Environmental Challenges for the Livestock Sector

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Background

About the OECD

The OECD

The Organisation for Economic Cooperation and Development is an inter-governmental organisation financed by its 34 member countries with increasing outreach to other countries

Aim is to foster global economic growth, sustainable development and prosperity and act as a hub for globalization

Addresses common policy issues through dialogue among countries, based on analysis and comparative statistics

OECD value-added

- Comparative and consistent data and projections
- Bridge between academic research and policy communities
- Objective policy analysis & advice using economic tools
- Cross-cutting research (horizontal projects across several OECD departments – incl. water & climate)
- Interactive dialogue and sharing experiences among Member countries and with civil society stakeholders
- Engagement of non-OECD countries in work
- Public dissemination and communication of results

Challenges

More production, better environment

What are the challenges?

- **Sustainable (green) growth is about maximising economic growth and development while reducing pressure on natural assets.**

  - Provide enough food, feed, fibre and fuel from agricultural and fisheries resources for a growing and richer population…
  - …in a context of greater pressure on land, water, fish stocks and biodiversity resources - and the impact of climate change…
  - …while limiting the harmful and enhancing the beneficial environmental impacts of production and addressing social concerns

- **Overall environmental footprint will increase, but footprint/capita would fall if resource productivity rises faster than population (decoupling of env and GDP)**
- **…and the right incentives and disincentives are in place**

