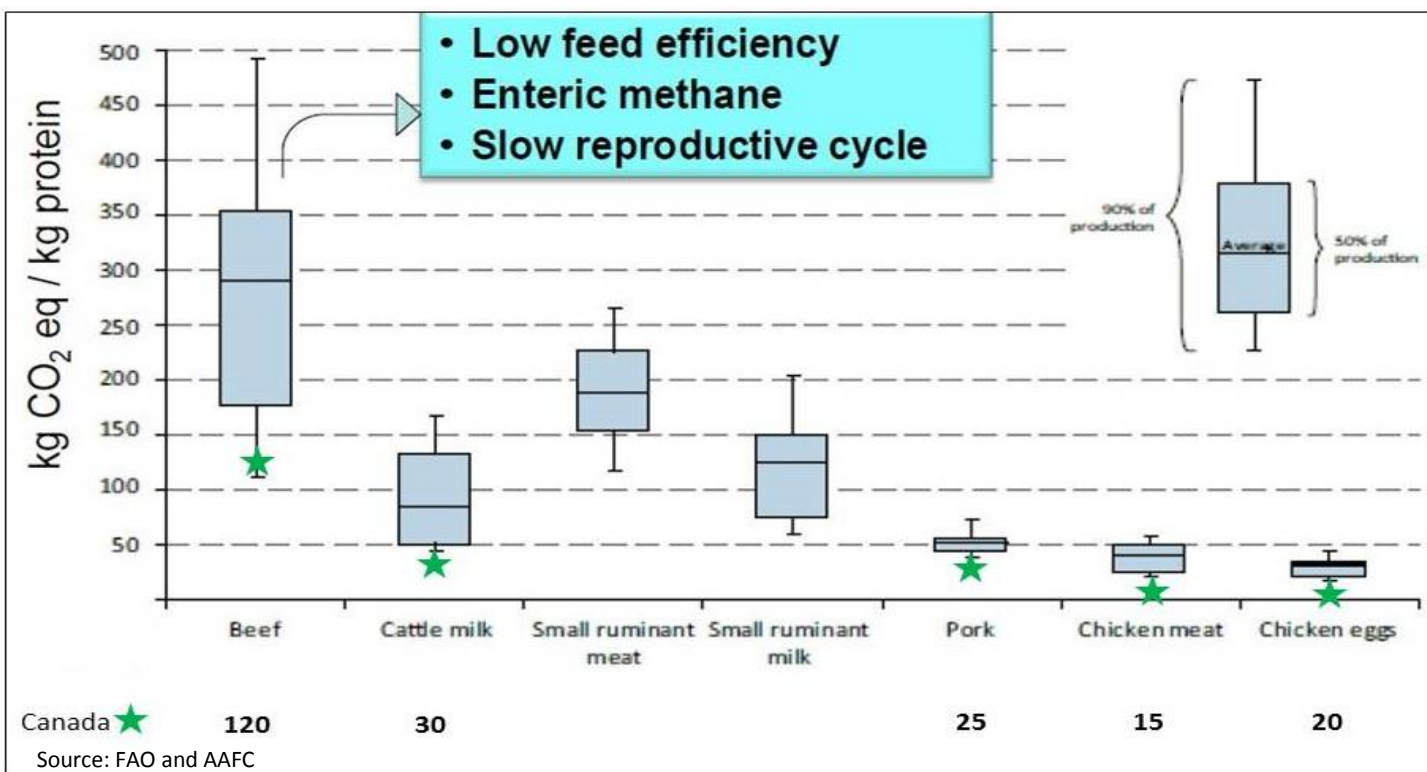
theguardian

Farming is 'single biggest cause' of the worst air pollution in Europe. Nitrogen compounds from fertilisers and animal waste drifting over industrial regions is combining to form fine particulate pollution.

Nutrient Balance Nitrogen / Phosphorus, Kilograms/hectare 2014



Canadian agriculture has steadily reduced GHG emission intensity in livestock



Canada is one of the most GHG efficient producers of animal protein. How do we achieve CO₂-e neutrality and how do we leverage this?

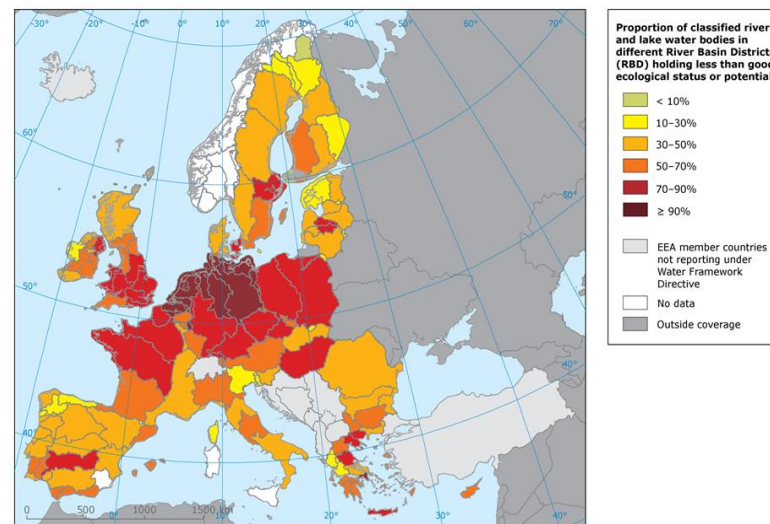
Can we compete with domestic subsidies of others

