

# The UK Low Carbon Transition Plan

An introduction to our national strategy for  
climate and energy



The challenge for the UK and the rest of the world is to reduce emissions and build a better, lower carbon future

## Decarbonise the UK

*and in doing so*

Keep our  
energy supplies  
safe and secure

Maximise economic  
opportunities

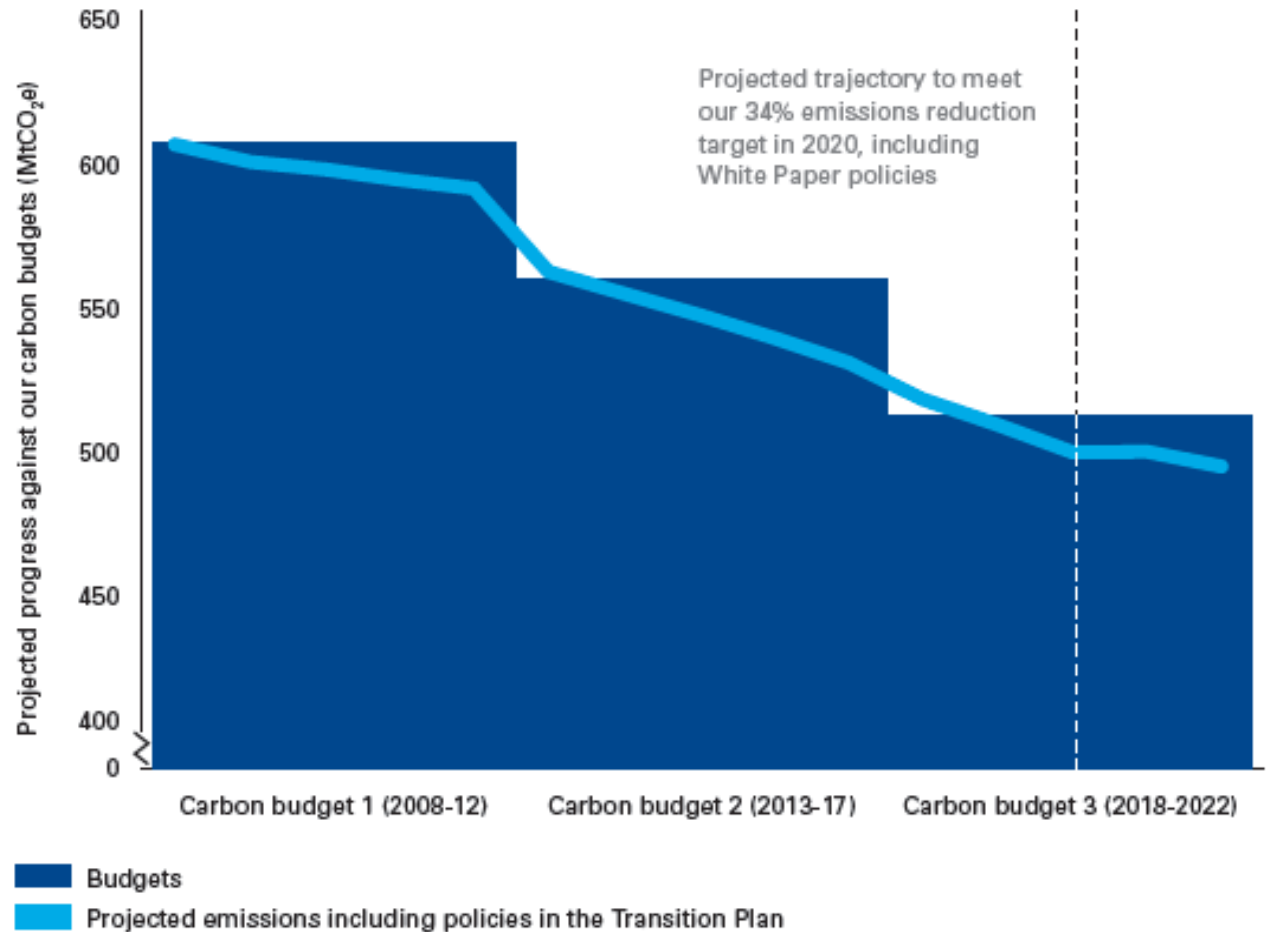
Protect the most  
vulnerable

# The Government will drive the transition to a low carbon UK using the world's first ever legally binding carbon budgets

