



Concept Symposium 2016

Governing the Front-End of Major Projects

New energy solutions in Statoil



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Climate change and a growing demand for clean energy are opening up new business opportunities. The total primary energy demand is foreseen to grow by up to 35% to 2040, and a great portion of this is expected to be within the electricity sector. Renewable sources of electricity, in particular wind and solar, are expected to grow significantly in importance, delivering between 6 and 17 times more electricity in 2040 compared to 2013.

By establishing the New Energy Solutions (NES) unit in 2015, Statoil is focusing on establishing a position in markets where the company has natural advantages, particularly within offshore renewable energy. NES' mandate is to build a profitable renewables business and develop new lower-carbon business opportunities for Statoil's core products.

Statoil's current portfolio in offshore wind has a generating capacity of more than 1100 MW with, and further 4800 MW of consented projects. The company is continuously exploring new opportunities in North-West Europe, Japan and USA.

Earlier this year Statoil launched a new venture capital fund, Statoil Energy Ventures, dedicated to investing in attractive and ambitious growth companies in renewable energy, supporting its strategy of growth in new energy solutions. The fund will invest up to USD 200 million over a period of four to seven years.



Statoil

New energy solutions in Statoil

Stein Trygve Briskeby, Wind Projects Statoil | 9. Sept 2016

Statoil: Who we are

Statoil is an international energy company with operations in 36 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.



Our strategy

SHORT TERM



Faster and deeper cost reductions

- Strict financial discipline
- Capturing the upturn in oil and gas prices

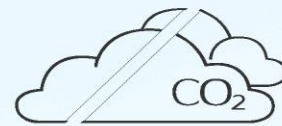
MEDIUM TERM



Build the next generation portfolio

- Maximizing value and seek opportunities
- Build renewables portfolio consistently towards a material scale

