



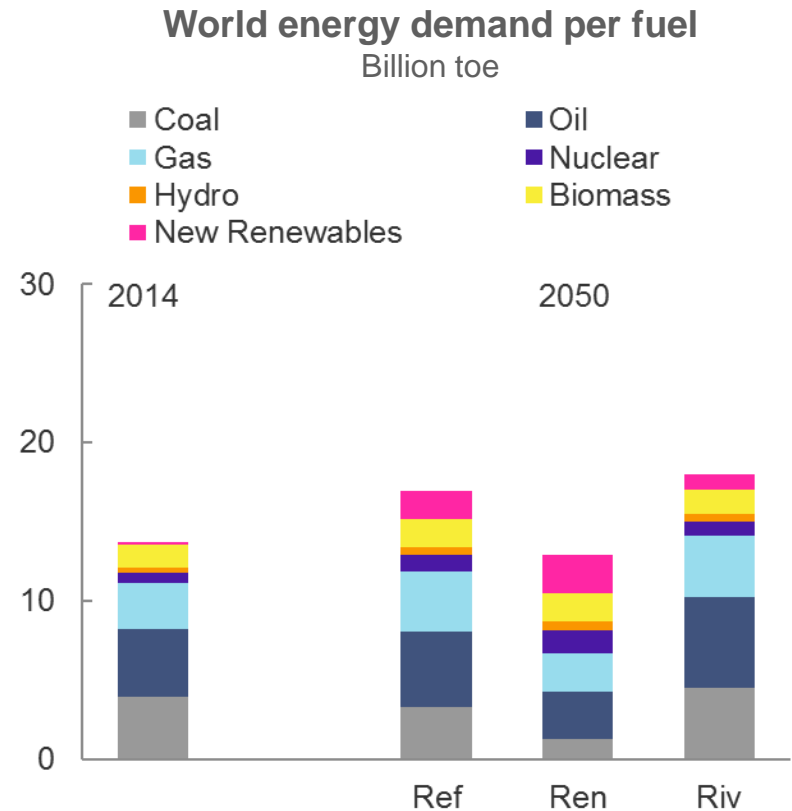
# Statoil's contribution to the North East future economy

Heads of Planning Conference, Aberdeen, 22 June 2017

Arne Eik, Leading business developer offshore wind

# Statoil's energy scenarios towards 2050

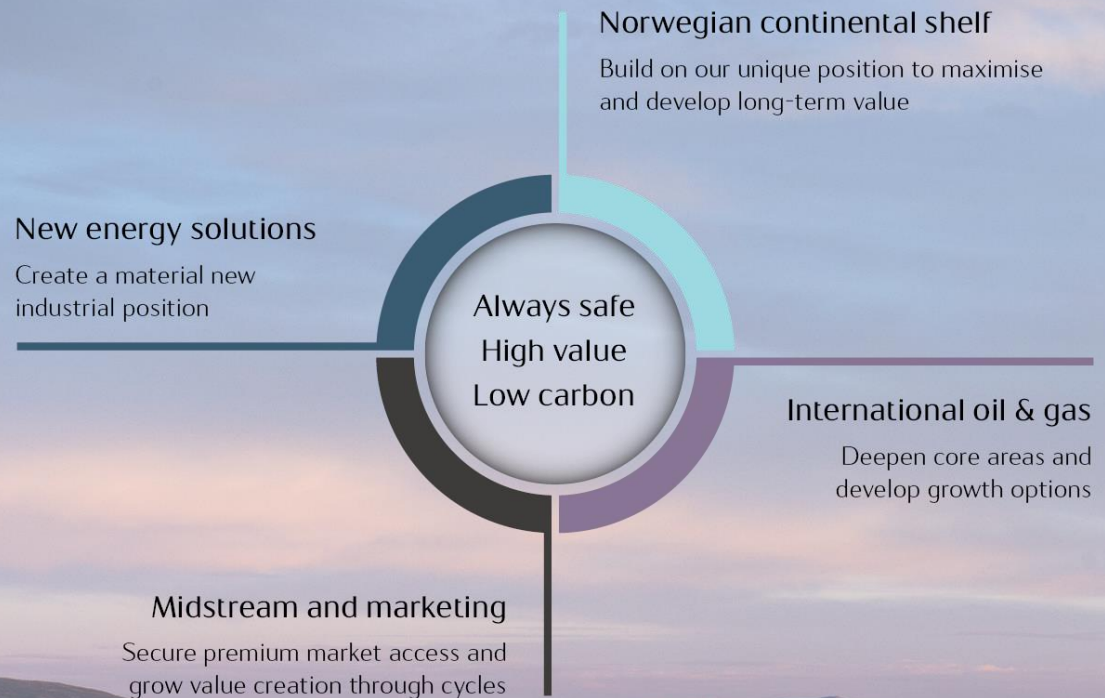
- Energy demand to increase
- Moving **towards low carbon**
  - Strong growth in renewables
  - Coal to be reduced
  - When will oil and gas demand peak?



