



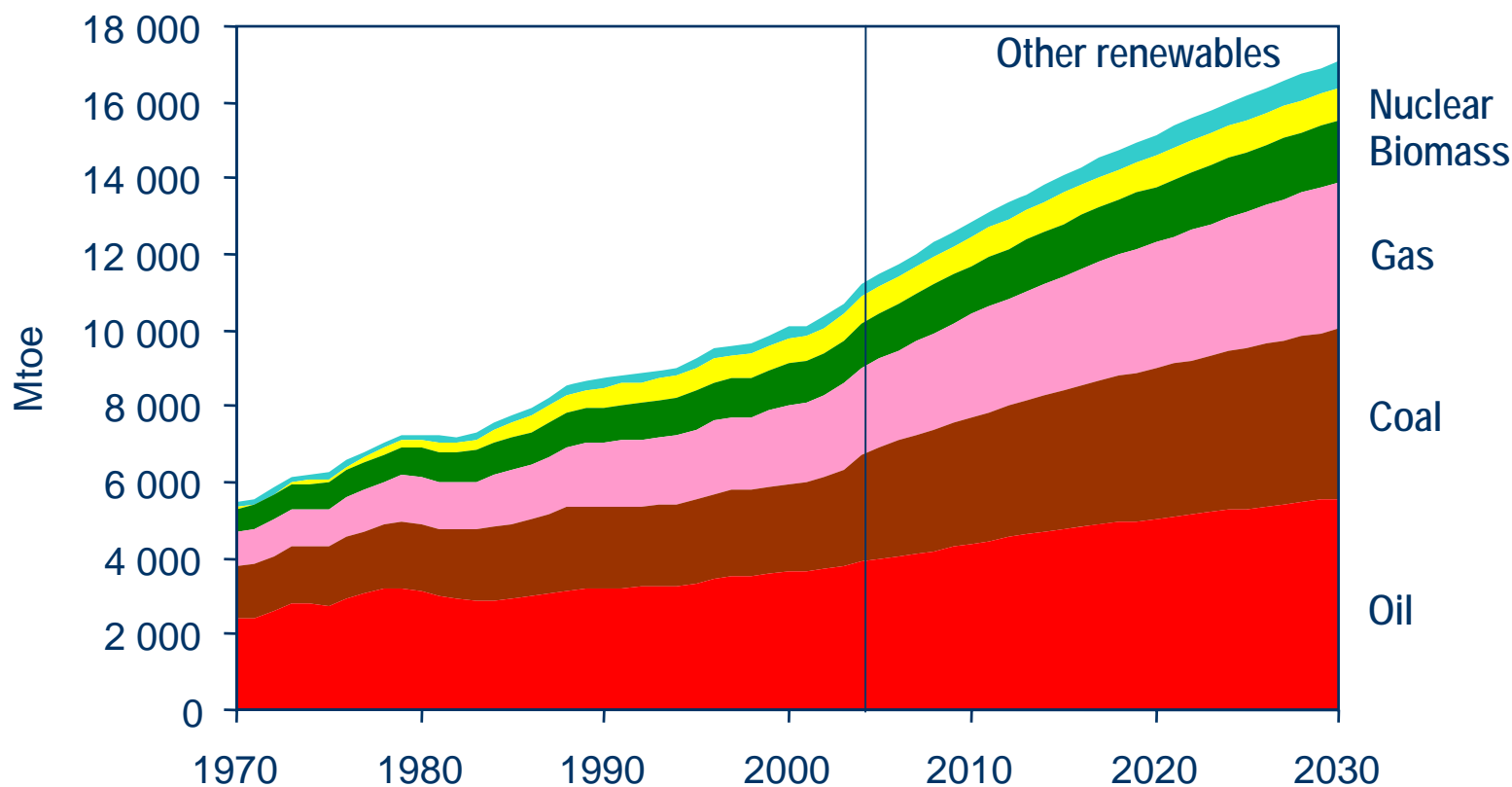
INTERNATIONAL ENERGY AGENCY



Improving Global Energy Security