LONG TERM



Provide energy for a low-carbon future

- A resilient upstream portfolio
- A material renewable energy portfolio

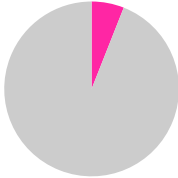


Renewables gaining across energy segments

Transportation



2013



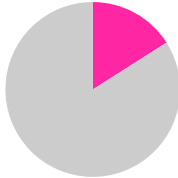
2040



Heating



2013



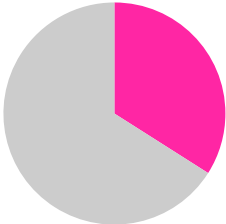
2040



Electricity



2013



2040

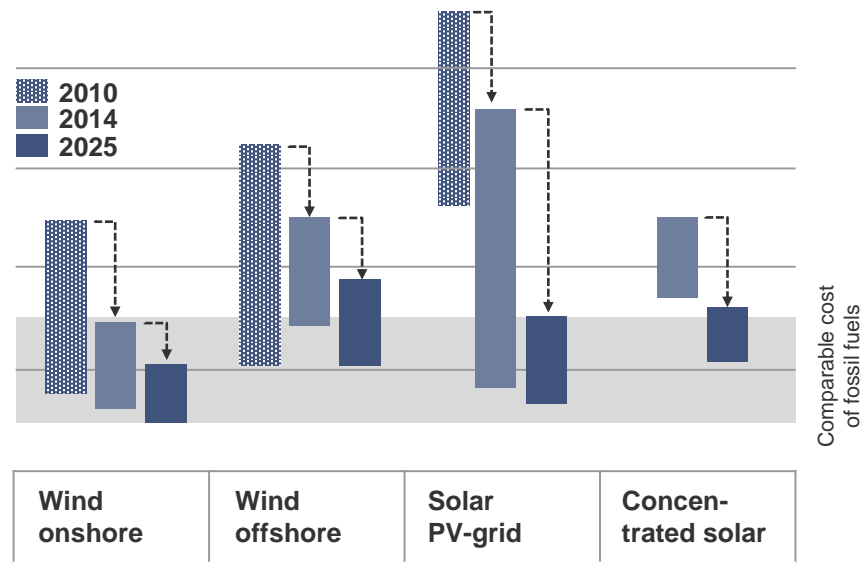
 Renewables  Total energy segment

Source: IEA New Energy Policies scenario

Lower costs drive strong growth in wind & solar

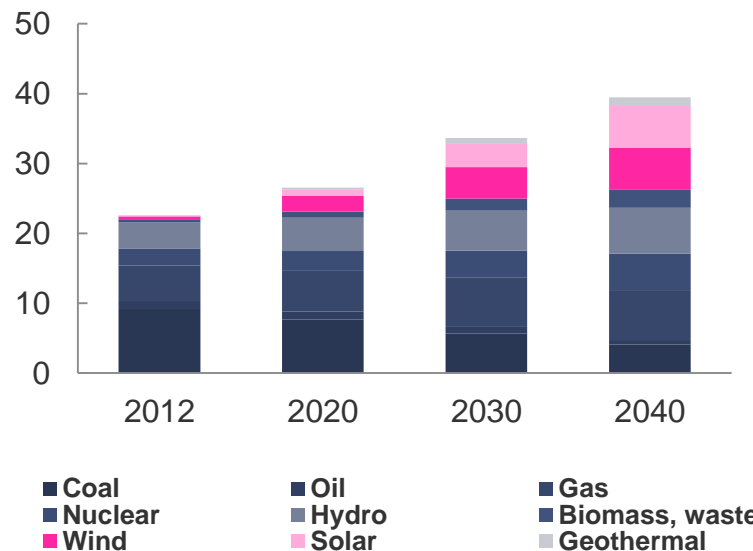
Costs rapidly coming down

Power, global LCOE ranges



Energy generation in 2-degree scenario

Power, thousand TWh



Source: IRENA; Statoil analysis

Source: Statoil – Energy perspectives – «Renewal» scenario

Our mandate – in a nutshell



Build a **profitable**
renewables business



Develop **new lower-carbon business**
opportunities for Statoil's core products

Offshore wind projects to power >1M homes

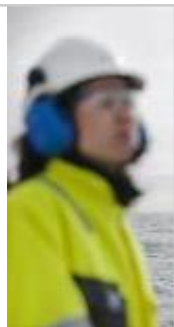
Playing to our strengths

- Complex projects
- Marine operations
- O&M & HSE ability
- Leading floating tech.



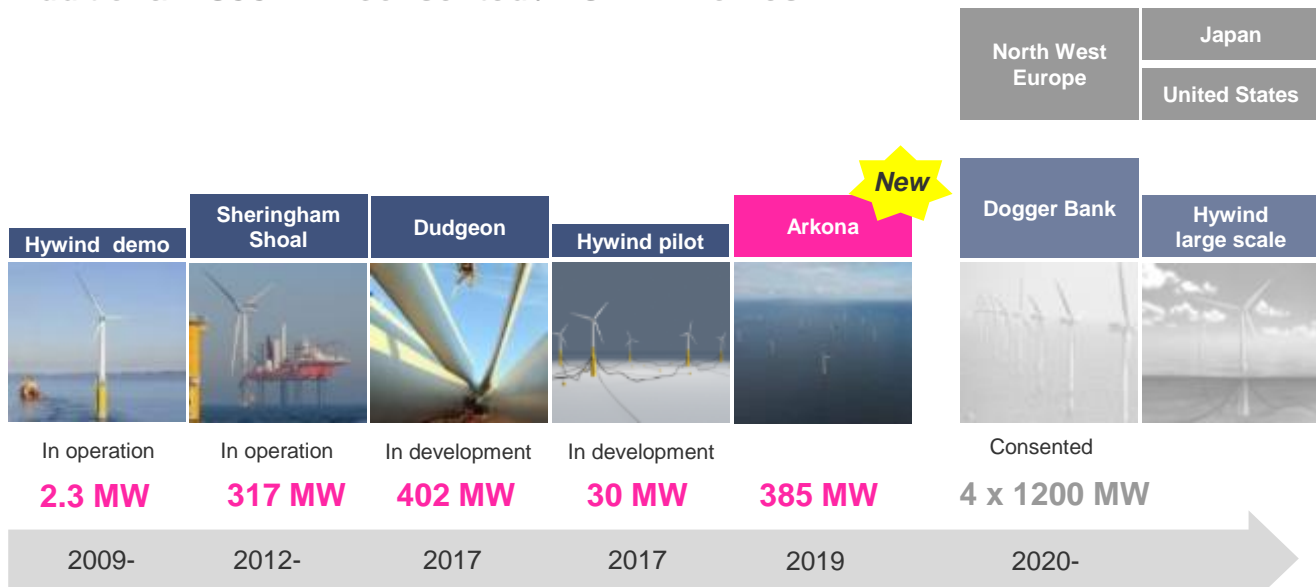
Attractive market

- Attractive risk/return
- Predictable revenue
- OECD countries
- High entry barriers