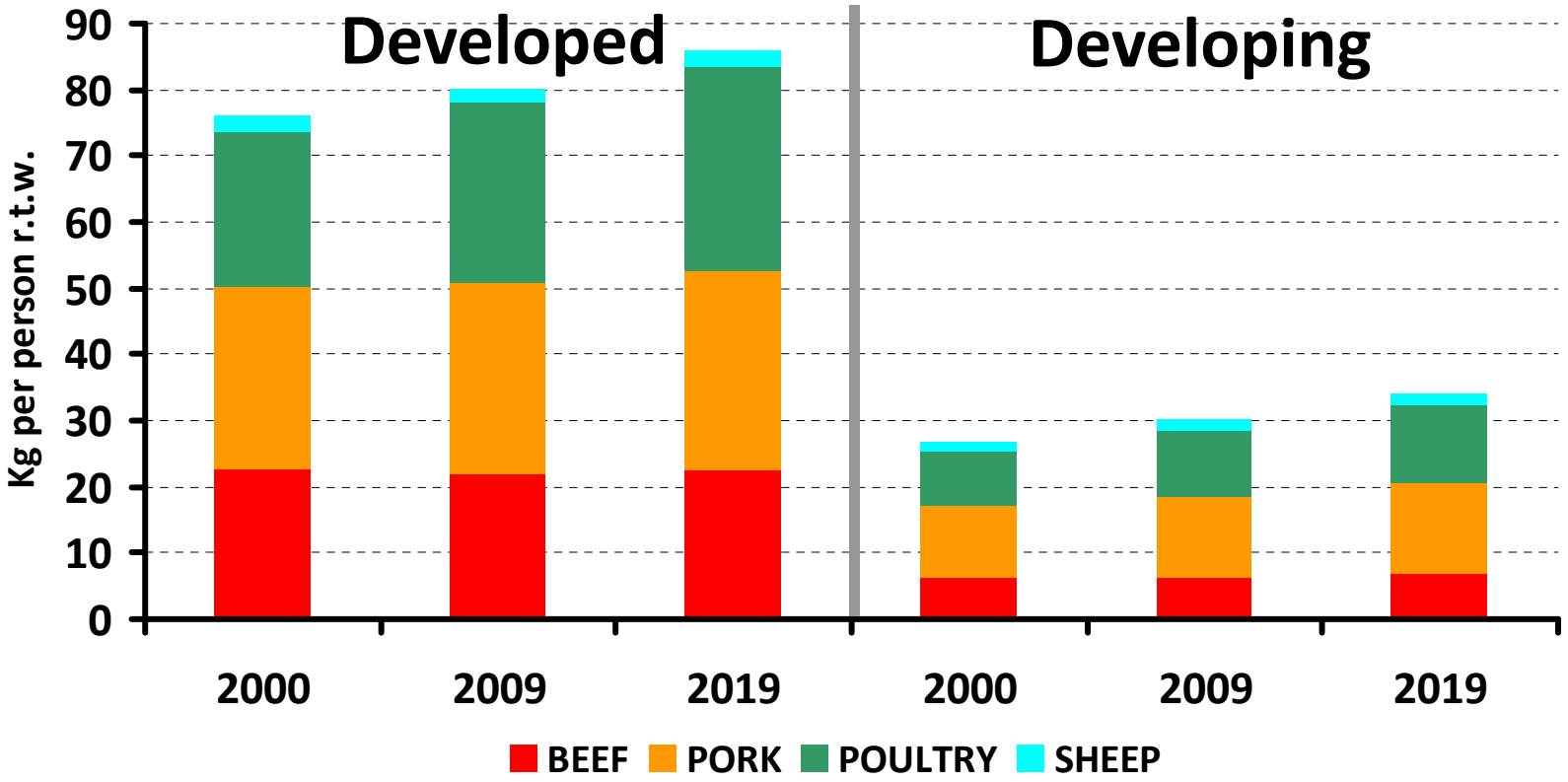
Future demand drivers

- Population growth
- Income growth
- Urbanisation
- Change in diets
- Responsiveness to prices/income
- Biofuel mandates

…. implications for livestock industries

- A larger and richer population in non-OECD countries will have a higher demand for livestock products and cause more environmental pressure
- Complex and diverse linkages between livestock production and environmental impacts
- Doubling meat production projected from 1990 to 2050 would mean a 60% rise in methane emissions (plus nitrous oxide emissions), business as usual, but vast potential to increase meat/GHG emissions
- In developing countries livestock indispensable as source of income and nutrition – currently 800 million --???future???