*Chapter 2: Driving the transition*

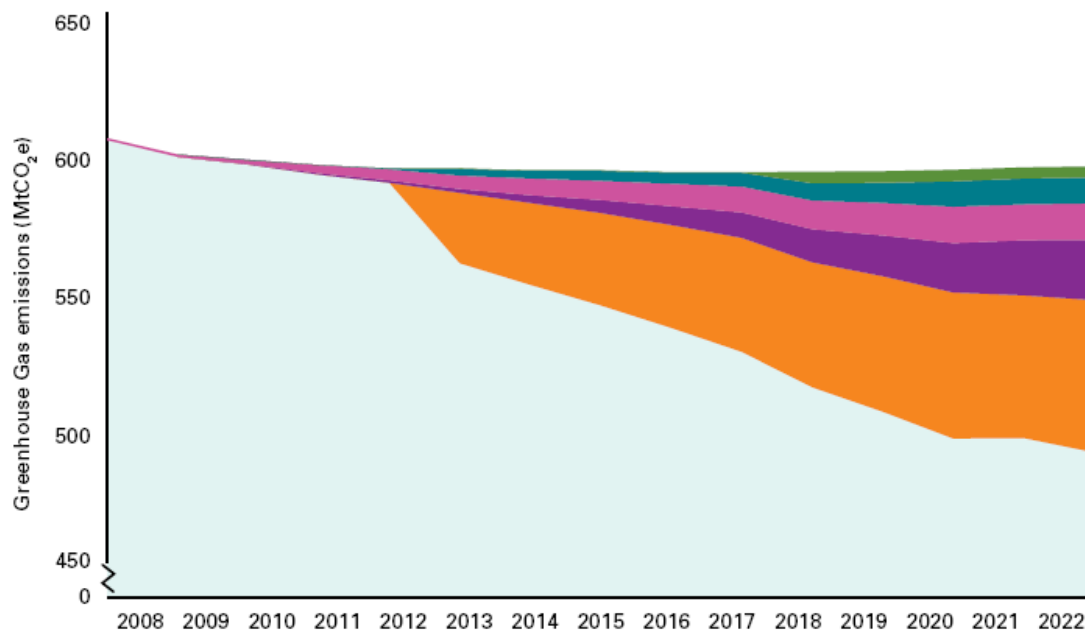
Carbon budgets are equivalent to a **34% cut in greenhouse gas emissions in 2020.**

The UK will also cut emissions by **80% by 2050.**



# This Transition Plan sets out how these budgets will be met

## All sectors will contribute emission savings



Source: Department of Energy and Climate Change

Note: The impact of policies prior to the 2007 Energy White Paper is included in the baseline; without these policies, UK emissions would be higher.

- The plan will ensure the UK meets its **15% renewable energy target** in 2020.
- **Government departments** have been allocated their own carbon budgets.
- The plan will help the **most vulnerable** and help ensure **secure energy supplies**

# The plan will ensure that 40% of UK electricity comes from low carbon sources by 2020

At the heart of the Plan is the **EU Emissions Trading System** which sets a declining limit or 'cap' for emissions from electricity generation and heavy industry.

Further action:

30% of electricity through  
**renewables** in 2020

Supporting up to 4 new  
**CCS** demonstrations

**New nuclear** power  
stations under way by  
2018

We will need a **bigger, smarter electricity grid** – later this year the Government will publish a vision for this.

**Maintain secure electricity supplies** by creating a supportive climate for timely investment

# Homes and communities will contribute 13% of emission cuts in 2018-22

The Government is making homes greener using new measures in the Transition Plan:

Extending the  
**Carbon Emissions Reduction Target**

Introducing the  
**Community Energy Saving Programme.**

Piloting “**pay as you save**” ways to help people make their whole house greener

Introducing **clean energy cash-back** schemes such as Feed-in Tariffs

The Government is helping people to play their part by:

- Rolling out **smart meters**
- Launching a new **personal carbon challenge** and developing more proactive services from the **Energy Saving Trust**
- Announcing ‘**Green Villages, Towns and Cities**’ competition

**Maintain secure gas supplies** by maximising UK economic production, improving import and storage capacity and strategic partnerships to source imports

# The plan will ensure our workplaces contribute 9% of emission savings in 2018-22

Government helps reduce emissions from workplaces by:

- **The EU Emissions Trading System** which covers heavy industry
- **Incentivising energy saving**, e.g. through the Carbon Reduction Commitment
- **Providing advice** on how to cut carbon emissions e.g. via Carbon Trust.

