Oil and Gas Innovation in the Fossil Fuel Future

European Seminar and Dialogue

Prof. Jerzy Buzek
MEP, Committee of Industry, Research and Energy
Raporteur for 7th Framework Programme

Brussels, 22 February 2006

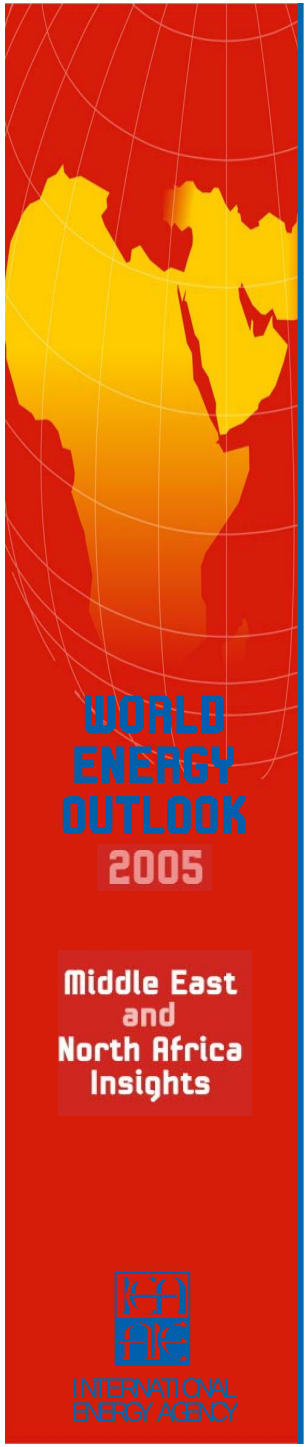
Global Challenges

Satisfy demand for energy

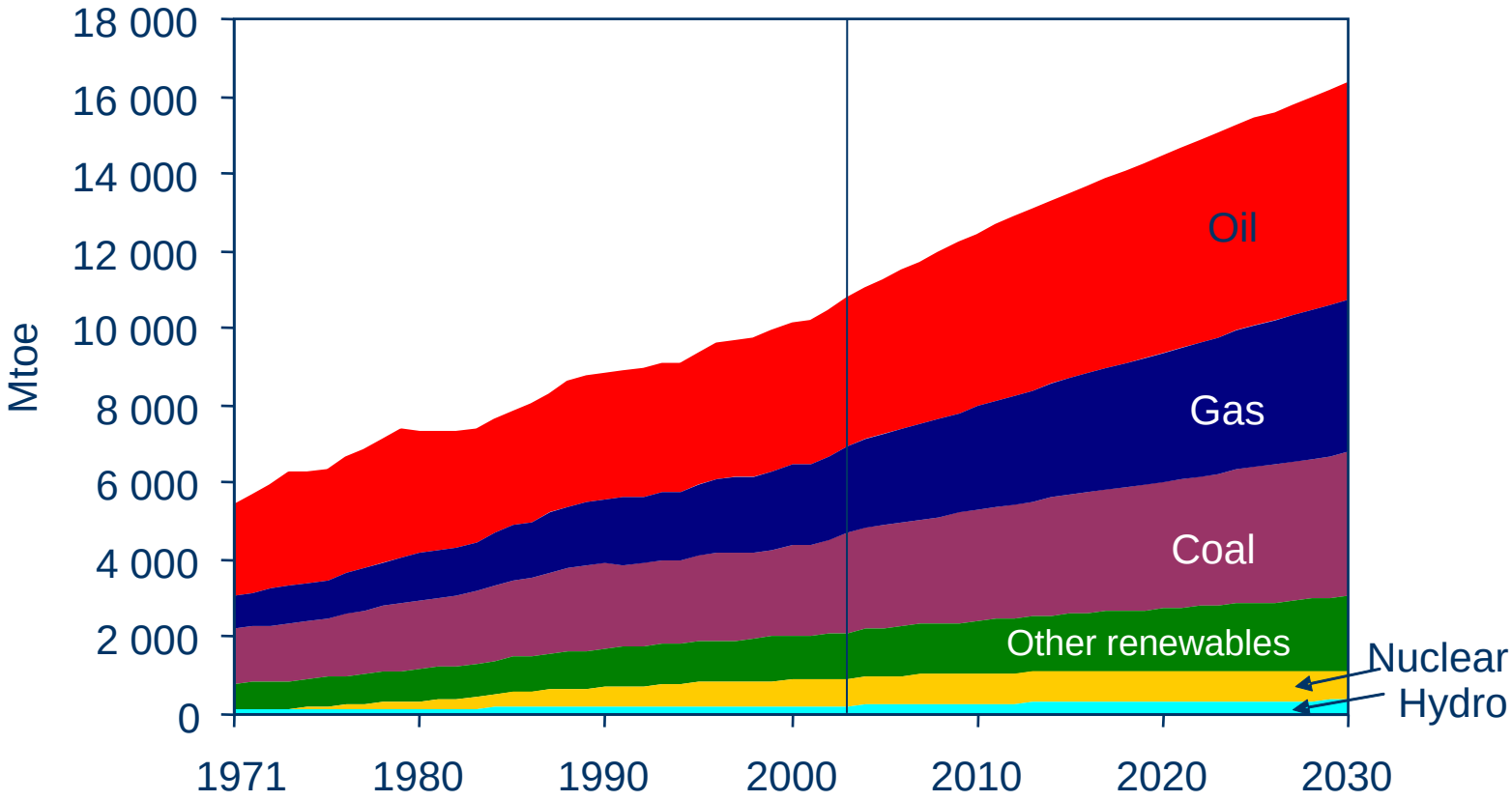
Ensure security of supply

Minimize environmental impact

Competitiveness



World Primary Energy Demand
IEA Reference Scenario



Oil and gas together account for more than 60% of the growth in energy demand between now and 2030 in the Reference Scenario

EU Supply Problems:

oil and gas

Solutions: - new ways of oil and gas supply

- own oil and gas resources

- energy mixture:

- **renewables**
- **coal**
- **nuclear**

- efficiency and storage

Role of Governments

- Supporting energy efficiency measures (generation and end-use)
- Development of alternatives
- Fostering zero emissions technologies from fossil fuels (clean coal, coal gasification, carbon dioxide capture and storage)

Role of Governments

Carbon dioxide capture and storage

- Fossil fuel-based electricity generation
- Manufacturing industry (iron and steel, cement), but also
- Extraction of oil from heavy oil bitumen and oil shales

Role of Governments

Development of oil and gas industry

- Creating appropriate investment climate, also through legal and regulatory frameworks
- Close collaboration with industry on environmental issues
- Ensuring safety of installations
- Supporting R&D in niche areas

EU level -Energy in FP7

Creating a sustainable energy system

- Diversification of energy sources and carriers
- Enhancement of energy efficiency
- Facing the challenges of security of supply and climate change
- Increasing the competitiveness of Europe’s energy industries

Activities

- Hydrogen and fuel cells
- Renewable electricity generation
- Renewable fuel production
- Renewables for heating and cooling
- CO2 capture and storage technologies for zero emission power generation
- Clean coal technologies
- Smart energy networks
- Energy efficiency and savings
- Knowledge for energy policy making

CO2 capture and storage technologies for zero emission power generation

- Role of fossil fuels in the future energy mix
- Environmental impact
- Development and demonstration of efficient CO2 capture and storage technologies
- Decreasing the cost of CO2 capture and storage
- Increasing capture rates above 90%
- Long-term stability, safety and reliability

Clean coal technologies

- Importance of coal fuelled power plants
- Complementarity with CO2 capture and storage technologies
- Potential for efficiency gains and cost reductions
- Development and demonstration of clean coal conversion technologies
- Paving the way towards future zero emission power generation