# Low carbon at the core of our sharpened strategy

## FORMING A FUTURE-FIT PORTFOLIO

We will actively shape our portfolio to deliver high value with a low carbon footprint: Forming a Statoil portfolio that remains fit for the future towards 2030 and beyond.



# Statoil in the UK

- Gas supplier to UK since 1978
- Investments in offshore wind
  - Sheringham Shoal
  - Dudgeon
  - Dogger Bank
  - Hywind Scotland
- Step-change as UKCS operator
  - Mariner
- Exploration to build materiality

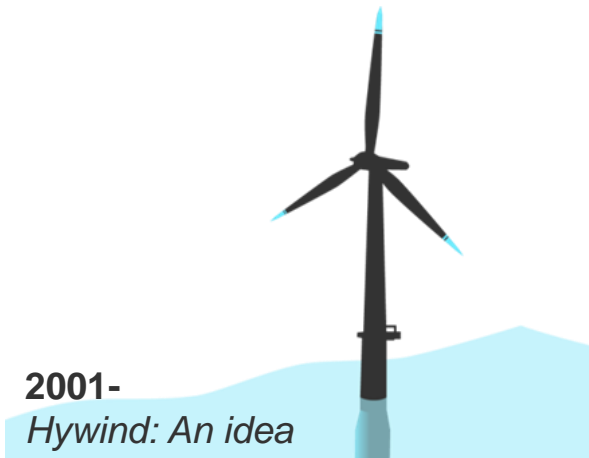


# Statoil House: Aberdeen headquarters for UK offshore operations





# Developing the Hywind floating wind concept



- A Unique Concept
- Developed by Statoil



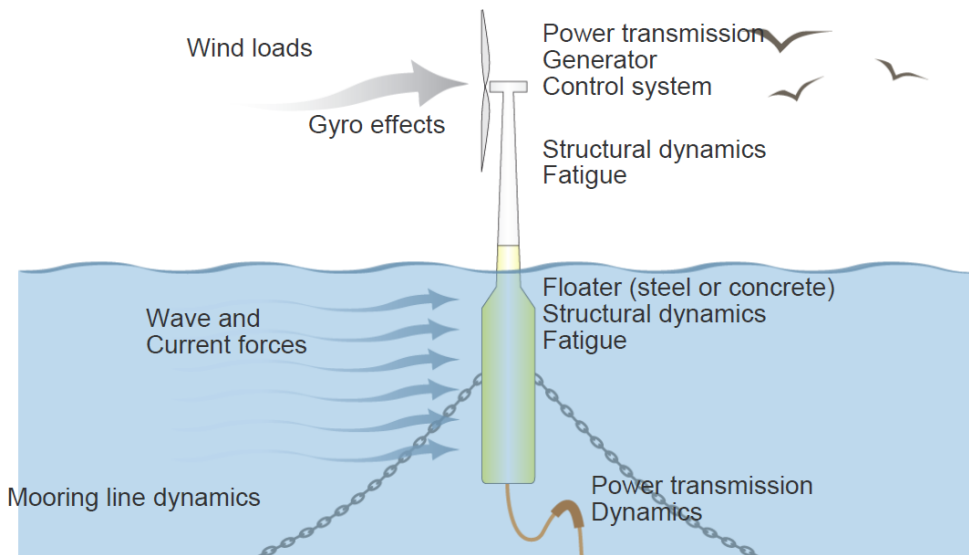
- Concept Verified
- High Performance



- Upscaling and park testing
- 60 % Cost Reductions

# Learning from Hywind Scotland

- Demonstrate concept with upscaled and optimized design, and in a park configuration
- Important learnings from design, fabrication, installation and operation
- Close collaboration with suppliers and customers is key



