



# Global Agriculture to 2020: drivers and issues



**Food and Agriculture  
Organization of the  
United Nations**

*for a world without hunger*

**IEA Bioenergy Tasks 38/40/43 workshop**  
***"Quantifying and managing land use effects  
of bioenergy"***

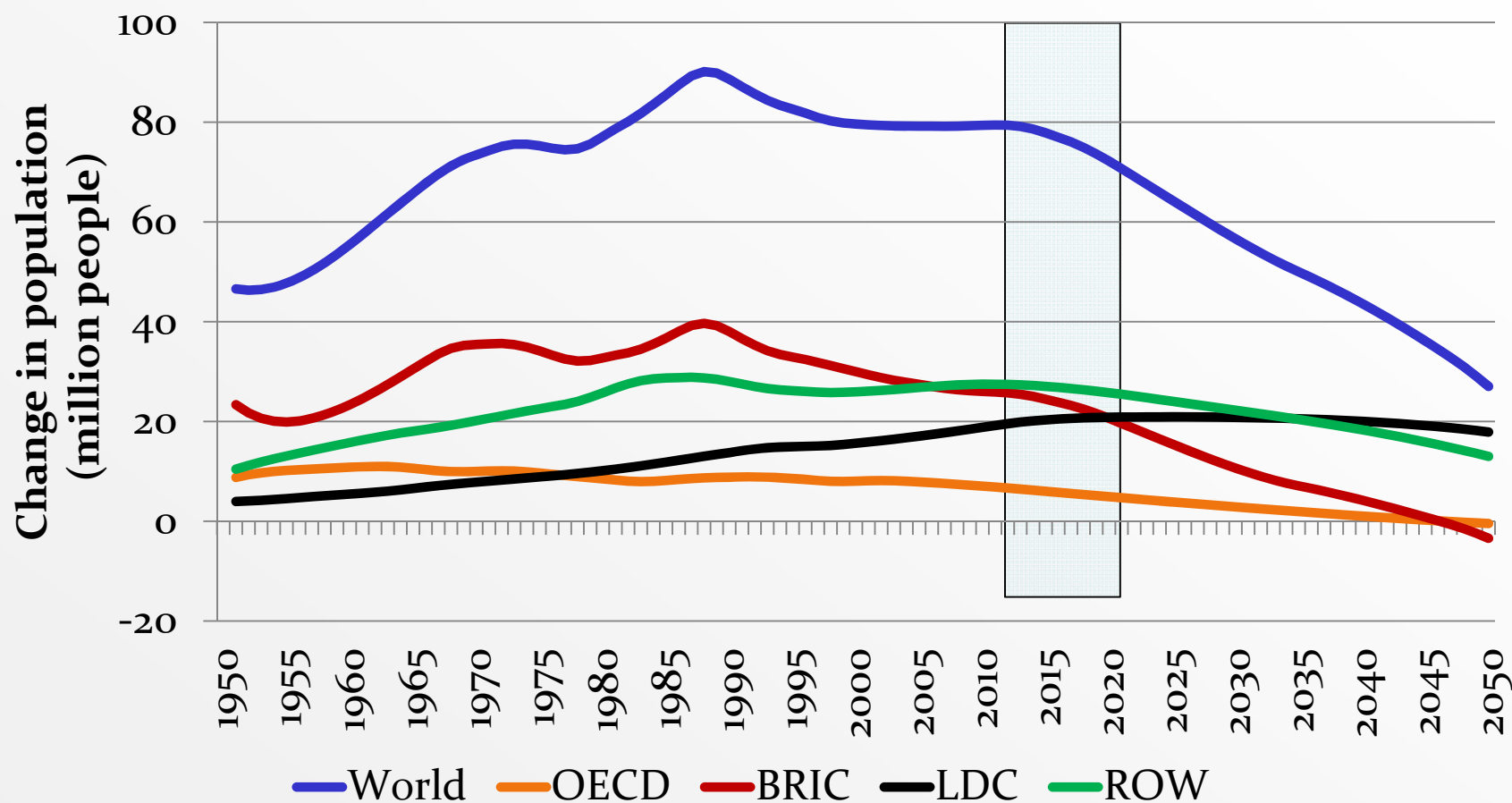
**Holger Matthey**  
Trade and Markets Division  
FAO

# OUTLINE



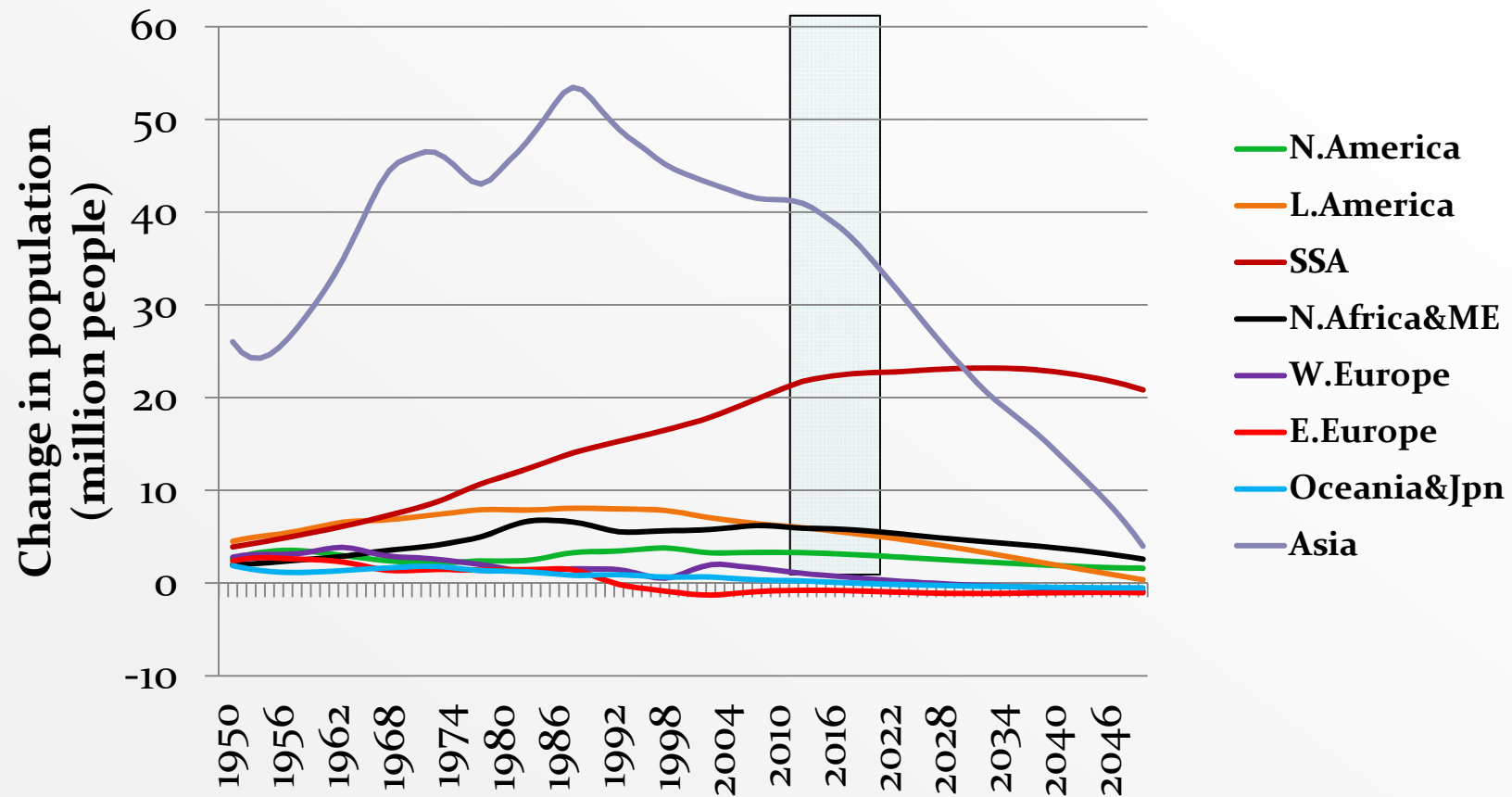
- **Macro and demand drivers**
- Land use trends and developments
- Scenarios and key issues