Offshore wind projects currently in progress delivering >1100 MW

Additional 4800 MW consented / ~5 mill. homes



* All capacity figures on 100% basis



Global Offshore Wind Farms Database

4C Offshore
Hebrides
Orkney Islands
Shetland Islands

f t g+ 1.3K

Check for Nautical Charts (NW Europe)

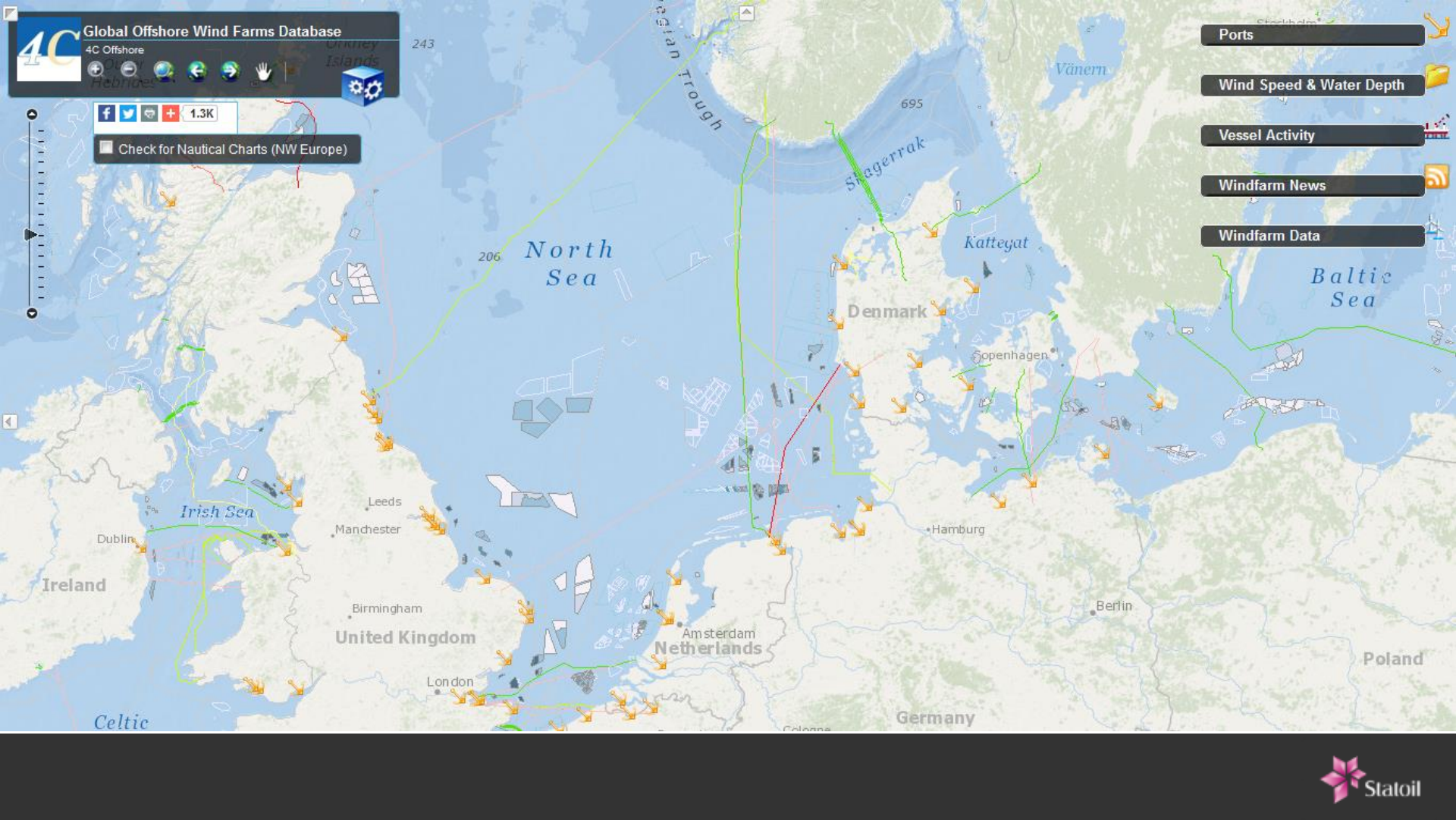
Ports

Wind Speed & Water Depth

Vessel Activity

Windfarm News

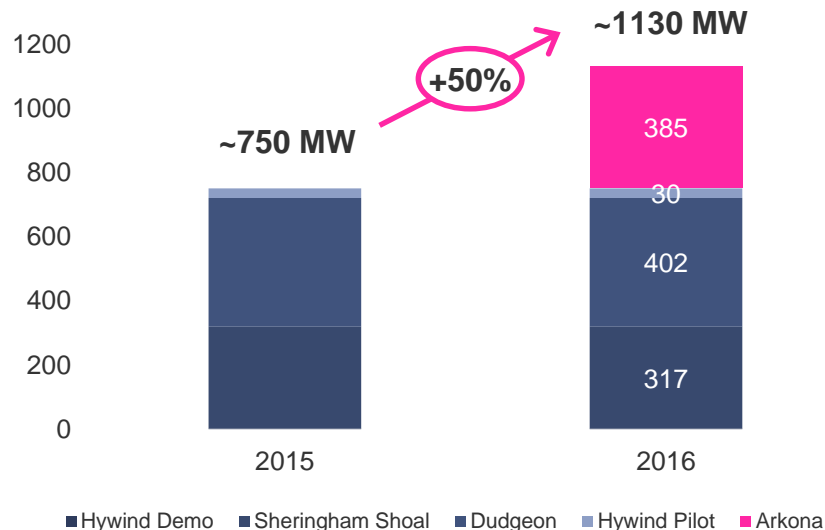
Windfarm Data



2016: Making a significant step-up

