

World Energy Outlook 2007



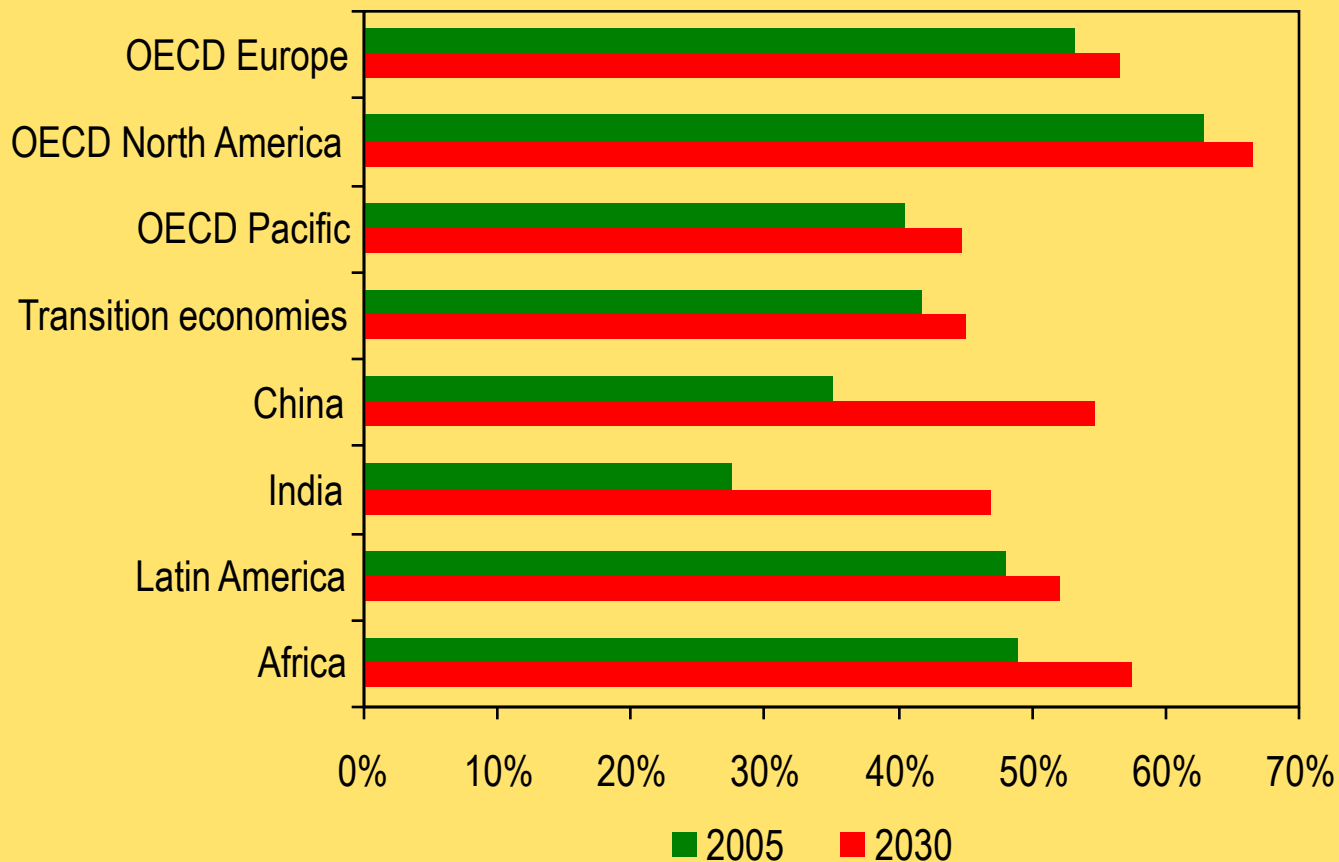
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Key Elements in Breaking the Global Climate Change Deadlock –
The Contribution of Biofuels
OECD Headquarters, 31 March 2008

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Reference Scenario: Share of Transport in Primary Oil Demand