# Net addition to population starting to fall quickly during the next decade and beyond



Source: UN-Statistics/population 2008

# By region the fall in net addition is highest in Asia region – SSA still rising

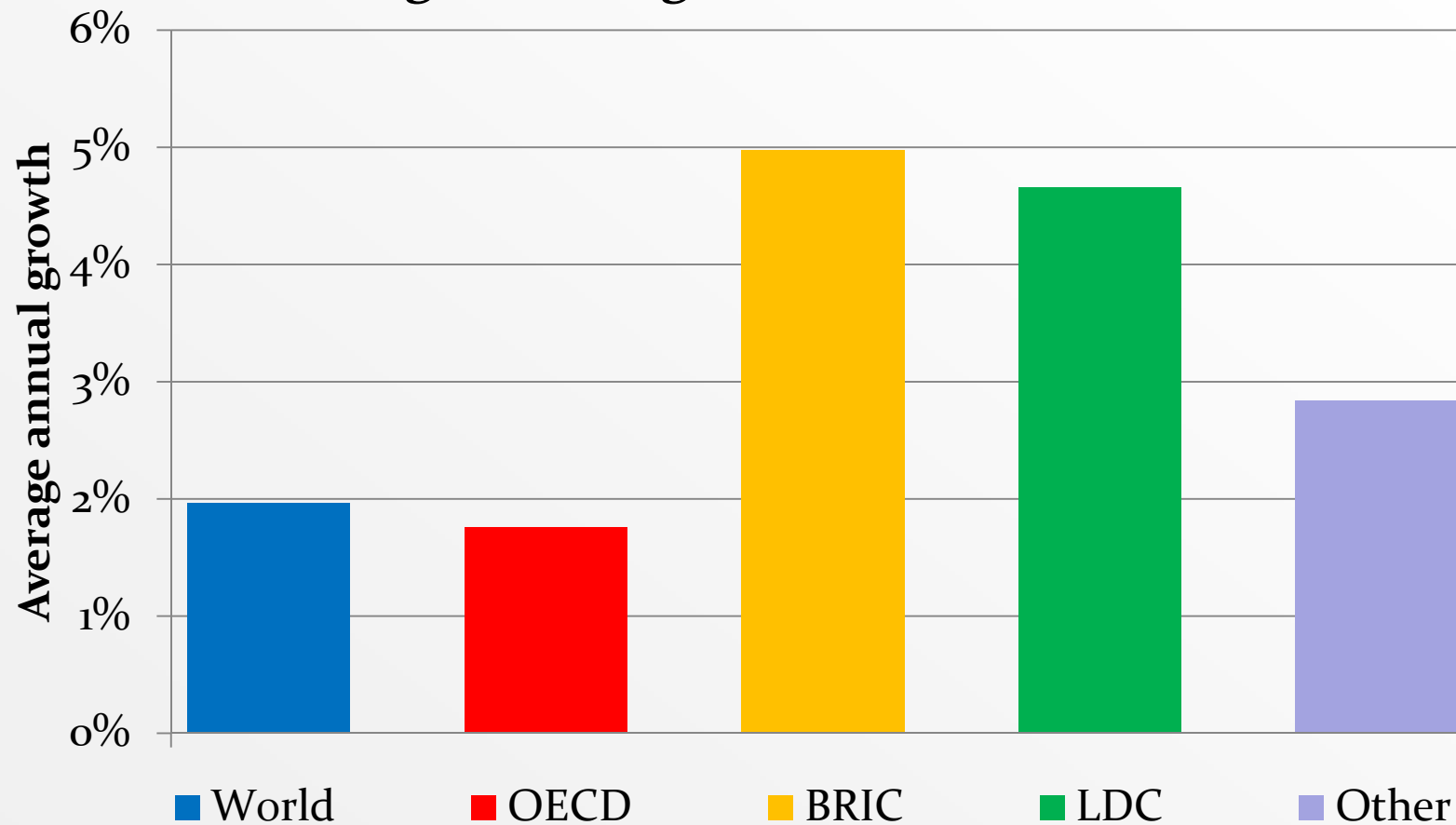


Source: UN-Statistics/population 2008

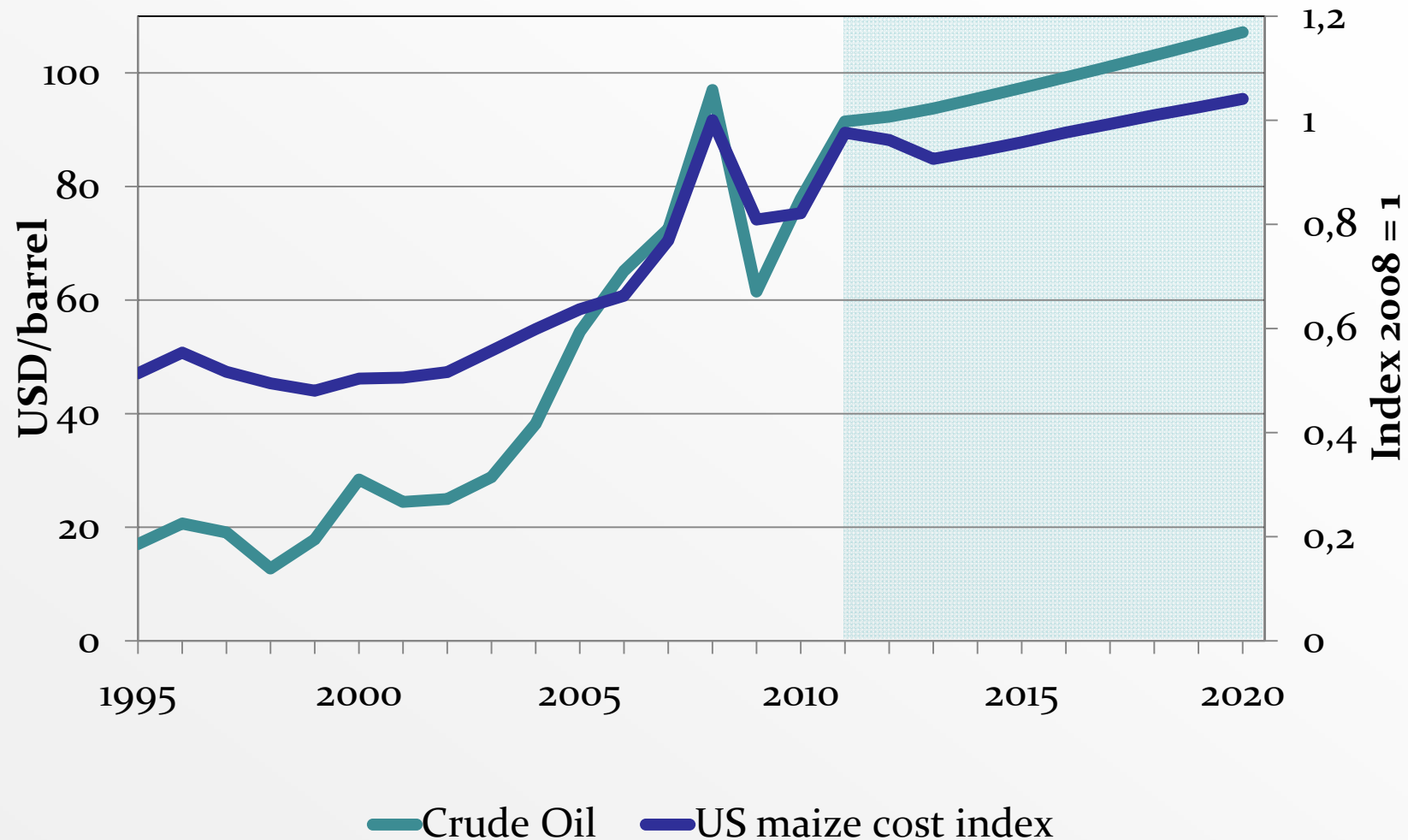
# Per capita GDP– will strong growth continue?



