



OLJE- OG ENERGIDEPARTEMENTET

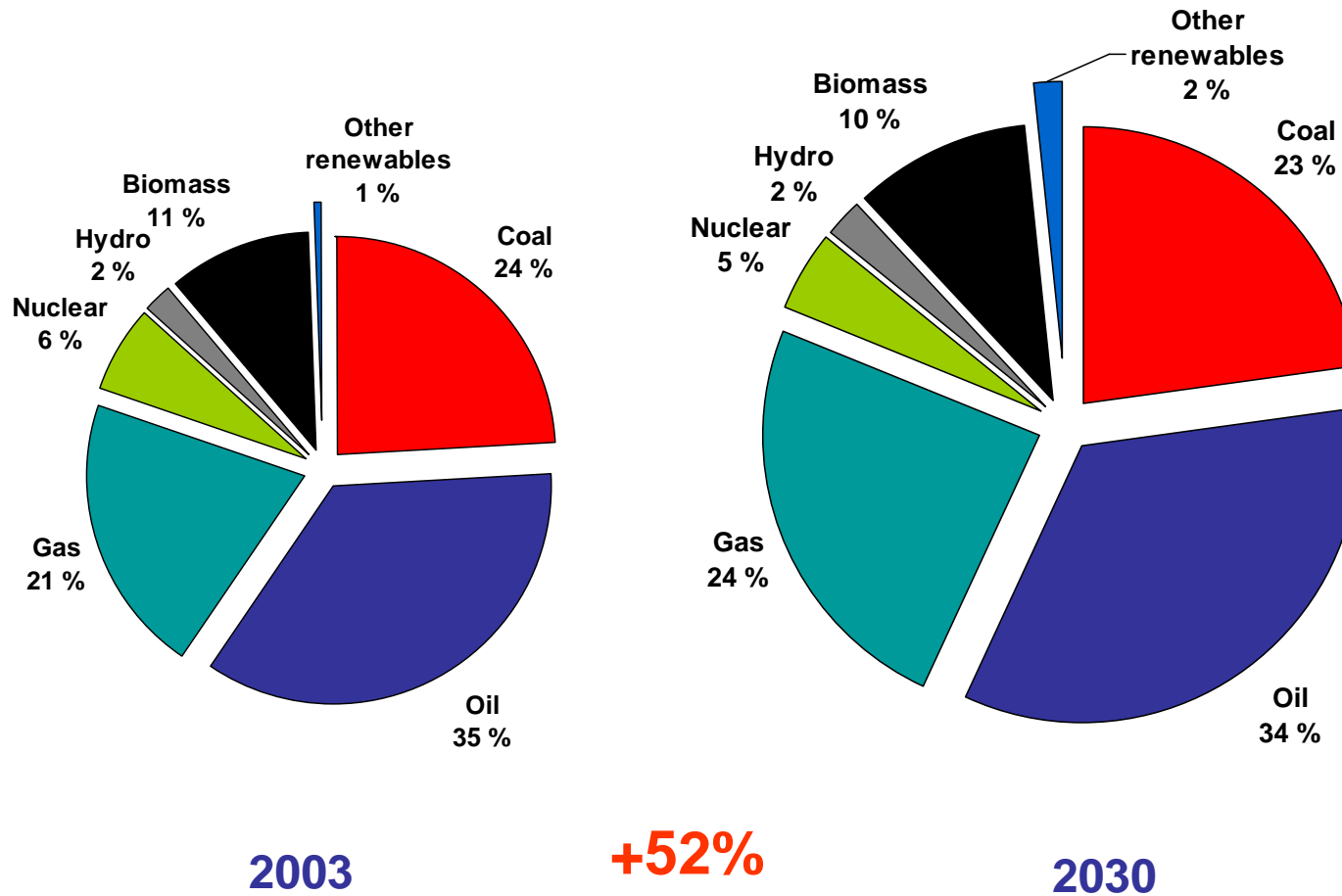
Poland 2006

Energy Security and Climate Change – The Norwegian perspective

Anita Utseth, State Secretary
Ministry of Petroleum and Energy

Trondheim, Norway, 18th October 2006

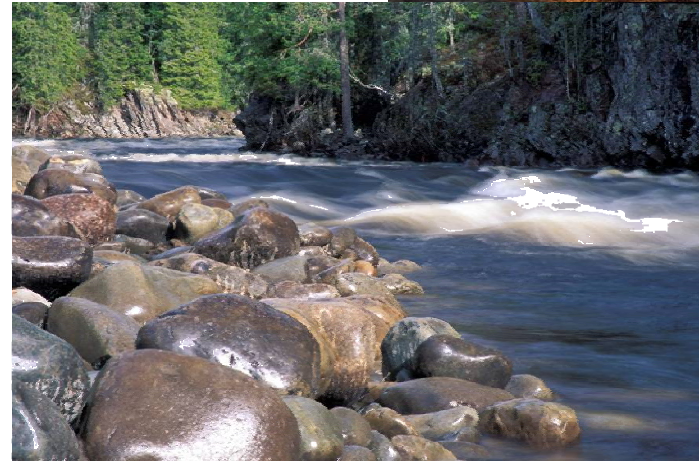