Workplaces will contribute **9% of emission savings** in 2018-22\*



\*Some workplaces also save emissions through their inclusion in the EU ETS. These are included in the savings attributed to the power and heavy industry sector.

# Transport will contribute 19% of emission savings in 2018-22

The Government is reducing emissions from **road transport** by:

## Making engines more fuel efficient

- New EU rules on car and van emission standards
- £30 million for low carbon buses

## Supporting low carbon vehicles

- £400 million to encourage development and uptake
- 10% of transport energy to come from renewable sources

## Changing behaviour

- £29 million for the first 'Sustainable Travel City'
- £145 million for cycling

**Rail:** increased energy efficiency and more electrification

European flights part of EU ETS from 2012; pushing for new global agreement on **international aviation and shipping**

**Maintain secure oil supplies** by maximising economic UK production, promoting a well-functioning global oil market, and improving UK fuel infrastructure

# The plan will ensure that farming, land and waste contributes 4% of emission savings in 2018-22

## Driving down emissions from farming, land and waste by:

Encouraging **voluntary action from English farmers** to reduce emissions at least 6% on 2020 levels

Encouraging **private funding for woodland creation**

Reducing **waste** to landfill and capturing more methane emissions

Supporting “**waste to energy**” **technology** (anaerobic digestion)

Enabled by research to improve emission **measurement and verification**

# The Government is helping to make these changes more affordable through new measures, especially for the most vulnerable

The additional impact in 2020 of policies in this Transition Plan, relative to today, is £76 on annual bills, which is equivalent to approximately a **6% increase** from current energy bills.<sup>1</sup>

## Help for the most vulnerable households

## Help for all households

### Price:

Creating **mandated social price support** at the earliest opportunity.

### Energy efficiency:

Increasing the level of **Warm Front grants**.

Help fuel poor households via **clean energy cash back**.

### Income:

**Winter Fuel Payments** and **Cold Weather Payments** for the most vulnerable.

New powers to **Ofgem** to tackle **market abuse**.

Clarifying that Ofgem should help **tackle climate change and ensure security of supply**.

1. When previously announced climate policies are included, this figure is **8%**.

# There are costs, but also opportunities from the transition to low carbon and the Government is helping businesses to grasp these

To help make the UK a world centre of the green economy the Government is:

Using **£405 million fund** to support low carbon industries

Facilitating business access to up to **£4 billion of new capital** from the European Investment Bank for renewable and other energy projects

Helping workers to develop the **skills** needed to thrive in a low carbon economy

The additional impact in 2020 of policies in this Transition Plan, relative to today, is equivalent to approximately a **15% increase** from current energy bills for businesses consuming a medium amount of energy.<sup>1</sup>

To make sure the transition happens in a **fair** way, the Government is:

- Providing **loans and grants**
- Ensuring markets are **competitive** and acting to keep **EU frameworks** fair.

1. When previously announced climate policies are included, this figure is **17%**.

# The Transition Plan delivers emission cuts to 2020. But we need to consider now the possible pathways to 2050

## What we might see in 2050

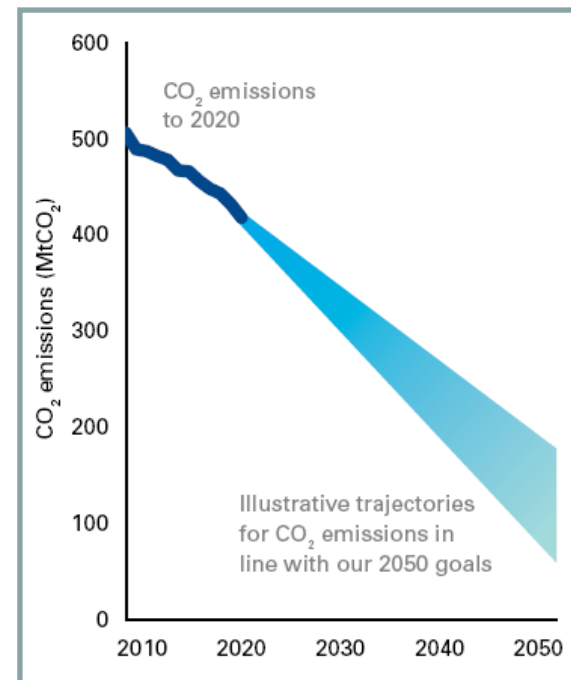
Early work shows  
**common themes** across  
most scenarios