Average annual growth from 2011 to 2020



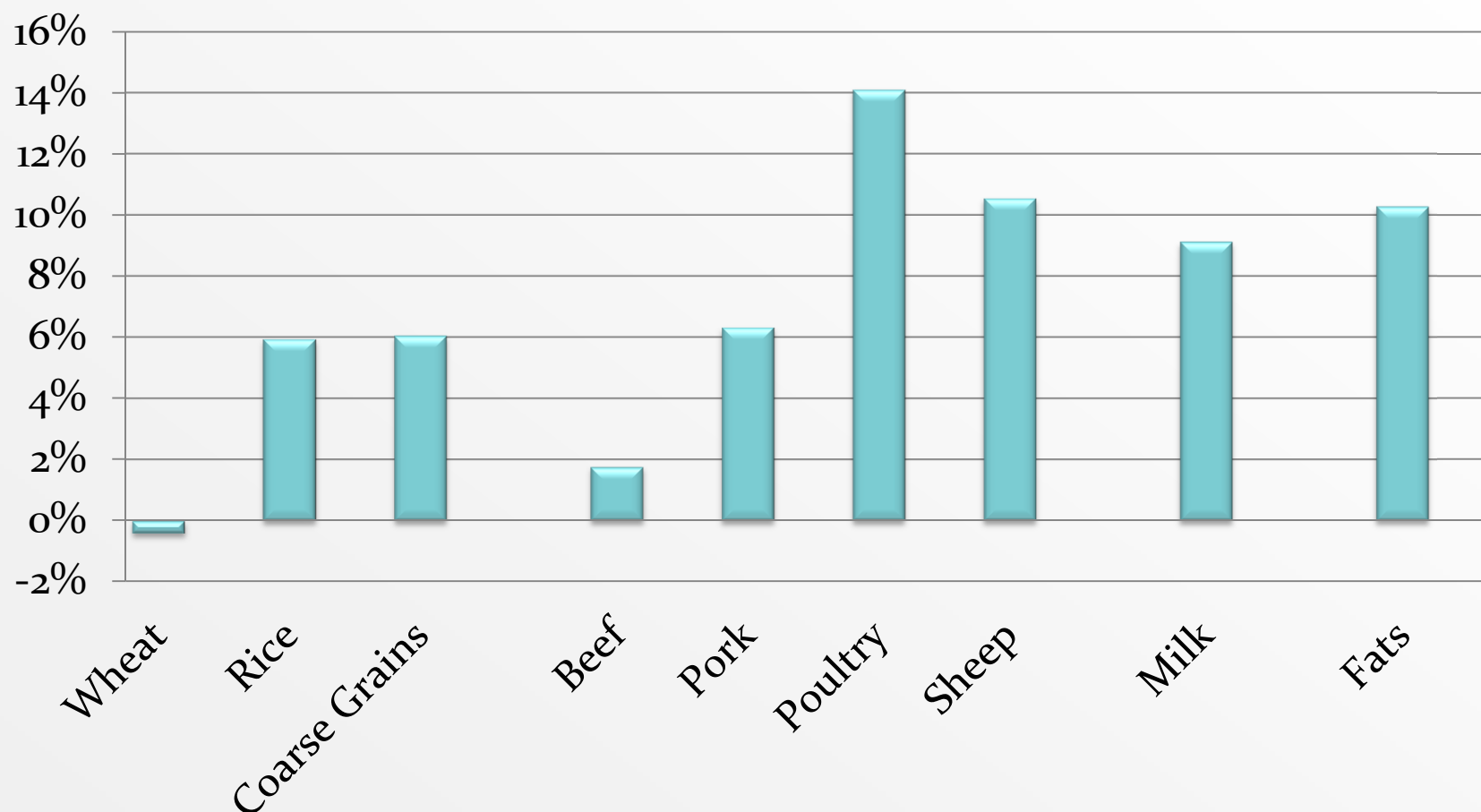
# Input cost pressures remain high



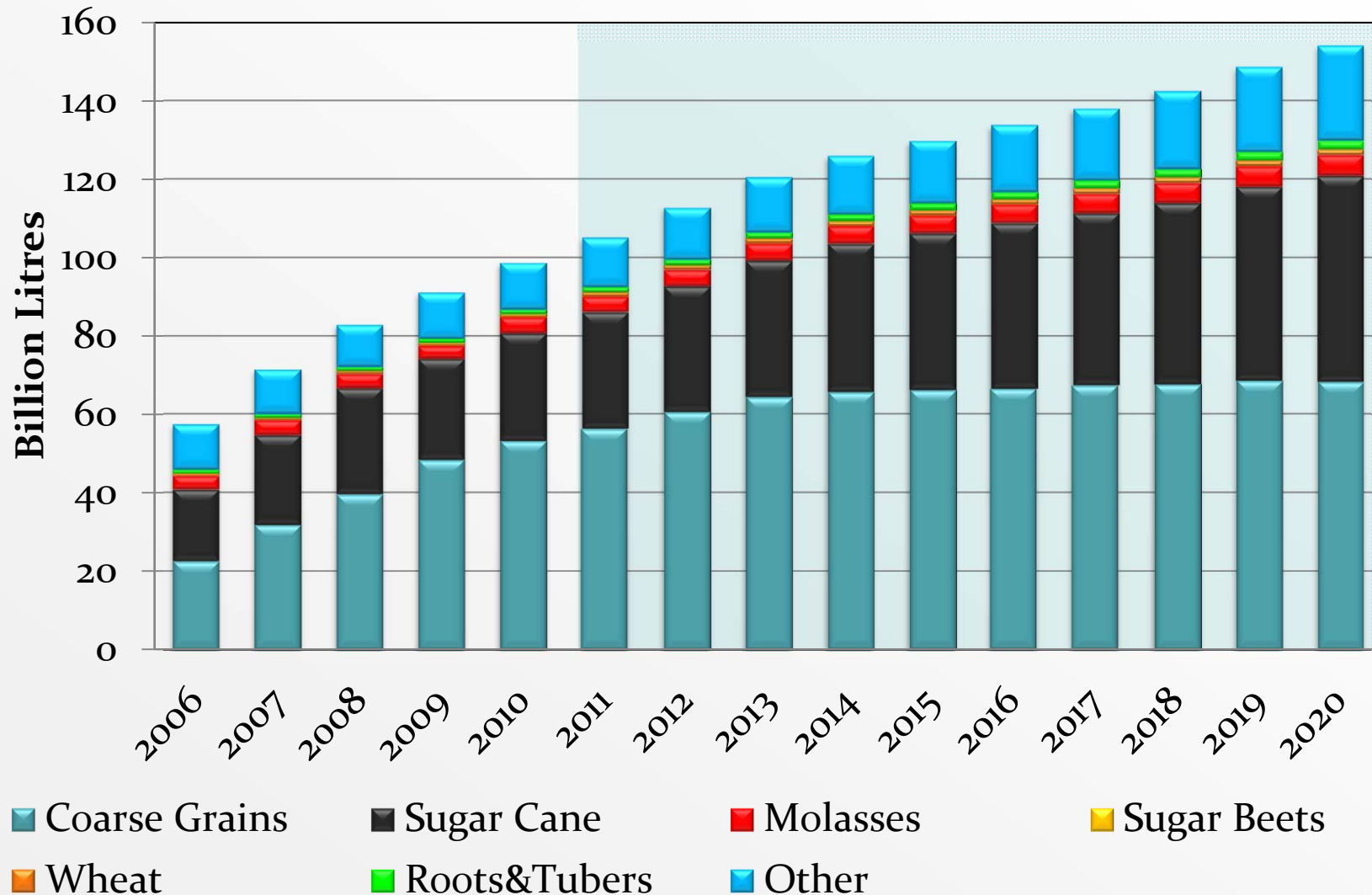
# Shift from staple foods to value-added products continues



