



Biofuels: Prospects, Risks and Opportunities

FAO's State of Food and Agriculture Report 2008

COMPETE MEETING
Mali, November 2008

Astrid Agostini
UN Food and Agriculture Organization (FAO)

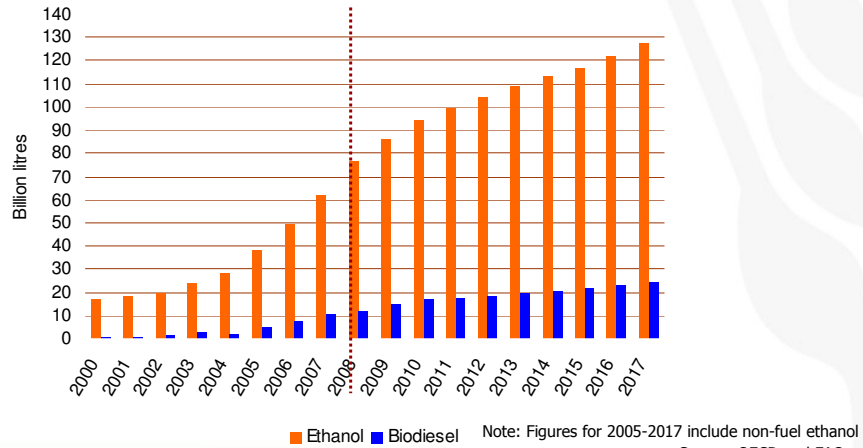


Overview

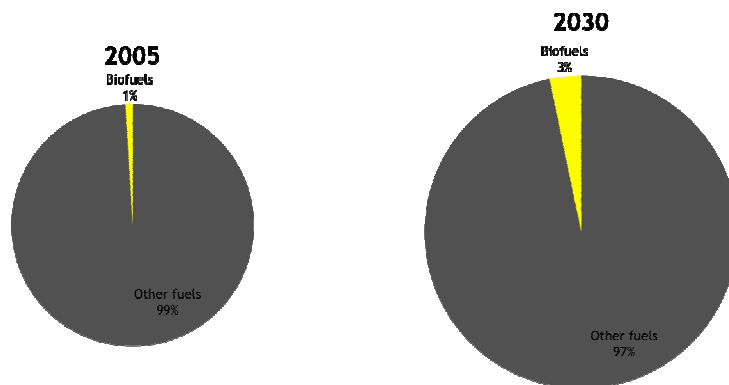
- Do biofuels contribute to energy security?
- Do they reduce greenhouse gas emissions?
- Do biofuels increase agricultural commodity prices?
- Are rising prices a problem?
- Are biofuels an opportunity for agriculture? And for poverty alleviation?
- What is the role of policies?