Key findings of the EU Agri Committee of the European Parliament :

- For bovine meat sector the level of support was 100% of total net farm income
- For dairy sector the level of support was 49% of total net farm income
- For cattle sector the level of support was 57% of total net farm income

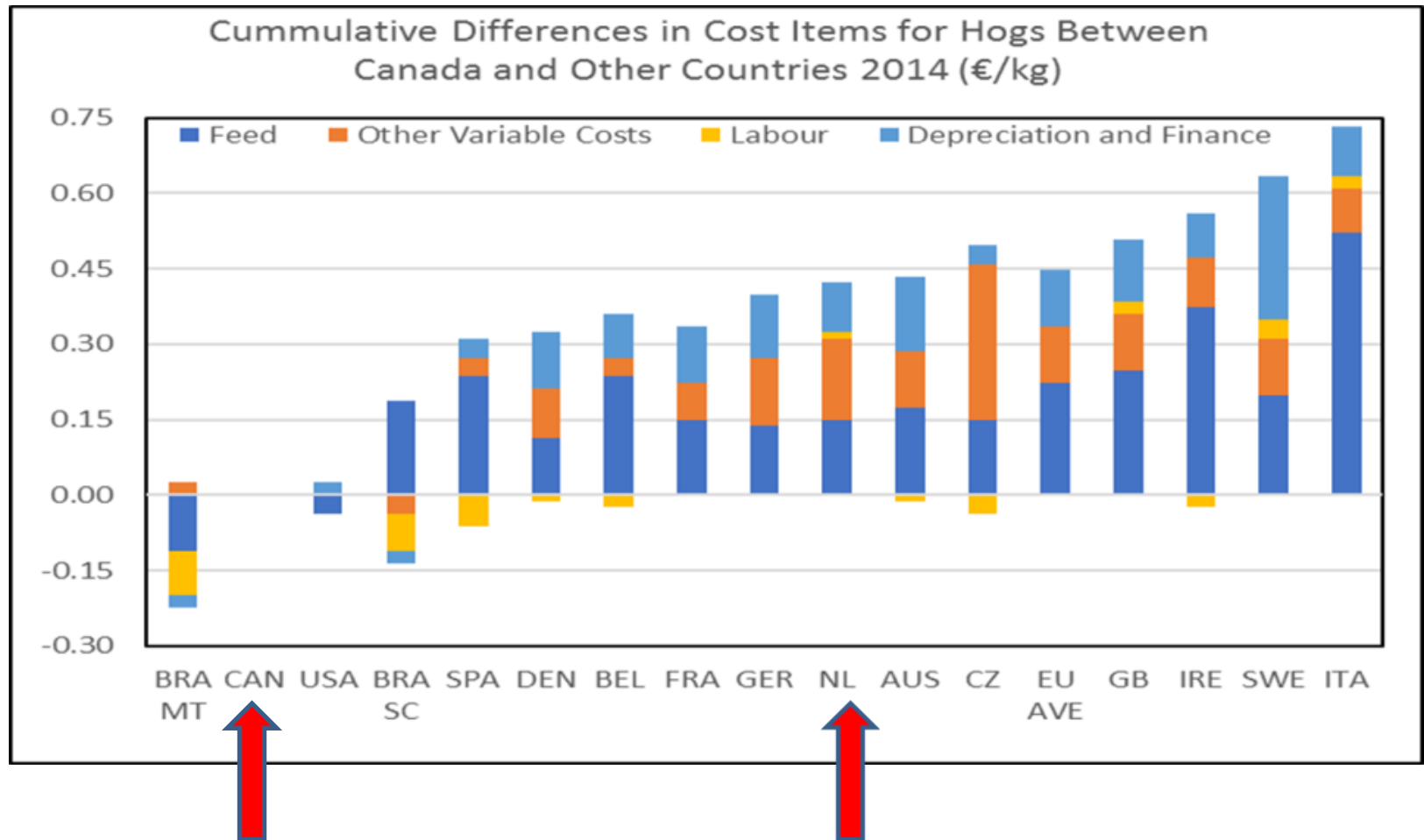
Source: EU-DG for Internal Policies Research for Agri Committee-The EU Cattle Sector: Challenges and Opportunities-Milk and Meat, 2017

Proportion of river and lakes with less than good ecological status or potential



...without destroying our natural capital!