Per-capita food consumption change between  
2008/10 and 2020

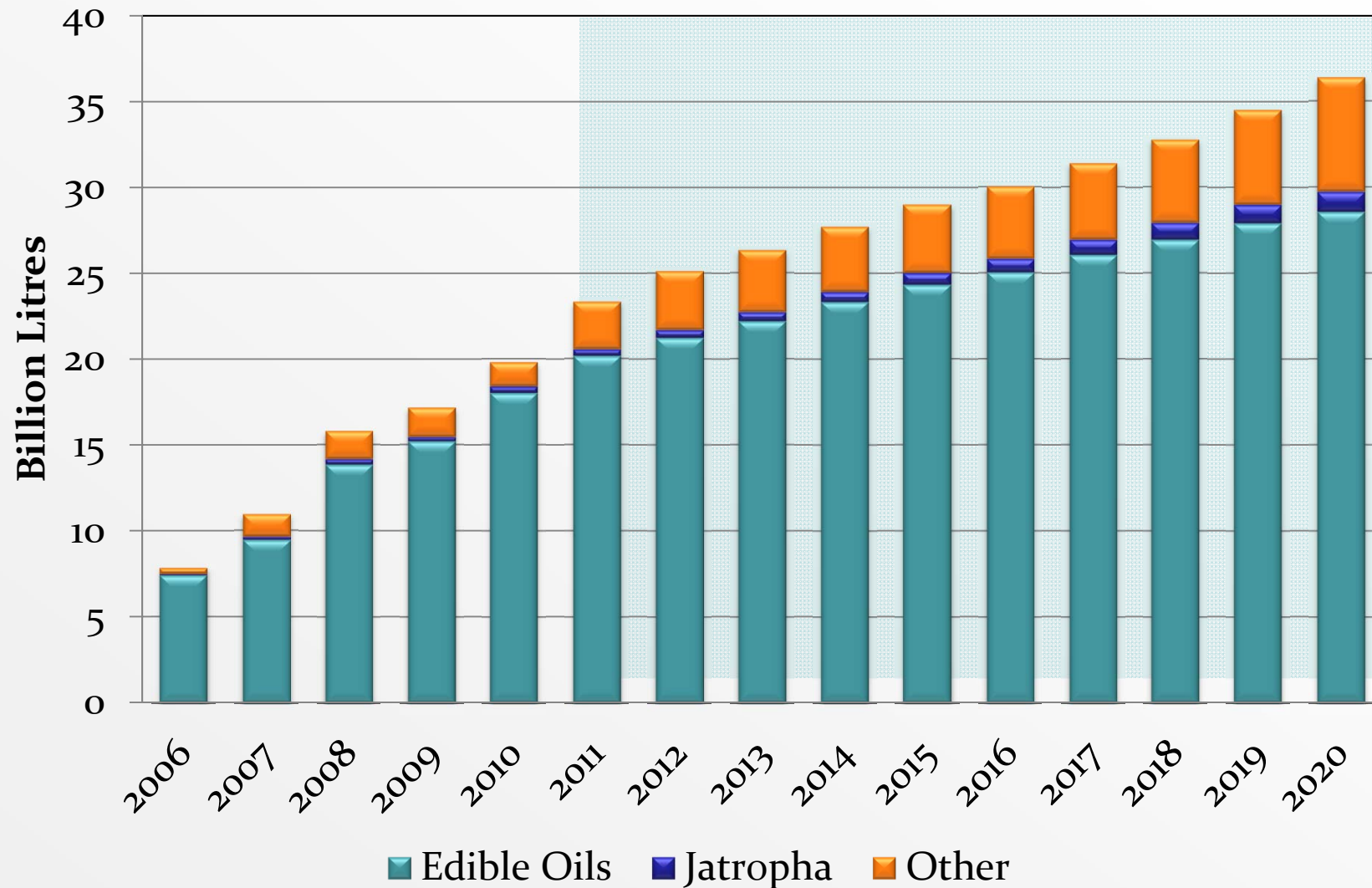


# Maize ethanol flattens out in 2015, sugar cane provides growth





# Alternative biodiesel feedstocks slow to develop

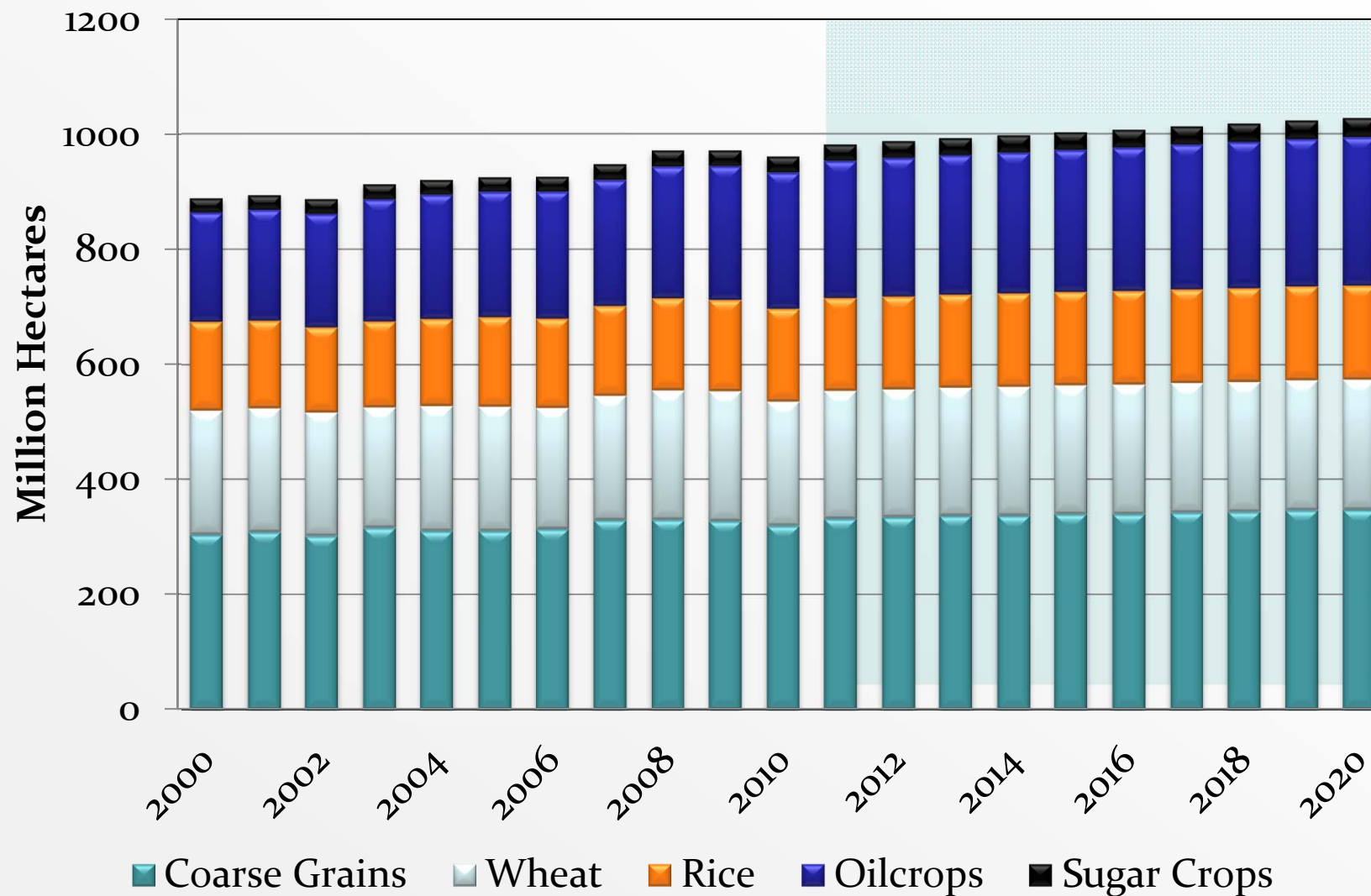


# OUTLINE

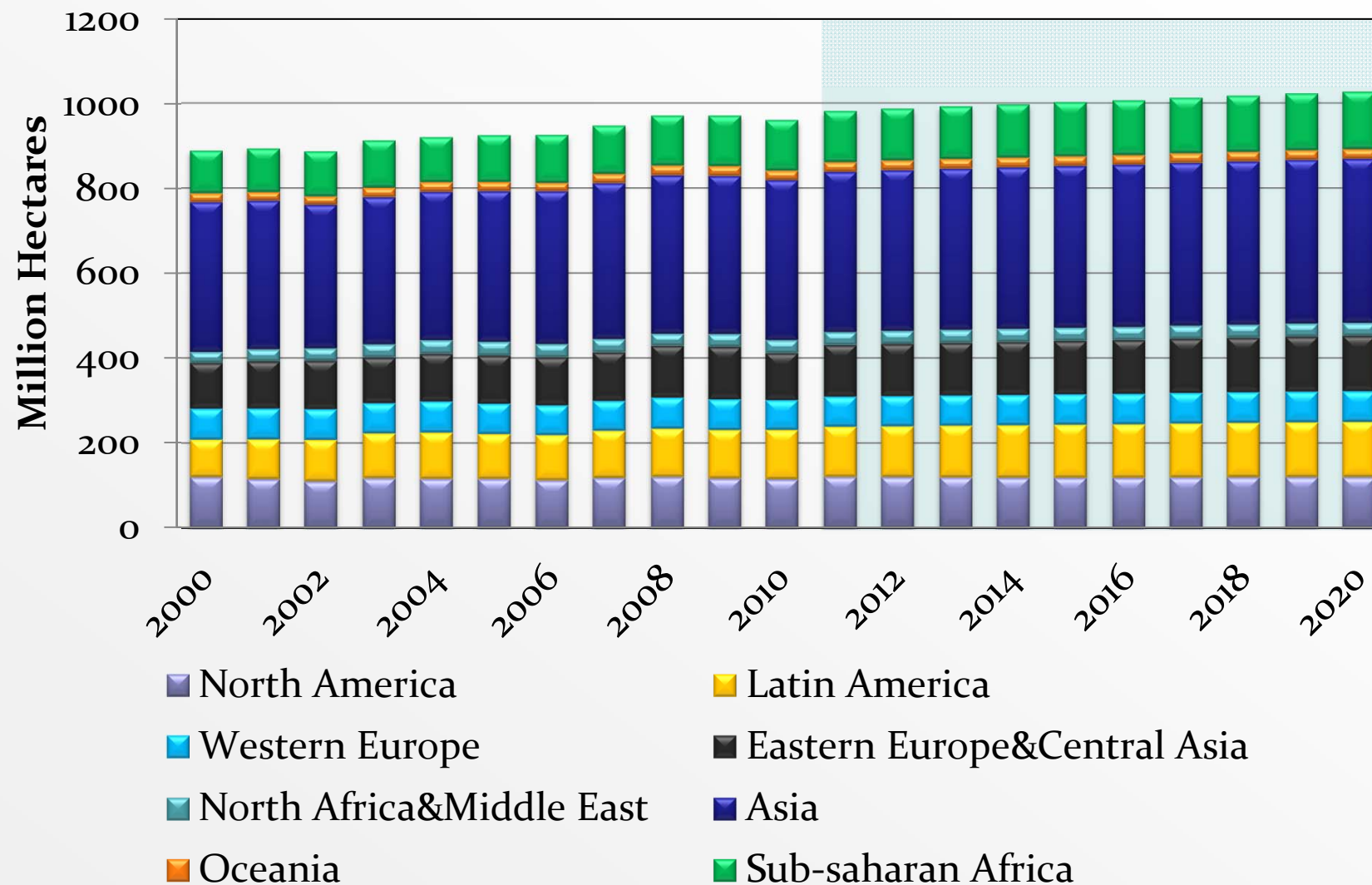


- Macro and demand drivers
- **Land use trends and developments**
- Scenarios and key issues

