Challenges on the Norwegian Continental Shelf

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Opening of The National IOR Centre of Norway
26th March 2014
Main goal:
Contribute to creating the greatest possible values for society from the oil and gas activities by means of prudent resource management based on safety, emergency preparedness and safe-guarding of the external environment.

Value creation - Long-term perspective - Cooperation
Unlocking the value of mature fields

Remaining resources at planned cessation according to approved plans
Remaining oil reserves
Produced oil per 31.12.2013

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Results from IOR efforts

Oil rate (mill. Sm³ per year)


Ekofisk

Prognosis at PDO

Actual production

1985 1995 2005

Oseberg

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Reserve growth:
The hunt for 5 billion barrels extra oil within 2015

Cumulative reserve growth from discoveries in 2005 and later
Cumulative reserve growth from discoveries before 2005
Cumulative reserve growth from original fields
Goal for reserve growth
Prognosis autumn 2004 for reserve growth total
Unlocking the value from mature fields

**EOR Technologies**

- Surfactant flooding
  - Alkaline flooding
- Low-salinity water flooding
  - Microbial EOR
- Miscible gas injection
  - CO2-injection
  - Thermal EOR

- Polymer flooding
- Water diversion
- WAG/ SWAG
  - FAWAG

**IOR/Production Optimization**

- More wells
- Advanced wells
- Well interventions
- Additional water and gas injection
- Low-pressure production
- Subsea separation and compression
- Better use of data, IO, 4D seismics etc.
- Lifetime extension

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Development of unit costs from 2000 - 2013

Cost per unit oe (2013-kroner)

- Investments per unit
- Operating costs per unit

---|---|---|---|---|---|---
0  | 0  | 0  | 0  | 0  | 0  | 1000
0  | 0  | 0  | 0  | 0  | 0  | 600
200 | 200 | 200 | 200 | 200 | 200 | 400
400 | 400 | 400 | 400 | 400 | 400 | 200
600 | 600 | 600 | 600 | 600 | 600 | 0

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