Canada is also one of the lowest cost producers of hogs while Netherlands benefits from large E.U. subsidies

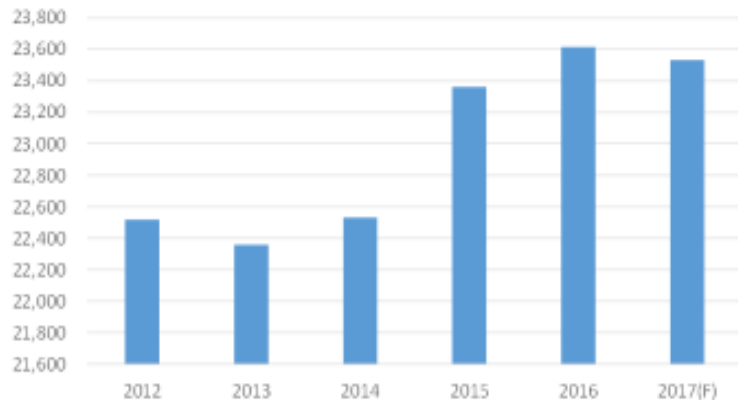


Source: Agri-Food Economic Systems Trade study prepared for CAPI, 2 May 2017, page 128, figure 5.20

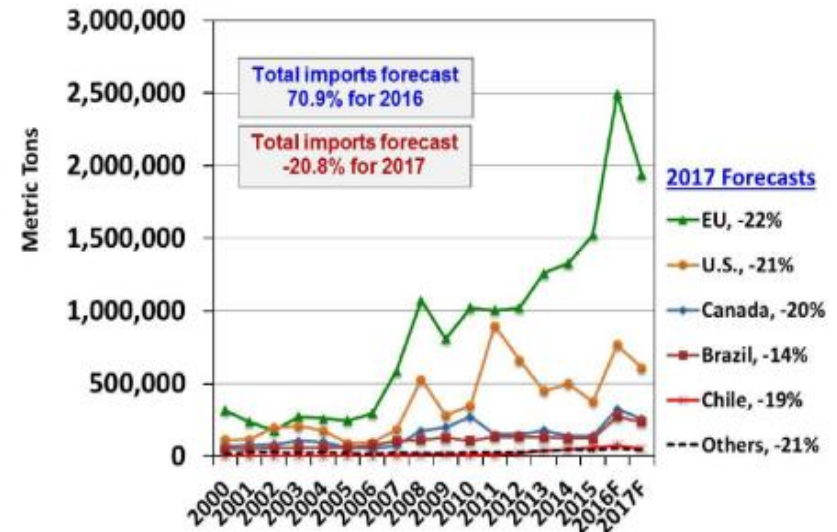
Subsidized high cost producers glut the growth markets

