

Offshore Wind Meets...

*Driving innovation, research and
collaboration between industries*

6th December 2016, at OrbisEnergy, Lowestoft

... Oil & Gas
... Defence
... Space

Why Offshore Wind Introduction –

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Why Offshore Wind – The strategic and policy support in the UK



RESET SPEECH OF NOVEMBER 2015 –

Support to offshore wind through 3 CfD allocation rounds during this parliament; up to 10GW if costs reduce.

BUDGET OF MARCH 2016 –

£730M for Pot 2 Technologies;
£500M for DECC innovation



Offshore Wind within the Infrastructure Delivery Plan 2016 - 2021

- The government is taking a new direction for energy policy which puts consumers first, delivers more competition, ensures enough energy to power the nation and pushes a decarbonisation agenda. This includes support for electricity generation through gas, new nuclear at Hinkley Point C, offshore wind and interconnectors...'
- 'Support for renewable electricity – The government will auction up to £730 million support for offshore wind and other less established renewable technologies this Parliament for projects generating electricity in 2021 to 2026. The first auction will offer £290 million.'
- 'Offshore wind – following the signing of CfD and investment contracts, a number of large-scale new offshore wind projects are currently expected to come forward during this Parliament including; 402MW Dudgeon; 1,200MW Hornsea 1; 664MW Beatrice; 660MW Walney Extension; 258MW Burbo Bank Extension; 714MW East Anglia 1; and the 450MW Neart na Goithe project.'
- 'Support for offshore wind will be capped initially at £105/MWh (in 2011-12 prices), falling to £85/MWh for projects commissioning by 2026.'



Offshore Wind within Innovate UK Delivery Plan FY 2016/17

‘We know that **true innovation disrupts**. It **creates new things** – products, processes, services and industries – **we don’t even know about yet.**’

‘**Continue to invest in** the Future Cities, Transport Systems and **Offshore Renewable Energy Catapults...**’

‘**Energy Supply:**

We will **support development of key supply technologies** in nuclear systems and **offshore renewable energy.**’

‘The Offshore Renewable Energy Catapult will bring on stream its newly acquired 7MW turbine at Levenmouth **as a dedicated open access research facility...**’



UK Energy Policy - Latest 'Reset' ...

Greg Clark's speech at the annual Energy UK Conference, 10 November 2016



-We will do all we can to **keep costs down** for households and businesses.

-Our **focus will be on key technologies** that have the **potential to scale up** and the **potential to come down in cost** and where the **UK has a comparative advantage**. **Above all, that means offshore wind** and nuclear have a

big role to play, alongside greater interconnection with grids in neighbouring countries.

-These technologies are **where Britain has a history and expertise**. We are building **world-leading centres across the country**. Over the coming weeks and months, I will be setting out in more detail how we will develop and work together with you on the Industrial Strategy to ensure we have an economy that works for all.

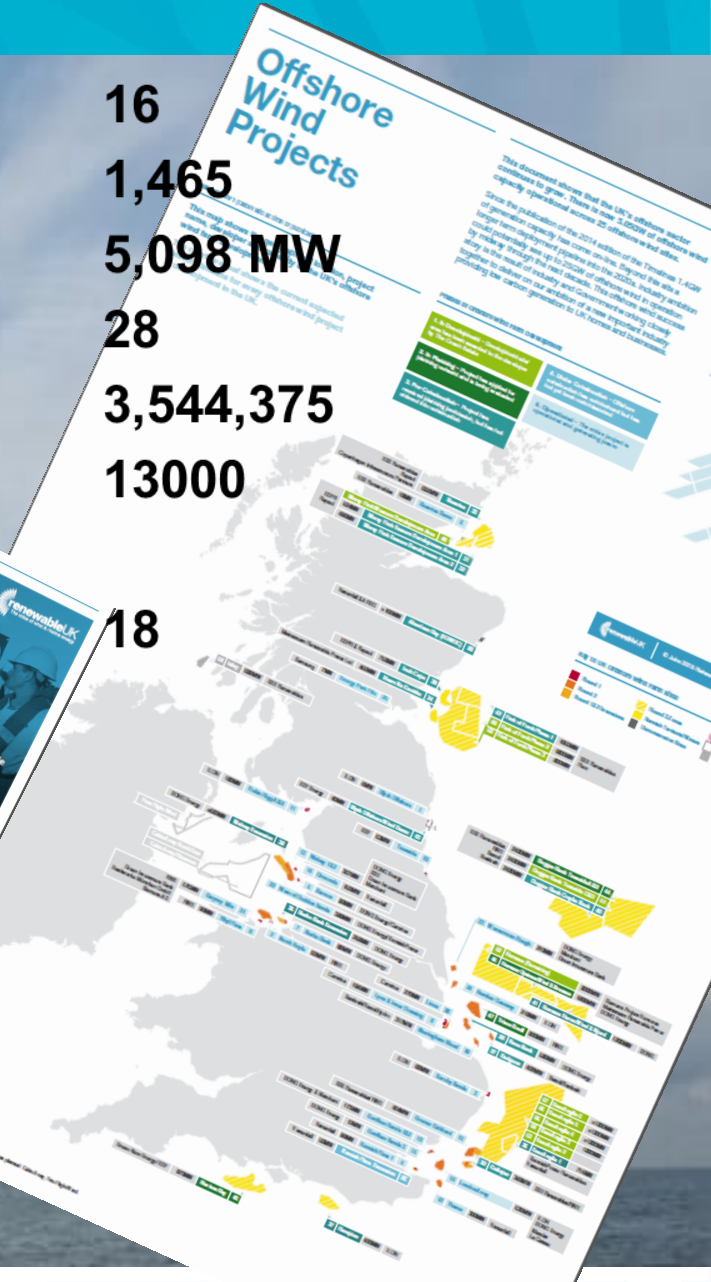
-**Energy and clean technology will be central to our vision of a future economy.**