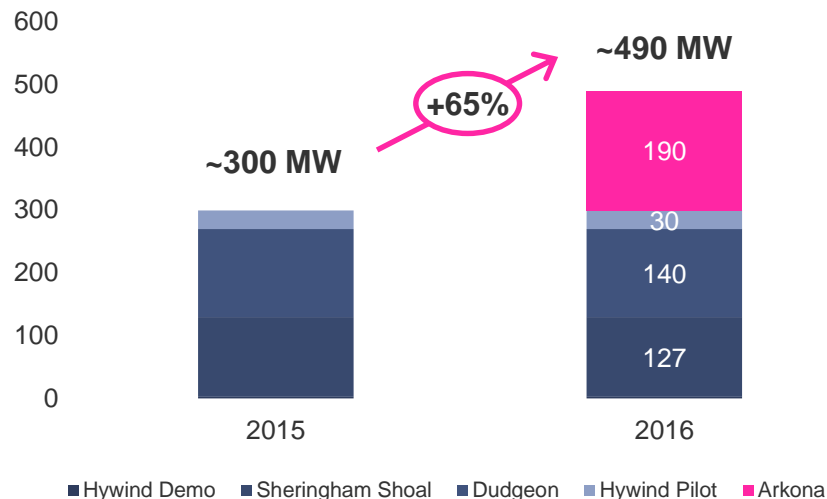
Increasing total capacity by 50%

Energy production capacity on 100% basis (MW)



Increasing own capacity by 65%

Energy production capacity on equity share basis (MW)



Reducing cost by 30% in large-scale project*

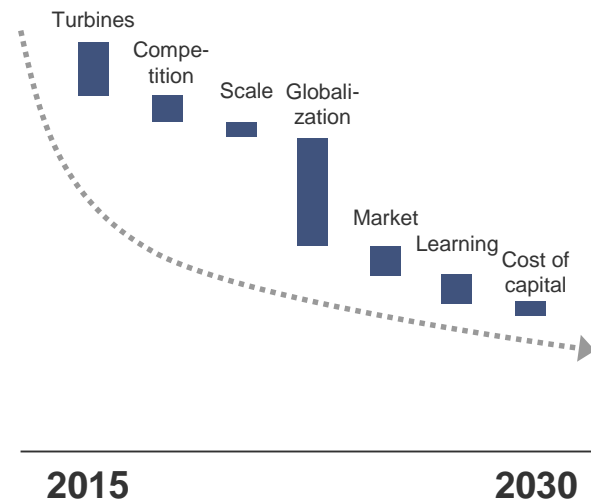
Dudgeon offshore wind park

- 402 MW production capacity
- 67 turbines w/6 MW capacity: «State of the art» technology
- GBP 1.5 billion total investment sanctioned in 2014
- Offshore installation in 2016
- First electricity in 2017