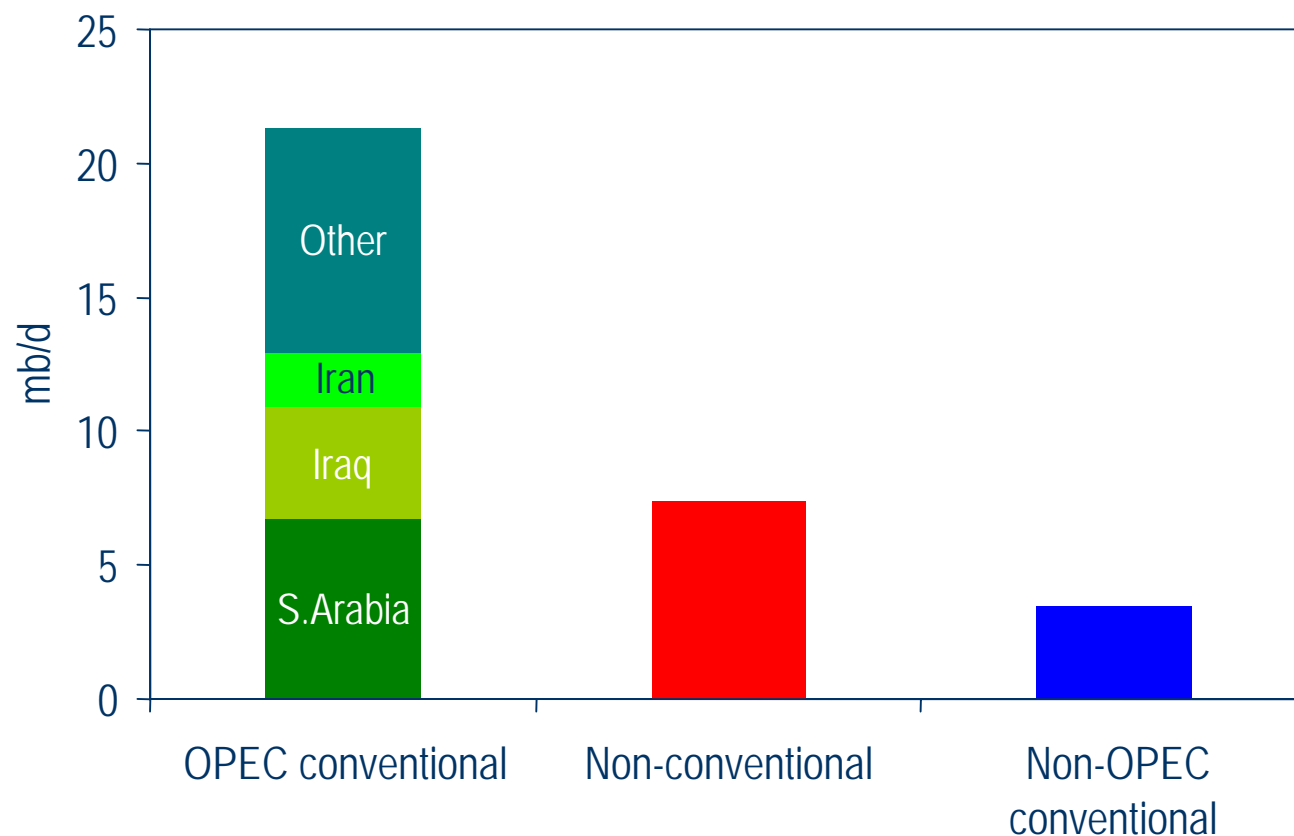
Claude Mandil
Executive Director
International Energy Agency
Geneva, 28 November, 2006