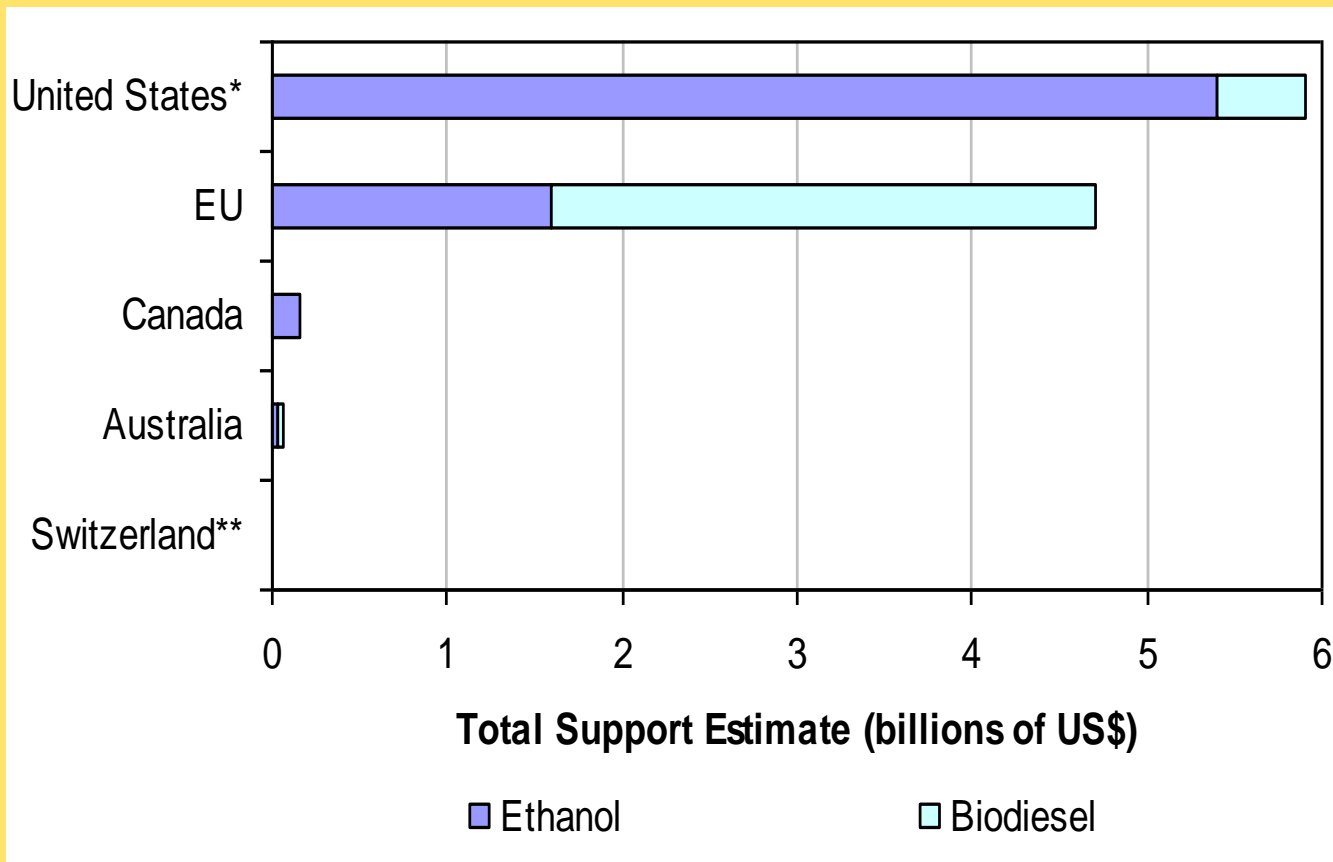


Oil demand becomes increasingly concentrated in transport

Total Support Estimates for Biofuels, Selected OECD Countries

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China
and India
Insights



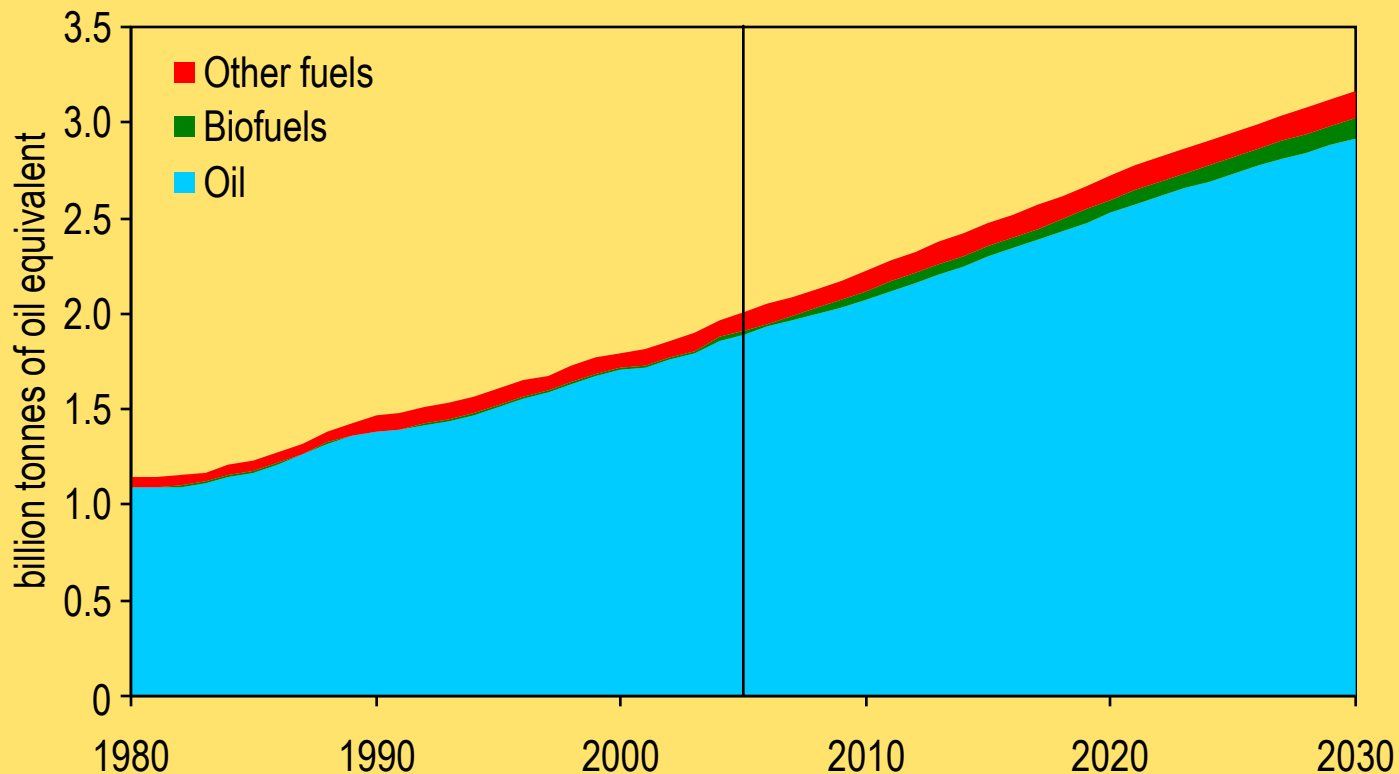
Source: GSI Global Subsidies Initiative

Biofuels: what happened in 2007...

- World ethanol and biodiesel production hit new highs
 - *US beginning to outpace Brazil on ethanol production*
- Feedstock prices soared
 - *Corn, wheat, soy, rapeseed and palm oil approached record highs in key markets*
 - *Food v. fuel debate intensified*
- Ethanol, biodiesel prices fell in many markets
- Policy developments tended to continue push for more, with some notable exceptions
- A few tepid steps toward sustainability