World ethanol and biodiesel production is growing rapidly

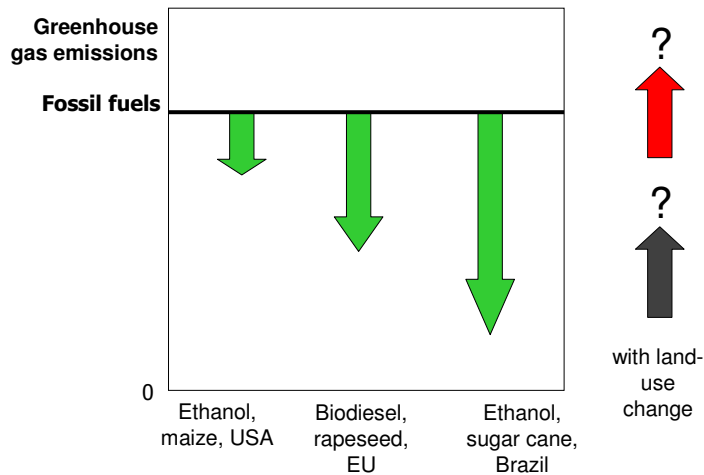


Modest impacts on energy security

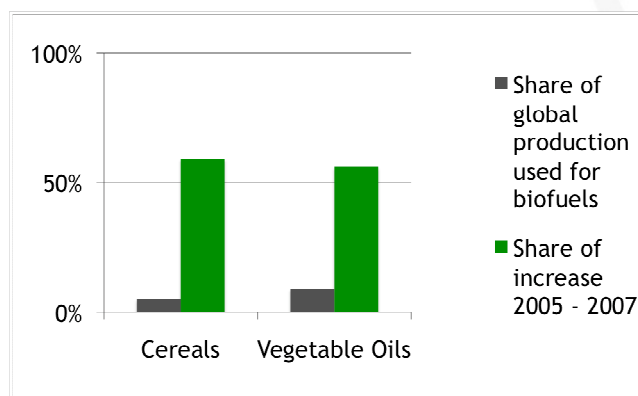




Impacts on climate change: Diverse

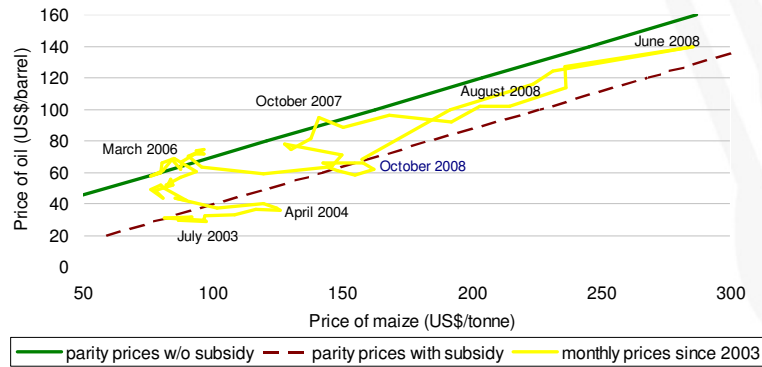


Significant impacts on food prices





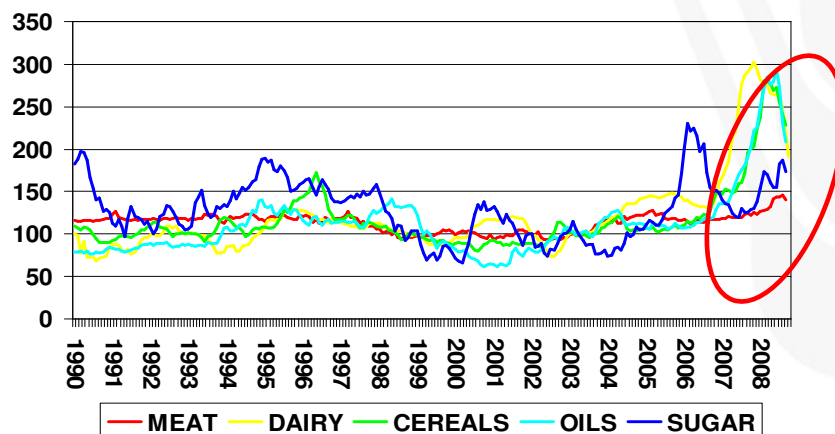
Price of Crude Oil and Maize



Monthly prices: Commodity Research Bureau (www.crbtrader.com)
Parity price lines for US ethanol: Tyner and Taheripour 2007



Prices rose significantly over the past two years then fall dramatically in late 2008

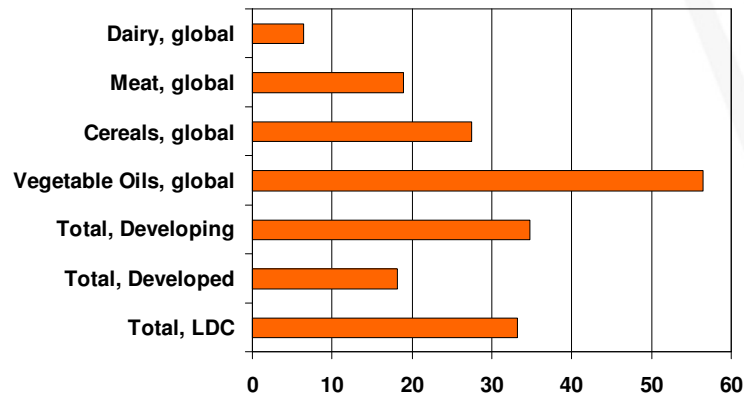


source: Cluff, FAO 2008



Rising food import bills

% increase, 2008 over 2007

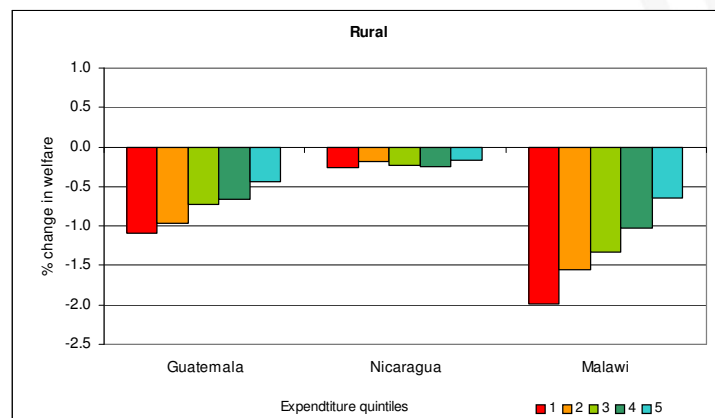


Source: FAO, 2008



Price impacts on rural households

of 10% increase in price of main staple (maize)