Reference Scenario: World Primary Energy Demand



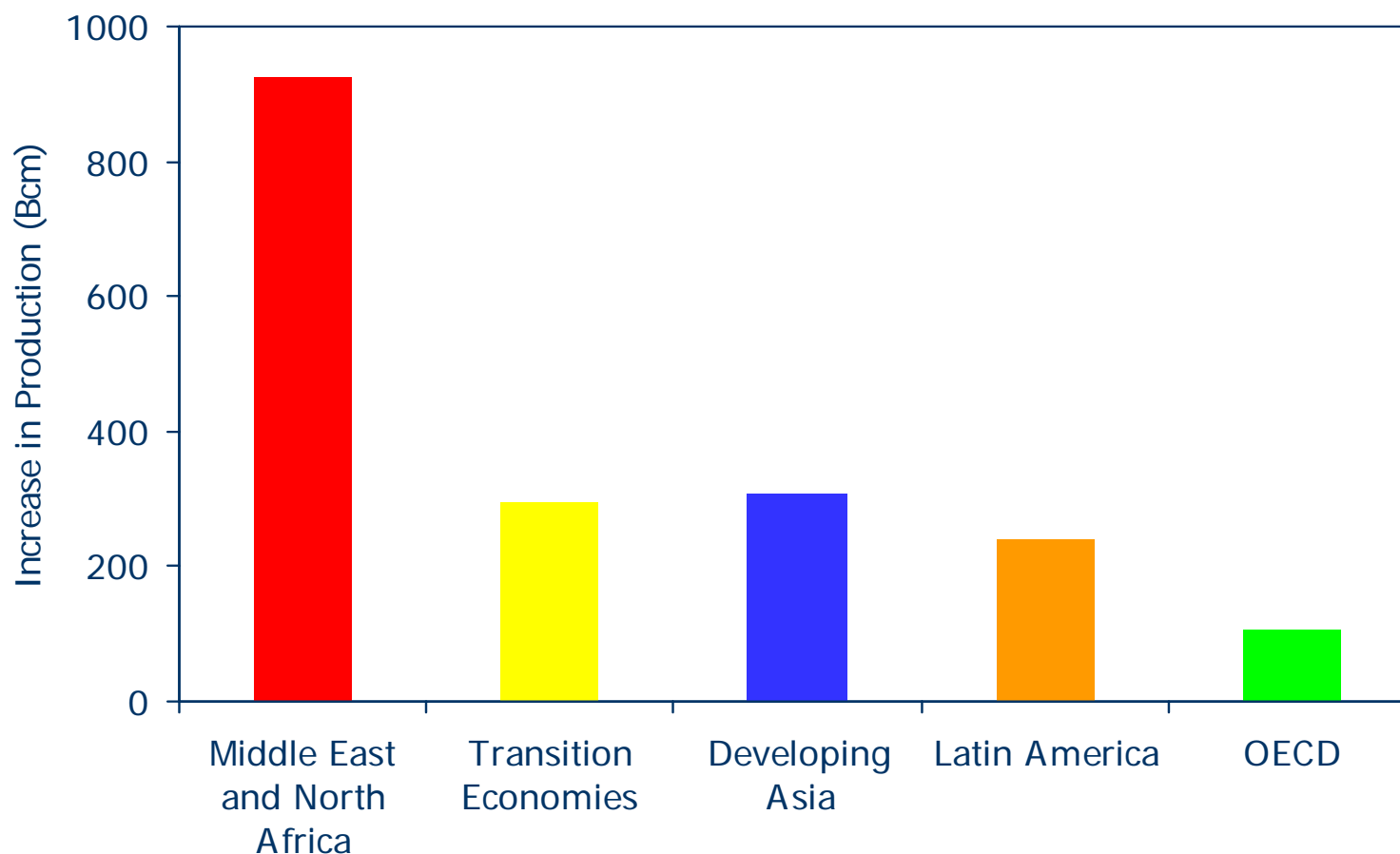
Global demand grows by more than half over the next quarter of a century, with coal use rising most in absolute terms