Energy demand will have  
to fall significantly

But electricity use likely to  
increase

But some **big  
uncertainties**

Such as, how much  
electricity or bio-energy is  
used in heat and transport



The Government will work with industry and the public to publish a **roadmap setting out the path to 2050** by spring 2010



# The UK Low Carbon Transition Plan received positive feedback from stakeholders and the media



“We welcome this mature and open debate that has been initiated by the Government on the future of Britain's energy requirements.”



“The commitment to a joined-up approach across Government is very welcome, as is the commitment to delivering 15% of renewable energy by 2020 from domestic sources. There appears to be a genuine commitment to a radical transformation of UK energy generation.”



“This is a promising start, and includes many measures the CBI has been calling for to reduce emissions across the economy.”



“It is easy to criticise governments when they publish such programmes... (and) it would be easy to greet this one with a cynical rictus. I don't think that would be right ... It is thoughtful, ambitious, and - for just about the first time I can remember - gives the impression that the various government departments know what meeting their headline targets will entail in practice.”



“This is a very welcome document that maps out not just a proper response to the threat of climate chaos but also starts to map out the shape of the UK economy after the recession.”

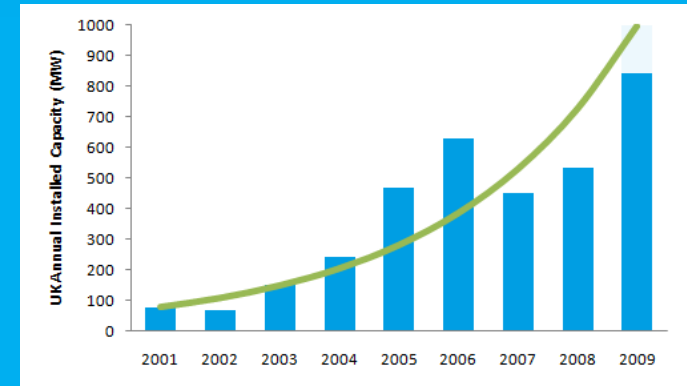


“No other government in the world has published anything quite like this, both a collective statement of intention and a fairly detailed description of how carbon reduction might be achieved.”