Roadmap to reduce costs further by 40% towards 2030

Cost of energy drivers – illustrative future projects



The unique innovation of the Hywind concept



2001-
Hywind: A bright idea

- Unique concept
- Intellectual property owned by Statoil, patented technology



2009-
Demo: Proven in the North Sea

- Concept verified, performance beyond expectations
- Excellent production, well-functioning technical systems



2017-
Pilot park: A world's first

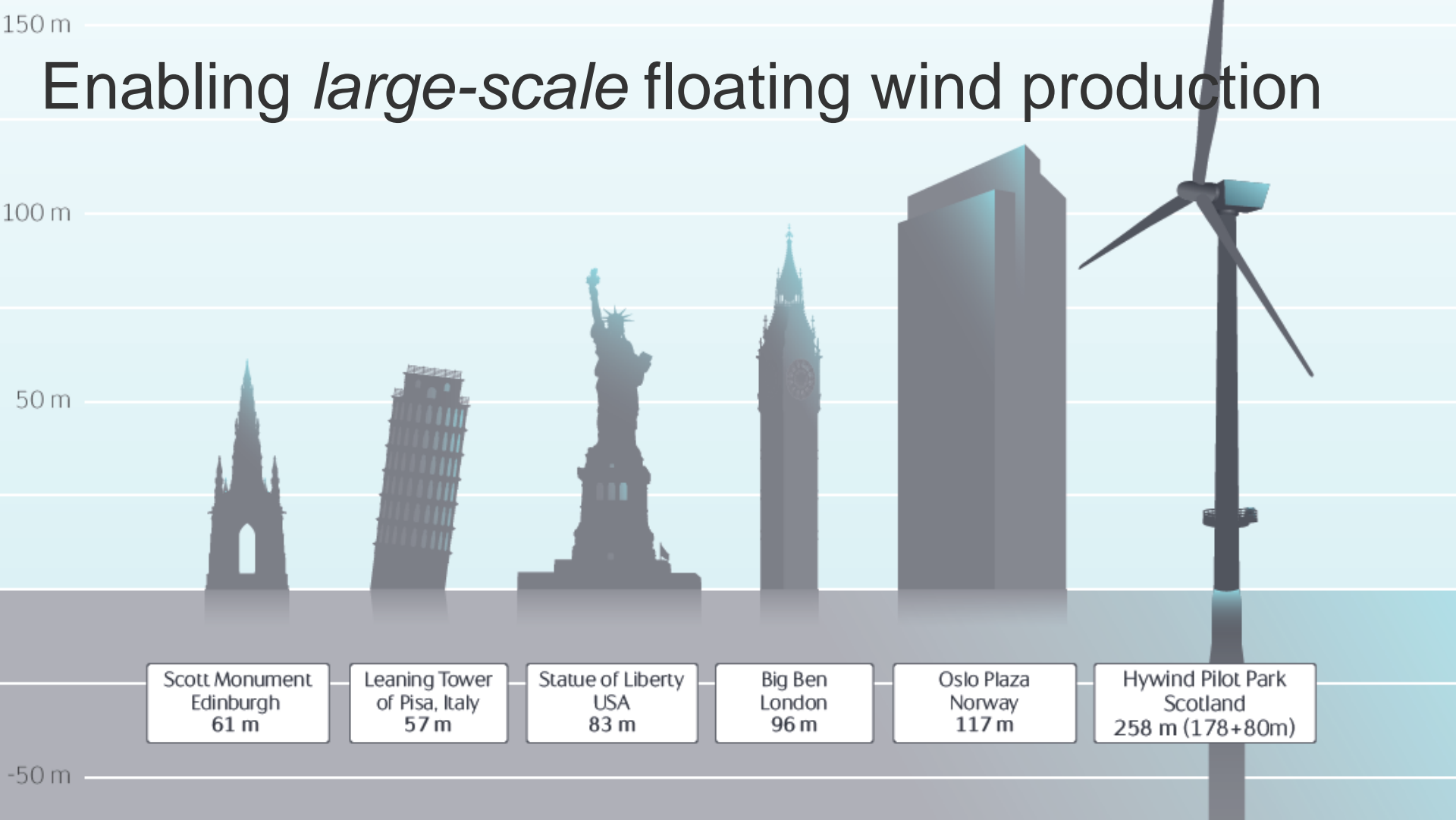
- Development of larger and lighter units and economies of scale
- Further improving cost competitiveness