Reference Scenario: Increase in World Oil Supply, 2004-2030



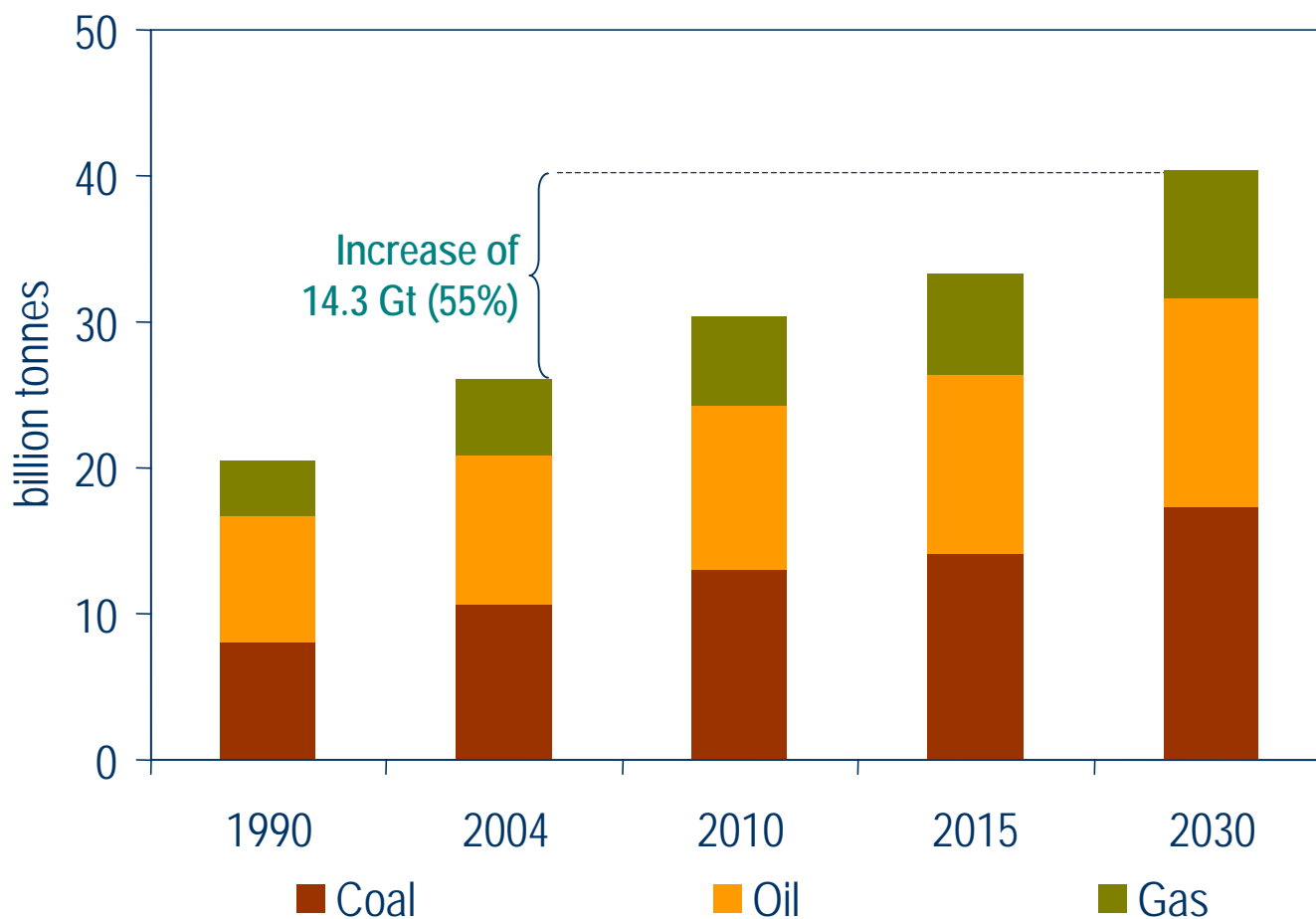
The share of OPEC in world oil supply increases sharply as conventional non-OPEC production peaks towards the middle of next decade