Per capita meat consumption trends

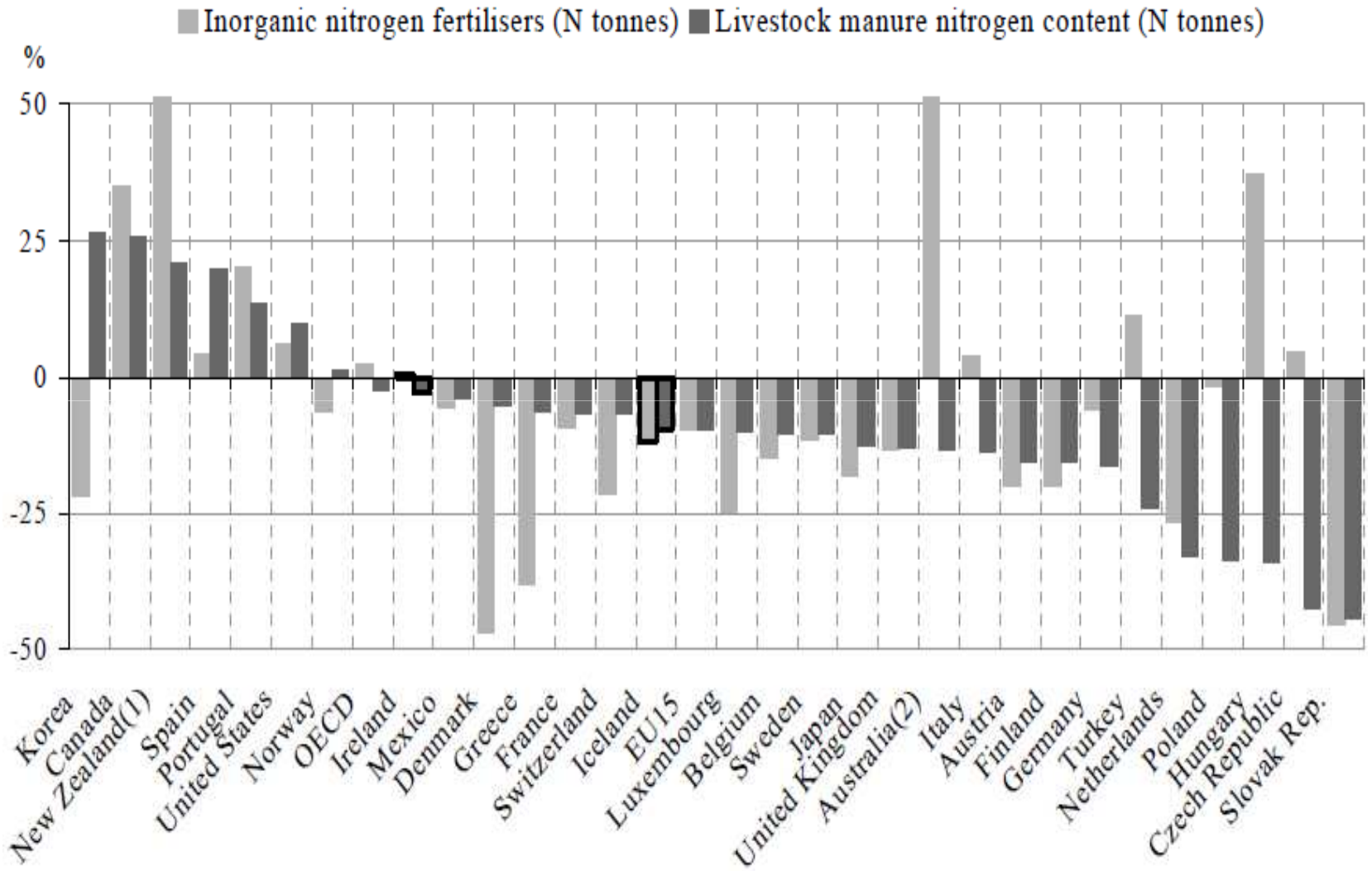


Context

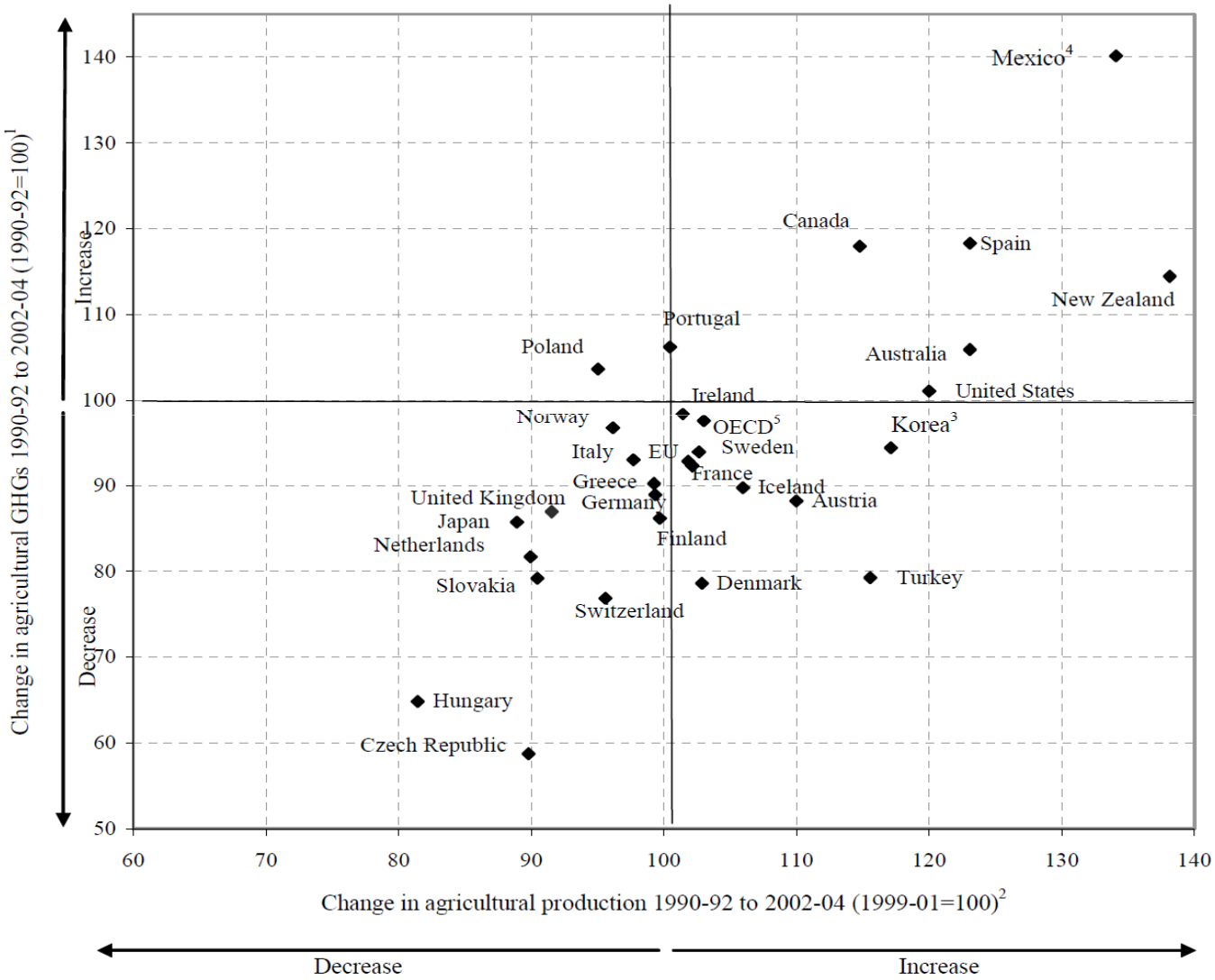
Environmental Footprints

Public image of agriculture ….

Change in Nitrogen Input, 1990-92 to 2002-04



Change in Agric. Production and GHG emissions 1990-2 to 2002-04



OECD's *Green Growth Strategy*

- The GGS is about **maximising growth** (well-being) and development while **avoiding unsustainable pressures** on the quality and quantity of natural assets
- Key requirement is **accounting for the:**
  - contribution of environmental services to production
  - contribution of environmental services to well-being
- This leads to **reframing growth policies** because governments need to :
  - Identify and prevent impediments
  - Evaluate risks of crossing critical thresholds
  - Seize new growth opportunities

A Green Growth Strategy for Food and Agriculture