source: FAO/RIGA

Zeza et al (2008): The Impact of Rising Food Prices on the Poor (<http://ftp.fao.org/docrep/fao/011/aj284e/aj284e00.pdf>)



Opportunities for Agriculture

- Farmers are responding to incentives
- Harvests are increasing

- ...but it's mostly in developed countries
- ...but over 920 million people still lack access to sufficient food
- ...but 36 countries are in acute food crisis requiring external assistance



Opportunities for poverty alleviation

- many of the poorest countries well placed in agro-ecological terms
 - rural growth driven by agriculture reduces poverty more than other sectors
 - 75% of the world's poor live in rural areas
- but investment needed:
- technologies - seeds and irrigation
 - infrastructure
 - access to finance
 - institutions
- ...and safety nets!

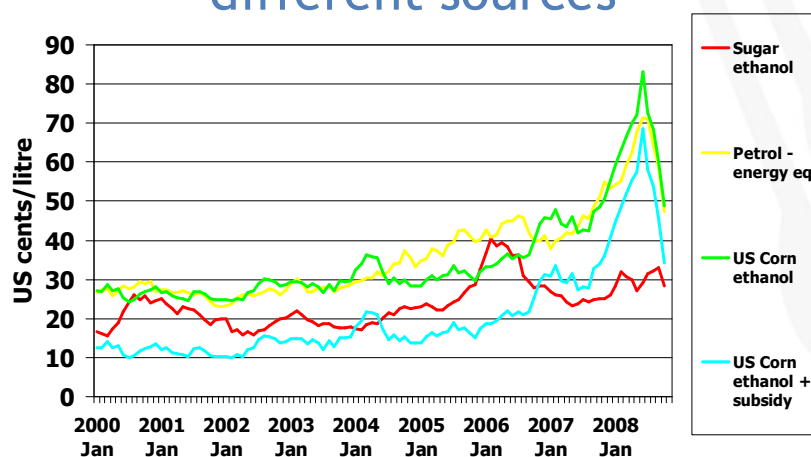


Current OECD policies

- costly!
- drive artificially high growth rate
- favour OECD over developing country producers
- limited achievement of stated objectives
 - modest impacts on energy security
 - diverse impacts on climate change
 - significant impacts on agriculture and food security



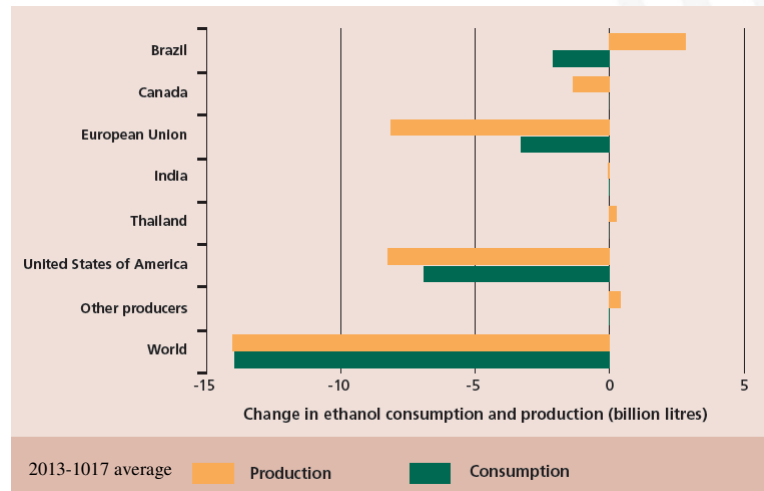
Energy cost comparison from different sources



