



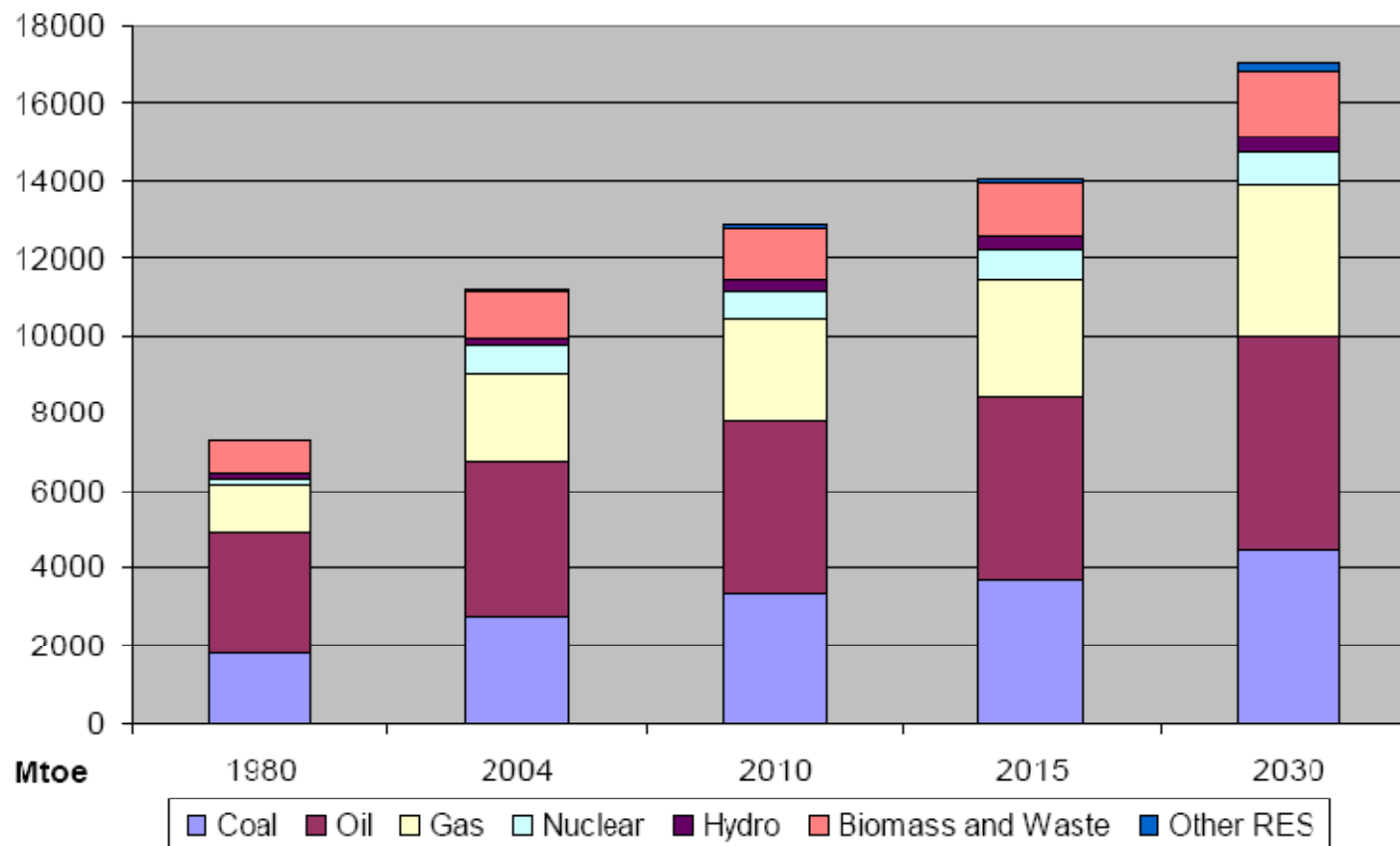
**ENHANCING  
COMPETITIVENESS AND  
THE ENVIRONMENT**

**ENERGY AND ENVIRONMENT**

*Gunnar Okk  
Vice-President  
Nordic Investment Bank*

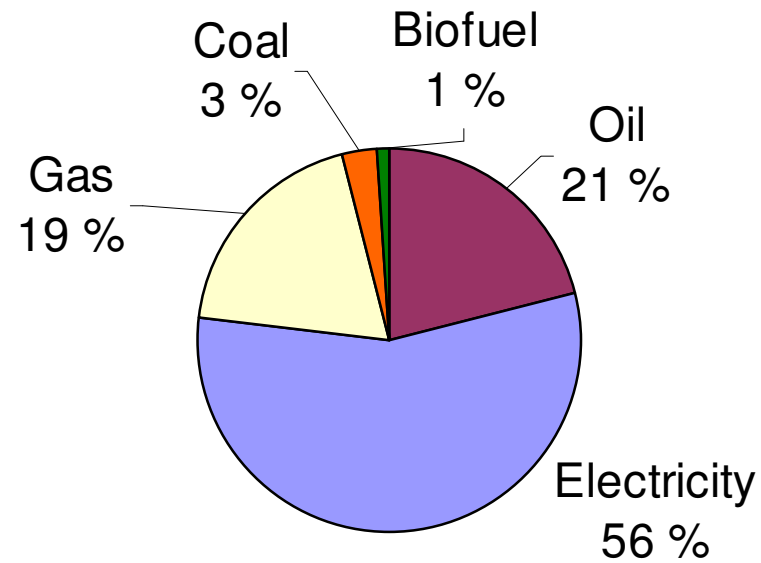
**Baltic Dynamics 2008**  
Innovation - Key from Slowdown to Growth  
Tartu, 4 September 2008

