World Energy Outlook Series

- World Energy Outlook 1998
- World Energy Outlook 1999 Insights: Looking at Energy Subsidies: Getting the Prices Right
- World Energy Outlook 2000
- World Energy Outlook 2001 Insights: Assessing Today’s Supplies to Fuel Tomorrow’s Growth
- World Energy Outlook 2002 (2nd edition issued)
WEO 2002: Key Strategic Challenges

- security of energy supplies
- investment in energy infrastructure
- threat of environmental damage caused by energy use
- uneven access of the world’s population to modern energy.
Global Trends
World electricity consumption is set to increase rapidly.

Electricity Demand 2000 to 2030:
- OECD: 1.5%
- Transition Economies: 2.0%
- Developing Countries: 4.1%
- WORLD: 2.4%
World Power-Generation Capacity Additions, 2000-2030

More than 40% of new capacity worldwide is gas-fired
World Installed Power-Generation Capacity

Nearly 5,000 GW of capacity is built in 2000-2030, almost half in developing countries.
World Power-Generation Investment, 2000-2030

Cumulative worldwide investment in new power plants amounts to $ 4.2 trillion, more than half in developing countries.
OECD
Ordered Power-Generation Capacity Additions to 2010

- **US and Canada**: 
  - Coal
  - Oil
  - Gas
  - Other

- **Japan**: 
  - Coal
  - Oil
  - Gas
  - Other

- **EU15**: 
  - Coal
  - Oil
  - Gas
  - Other
EU Capacity Additions and Investment

EU investment needs will increase over time in both GW and $ terms.
Installed Capacity in EU-15

584 GW Installed Capacity 2000

- 290 GW Retirements 2000-2030

= 618 GW New Capacity 2000 - 2030

= 901 GW Installed Capacity - 2030

Capacity additions over the next 30 years will be larger than today's installed capacity
Europe's power plants are ageing: half current capacity - mostly coal-fired - could be retired by 2030
The role of non-hydro renewables is much greater in all OECD regions, especially Europe.
Capacity in EU
7 Major Utilities (2002)
Capacity in EU15
7 Major Utilities (2002)
Developing Countries
Foreign capital flow needs to meet the gap between domestic financial resources and investment in most of non-OECD regions.
Financial markets in non-OECD regions are smaller, less active, and less efficient.
Sound macroeconomic management and legal/regulatory framework are needed to secure the availability of foreign capital to energy projects.
Concluding Remarks
Summary

- World electricity demand is set to grow rapidly
- Gas is likely to be the preferred fuel
- Ageing: a key issue in OECD countries
- Developing Countries: higher demand growth - scarce resources
Surrounding Issues

- What are obstacles to investment?
- Is investment climate changing?
- What are the (new) risks introduced by liberalisation of electricity markets?
- How do challenges vary across energy mix / technology?
- How will the capital markets be convinced to invest in Developing Countries?
- What role for governments?