Japan-Norway Energy Seminar
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NORWEGIAN ENERGY POLICIES

H. E. Oluf Ulseth, State Secretary
Norway

- 4,5 mill people
- 325 000 sq. km – 14 persons/sq. km
- (Japan 377 000 sq. km – 337 persons/sq. km)
- North-western part of Europe
- GDP is ca. 36 000 USD/capita (PPP)
- European Economic Area

- The petroleum sector’s share of GDP: 19%
- The petroleum sector’s share of State revenues: 25%
- The petroleum sector’s share of total investment: 24%
- The petroleum sector’s share of total exports: 45%

The petroleum sector’s direct share of total employment was 1.2 percent in 2003.

Source: Statistics Norway
Production and Net Export of Liquids* 2003

Production:
- Saudi Arabia: 9,88 mill b/d
- Russia: 8,46 mill b/d
- USA: 7,84 mill b/d
- Iran: 3,95 mill b/d
- Mexico: 3,79 mill b/d
- China: 3,42 mill b/d
- NORWAY: 3,26 mill b/d
- Canada: 2,98 mill b/d
- UAE: 2,63 mill b/d
- Venezuela: 2,53 mill b/d

Net export:
- Saudi Arabia: 8,46 mill b/d
- Russia: 5,83 mill b/d
- NORWAY: 3,01 mill b/d
- Iran: 2,58 mill b/d
- UAE: 2,38 mill b/d
- Kuwait: 2,03 mill b/d
- Nigeria: 2,01 mill b/d
- Venezuela: 1,98 mill b/d
- Mexico: 1,73 mill b/d
- Algeria: 1,6 mill b/d

(Source: Petroleum Economics Ltd)

* includes both crude oil and NGL
The Norwegian Gas Sector

• 50 fields producing gas
• More than 6000 km of large offshore pipelines
• Export 2004: 76 bcm/year
• Export 2010: 120 bcm/year
• Supplies about 14% of European gas consumption
Snøhvit LNG

• Recoverable reserves:
  – 6.7 TCF gas
  – 133 MMbbls condensate

• Production start: 2006

• Investment costs: 6 bill. USD

• Gas production 5.7 bcm/year
  – Destinations: USA and Europe

• Statoil – main gas marketer
Norwegian LNG Technology

Aker Kværner Offshore LNG terminals
→ Northern Baja California.

**ChevronTexaco**
→ North Adriatic Sea.

The Kværner group developed LNG carriers with spherical tanks in the early 1970s.

This design now dominates the market, accounting for about 50 percent of the world fleet.

Source: Statoil/AkerKværner
Norwegian LNG Technology

GraviFloat LNG – LNG receiving and regasification terminal
Technology – Past, Present and Future

Yesterday: Gravity based platforms for drilling and production

Today: Floating production and sub sea systems

Tomorrow: Seabed separation, extended well stream transfer to onshore plant

Source: Demo 2000 / Hydro
Hydropower

- 6th largest hydropower producer in the world
- Average production capacity: 119 TWh/year
- Installed capacity: 27 300 MW
- Largest land-based industry
A Nordic Power Market

- Provides an effective coordination of generation from hydropower, nuclear and coal
- Gives adequate market signals to sustain a necessary level of investments
- Secures well functioning transmission capacity within Norway and between and the Nordic countries
Gas-fired power plants

- Potential growth area for domestic energy production

- **Gassnova:**
  Government Agency to promote R&D in CO2-capture
Other technologies for sustainable energy

**Existing**
- Hydrogen
- Wind
- Bio energy

**Potential**
- Salt
- Tidal/wave
- Solar
Norway – your partner in energy

- Norway’s supply and service industry is strong and with international competence and ambitions in the oil and gas sector
- Norway has important experiences of LNG developments in environmentally difficult areas
- Norway is part of a highly advanced Nordic power market
- Norway has broad engineering and construction experience within the hydro power sector