## World Primary Energy Demand 1980 - 2030



Source: WEC 2006, OECD/IEA 2006

## Cumulative investment in energy-supply infrastructure 2006 - 2030:

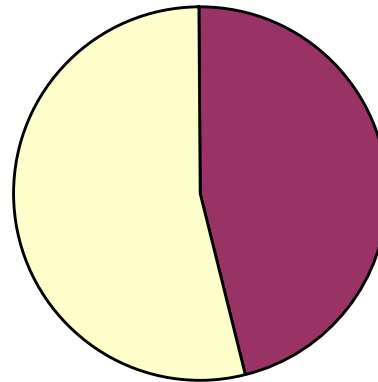


Source: WEC 2006, OECD/IEA 2006



## Investments needed in the electricity industry 2006 - 2030

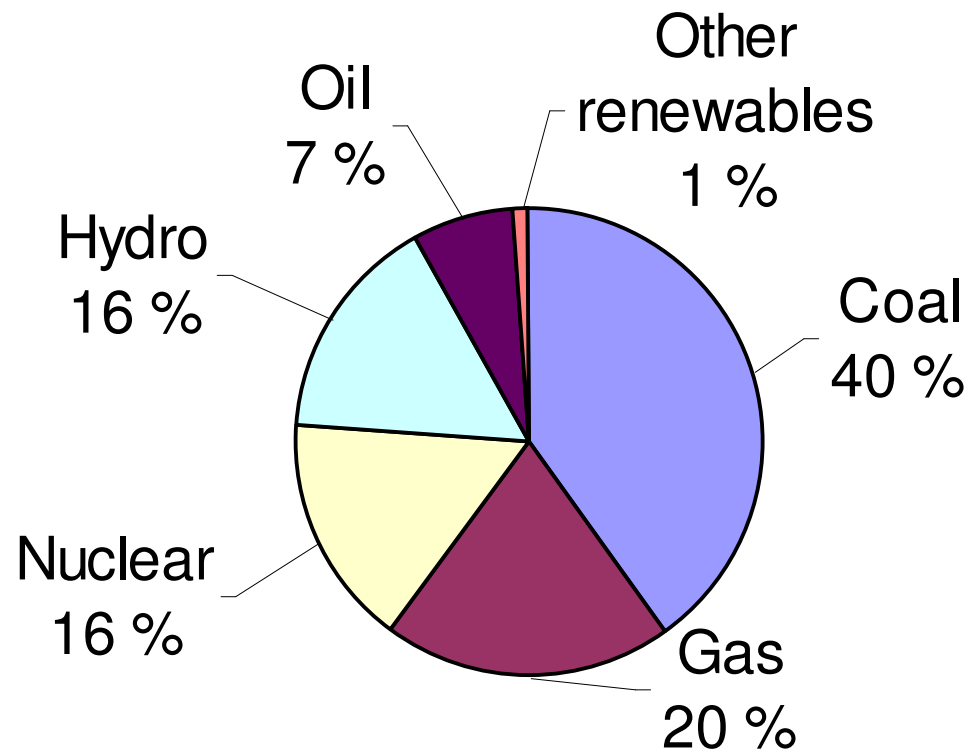
Transmission  
and  
distribution  
networks  
**54 %**