EU Pork Production

unit:'000 mt carcass



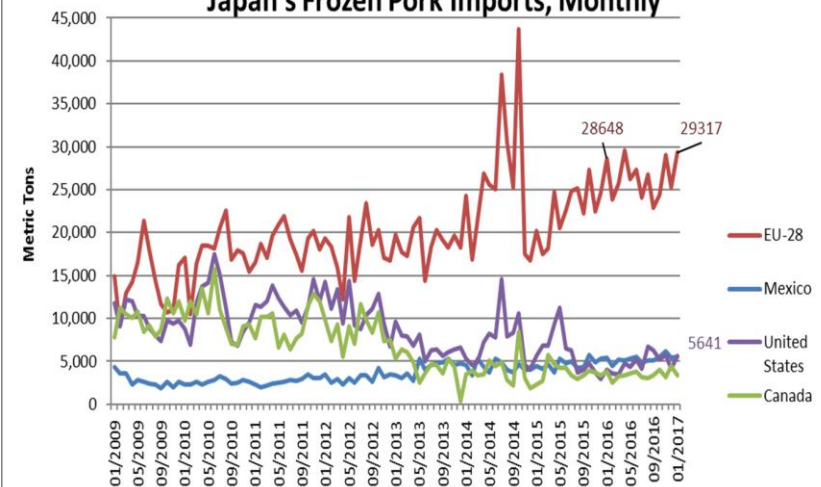
China+Hong Pork Imports



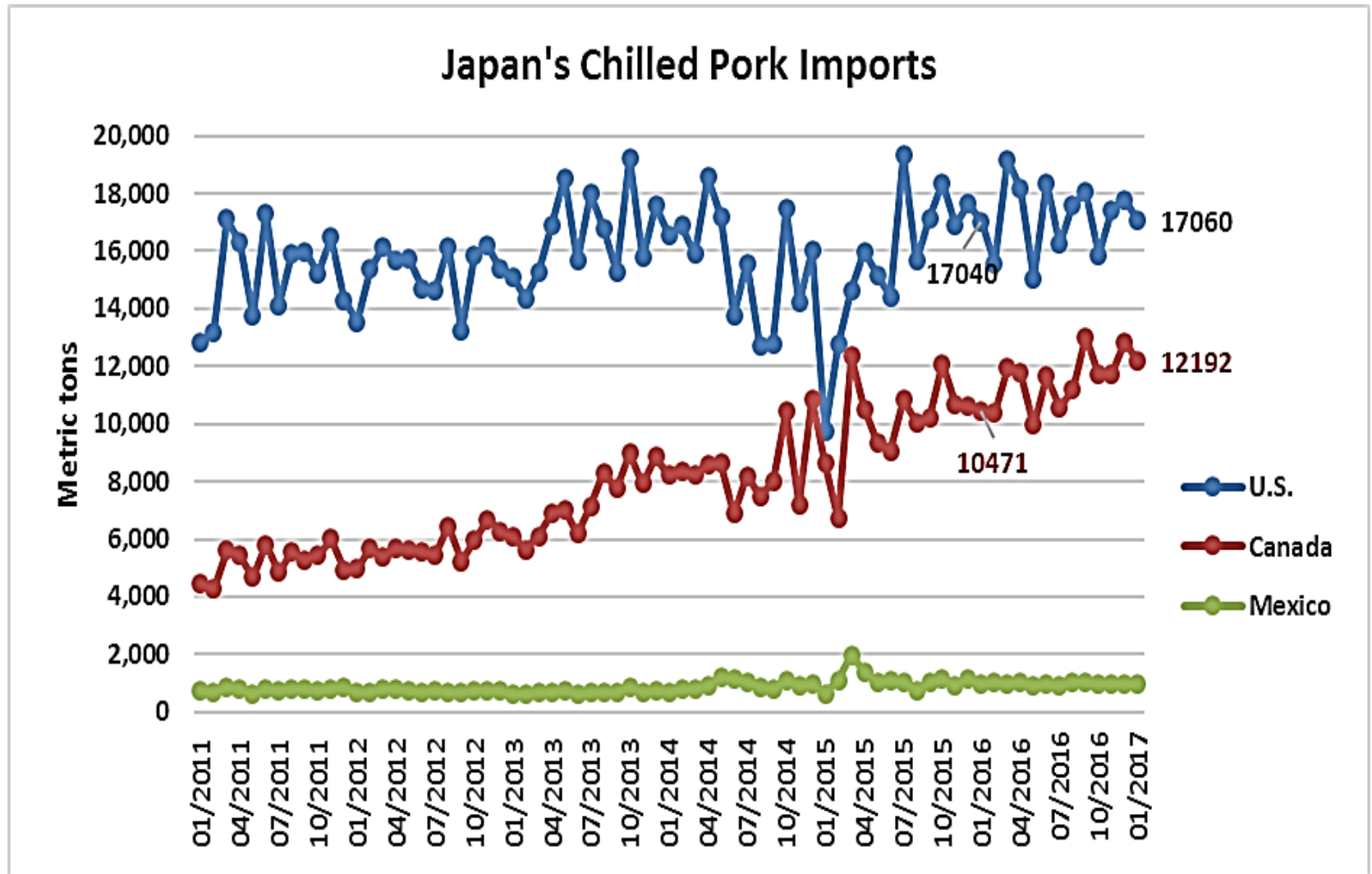
Source: BPEX, USDA, U.S. Fed, AgriTrends, includes variety meats

40
Global AgriTrends

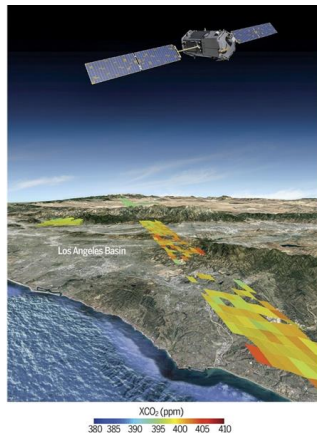
Japan's Frozen Pork Imports, Monthly



Canada can succeed in high-value products such as chilled pork exports to Japan



Monetizing “trust” will require accountability, transparency & authenticity throughout the production system



Traceability

- unlocks value in provenance, ethics, health & sustainability
 - Maple Leaf Foods multi-year trial of DNA traceability – only imported branded pork in a major Japanese supermarket at the time

Identity and authenticity

- Reduces food fraud & specific pathogen ID & tracks new life forms
 - linked to International Bar Code of Life in use by Canadian Food Inspection Agency