# Global land use by arable crops



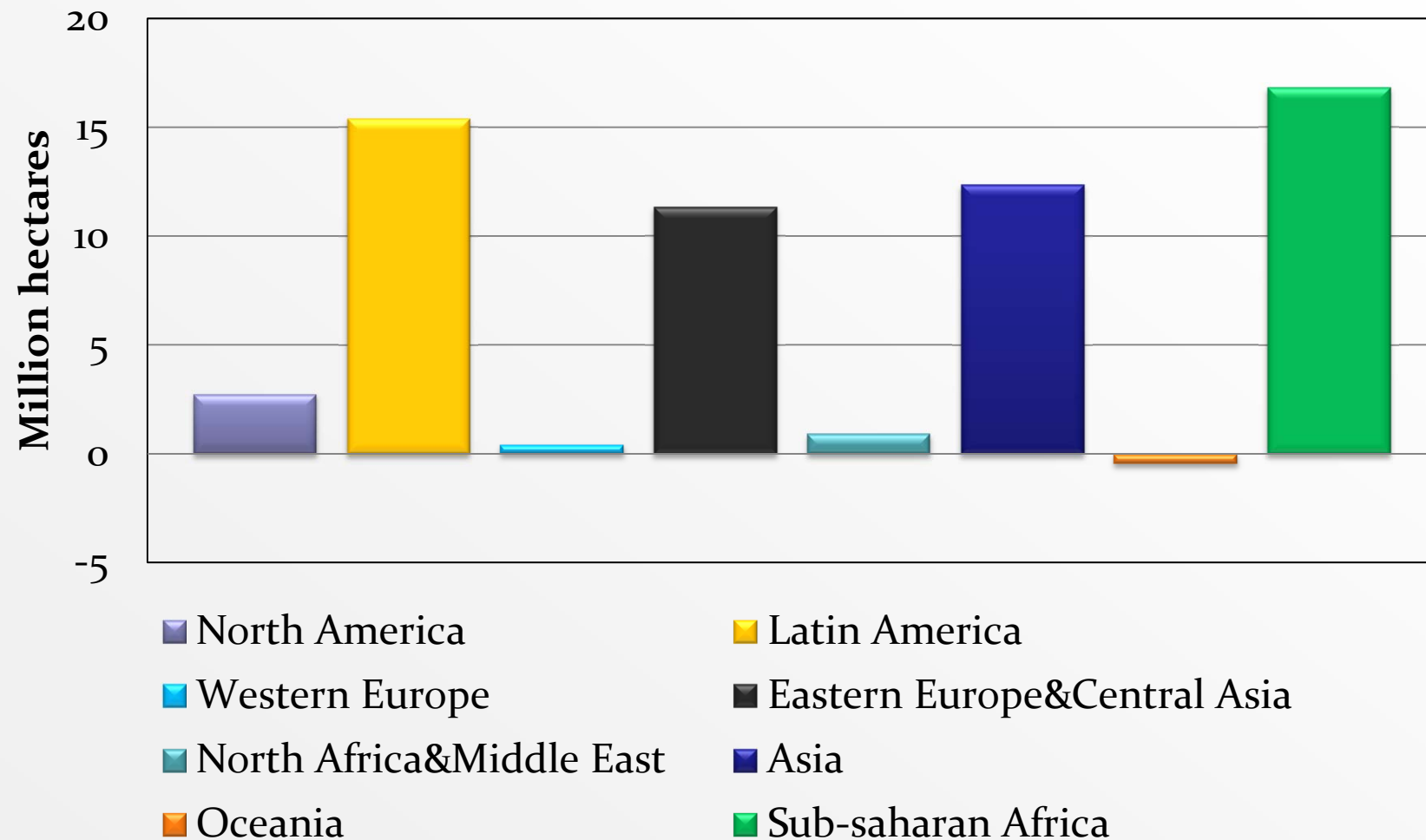
# Regional land use projections



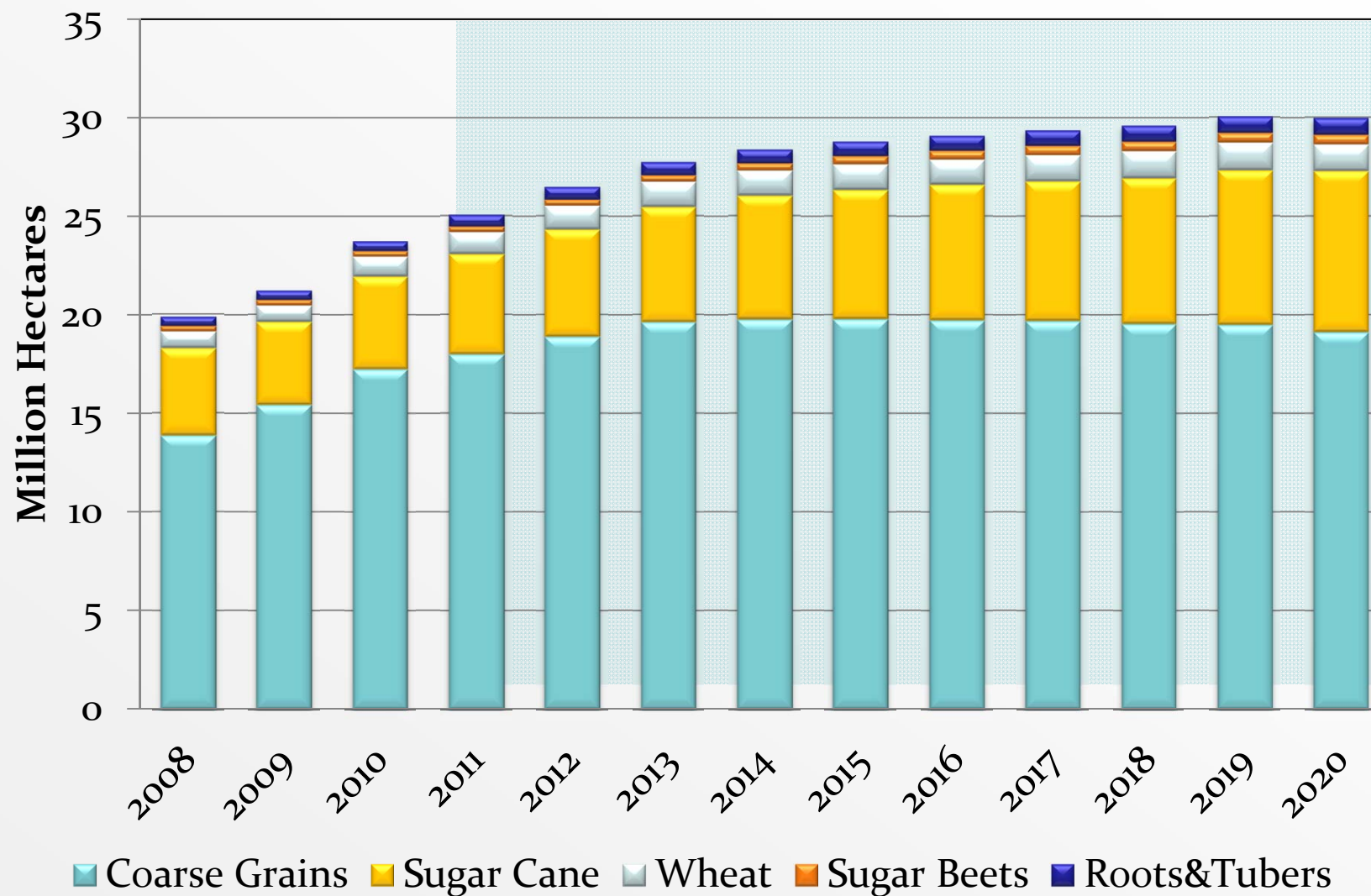