# Offshore wind

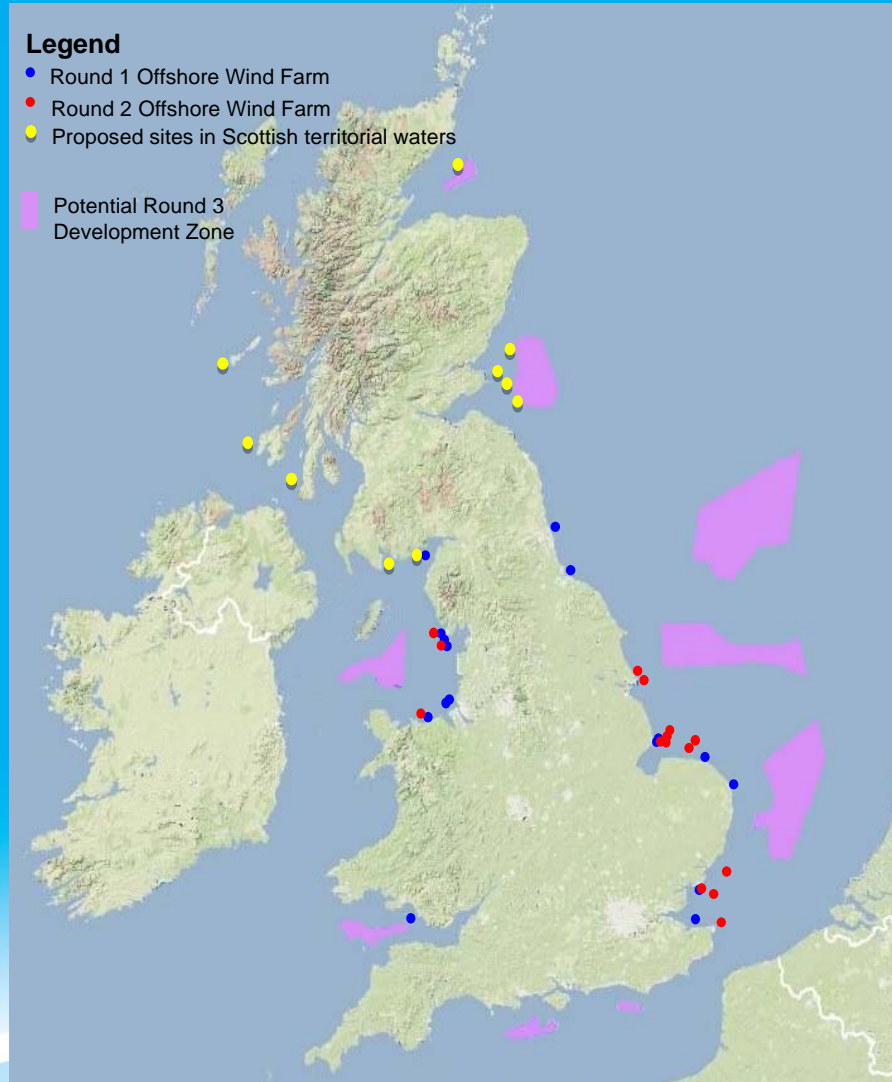
# Status Update

- 3.8GW operating  
(800MW+ offshore #1 globally)
- 6.9GW consented  
(3.6GW offshore)



- Best wind resource in Europe
- Most to catch up to meet 2020 RE targets
- 2009 1<sup>st</sup> GW+ year
- 2020 #2 in EU; offshore #1 globally

# Market Status



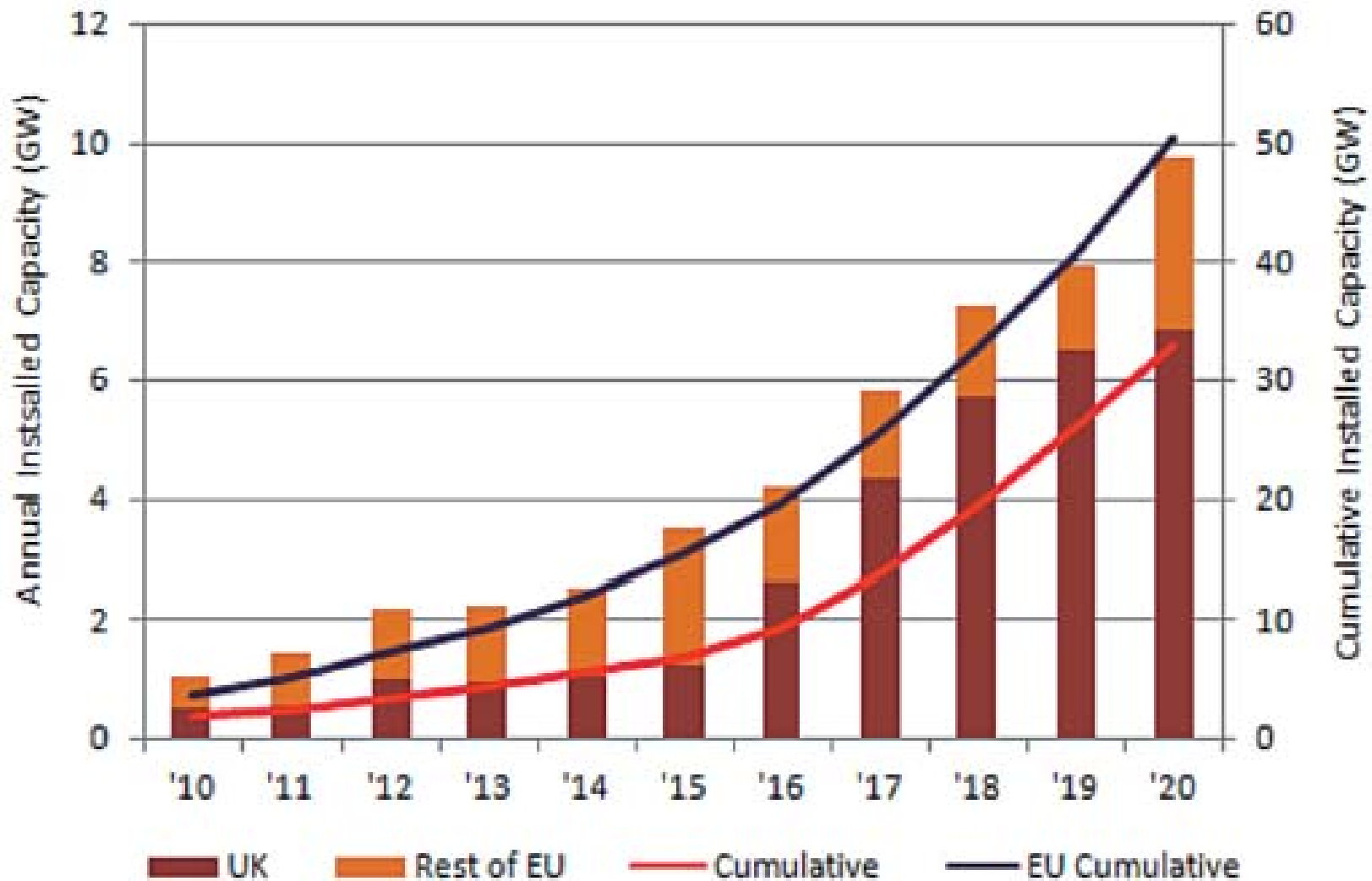
GW	Total	Awarded	Consented	Operational
R1	1.2	100%	100%	73%
R2	7.5	100%	77%	1%
R1 & 2 Ext	1-2	0%	0%	0%
R3	25+	0%	0%	0%
Scottish	6.5	100%	0%	0%
<b>Total</b>	<b>41+</b>			