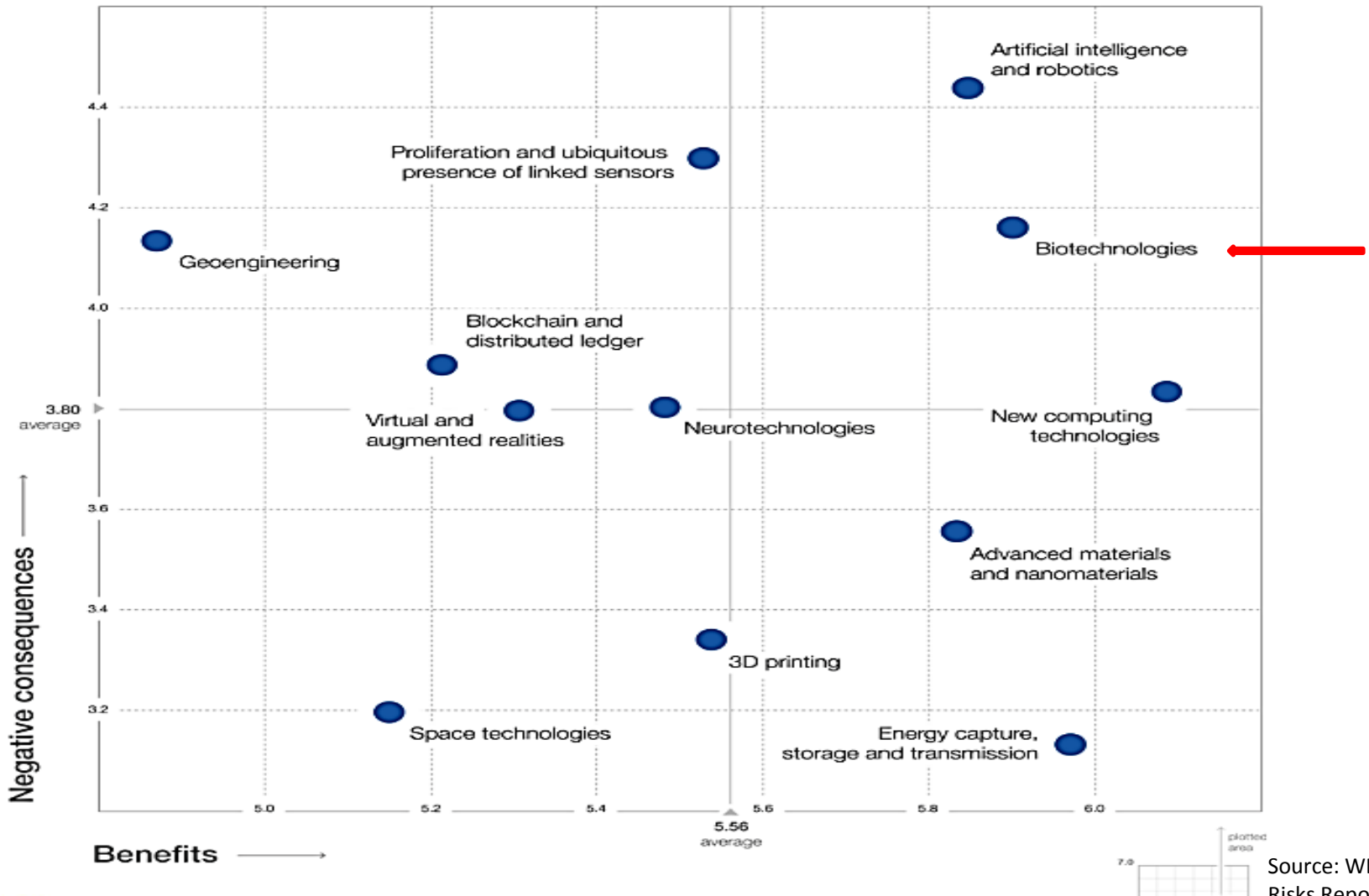
Transparency

Remote sensing provides field level results for GHG production or mitigation

- Will lead to a value for sustainability

Technology could help but has to build trust

Perceived benefits and negative consequences of 12 emerging technologies



Source: WEF, Global Risks Report 2017.

The new world of risks and opportunity

Drivers of change for Canadian agri-food sector:

