

Offshore Wind In the UK

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ENERGY
& **CLIMATE CHANGE**

Office for Renewable Energy Deployment





Our aims: Why renewable energy?



**Reduce
carbon
emissions**



**Reduce UK
dependency
on imported
fossil fuels**



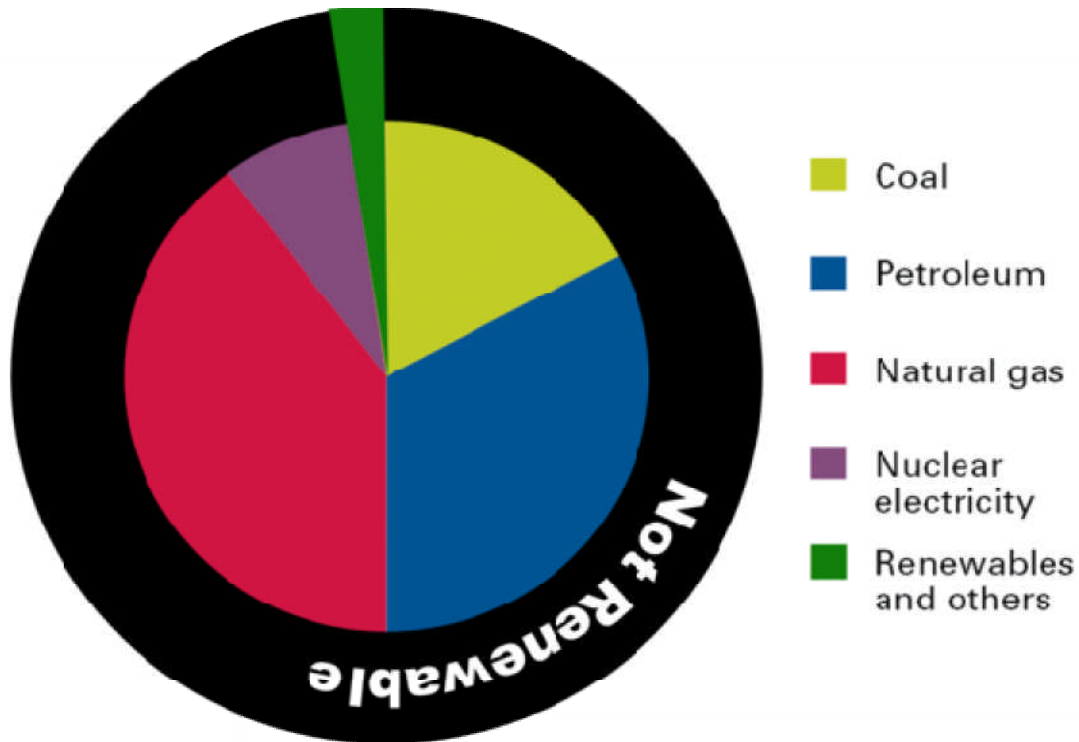
**£100bn
investment;
half a million
jobs**



**Legal
obligation**

The UK's renewable energy target

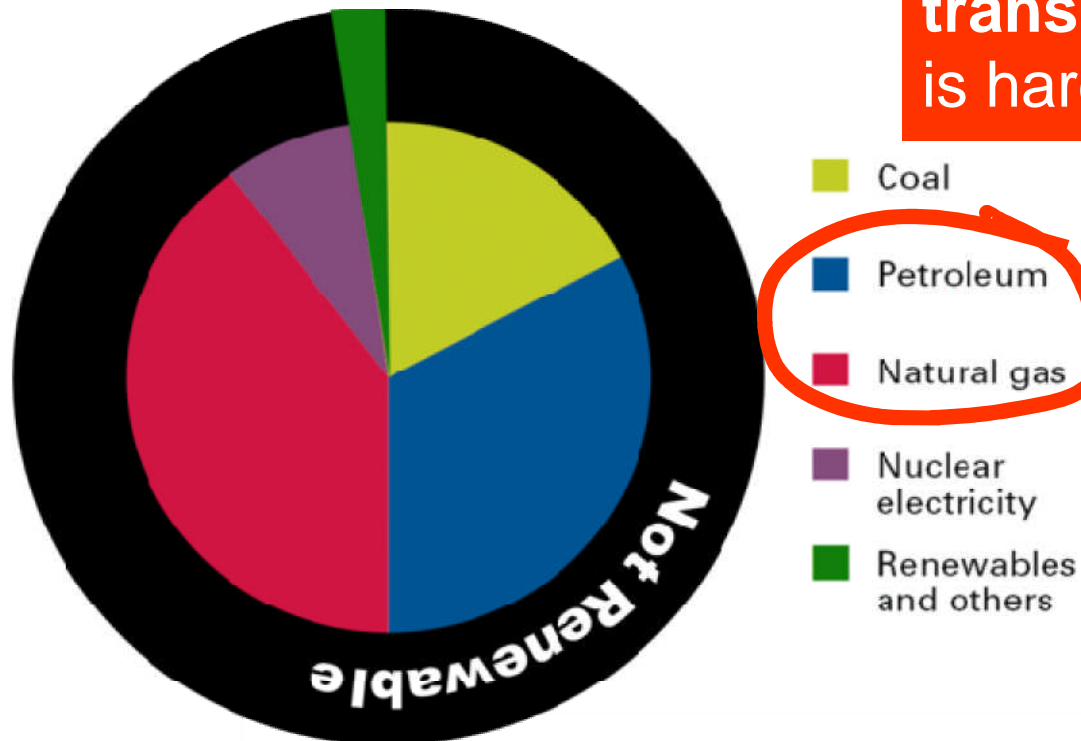
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- Coal
- Petroleum
- Natural gas
- Nuclear electricity
- Renewables and others