Offshore Wind: Current Status

- Number of years
- Number of turbines:
- Installed capacity:
- No. of wind farms built:
- No. of homes powered (annual equivalent):
- Number of people employed :
(full time, direct & indirect)
- In construction or w/ planning approval:

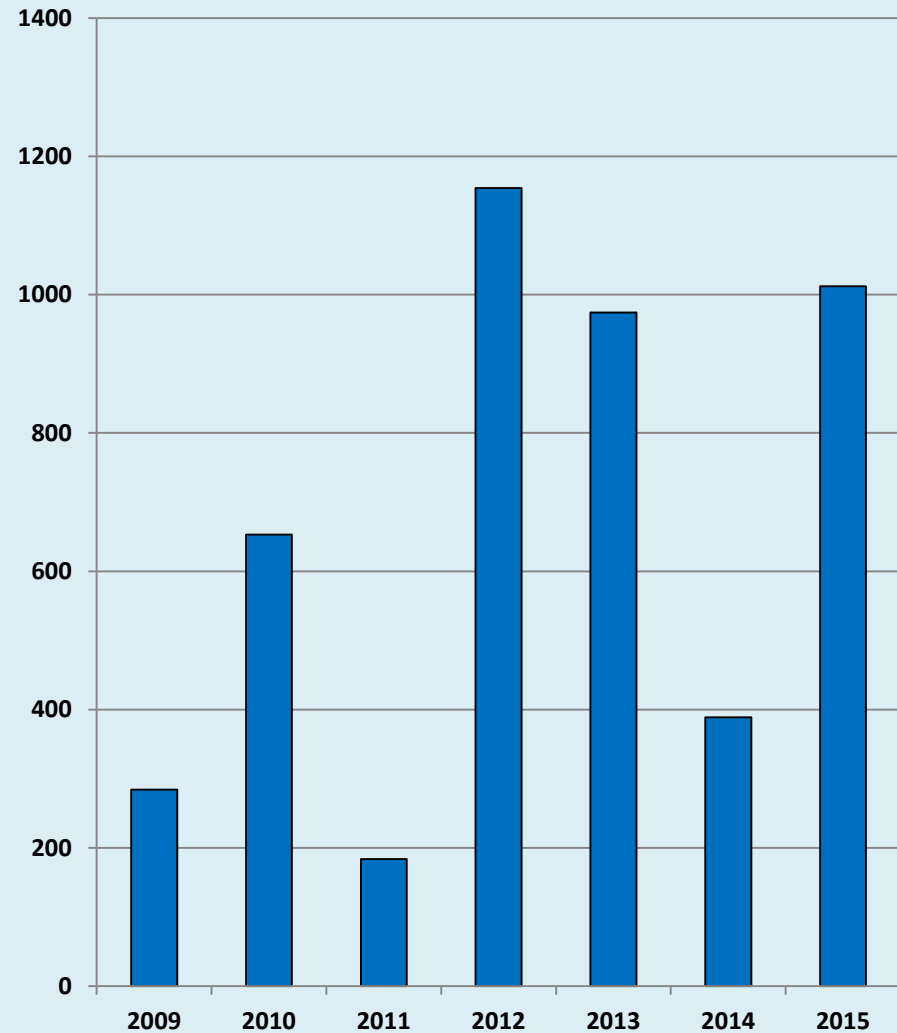
16
1,465
5,098 MW
28
3,544,375
13000

18

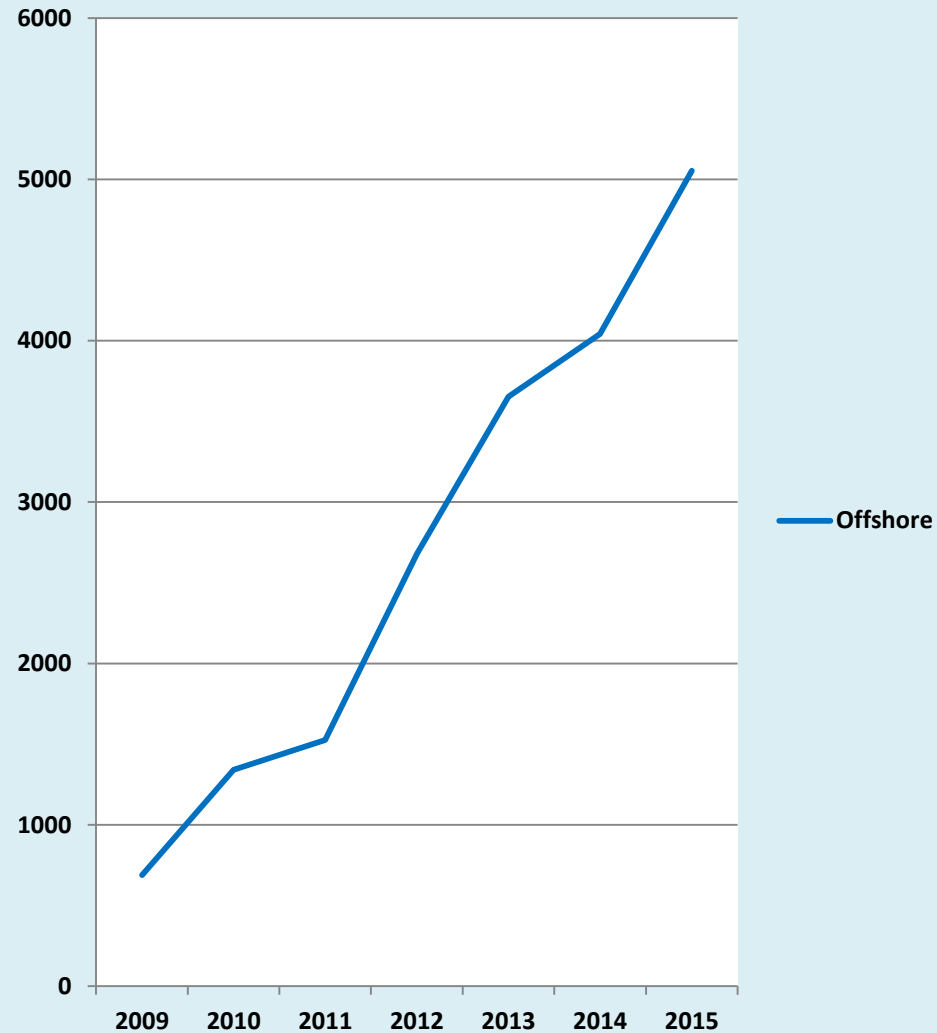


UK offshore – world renowned

MW Installed per year (Offshore)
2009-2015



Cumulative MW Operational 2009-
2015



The stats to end 2020...

- Installed Wind capacity UK: c. 14GW
 - c. 9GW onshore, **5.1GW offshore**
- UK government objectives for 2020
 - Onshore wind: 11-13GW;
 - **Offshore wind: 10-11GW;**
 - Requires c.3GW onshore; **c. 5GW offshore**
- Under construction capacity UK: c. 1.6GW
- c. 3GW onshore, **1.6GW offshore**
- Further offshore pipeline to 2020: c.3GW.

The stats beyond 2020...

- UK government support beyond for 2020s -
 - Offshore total c.10GW by 2020
 - Support further 10GW - total 20GW, industry could deliver more...25GW+

To reach these need to bring down costs to meet CfD targets –

- <£105 bidding 2017 for early 2020s
- <£85 bidding before end 2020 for 2020s.

Why Offshore Wind – an innovative industry

‘The UK is a global centre for offshore wind innovation...leading in researching, testing and developing innovative new offshore wind technology. Projects in UK waters are deploying the latest innovations including floating turbines, new 8MW turbines and battery storage. The UK Offshore Renewable Energy Catapult operates the world’s most advanced, open access, offshore wind turbine dedicated to research.’

“Our world-leading offshore wind industry is already delivering significant investment to the UK. We can continue to secure valuable contracts around the world for British companies by staying competitive - driving down costs and continuing to innovate. We’re determined to maximise the economic and industrial benefits of offshore wind for UK plc”.

‘...the offshore wind industry is delivering massive economic and industrial benefits to Britain. Offshore wind farm developers are committed to maximising UK content in their projects, as this contract demonstrates. The offshore wind industry is bringing well over £20 billion in investment to Britain over the course of this decade, creating thousands of jobs. ...also across the UK, from Liverpool to Lowestoft and from the Isle of Wight to the Isle of Mull”.

Why Offshore Wind – an innovative industry

‘As the industry grows so it is learning from oil and gas about how to operate safely at sea. A great example is the use of helicopters by our industry for construction and maintenance work, with helicopter firms now active in the wind market.’

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