# Regional land use projections

Changes between 2008/10 and 2020

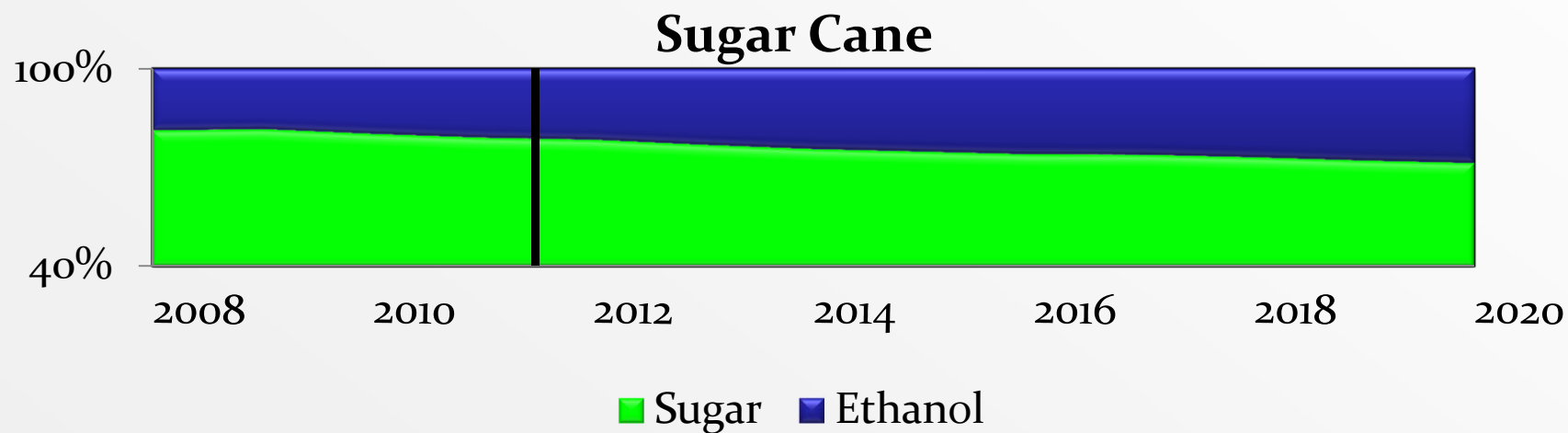
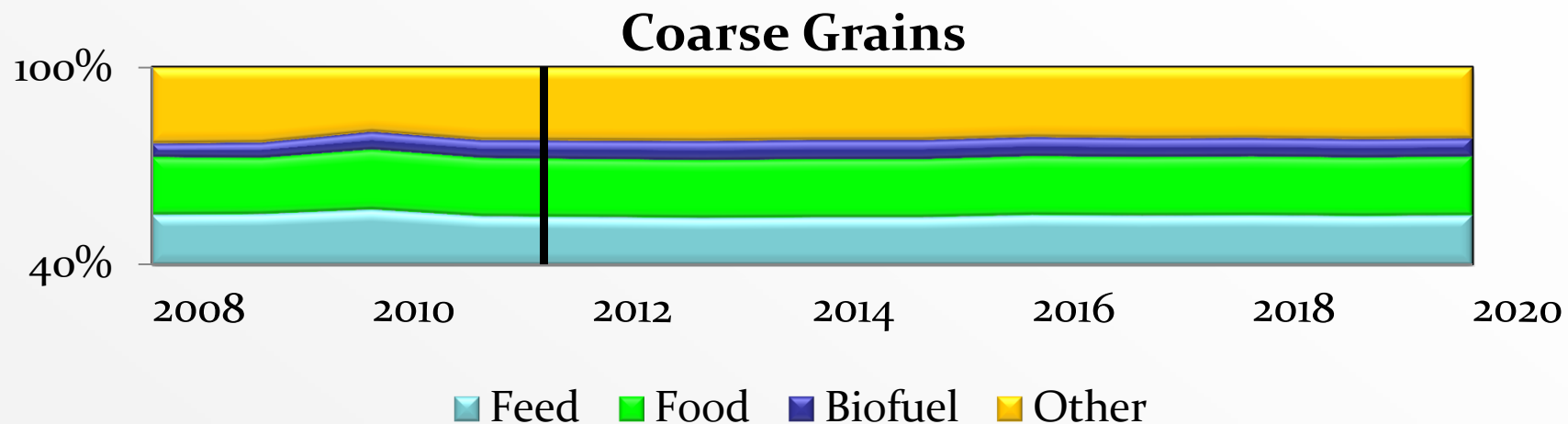