source: Cluff, FAO 2008

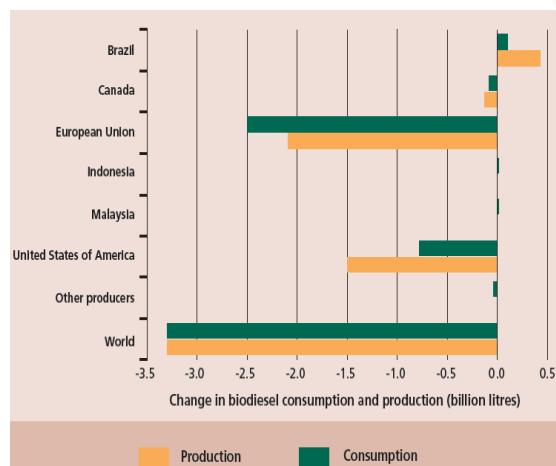


Removing trade distortions: Ethanol



Removing trade distortions: Biodiesel

2013-2017 average





Policy action is urgently needed

- Review current biofuel policies
 - performance based
 - level playing field
- Promote technological innovation
- Protect the poor and food insecure
- Invest in agriculture and rural development
- Ensure environmental sustainability
- Promote international policy coordination

Food and Agriculture Organization
of the United Nations

2008

THE STATE OF FOOD AND AGRICULTURE



BIOFUELS: prospects, risks and opportunities



Available on
FAO's website
at

<http://www.fao.org./sof/sofa/>



HLC Declaration: Bioenergy

- **In-depth studies** are necessary to ensure that **production and use of biofuels is sustainable** in accordance with the pillars of sustainable development and take into account the need to achieve and maintain global food security.
- Called upon relevant inter-governmental organizations, national governments, partnerships, the private sector, and civil society, to foster a **coherent, effective and results-oriented international dialogue on biofuels** in the context of food security and sustainable development needs.



Many Departments work on Bioenergy

Coordinating Mechanism:
IDWG Bioenergy

ES: economic analysis of biofuels (SOFA), biofuel impacts on food prices, social/gender impacts

FO: wood energy, potentials, planning, sustainability, 2nd generation biofuels

NRC: making bioenergy sustainable – technical and policy guidance, bioenergy for rural livelihoods, bioenergy and food security, partnerships (GBEP, UN Energy),

FI: aquatic biofuels

AG: feedstock suitability, bioenergy production systems

NRL: land suitability, water requirements for feedstocks

Bioenergy at FAO



FAO Bioenergy: Selected Work

- Bioenergy Environmental Impact Analysis (BIAS) - Analytical Framework
- Livelihoods Impacts of Small-Scale Bioenergy Initiatives
- Guidance on Safeguard Mechanisms for Bioenergy Investments (with UNEP/UN Energy)
- Country Assistance - policy/strategy support
- Bioenergy and Food Security Project (BEFS)
- Global Bioenergy Partnership (GBEP)