- This is a first stage in a process to mainstream green growth
- Some countries have already started to move on to a more sustainable, greener growth pathway
- OECD mainly focuses on agricultural production in OECD countries, but co-operation is already underway with FAO
- Three key issues:

1. Which technologies and practices will deliver green growth?
2. Which policies and policy mixes will facilitate green growth?
3. Which indicators to measure progress towards green growth?

What are the policy priorities?

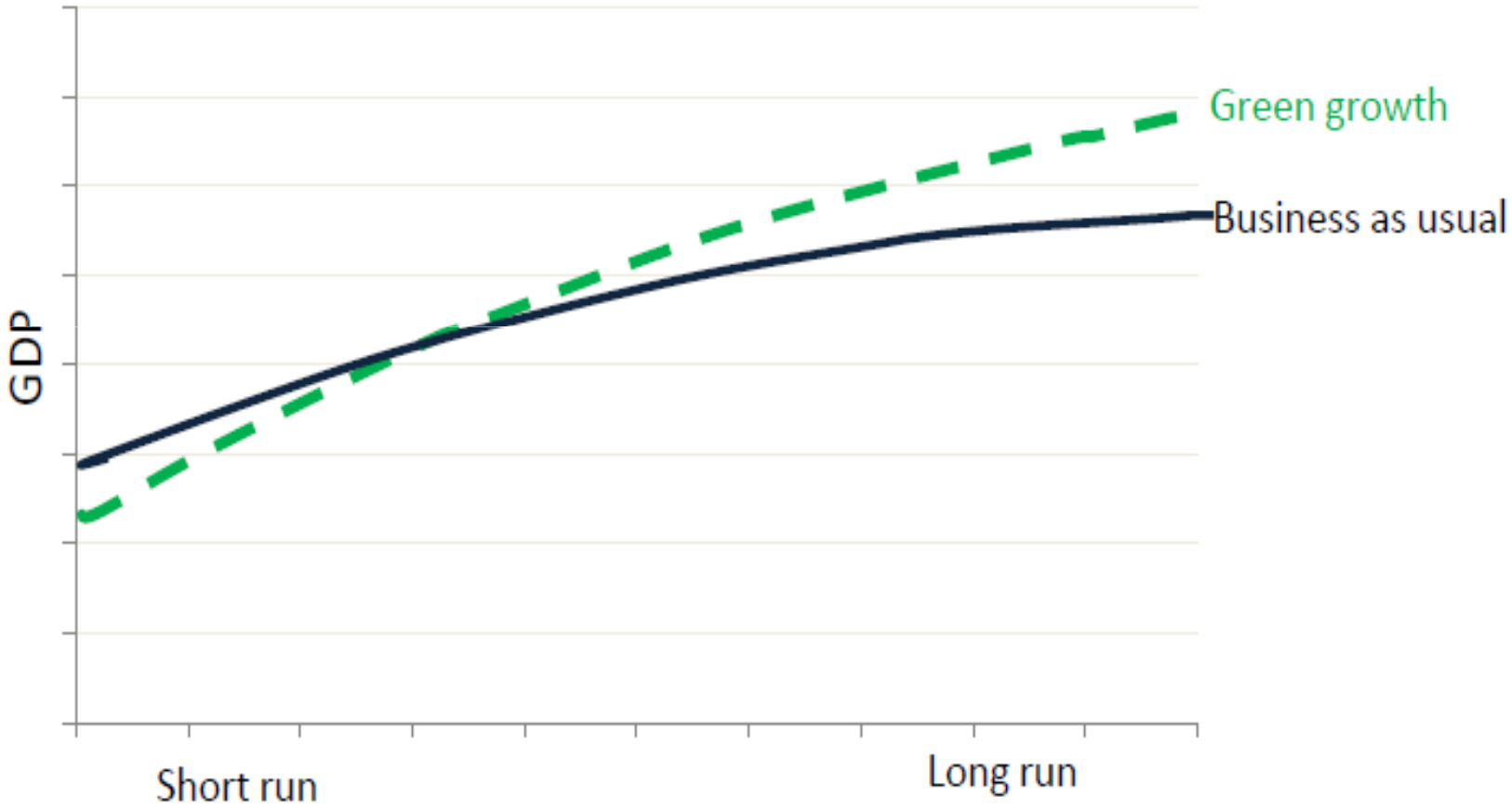
- Increasing **productivity** – from research and development, innovation, to farmer uptake
- Fostering **well-functioning markets** and getting the prices right – taking account of non-market values
- Improving **governance**, property rights and institutions – a framework for green growth policies