## Progress (since EWEC09)

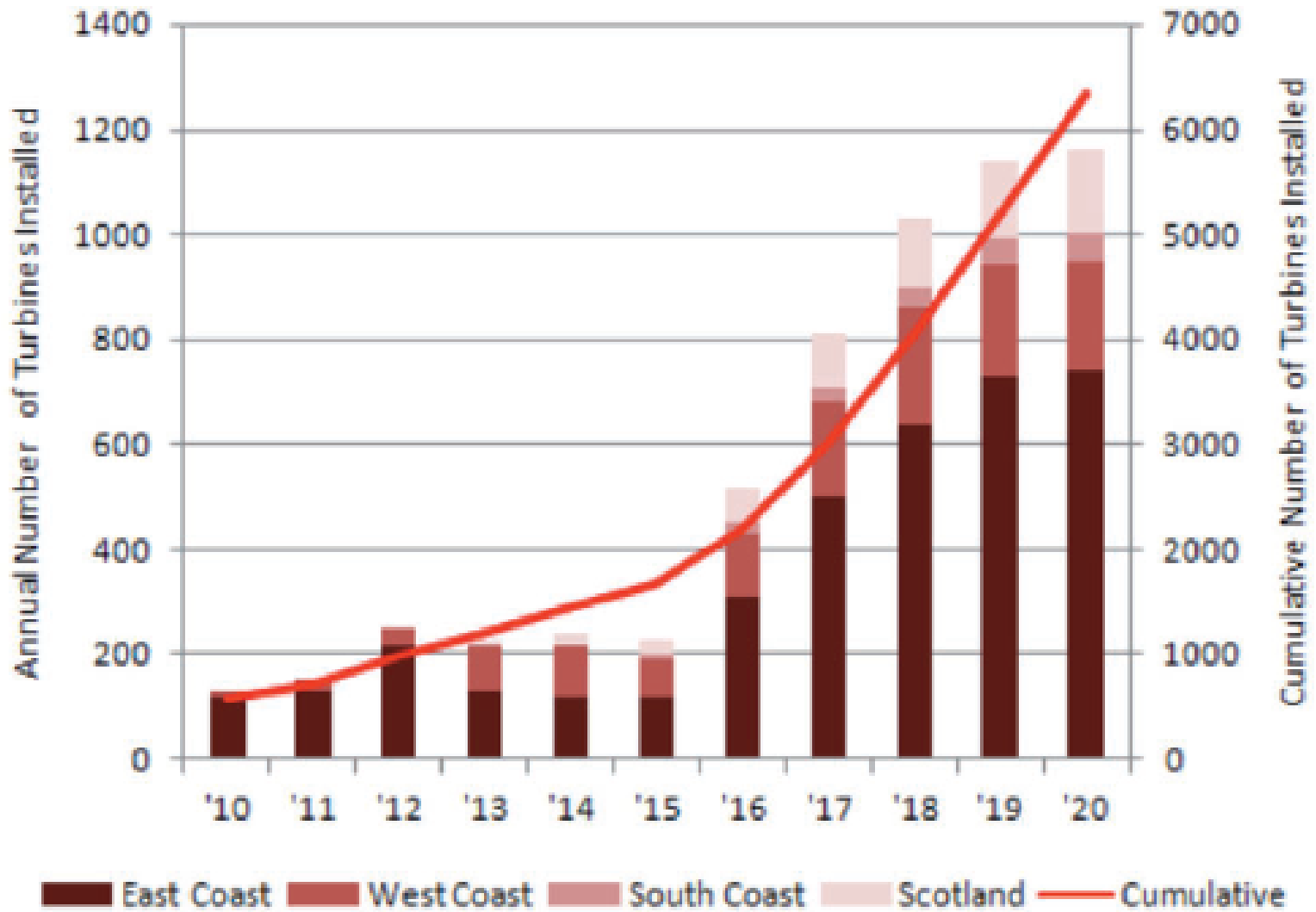
- **Round 1:** All consented  
Rhyl Flat, Robin Rigg & Gunfleet I generated 1<sup>st</sup> power
  - **Round 2:** W. Duddon consented  
Gunfleet Sands II generated 1<sup>st</sup> power
  - **Round 1 and 2 Extensions:**  
Simplified process started