Realising the Hywind Scotland pilot park

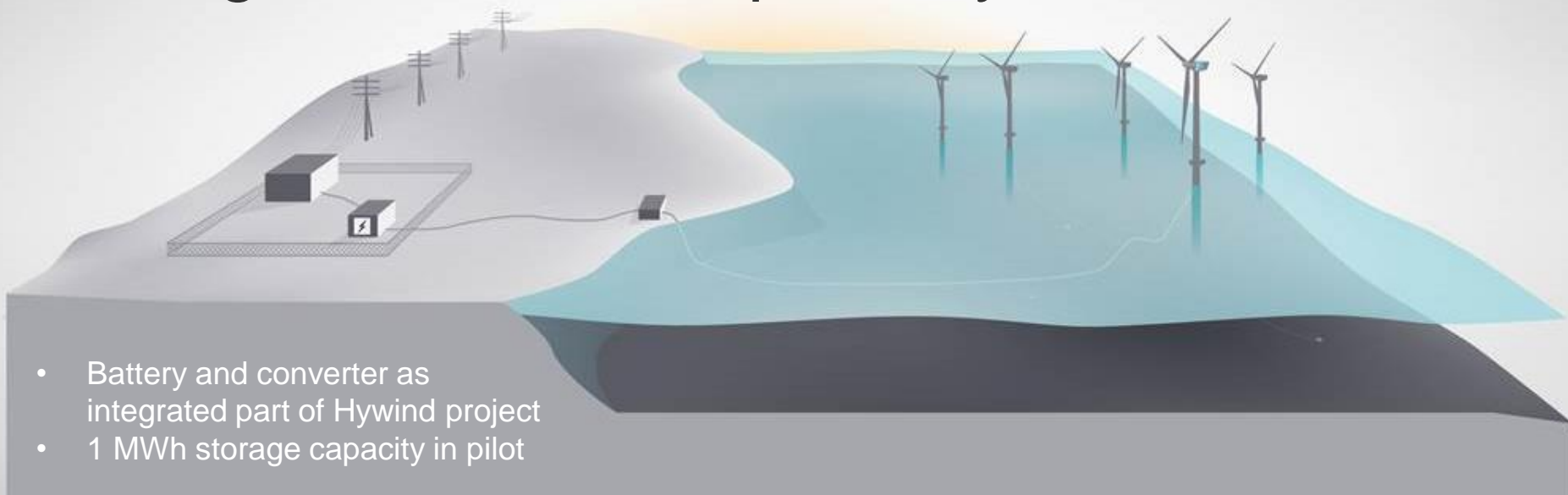


- **Investing around NOK 2 billion**
- **60-70% cost reduction** from the Hywind Demo project in Norway
- **Powering ~20,000 UK homes**
- **Installed capacity: 30 MW**
- **Water depth: 95-120 m**
- **Avg. wind speed: 10.1 m/s**
- **Area: ~4 km²**
- **Average wave height: 1.8 m**
- **Export cable length: Ca. 30 km**
- **Operational base: Peterhead**
- **Start power production: 2017**

Enabling *large-scale* floating wind production



Piloting Batwind concept @ Hywind Scotland



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

Opportunity to capture price peaks through arbitrage

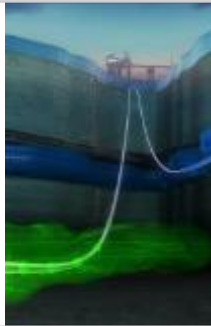
Addressing the potential floating wind market