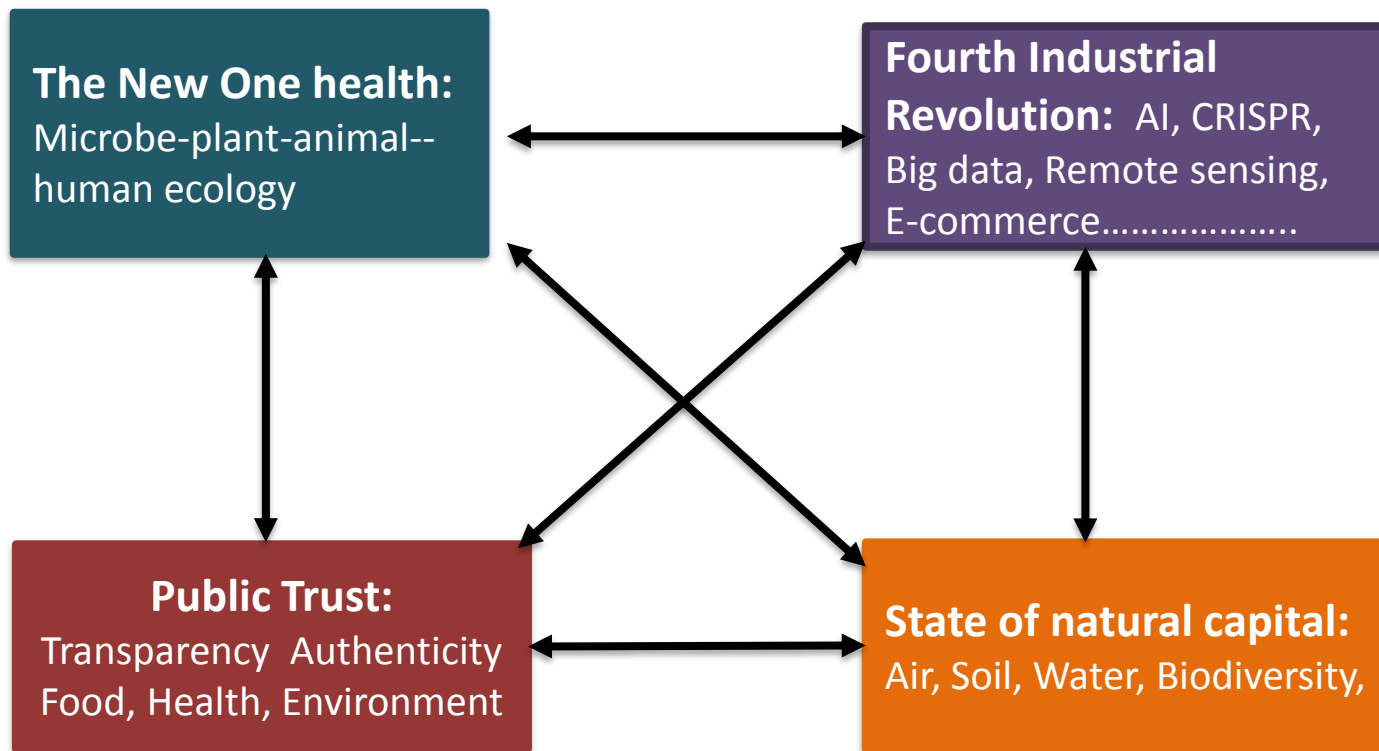
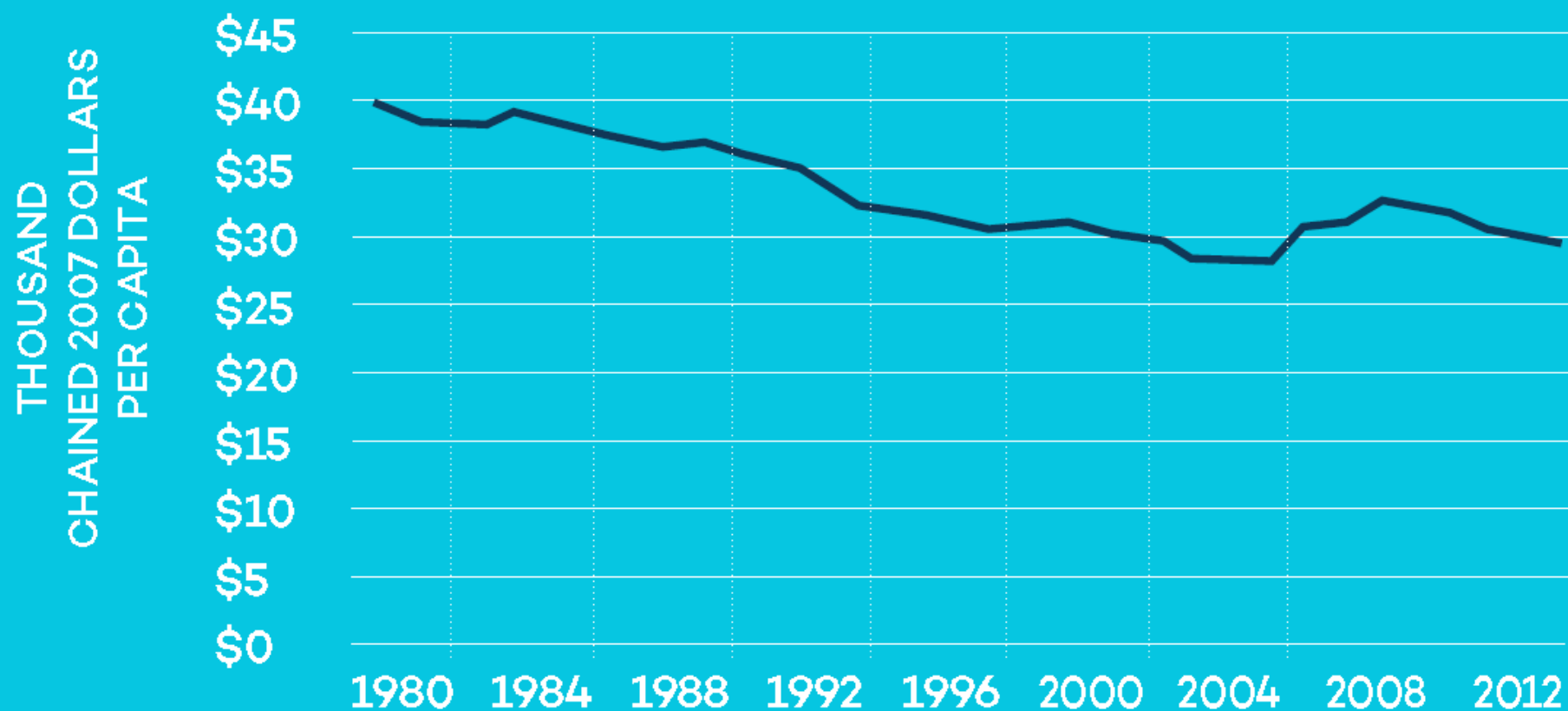