# Optimization of O&M activities

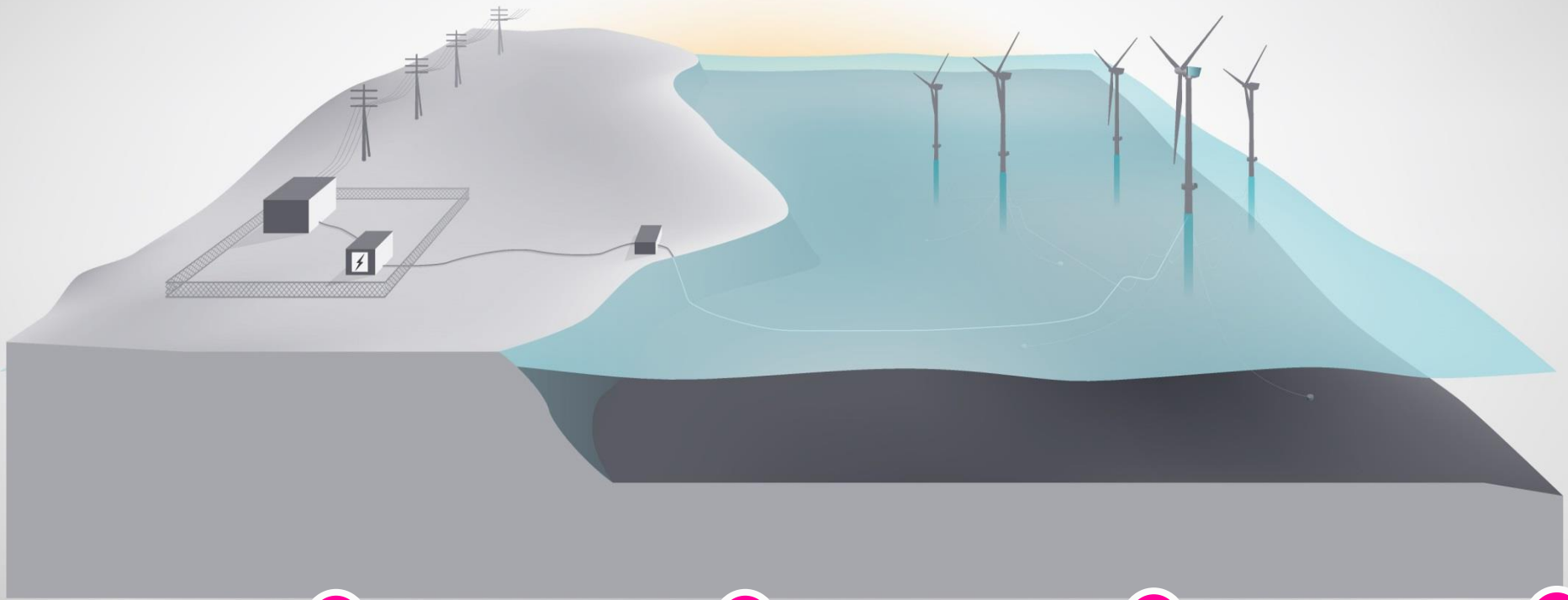
- Operation and Maintenance activity accounts for approx. 25% of the life time cost of an offshore wind farm
- Entered into a research collaboration with Robert Gordon University (“RGU”)
- Scope of work;
  - Identify method/models for optimised predictive and preventative maintenance for Hywind projects
  - Quantify potential cost savings



# Piloting Batwind concept @ Hywind Scotland

Floating Wind + Storage + Grid

- ✓ *Increase the value of floating wind*
- ✓ *Start developing new business models around storage*



**1**  
Capture wind overshoots  
Ability to store excess electricity for sale when capacity is free

**2**  
Reduce balancing cost  
Introduce own regulation of power supply

**3**  
Increase power market value  
Capture price peaks through arbitrage

**4**  
Deliver system services  
Provide frequency regulation and other system services

There's never been a better  
time for **good ideas**

Arne Eik  
Leading business developer  
[areik@statoil.com](mailto:areik@statoil.com)  
Tel: +4791796009

[www.statoil.com](http://www.statoil.com)