Reference Scenario: Increase in World Gas Supply, 2004-2030



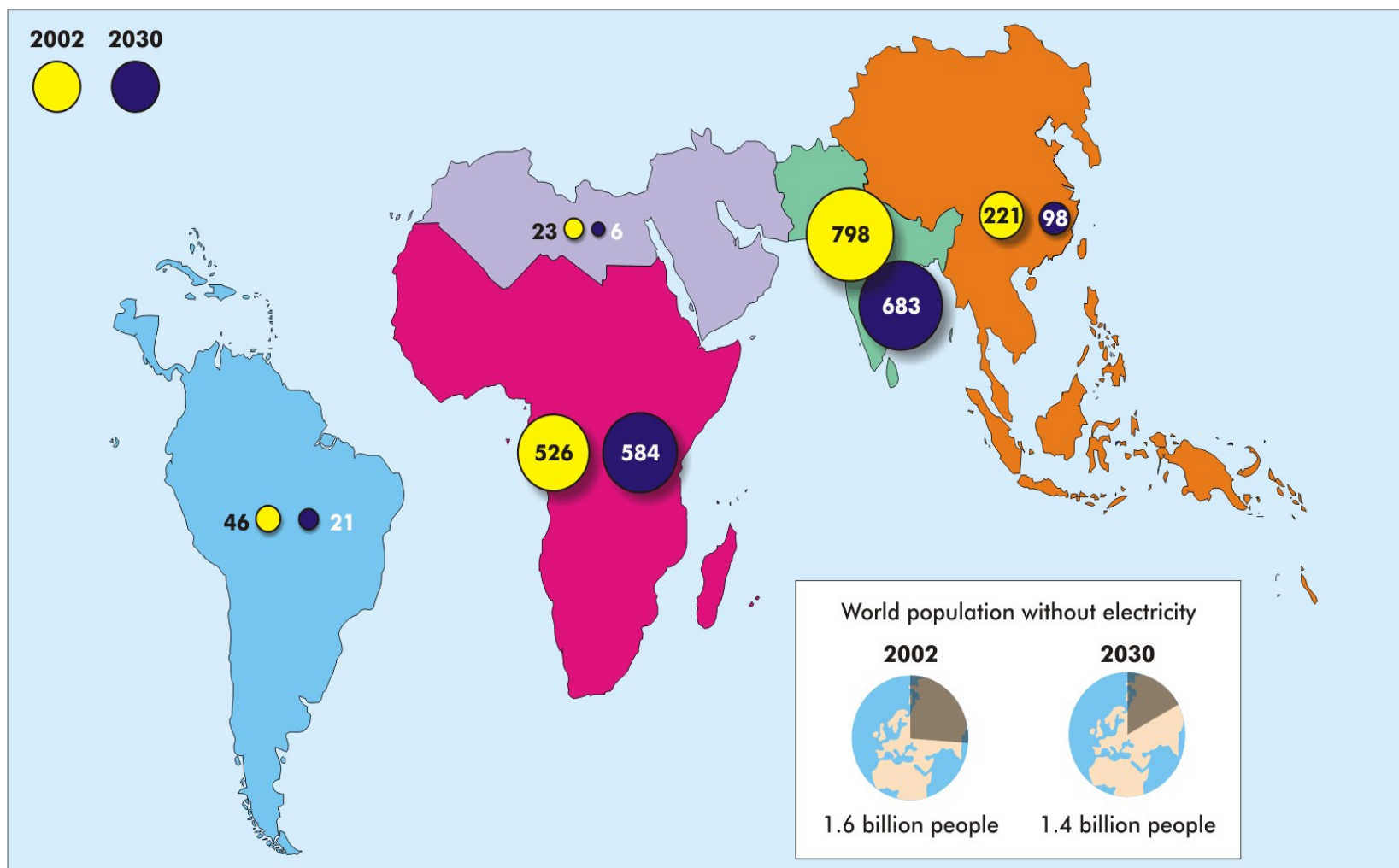
The Middle East and North Africa account for the bulk of the growth in global gas production. Much of this goes to meeting surging European & US LNG demand

Reference Scenario: Energy-Related CO₂ Emissions by Fuel



Half of the projected increase in emissions comes from new power stations, mainly using coal & mainly located in China & India

Electricity Deprivation

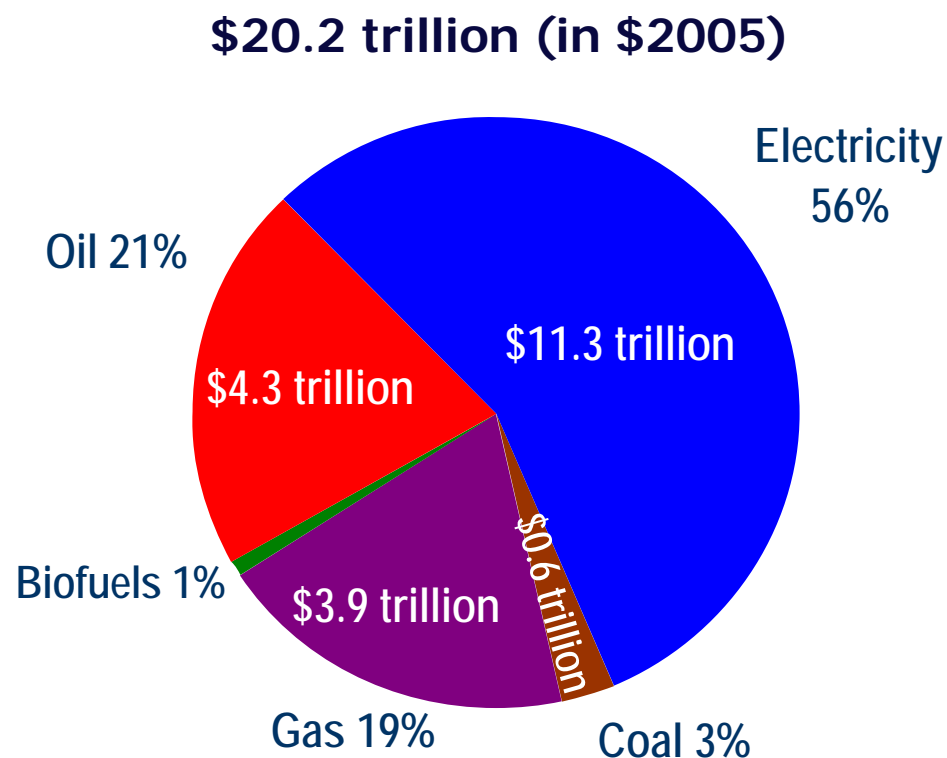


In 2030, if no new policies are implemented, there will still be 1.4 billion people without electricity