# Global land use for ethanol



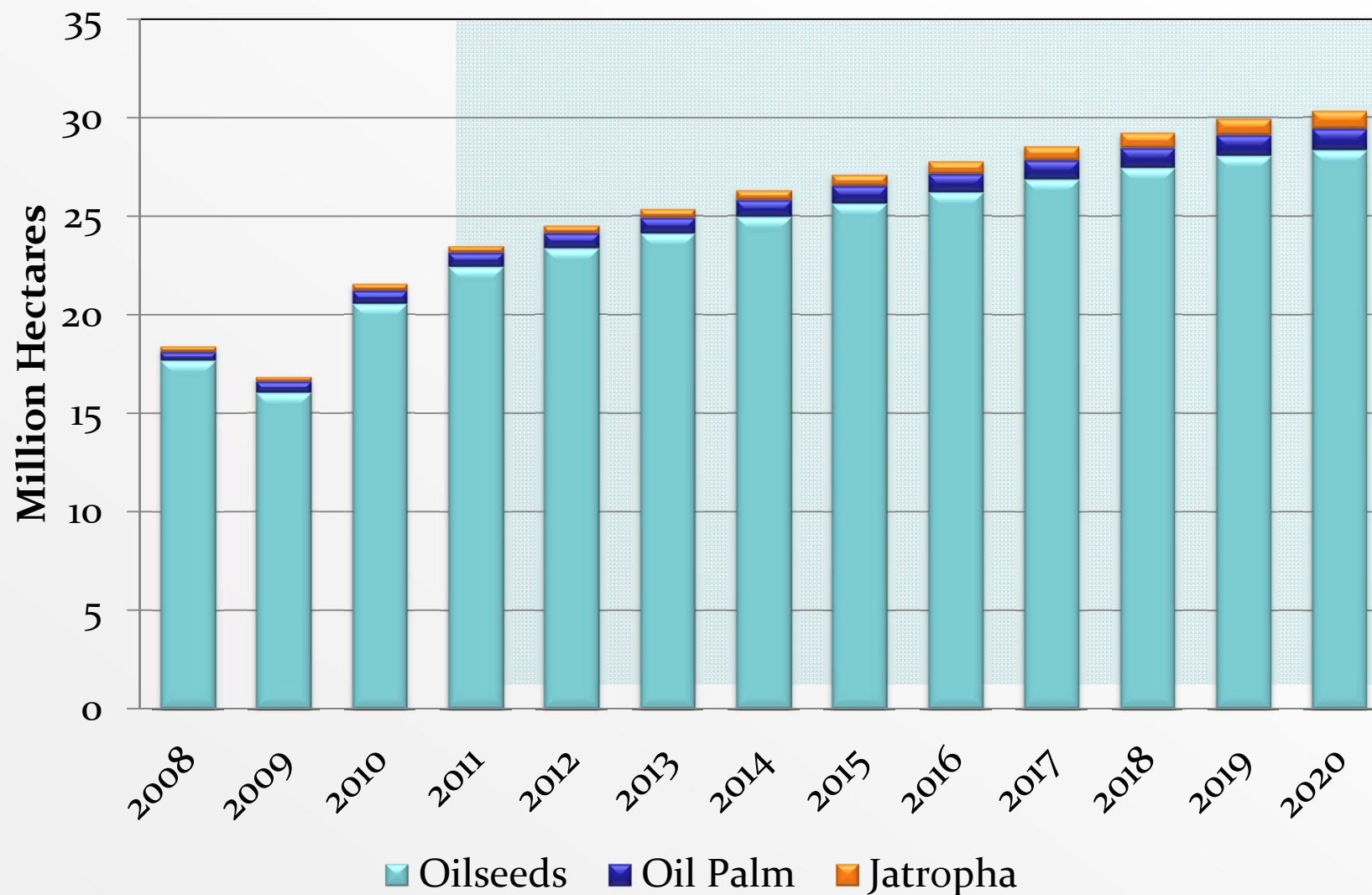


# Area shares





# Global land use for biodiesel

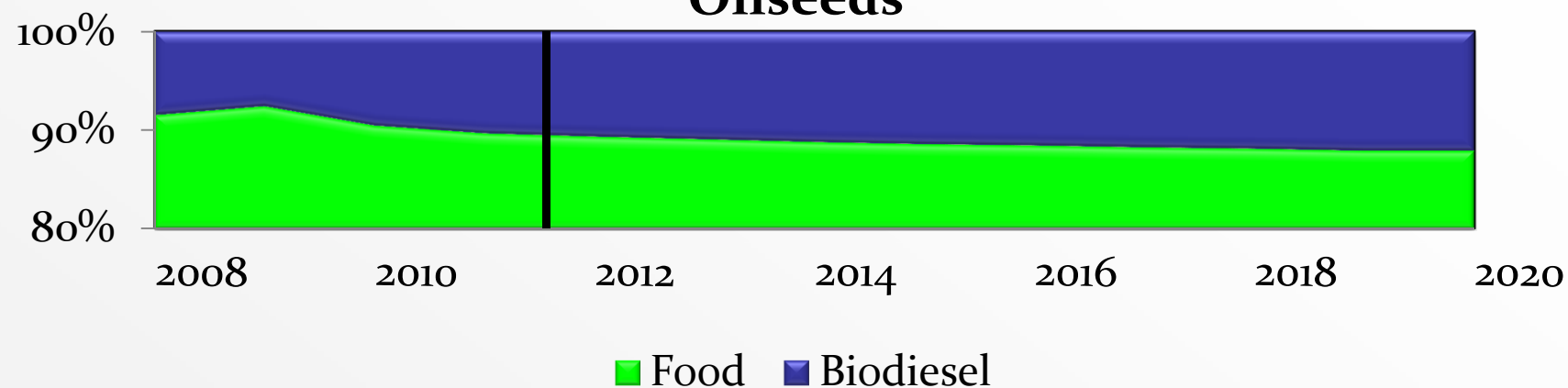




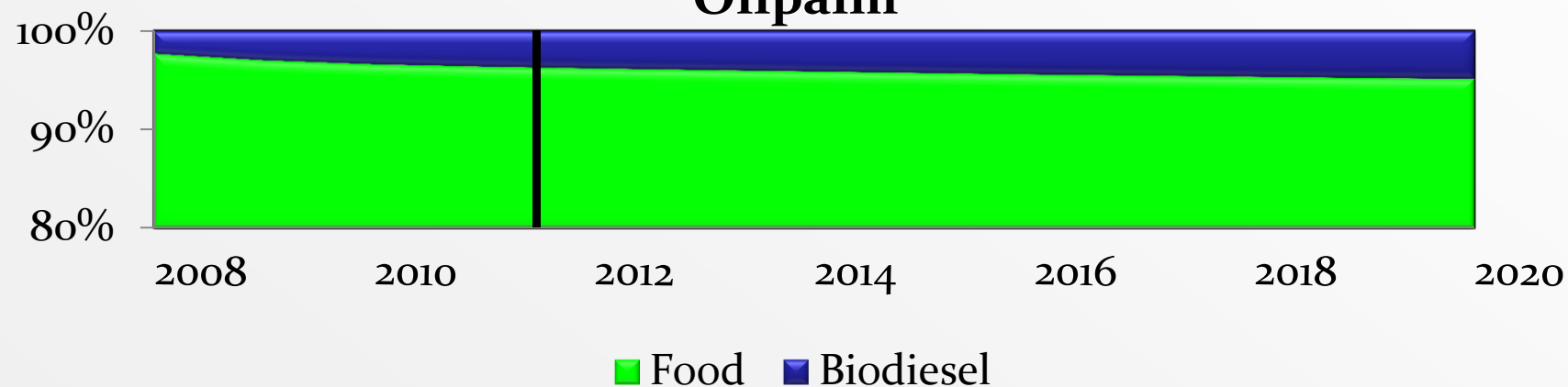


# Area shares

## Oilseeds



## Oilpalm





# OUTLINE

- Macro and demand drivers
- Land use trends and developments
- **Scenarios and key issues**

