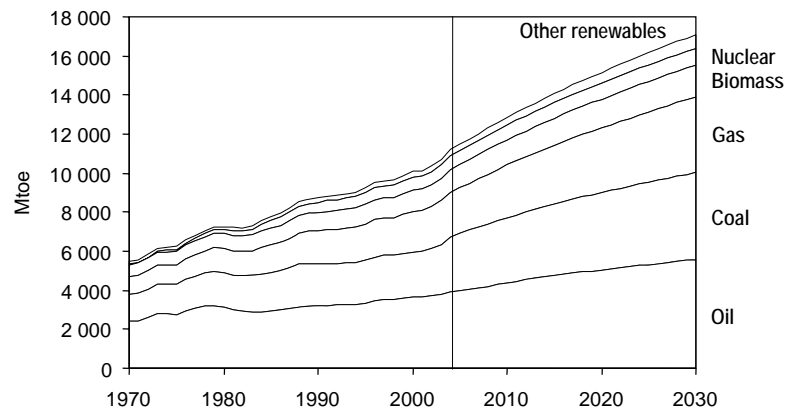




# Improving Global Energy Security

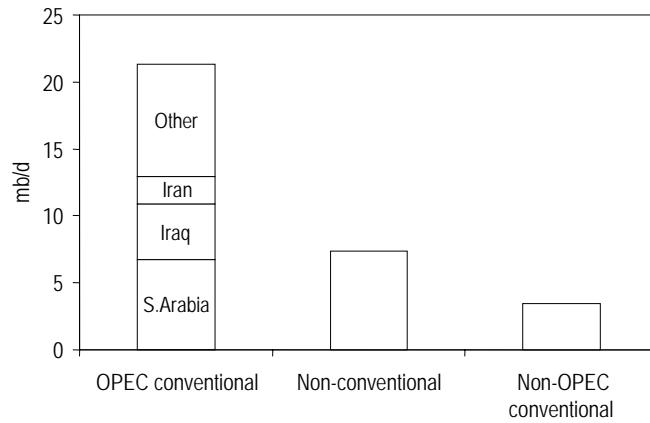
Claude Mandil  
Executive Director  
International Energy Agency  
Geneva, 28 November, 2006

## Reference Scenario: World Primary Energy Demand



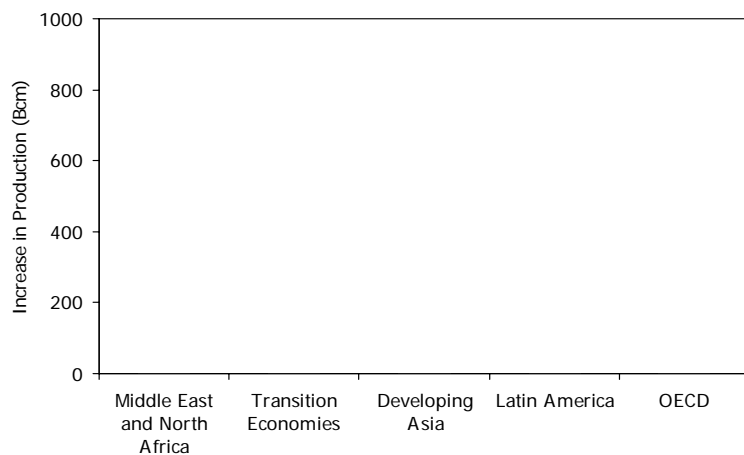
*Global demand grows by more than half over the next quarter of a century, with coal use rising most in absolute terms*

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



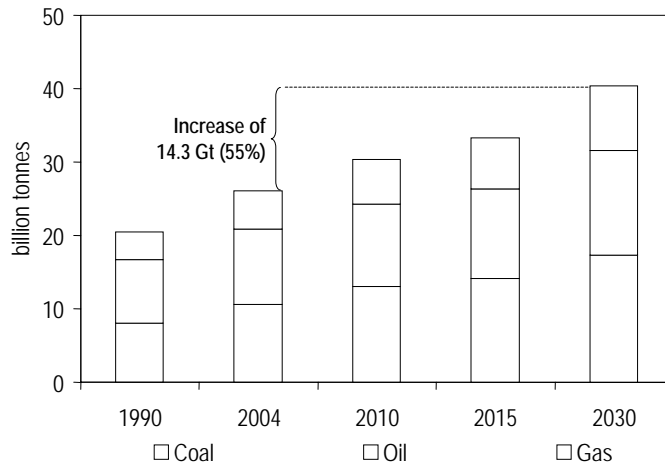
*The share of OPEC in world oil supply increases sharply as conventional non-OPEC production peaks towards the middle of next decade*

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



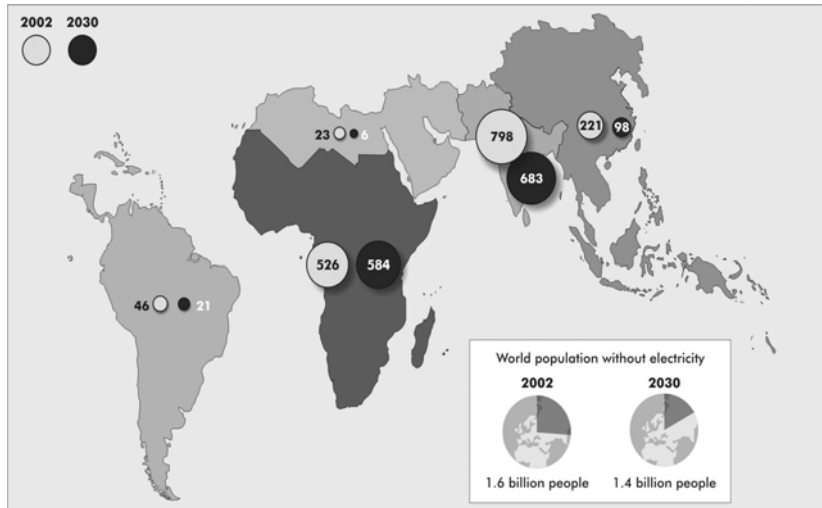
*The Middle East and North Africa account for the bulk of the growth in global gas production. Much of this goes to meeting surging European & US LNG demand*