## Construction Work:

- **Round 1** – Rhyl Flats, Robin Rigg (270MW)
- **Round 2** – Greater Gabbard, Thanet (804MW)



*Figure 1.4.1. Projected annual and cumulative offshore installation to 2020 in MW in UK and rest of Europe.*

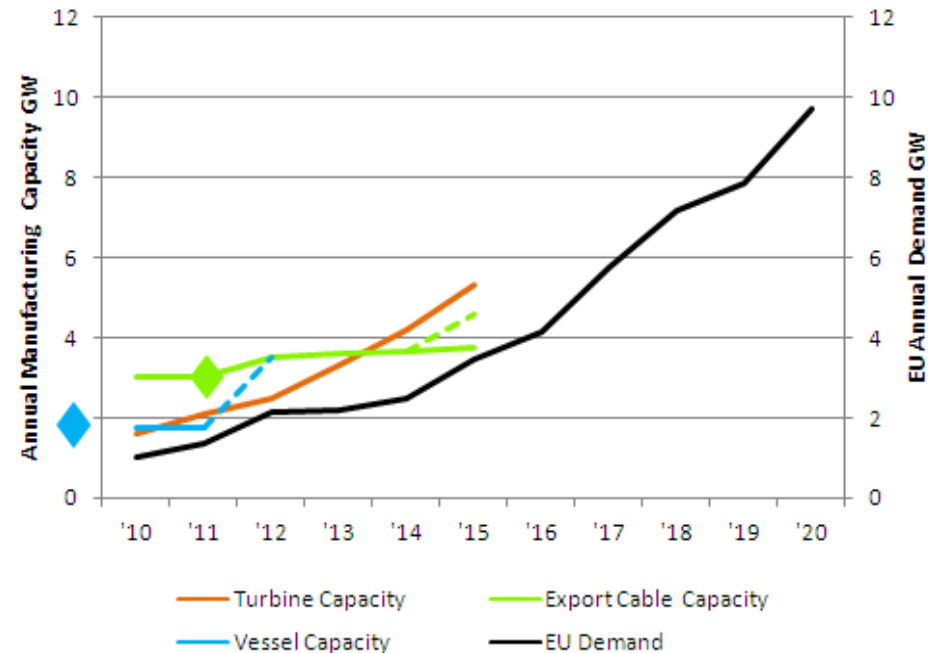


*Figure 1.3.2. Projected number of turbines installed offshore UK to 2020. The forecast assumes that installation in Scottish and Northern Irish territorial waters supplements Round 3 activity. It is anticipated that the average power rating of turbines to be installed each year will rise to just below 6MW by 2020.*

# Supply Chain Opportunity

- Without investment, there will be constraints at every stage
- Capacity needs to be built somewhere?
- UK can benefit
- Investment delivers GW installed & cost reduction
- UK companies need to collaborate

Projected capacity against demand for critical components



***“UK is Siemens’ no. 1 market offshore, and is growing tremendously.”***

SIEMENS WIND POWER

# UK opportunities across the supply chain