The Global Energy Challenge



Source: The International Energy Agency

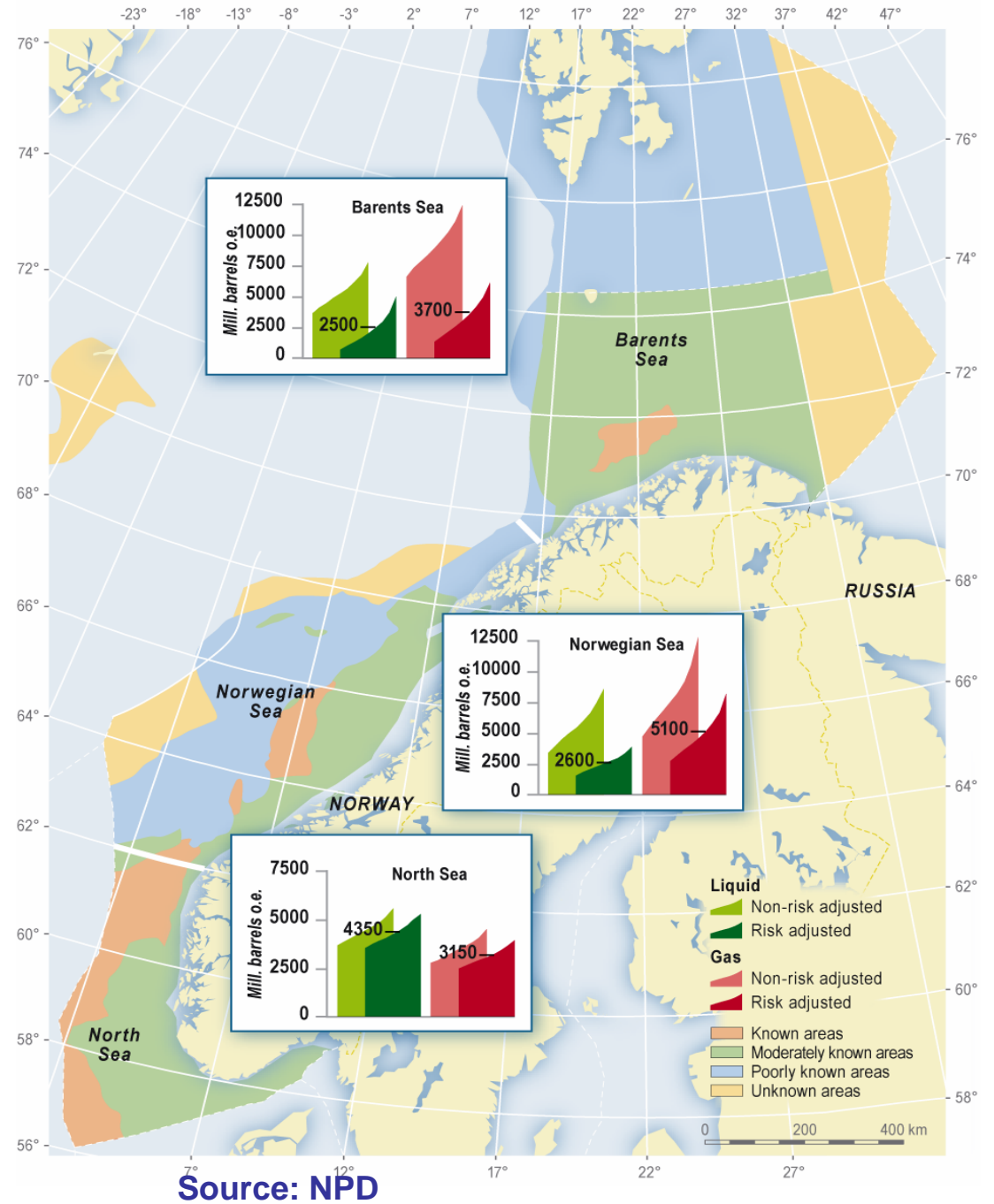
Norway – A large Energy Producer

- 8th largest oil producer in the world
- 3rd largest exporter of oil and natural gas in the world
- 6rd largest producer of hydro power in the world