# Scenario descriptions



**Oilup:** Oil price at 115\$ in 2011 and then constant in real terms

**Oildown:** Oil price at 70\$ in 2012 and then constant in real terms

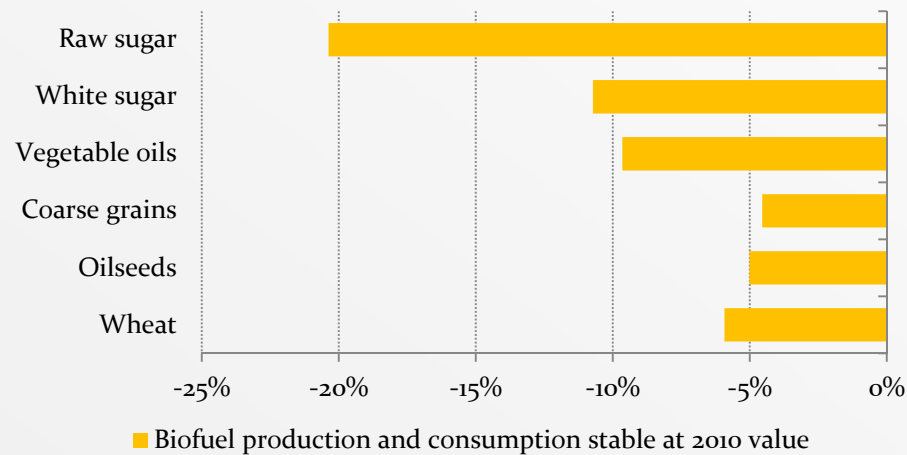
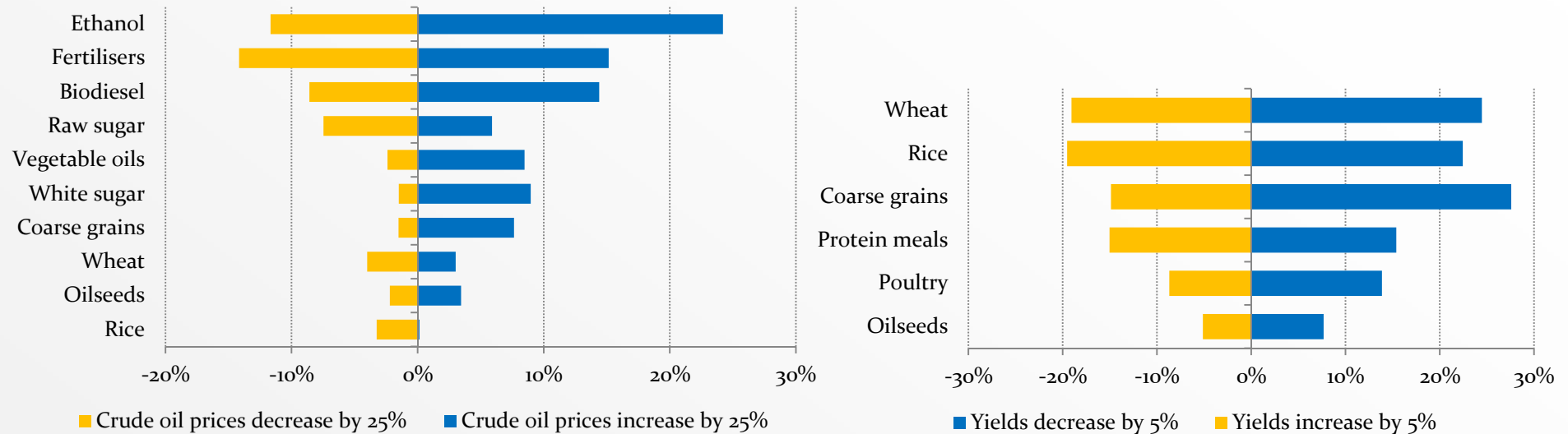
**Yieldup:** Annual yield growth for RI, CG and WT higher by 5%

**Yielddown:** Annual yield growth for RI, CG and WT lower by 5%  
(compared to baseline )

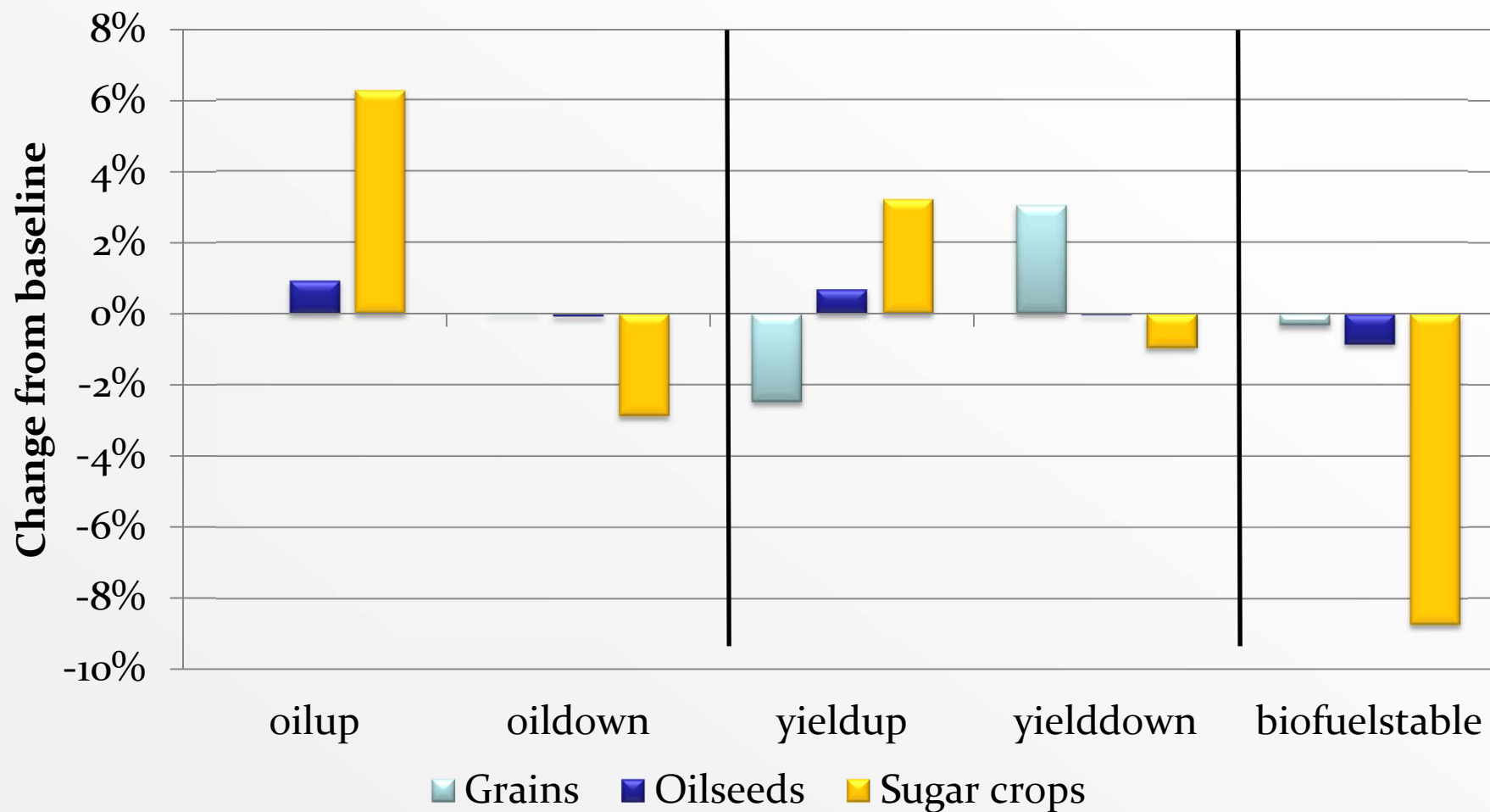
**Biofuelstable:** Biofuel production and consumption constant at the  
2010 value



# Price impact



# Area impact on main crops





## Summary and conclusions

- Demand is firm and growing, supply is growing more slowly, with prices rising to signal need for more investment
- Land use mostly driven by food and feed, but biofuels increase their share
- Food security is a critical issue, upside price risks are high
- High uncertainty continues



# Thank you

[www.agri-outlook.org](http://www.agri-outlook.org)

[holger.matthey@fao.org](mailto:holger.matthey@fao.org)