**This is Not
Secure !**

- **More capacity**
- **More efficiency**
- **More diversity**
- **More transparency**
- **Plus a safety net**

Investment to Boost Capacity 2005-2030



In the Reference Scenario, investment needs exceed \$20 trillion – \$3 trillion more than previously projected, mainly because of higher unit costs

Energy Efficiency Has A Key Role To Play And Is Available In The Short Term



High performance
buildings



Least life-cycle
cost appliances



Labelling and
certification



Efficient information and
communication technologies



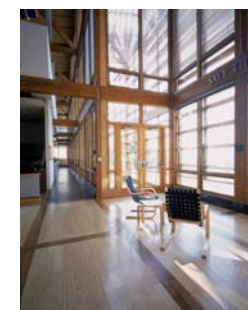
Reducing standby
power consumption



Compact Fluorescent
Lamps



LED traffic lights



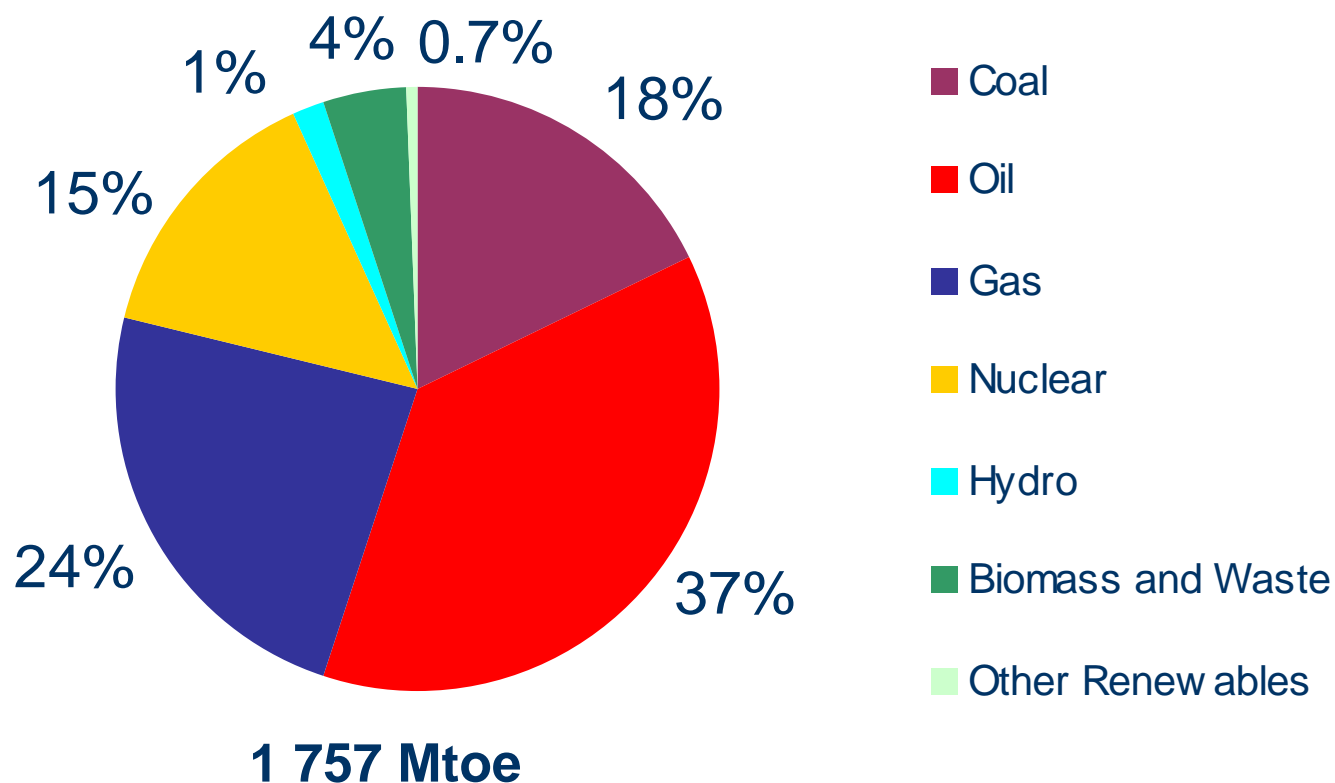
Super windows &
daylighting

Energy efficiency offers

- *substantial energy and greenhouse gas savings at low or negative cost*
- *energy security and reliability benefits*
- *enhanced business competitiveness and social welfare*