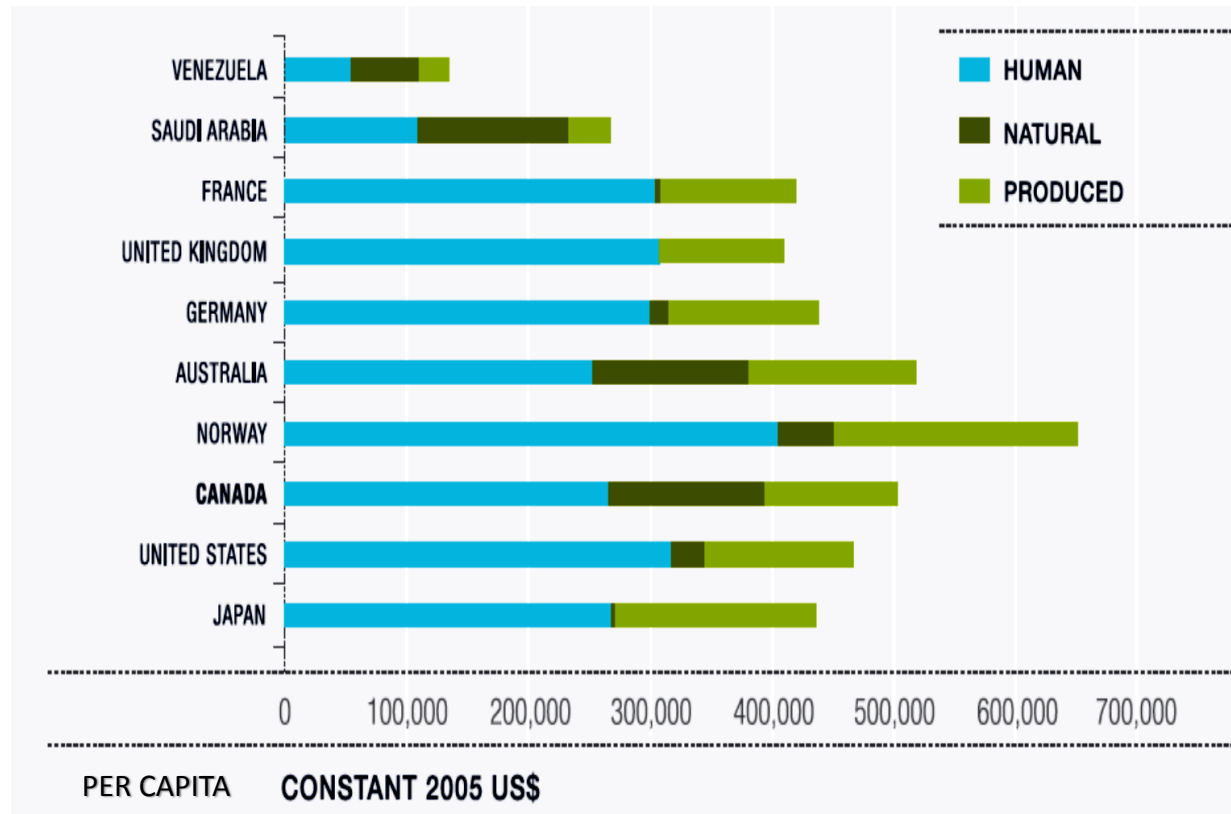