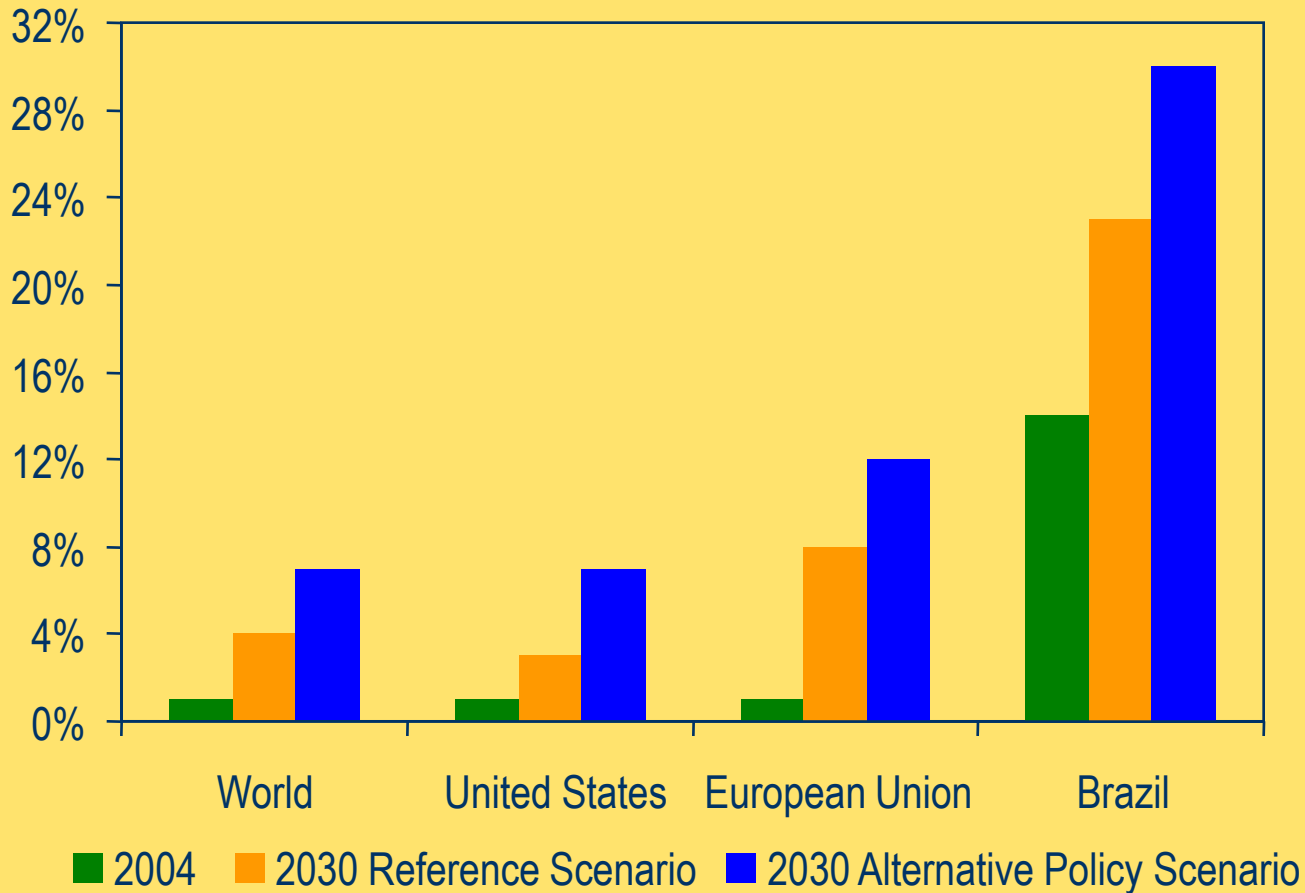


Reference Scenario: Transport Energy Demand by Fuel



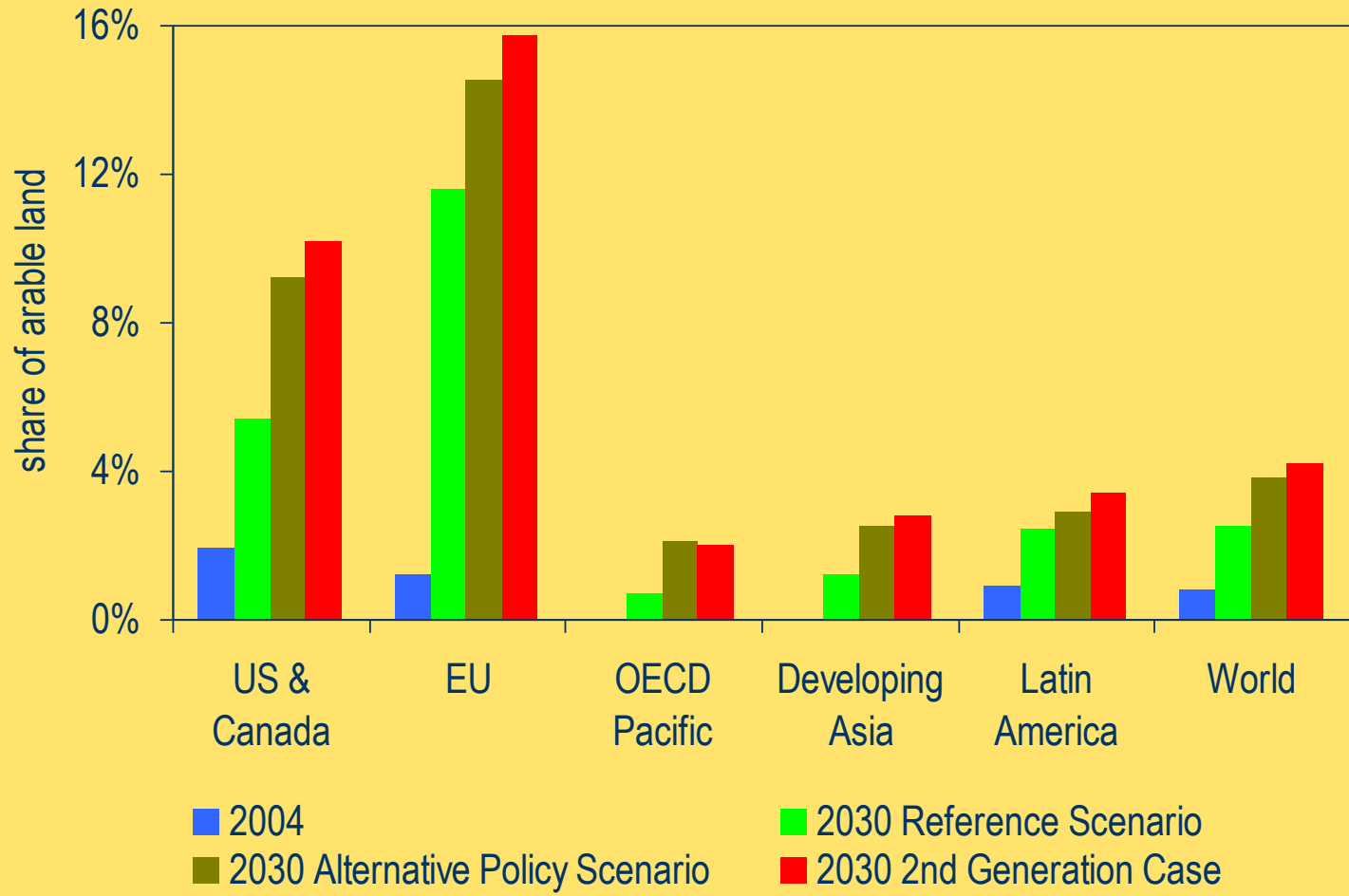
Oil continues to dominate energy use for transport, while the contribution of biofuels remains marginal

Share of Biofuels in Road-Transport Fuel Consumption



Biofuels are set to play a much larger role in meeting world road-transport fuel demand

Land Requirements for Biofuels



A significant proportion of the world's arable land is turned over to biofuels production – even in the Reference Scenario

What role for biofuels?

- Global energy system is on an *increasingly* unsustainable path
- Improving energy security and combating climate change are tremendous challenges for *all* countries
- Biofuels can be helpful in enhancing oil security
- But there are barriers:
 - *Cost of biofuels production is still high*
 - *Land requirements are estimated to be very large*
 - *Environmental impacts need to be better understood*
 - *Main constraint - amount of currently unused land available that could be brought into production in a sustainable way*
- Technological breakthroughs will likely help to address these barriers - 2nd generation biofuels to the rescue?
 - *Hard to say when they will really emerge*
 - *Even these approaches will require land, though much less per unit energy, perhaps less competition with food production*

Policy options: the role of governments and international agencies

- Governments must develop a good understanding of the complexities
- Unclear if policy trends will continue
 - *Caution the new watchword*
- Policy systems must be carefully crafted
 - *Somehow channel biofuels investments where most needed*
 - *Protection of environment, natural resources*
 - *Balance between transport v. other uses, rural v. urban communities, food v. fuel*
- International agencies can help
 - *Capacity building, policy assistance*
 - *Identify, promote good practice*
 - *Assist with cost reduction, scale up of best practices*