BUT

These priorities aren't new – but it's often difficult to overcome **obstacles to implementation**

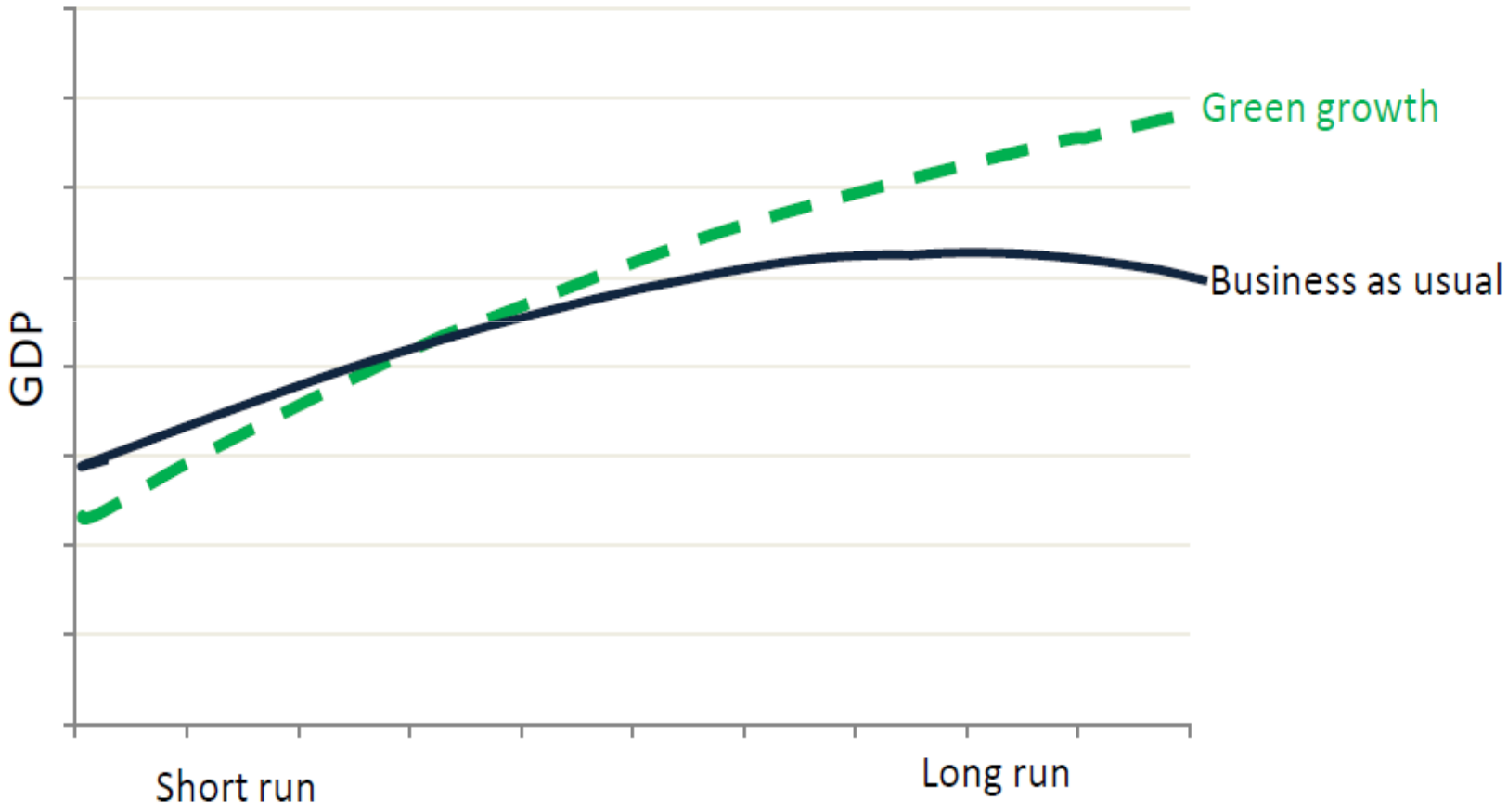
A view of possible growth pathways?