CCS: Proven technology, commerciality needed

Playing to Statoil's strengths

- Leveraging our oil & gas competence and experience



Potential market

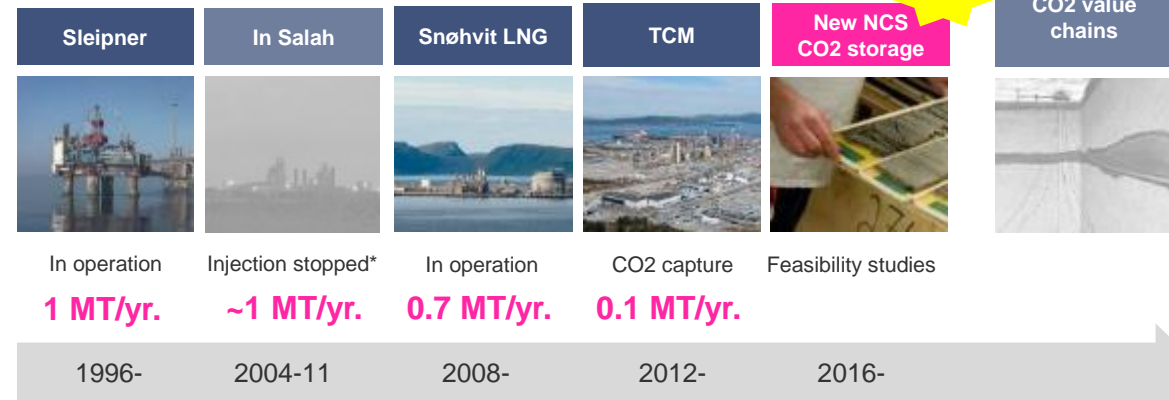
- CCS to deliver 13% of CO2 emission cuts by 2050 in IEA 2DS
- Commercial models needed



Operating some of world's largest CCS projects

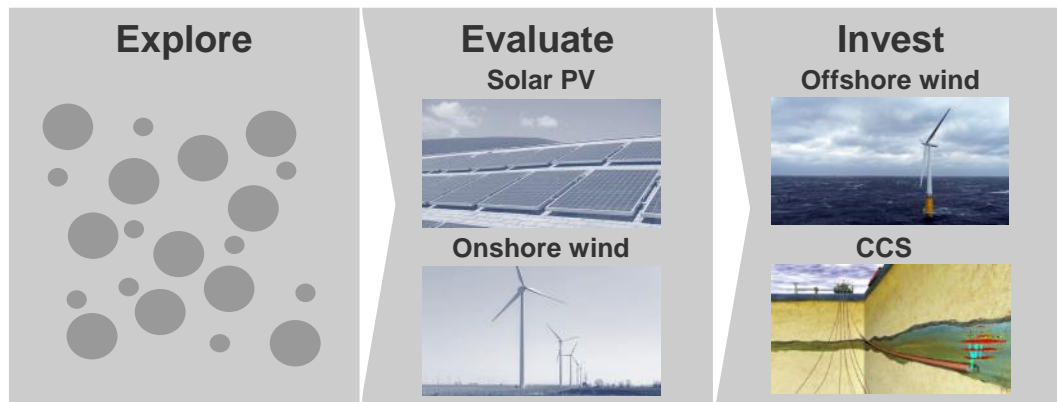
Capturing up to 1.8 MT CO₂/yr / ~850,000 cars/yr

COP21 drives momentum on climate action



What about everything else?

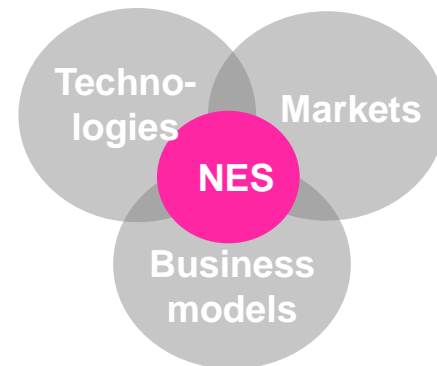
Taking a wide perspective



Allowing for maturity of opportunity



Seeking *solutions*, not technologies



Investing with firm capital discipline

- **Competitiveness:** Attractive risk/returns
- **Materiality:** Potential to build scale in Statoil
- **Relevance:** Building on core competence

Investing through Statoil Energy Ventures

Investing USD 200M in green energy growth companies

- Support and enable Statoil's current renewable energy operations
- Test and position for future potential growth legs
- Explore high impact technologies and business models
- Building on 16 year track record of successful venture investing w/Statoil Technology Invest (STI)



Building a new growth leg for Statoil in new energy

- Attractive business opportunities
- Strong industrial platform
- Driving profitable growth



18%

WIND POWER

Onshore and offshore wind farms can supply 18% of the world's electricity by 2050