### 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

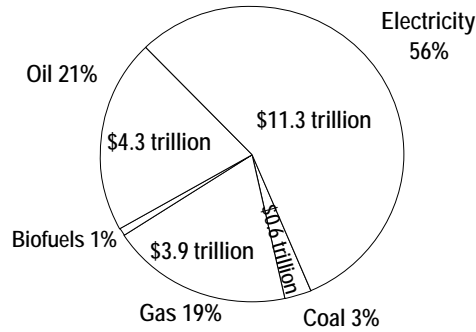
# **This is Not Secure !**

## **The IEA's 5 Step Program to Energy Security**

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

## Investment to Boost Capacity 2005-2030

\$20.2 trillion (in \$2005)



*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

### 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*



Compact Fluorescent Lamps



LED traffic lights



Super windows & daylighting



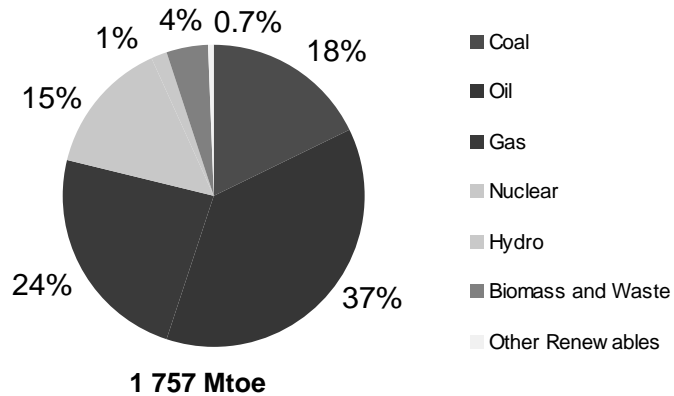
Efficient information and communication technologies



Reducing standby power consumption

## Diversity of the Energy Mix

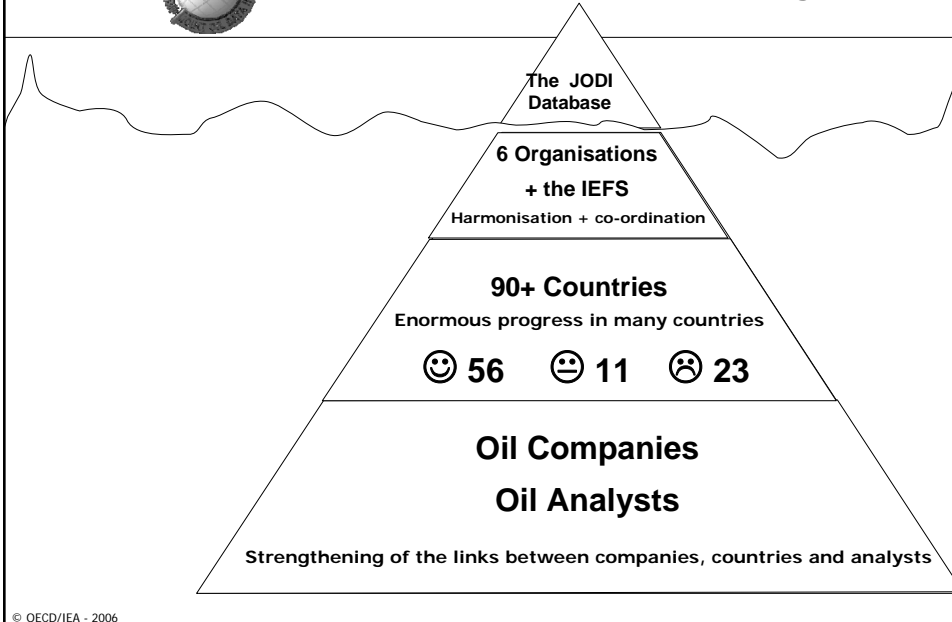
EU 25 Primary Energy Supply in 2004



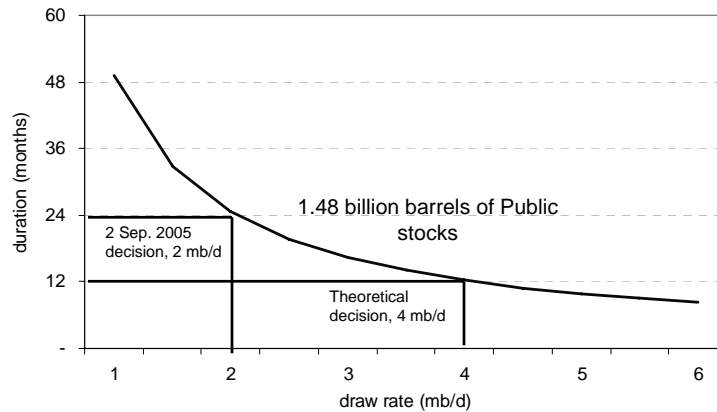
*Diversifying the fuel mix and the sources of supply are key steps in improving energy security.*



## 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*

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## 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

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