Possible growth scenarios



A view of possible growth pathways?

Possible growth scenarios



How can we measure progress?

- No unique *quantifiable* indicator to track environmental impact of agriculture and food
- Conventional economic indicators are distorted by policies, underpriced natural resources and non-internalised externalities
- Need *qualitative* indicators too – to capture food system governance, institutions, changes in policy directions and management approaches
- More work is needed on relating environmental footprints to agriculture and food sector growth

Actions

Policy Responses

Which policies?

- **Producers and consumers need to face the right incentives**
- **Decoupling and cross compliance (EU, US, Switzerland)**
- **Targeted payments (US Environmental Quality Incentives Program (EQIP) spends 60% on issues related to livestock production, mostly manure management)**
- **Investment subsidies to improve manure management and storage (EU countries, Korea), for anaerobic digesters….**
- **Regulations concerning manure handling and storage**
- **R&D: livestock feed, genetics; advice, information, training**
- **Certification and labelling (environmental footprints)**
- **Carbon price, carbon sequestration potential of pasture**

Conclusions

Final thoughts

Propositions

- Increasing agricultural and food production will increase overall environmental footprint – but not necessarily per unit of food if the mix of food produced changes or it is produced differently

- Converging food consumption trends between OECD and emerging economies will have higher environmental footprints than just switching to less meat consumption in OECD countries

- Producers and consumers need the right incentives (financial viability) or disincentives (regulations/penalties) – or are self-motivated - for changes to take place

Research Priorities for the Livestock Sector

- **Livestock sector will not be immune from taking action on environment and climate change goals – but they also have a positive message to communicate!**

- **Technical and economic linkages: analysis of impact on the environment, policies and regulations on the economics of local, diverse livestock systems**

- **Life cycle analysis: understanding the methodologies and measurements of LCAs for livestock chains – and moving towards agreed protocols**

- **Data gaps: identifying where more or better data is needed – for good industry actions and policy advice**