Diversity of the Energy Mix

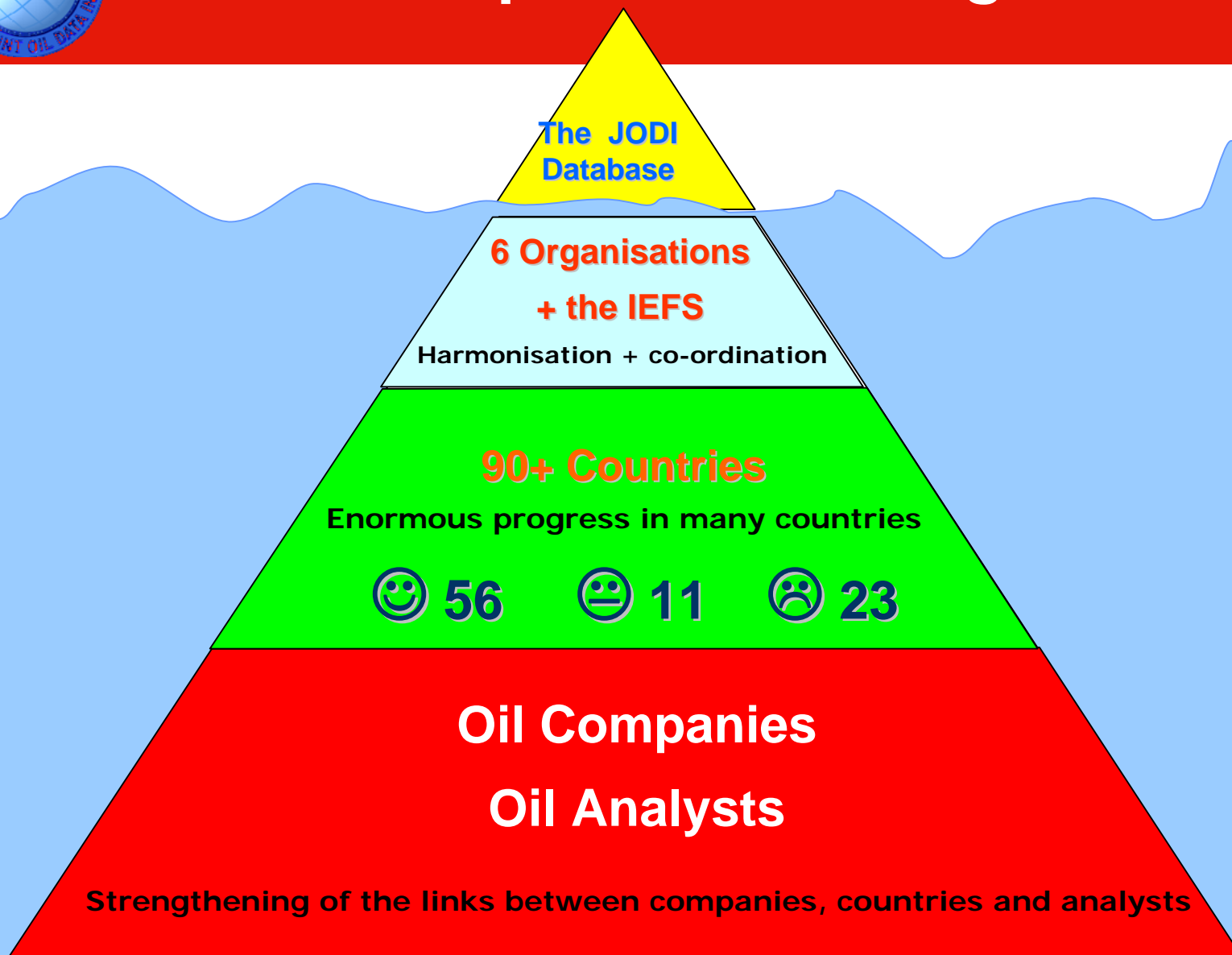
EU 25 Primary Energy Supply in 2004



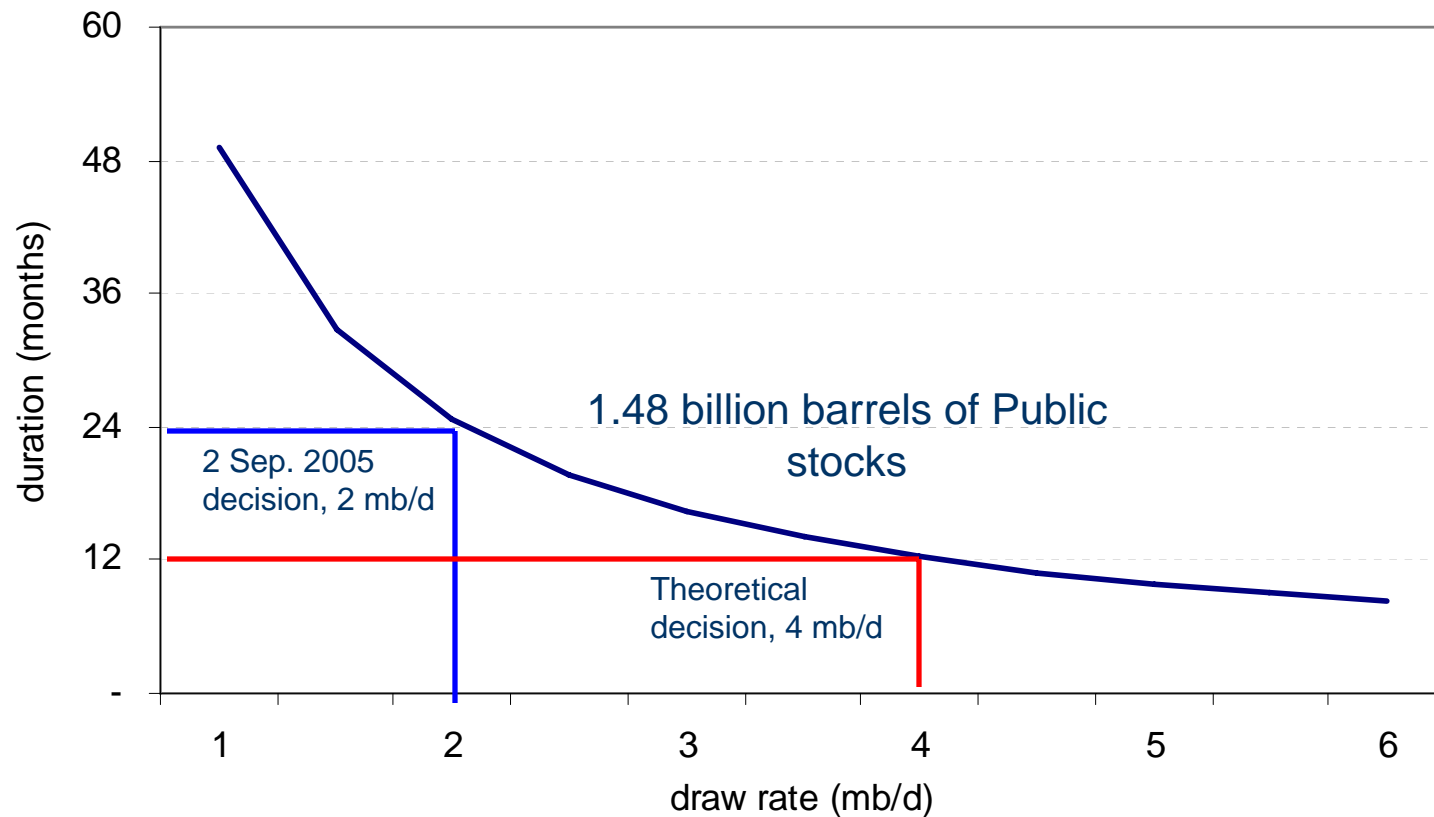
Diversifying the fuel mix and the sources of supply are key steps in improving energy security.



JODI - the tip of the iceberg...



A Safety Net: Emergency Preparedness Remains Crucial



IEA Public Stocks could replace an oil supply disruption of 1 mb/d for up to 4 years

Summing Up

- Energy security is a growing concern
 - Oil and gas production is becoming concentrated in a limited number of countries
 - Reserve capacities are shrinking in many electricity systems
- In response, government policy action is required in five key areas:
 - Promoting investment to boost capacity
 - Promoting energy efficiency
 - Ensuring adequate energy diversity
 - Improving data transparency
 - Maintaining an adequate safety net
- In addition to improving energy security, these policies make economic sense and most will also be good for the environment