~2025

WIND COST COMPETITIVE IN 2025

Offshore wind is on track to be cost competitive with other new forms of power generation



WORLD'S 1st

FLOATING WIND PARK

Statoil is currently building the world's first floating wind farm offshore Scotland



Thank you

Stein Trygve Briskeby
Principal Engineer, PhD

www.statoil.com



Forward-looking statements

This presentation contains certain forward-looking statements that involve risks and uncertainties. In some cases, we use words such as "ambition", "continue", "could", "estimate", "expect", "focus", "likely", "may", "outlook", "plan", "strategy", "will", "guidance" and similar expressions to identify forward-looking statements. All statements other than statements of historical fact, including, among others, statements regarding future financial position, results of operations and cash flows; changes in the fair value of derivatives; future financial ratios and information; future financial or operational portfolio or performance; future market position and conditions; business strategy; growth strategy; future impact of accounting policy judgments; sales, trading and market strategies; research and development initiatives and strategy; projections and our impact related to efficiency programs, market outlook and future economic projections and assumptions; competitive position; projected regularity and performance levels; expectations related to our recent transactions and projects, completion and results of acquisitions, disposals and other contractual arrangements; reserve information; future margins; projected returns; future levels, timing or development of capacity, reserves or resources; future decline of mature fields; planned maintenance (and the effects thereof); oil and gas production forecasts and reporting; domestic and international growth, expectations and development of production, projects, pipelines or resources; estimates related to production and development levels and dates; operational expectations, estimates, schedules and costs; exploration and development activities, plans and expectations; projections and expectations for upstream and downstream activities; oil, gas, alternative fuel and energy prices; oil, gas, alternative fuel and energy supply and demand; natural gas contract prices; timing of gas off-take; technological innovation, implementation, position and expectations; projected operational costs or savings; projected unit of production cost; our ability to create or improve value; future sources of financing; exploration and project development expenditure; effectiveness of our internal policies and plans; our ability to manage our risk exposure; our liquidity levels and management; estimated or future liabilities, obligations or expenses and how such liabilities, obligations and expenses are structured; expected impact of currency and interest rate fluctuations; expectations related to contractual or financial counterparties; capital expenditure estimates and expectations; projected outcome, objectives of management for future operations; impact of PSA effects; projected impact or timing of administrative or governmental rules, standards, decisions, standards or laws (including taxation laws); estimated costs of removal and abandonment; estimated lease payments, gas transport commitments and future impact of legal proceedings are forward-looking statements. You should not place undue reliance on these forward-looking statements. Our actual results could differ materially from those anticipated in the forward-looking statements for many reasons.

These forward-looking statements reflect current views about future events and are, by their nature, subject to significant risks and uncertainties because they relate to events and depend on circumstances that will occur in the future. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied by these forward-looking statements, including levels of industry product supply, demand and pricing; price and availability of alternative fuels; currency exchange rate and interest rate fluctuations; the political and economic policies of Norway and other oil-producing countries; EU directives; general economic conditions; political and social stability and economic growth in relevant areas of the world; the sovereign debt situation in Europe; global political events and actions, including war, terrorism and sanctions; security breaches; situation in Ukraine; changes or uncertainty in or non-compliance with laws and governmental regulations; the timing of bringing new fields on stream; an inability to exploit growth or investment opportunities; material differences from reserves estimates; unsuccessful drilling; an inability to find and develop reserves; ineffectiveness of crisis management systems; adverse changes in tax regimes; the development and use of new technology; geological or technical difficulties; operational problems; operator error; inadequate insurance coverage; the lack of necessary transportation infrastructure when a field is in a remote location and other transportation problems; the actions of competitors; the actions of field partners; the actions of governments (including the Norwegian state as majority shareholder); counterparty defaults; natural disasters and adverse weather conditions, climate change, and other changes to business conditions; an inability to attract and retain personnel; relevant governmental approvals; industrial actions by workers and other factors discussed elsewhere in this report. Additional information, including information on factors that may affect Statoil's business, is contained in Statoil's Annual Report on Form 20-F for the year ended December 31, 2014, filed with the U.S. Securities and Exchange Commission, which can be found on Statoil's website at www.statoil.com.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot assure you that our future results, level of activity, performance or achievements will meet these expectations. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. Unless we are required by law to update these statements, we will not necessarily update any of these statements after the date of this report, either to make them conform to actual results or changes in our expectations.

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