OECD Trade and Agriculture

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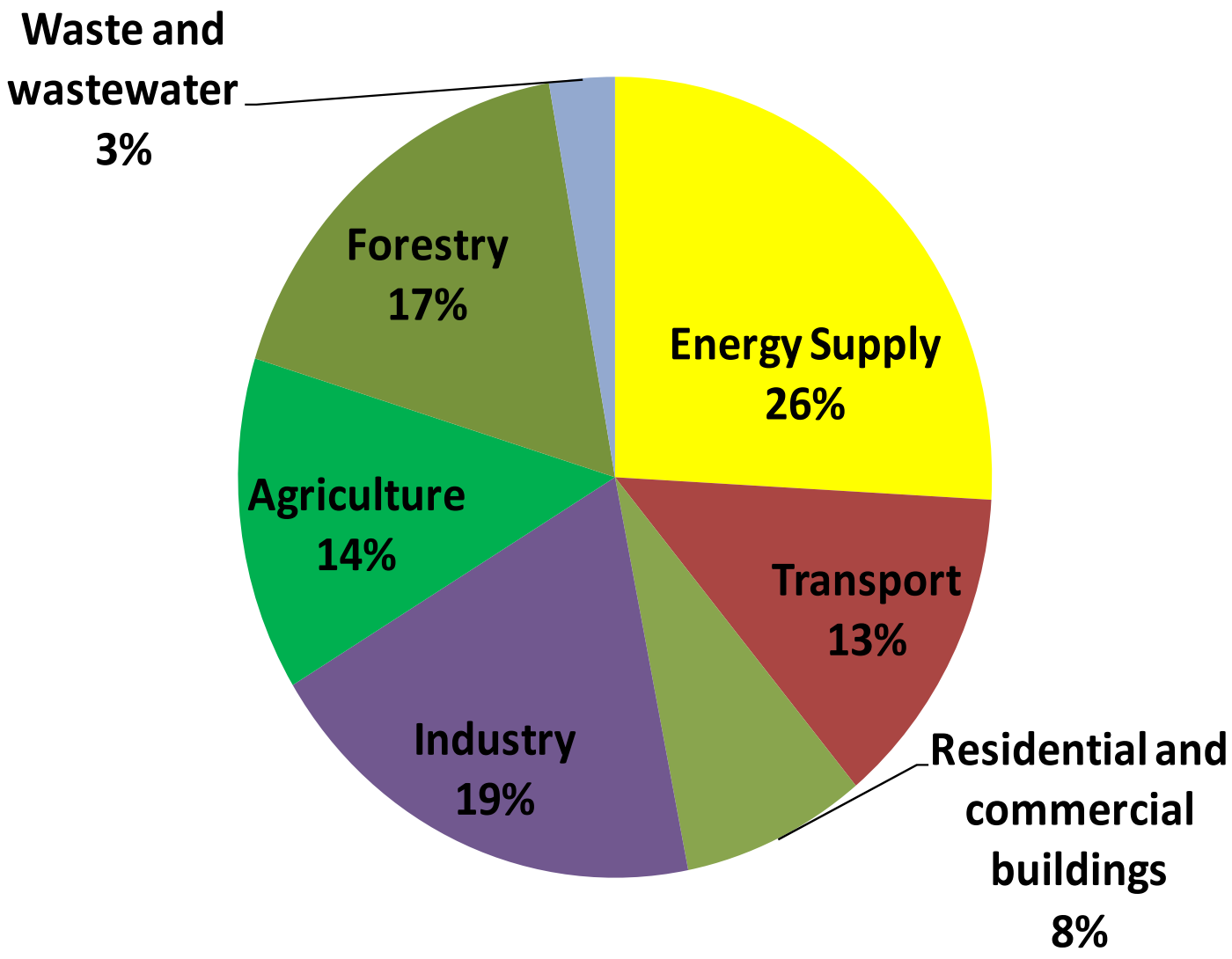
- **ADDITIONAL BACKGROUND SLIDES**

Livestock globally accounts for….

