

Statoil CCS and NORDICCS

Bjørn Berger, November 15th, 2015



Statoil is an international energy company with operations in 37 countries. Building on 40 years of experience from oil and gas production on the Norwegian continental shelf, we are committed to accommodating the world's energy needs in a responsible manner, applying technology and creating innovative business solutions.



NOT



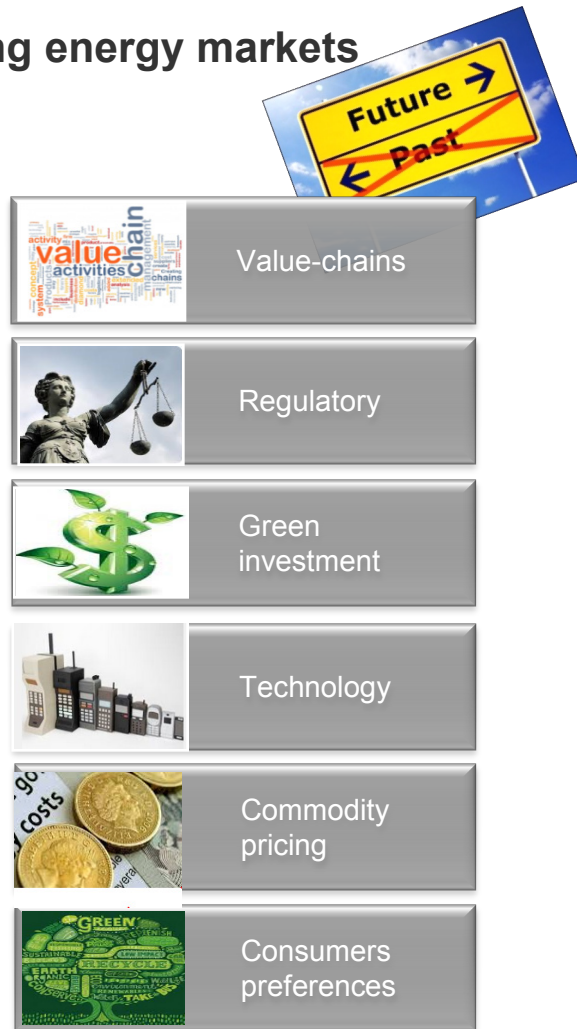
In Statoil Research and technology we are now:

- ✓ 730 employees
- ✓ Spending: NOK 2,93 billion a year
- ✓ 50% outside Statoil
- ✓ Having a global approach



Statoil and CCS

Changing energy markets



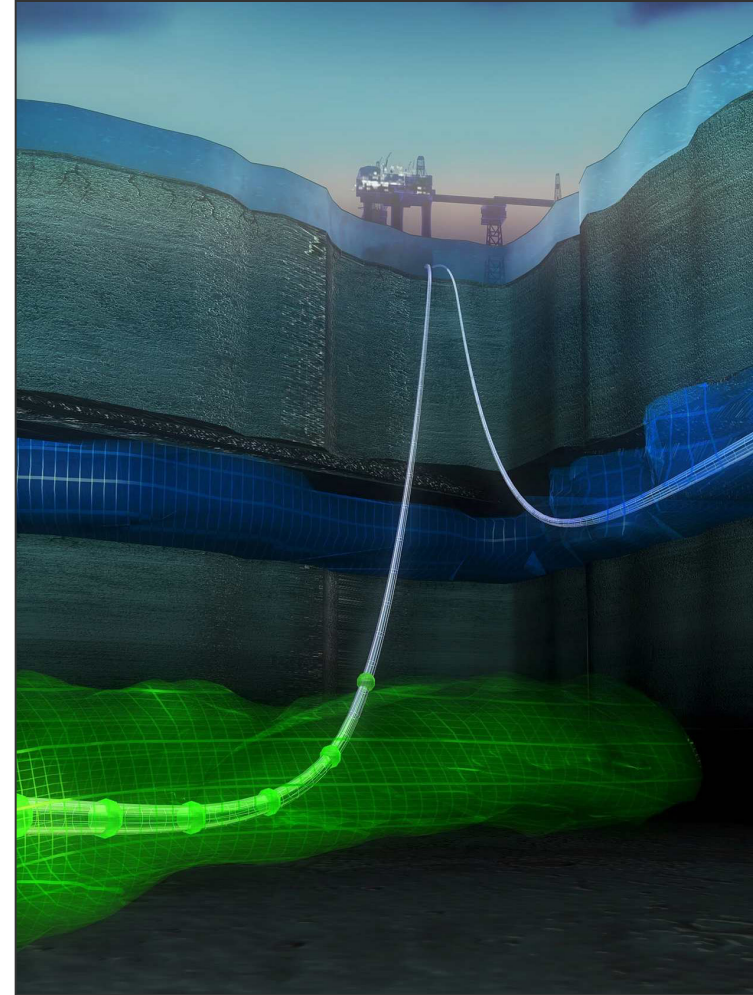
Response

- **CCS**
 - vital part of emission reduction scenarios
 - to de-carbonise fossil fuels
- **Statoil CCS strategy**
 - preparing for low carbon transition
 - pro-active industrial approach to energy realities
 - competence and experience to be employed
 - building strategic knowledge to ensure our position and optionality