Figure 2. **Natural capital per person, Canada - 1980–2013**

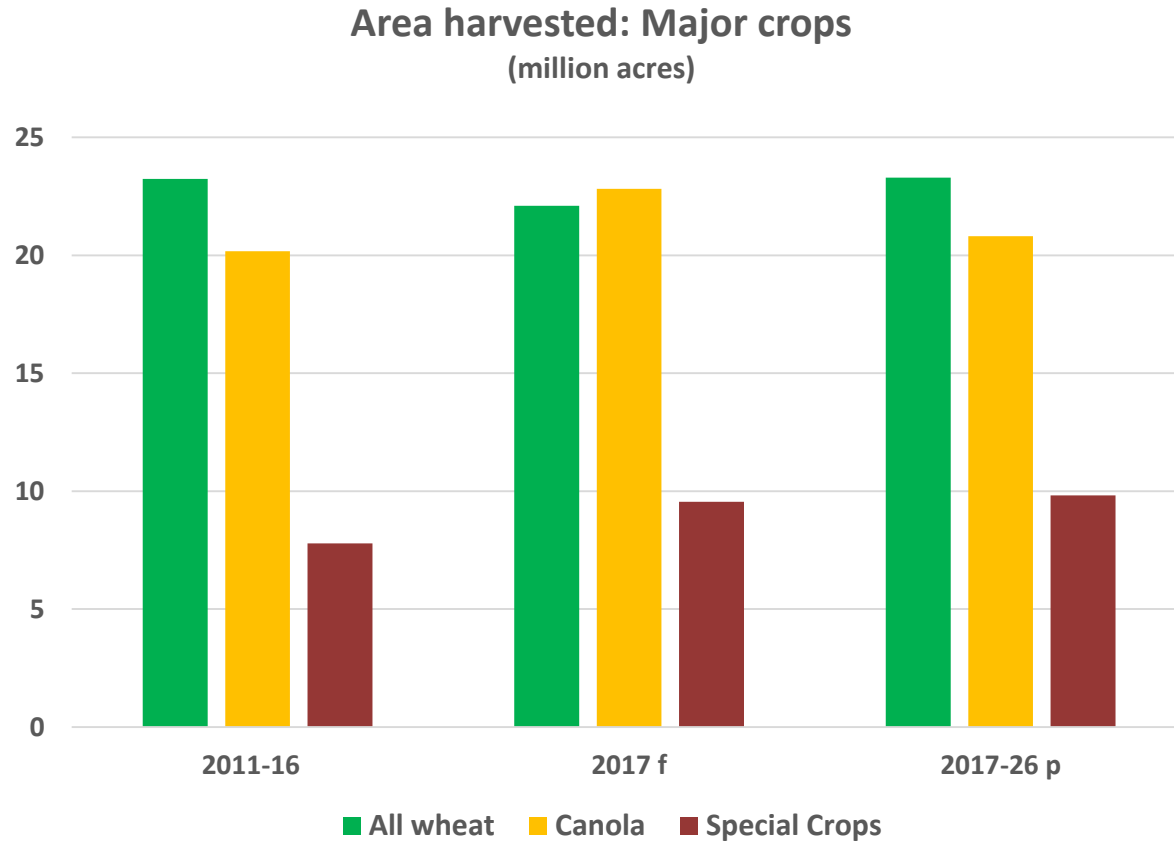


Optimizing Growth: Balanced growth in inclusive wealth



Source: Smart Prosperity Institute

Growth will have to come from innovation and high value products

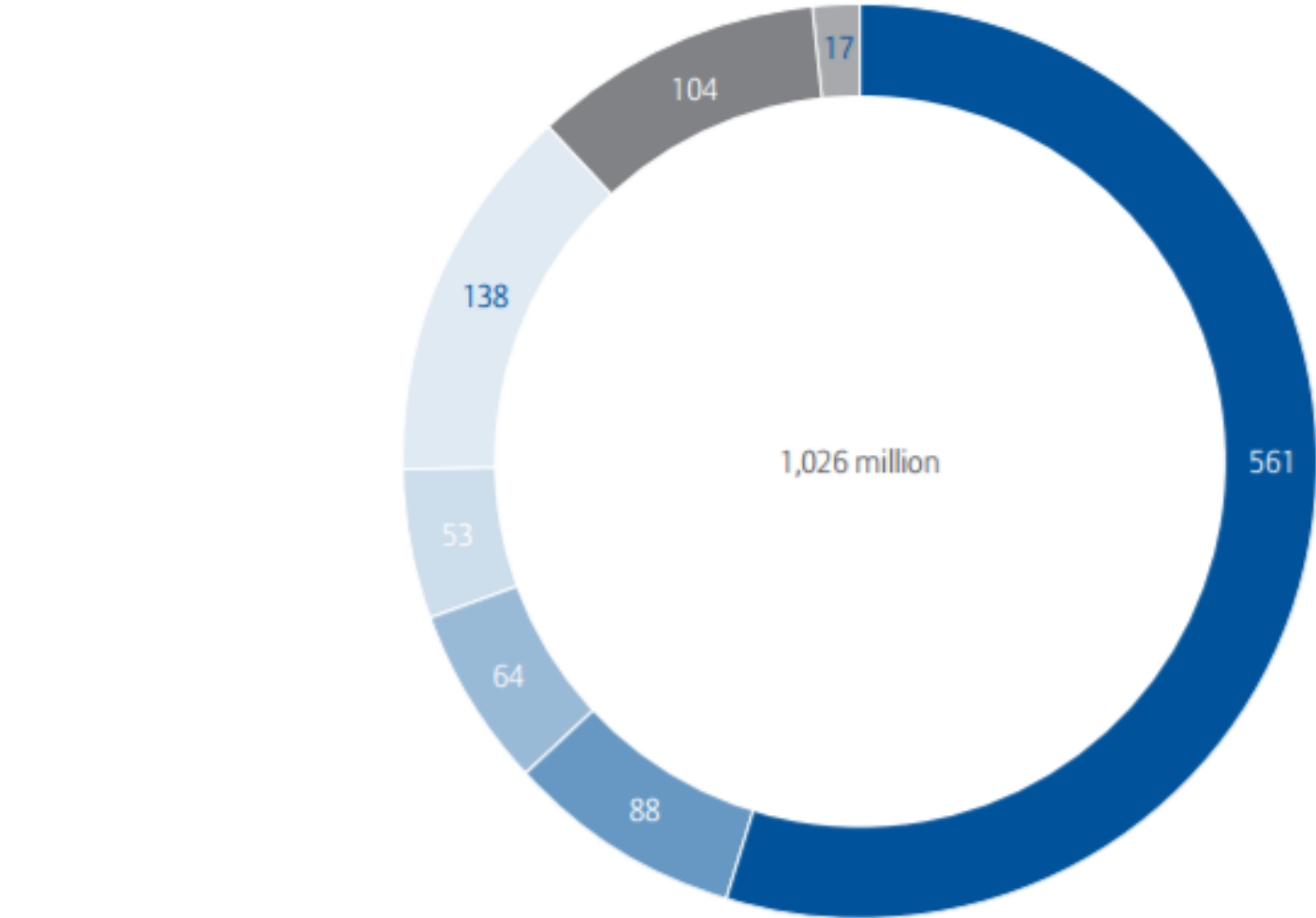


Source: AAFC-MTO 2017

AAFC, Canada: Outlook for Principle Field Crops, October 13, 2017

Wealth middle class speaks Chinese

Wealth middle class by region, in million



- China
- Latin America
- Western Europe
- Rest of Asia
- Eastern Europe
- North America
- Oceania/ South Africa

Sources: National Central Banks and Statistical Offices, UN Population Division, UNU WIDER, World Bank, Allianz SE.