Power  
generation  
**46 %**

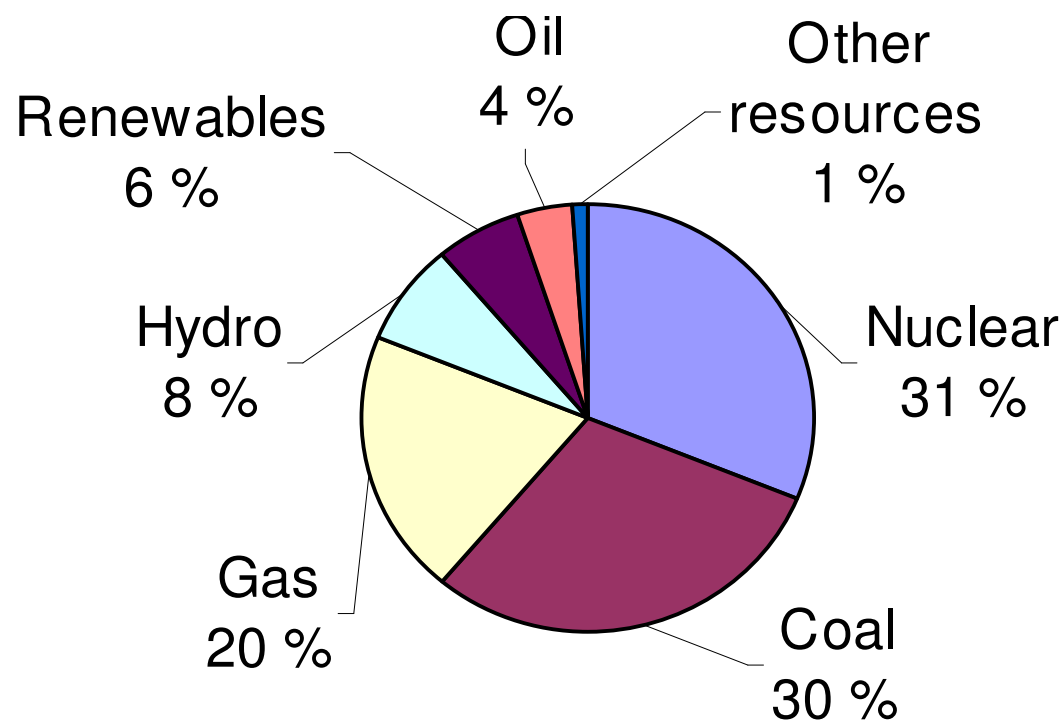
*Source: WEC 2006, OECD/IEA 2006*

## Electricity production globally



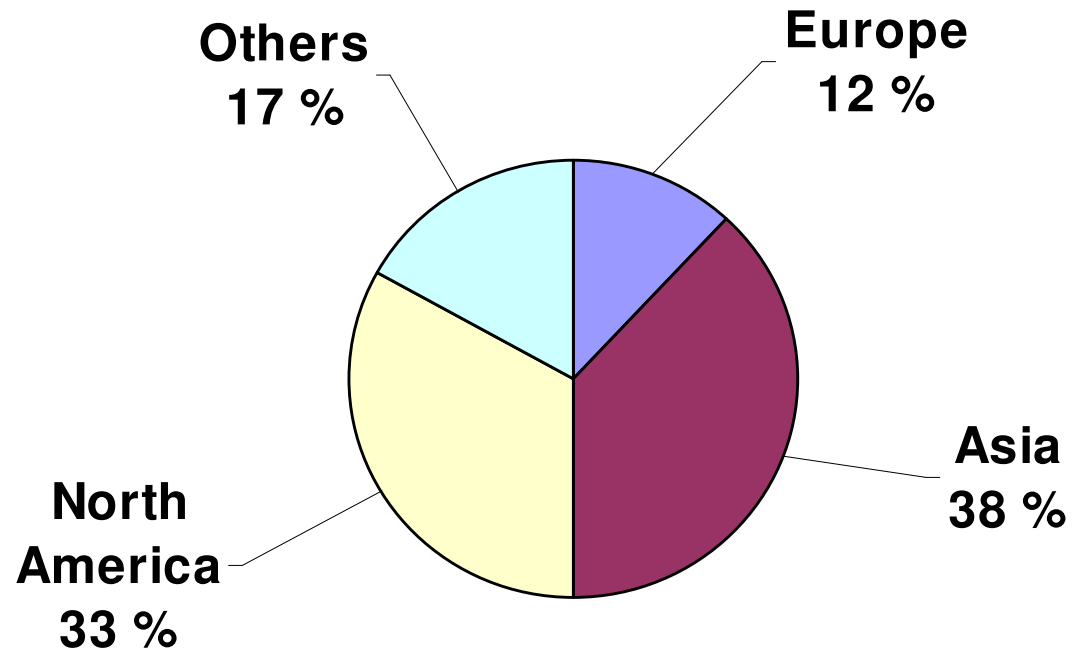
Source: WEC 2006, OECD/IEA 2006

## Electricity production in the EU-27



*Source: European Commission, DG TREN, Eurostat*

## Global CO<sub>2</sub> emissions



*Source: Globalis*

## The "Energy policy for Europe" has three ambitious targets for 2020

- **20% reduction in GHG**
- **20% of energy from renewables**
- **20% improvement in efficiency of energy use**

## Challenges and opportunities to meet EU-20-20-20-targets

- Nuclear generation
- CCS technology
- Renewables
- Investment in networks and interconnections
- Energy efficiency
- Electrification of transport
- Innovation and co-operation
- Financing investments

## Conclusions

- All different energy source options should also be available in the future;
- The right energy mix without nuclear is not possible;
- The European electricity industry can be the first sector to be CO<sub>2</sub> emissions-free;
- Electrical energy will remain cheaper than petrol and diesel energy in the foreseeable future;
- There are still many uncertainties about time limits and maturities of technologies but the role of electricity can only grow;

## Conclusions

- Consuming less energy means consuming more electricity;
- Electrification of road transport is one of the keys to reducing oil-dependency and cutting CO2 emissions;
- National strategies should take international dimension, and incorporate more cross-border elements;
- The public and private sectors should share costs, risks and rewards in a more intelligent way. There is a clear need for innovative financing and new risk-sharing tools;
- Heavy global demand for different applications, smart- and customised solutions offers new business opportunities for entrepreneurs or small- and medium sized companies.

“It will be a long time before King Coal and Queen Oil are dethroned completely, but their reigns as absolute monarchs of all they survey are coming slowly to an end.”

-The Economist June 21st 2008-