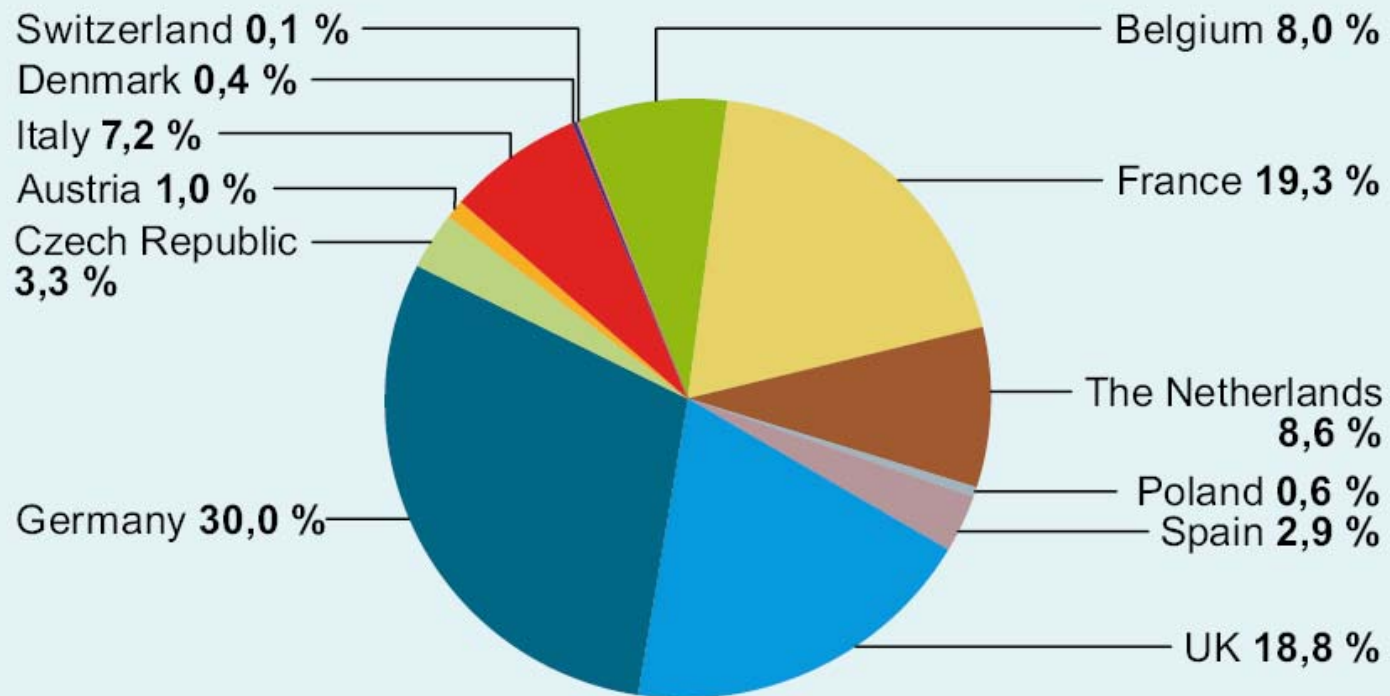


Norwegian Continental Shelf – Large undiscovered resources



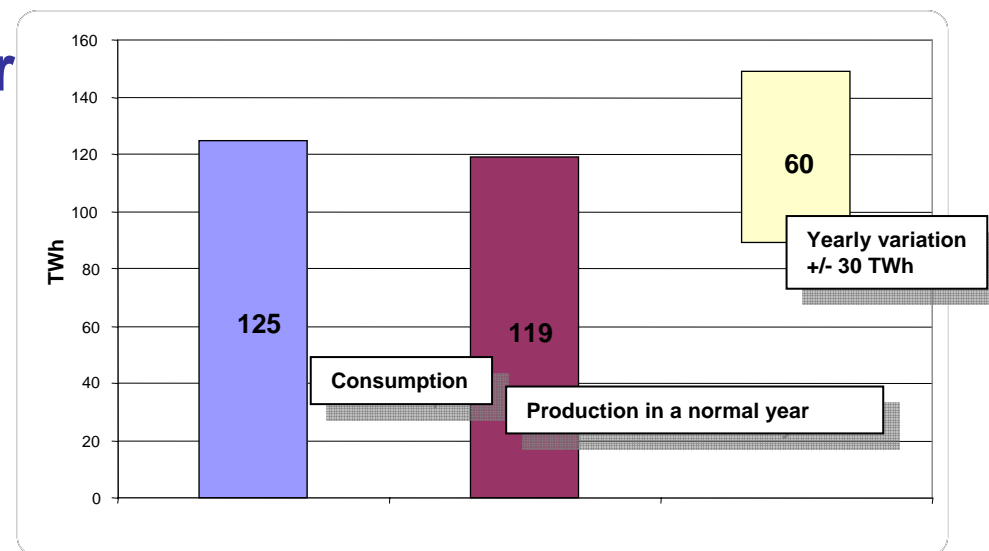
Gas Exports from Norwegian Continental Shelf

