Hywind –
The world’s first floating wind turbine
Lisboa 5 November 2009
We had a dream ....

- Produce and store some of the energy around us..
  - Without any consequences to the environment
  - Technological feasible
  - At a reasonable cost
Statoil one of the world largest
Energy provider

- Global leading offshore player
- 6.2 mrd bbl remaining reserves
- Operations in 40 countries
- 30,000 employees
Statoil`s threefold strategy

- Maximise resource potential on the Norwegian shelf
- International growth
- Stepwise growth within New Energy
Bringing sustainable energy into action

Build substantial new business in clean energy, based on StatoilHydro’s capabilities and positions

- Wind and offshore renewables
- Sustainable biofuel
- CO₂ management (CCS and Kyoto offsets)
Complementary concepts within marine renewables

- Complementary technologies adds value by solving common challenges
- Marine environment, access, subsea infrastructure, control systems
- Adding value by sharing competence
Hywind – slender cylinder concept

- Decision to invest was taken in May 08.
- Experience and knowledge from the petroleum sector have been essential to progress concept

**Contractors**

- Siemens
- Technip
- Nexans
- Haugaland Kraft
- Enova
Key data and characteristics of demo concept

Main Data
- WTG: 2.3 MW
- Turbine weight: 138 tons
- Draft: 100 m
- Displacement: 5300 m³
- Diameter at water line: 6 m
- Water depths: 120-700 metres

Characteristics
- Steel tower and substructure
- Dynamic pitch regulation
- Completed at inshore site
- Towed upright to field
- Designed for extreme North Sea conditions
Technip in Finland - transport to the quay on 15 April 2009
Upending of substructure on 26 April 2009
Onshore in Dusavika

- Preassembly of tower, nacelle and rotor
- Turbine, tower and blades assembled
Lift of upper tower and nacelle on 13 May 2009
Lift of hub including blades on 13 May 2009
Stavanger 8 June 2009
Final hook-up 9 Juni 2009
Official opening 8 September 2009
First Power to Grid  21.09.2009
Bringing Wind Power into a new era (floating) is about Working along 3 axis
Taking the lead from shore to sea
Can’t afford making the same “mistake” as in oil industry

7 m/s 3 MW
9 m/s 3-5 MW
10 m/s 5+ MW
11 m/s 5+ MW
0-30
30-70
100-700
Make or break
Floating offshore

• Access

• O&M

• Hub weight
Long way from idea to commercial concept

2001
Concept & theory

2005
Model test

2009
Demo

201x??
Medium park

Onshore connected parks

Market Focus

Cost Focus

Technological Focus
Thank you

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