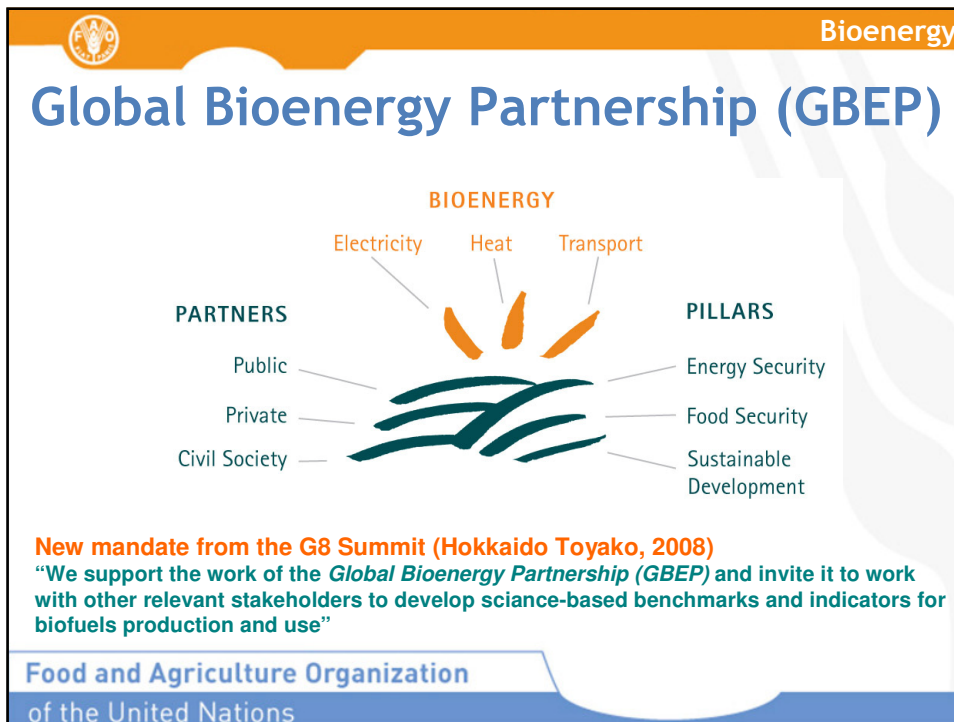
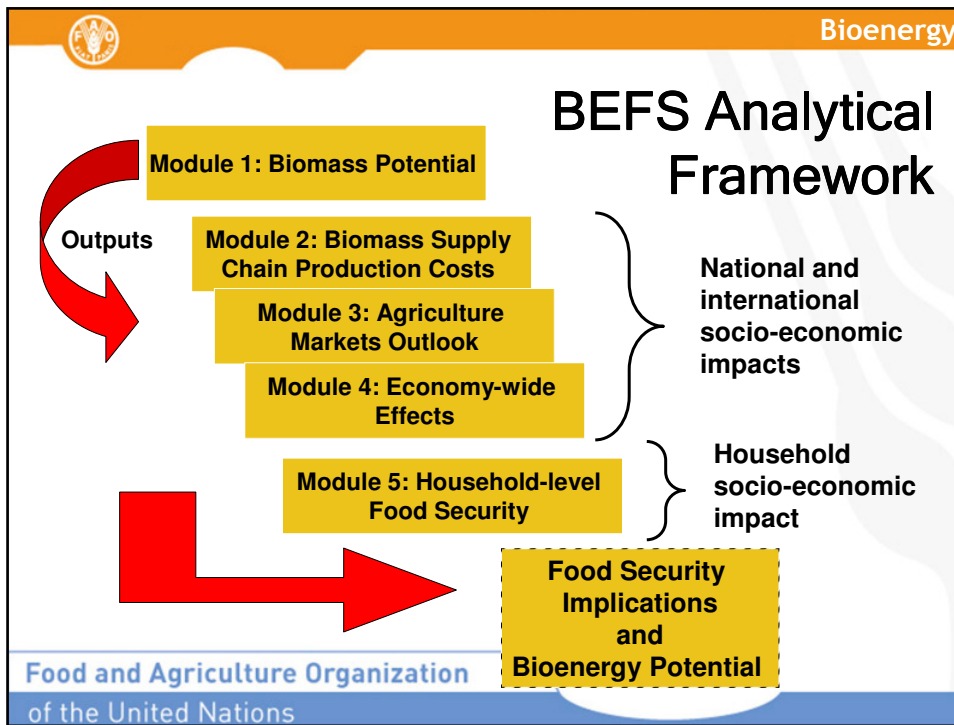


Bioenergy and Food Security Project

Objective: Mainstreaming food security concerns into national and sub-national assessments of bioenergy potential.

- Phase 1: Develop analytical framework and guidance to assess the bioenergy and food security nexus
- Phase 2: Assess bioenergy potential and food security implications
- Phase 3: Strengthen institutional capacities, exchange knowledge, pilot sustainable and food-secure bioenergy practices and recommend standards and policies

Country teams in Tanzania, Peru, Thailand





GBEP Programme of Work

Facilitate the **sustainable development of bioenergy** and collaborate activities in the bioenergy field projects

GBEP Task Force on Sustainability lead by UK

- **Formulate a harmonized methodological framework** on GHG emission reduction measurement from the use of biofuels for transportation and from the use of solid biomass
GBEP TF on GHG Methodologies lead by USA
- **Raise awareness and facilitate information exchange on bioenergy**

GBEP Secretariat is hosted at FAO



Some key FAO Publications & Links

FAO Bioenergy Portal (corporate):

<http://www.fao.org/bioenergy/home/en>

SOFA 2008: Biofuels - Prospects, Risks and Opportunities

http://www.fao.org/es/esa/en/pubs_sofa_08.htm

HLC Information Paper: Bioenergy, Food Security and Sustainability

<ftp://ftp.fao.org/docrep/fao/meeting/013/k2498e.pdf>

UN Energy: Sustainable Bioenergy - A Framework for Decision Makers (2007)

<http://esa.un.org/un-energy/pdf/susdev.Biofuels.FAO.pdf>