7 September 2015

CCS is a feasible technology

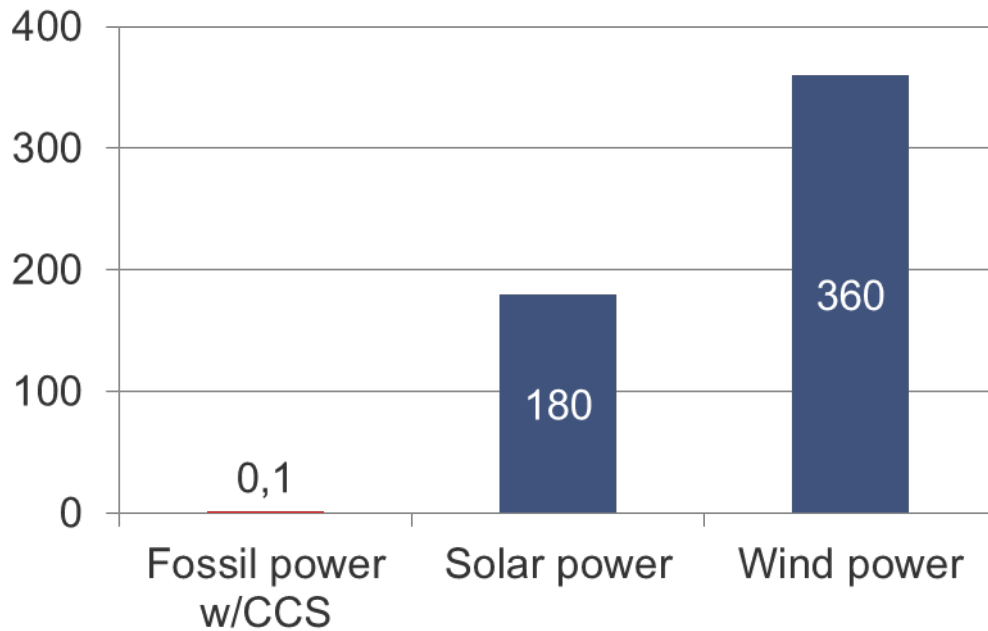
- CO₂ storage has been successfully demonstrated
- CO₂ capture technologies available
 - Capture cost need to be reduced significantly
 - Test Center Mongstad experience contributes significantly
- Incentives required to make CCS commercially attractive
 - CO₂ tax in combination with CO₂ EOR
- Uncertain outcome of gas/coal/renewables competition



But there is no CCS breakthrough yet.....

GLOBAL INSTALLED POWER CAPACITY 2014

(GW)



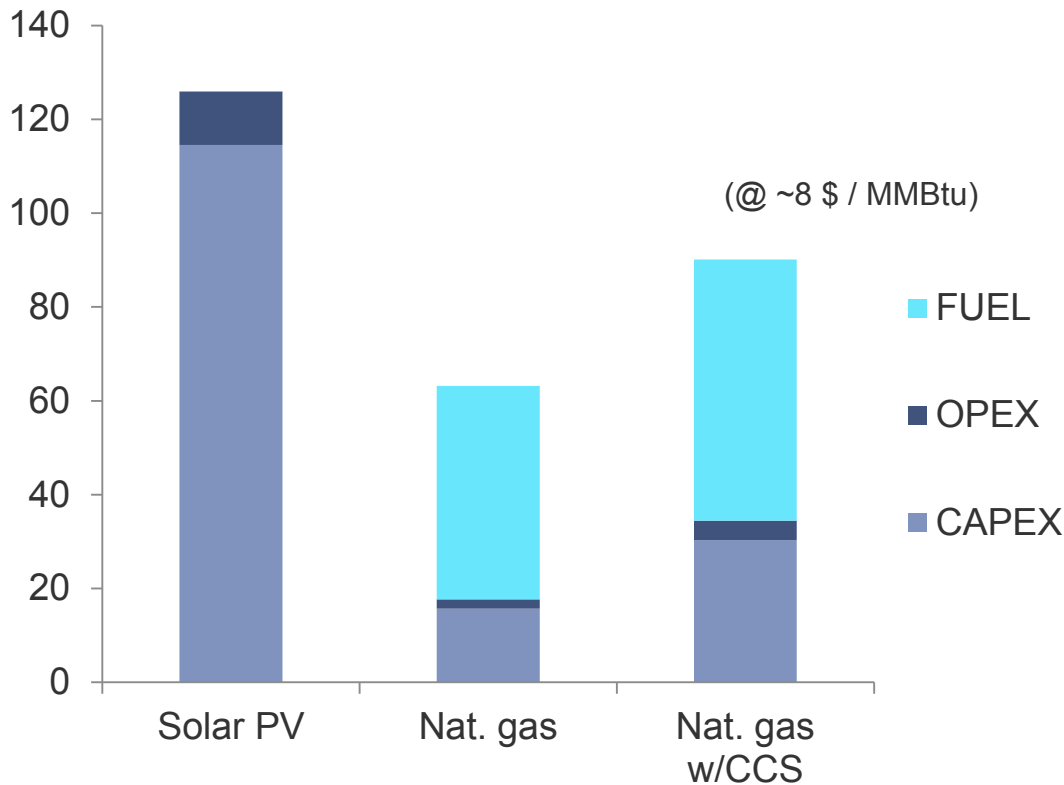
Statoil Renewal scenario
need 3 of these each
week from 2015 to 2040



The lack of CCS success is not due to cost alone

PREDICTED LCOE 2019 (EIA)

\$ / MWh



- Complex business model
- Public resistance to storage
- Lack of incentives
- Perceived as temporary solution

CCS challenges addressed by NORDICCS

- ✓ **Complex business model**
- ✓ **Perceived as temporary solution**
 - ✓ **Clearly shown feasible NORDIC scenarios**
 - ✓ **Identified technology gaps**

- **Public resistance to storage**
- **Lack of incentives**

CCS activities



HYWIND PILOT PARK

- 2000 MNOK investment decided last week by Statoil NES



150 m

100 m

50 m

-50 m

Oslo Plaza
Norway
117 m

Hywind Pilot Park
Scotland
258 m (178+80m)