A total export of 82,5 BCM in 2005



The Norwegian Perspective

- Electricity production depends on hydro power
- Small growth in production capacity over several years
- Unique access to renewable energy sources



Need for a New Energy Mix

- Initiative to change energy use and supply
 - new electricity production from additional renewable sources
 - increased use of district heating and biomass
 - energy efficiency and energy savings
- Contribute to making gas fired power plants with carbon capture and storage a reality



Target for renewable energy

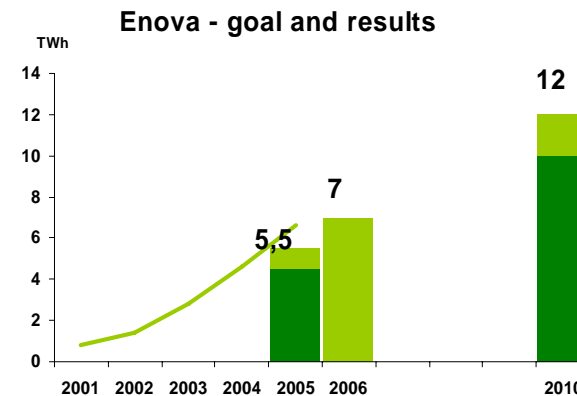
12 TWh within 2010

- 3 TWh wind power
- 4 TWh district heating based on renewables
- energy efficiency



30 TWh within 2016

Enova is the government's tool for achieving the targets



Natural Gas in the Energy Supply

- A possible gas pipeline to South-Eastern Norway and Sweden is currently being evaluated
- There has been considerable interest from the Polish side to participate in this pipeline project
- Good dialogue between Polish and Norwegian authorities in this process



CO₂ Capture and Storage (CCS)



Power plants



Gas processing

Illustration: BUC, Statoil

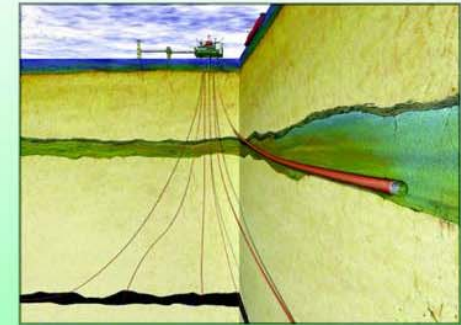


Pipelines



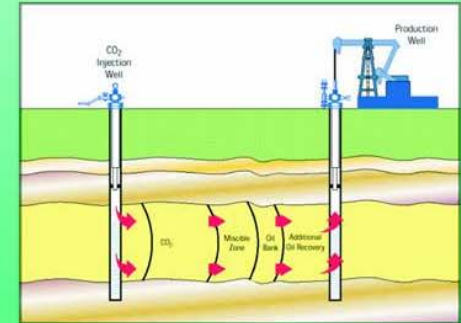
Ships

Photo: Sealand, Statoil



Storage in saline aquifers

Illustration: D. Fierstein, Statoil



Enhanced oil recovery

Illustration: IEA GHG R&D Programme

CCS Projects in Norway

- The Norwegian government and Statoil will establish CCS in conjunction with the projected CHP plant at Mongstad
- Tjeldbergodden
- Kårstø



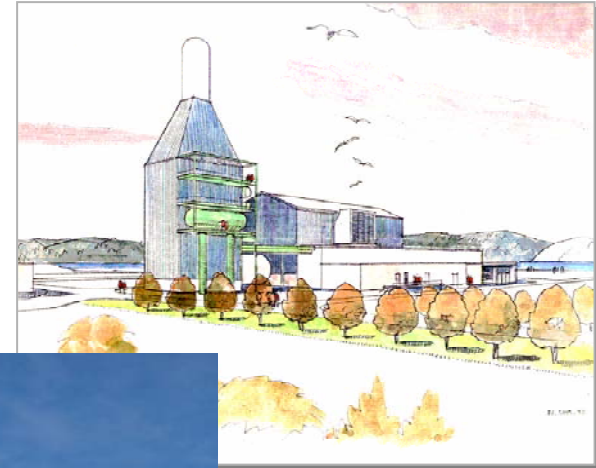
International cooperation is a key factor

- R&D
- Gassnova
- IEA
- CSLF
- MOU Norway-US
- Dialogue at a political level:
 - Energy dialogue Norway-EU Commission
 - Joint Statement between Norwegian and UK energy ministers on CCS, including establishment of a North Sea Basin Task Force



Conclusion

- A sustainable energy future does not emerge without a substantial effort
- R&D important
- Need for a mix of energy technologies:
Energy efficiency, renewables and carbon dioxide capture and storage



Internettadresse - Internet address

 www.oed.dep.no

 www.mpe.dep.no