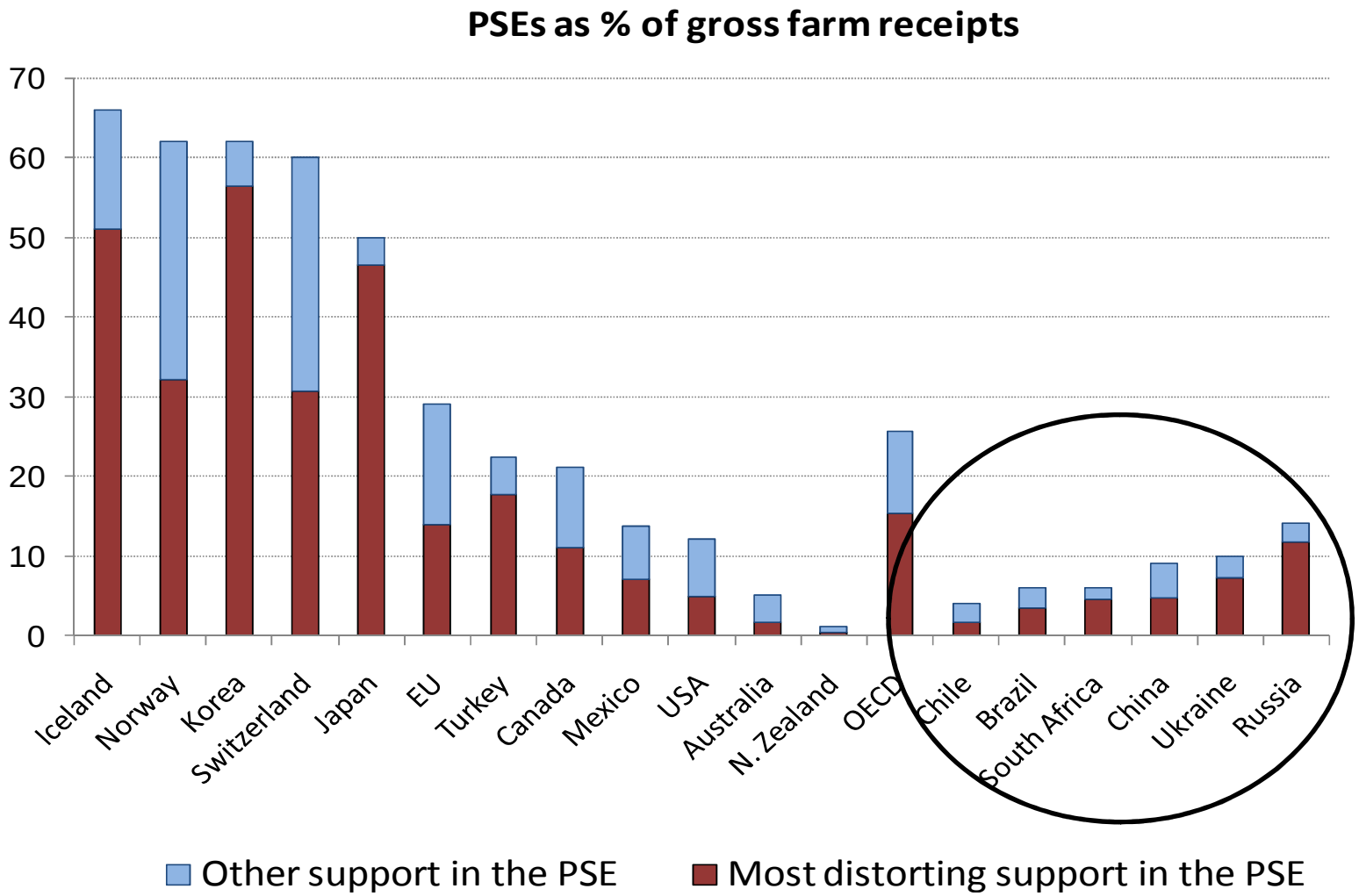
- 70% of agricultural land, directly or indirectly (feed)
- 40% of agricultural GDP, employs 1.3 billion people and supports livelihoods of 800 million smallholders in developing countries
- 17% of calories and 1/3 of protein
- Around 18% of global GHG emissions – depends on methodology used (emissions factors), boundaries of livestock systems, accuracy of livestock and land use data, but also big diversity across countries, systems

Global Emissions of GHGs

(IPCC data for 2004)



Producer support, 2005-07 average



OECD Agri-environmental Policy instruments

Measure/Country	AUS	CAN	EU	JAP	KOR	MEX	NZL	NOR	SWI	TUR	US
Regulatory Requirements	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Environmental cross-compliance	NA	NA	XXX	X	X	NA	NA	XX	XXX	NA	XXX
Payments based on farming practices	X	X	XXX	X	X	X	X	XX	XXX	X	XX
Payments based on land retirement	NA	X	X	NA	NA	X	NA	NA	X	NA	XXX
Technical assistance/extension	XX	XX	X	X	X	X	XX	X	X	X	XX
Environmental taxes/charges	NA	X	X	NA	NA	NA	NA	X	NA	NA	X
Tradable rights/permits	X	NA	X	NA	NA	NA	NA	NA	NA	NA	X
Community based measures	X	NA	NA	NA	NA	NA	X	NA	NA	NA	NA

Note: NA - not applied or marginal; X - low importance; XX - medium importance; XXX - high importance

The importance of the policy instruments in this table is related to the mix of the specific country. It is not designed to compare the importance of specific measures across countries