...which means UK
electricity needs to
be **~30%** renewable
in ten years' time

Wind is our main renewable resource

A person in a dark wetsuit is standing in shallow, rippling water, holding a large, colorful net. The net is partially submerged and appears to be catching something. The person's reflection is visible in the water. The background is a vast expanse of water under a clear sky.

The UK has
40%
of Europe's
wind resource

- Renewable UK

This needs enormous investment...

Onshore wind

2,255 turbines now

~ **12,000** by 2020

~ **£3m** per turbine

Offshore wind

209 turbines now

Up to **10,000** by 2020

~ **£10m** per turbine



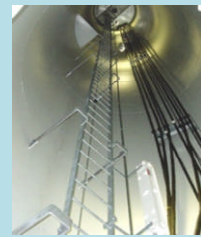
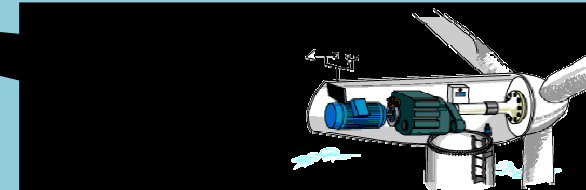
~ **£75 bn** in 10 years

It will stretch the supply chain

Nacelle, generator, gearbox & blade pitch control

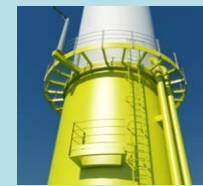


Blades



Towers

Base & transmission pieces



Foundations – monopiles, and more complex structures



Offshore Substations & electrics

Cables



...not just for turbine components...



Offshore wind: a UK industrial priority

Wind will inevitably be a **substantial** part of our the UK's renewables target – we're already the world number one market

The UK will be spending **£75 bn** on wind energy

Aim to **build the UK renewables industry** - and in particular the **offshore wind supply chain**



UK support: Creating a credible market

- **A long-term and credible market for the product:**
Committing to future proofed cross-subsidy.

*We aim for our support
For wind energy deployment
to be at an appropriate
level – and to minimise
regulatory risk.*



UK support: Minimising Bureaucracy

- **Streamlining processes:** Major reforms to the planning system, to make it effective and proactive, with a robust evidence base for decisions.

We're also providing enhanced market certainty e.g. via strategic environmental assessments

And addressing radar & aviation issues



UK support: Key infrastructure

- **Sites for prototypes:** Funding partly-developed offshore sites in the North East to test prototype turbines (£18m). And The Crown Estate has run a licensing call for demonstration wind farms



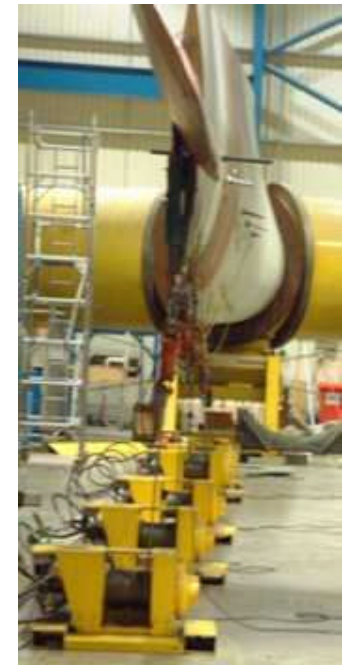
UK support: Funding for technology

- **Directly investing in technology:** to cut costs and develop the next generation of products –

New open-access test facilities for offshore wind, e.g. blade testing (£15m)

Funding For innovative companies in the supply chain (£18m awarded)

Partnerships to develop ‘common good’ technology – e.g. Carbon Trust Offshore Wind Accelerator (£15m), Energy Technologies Institute

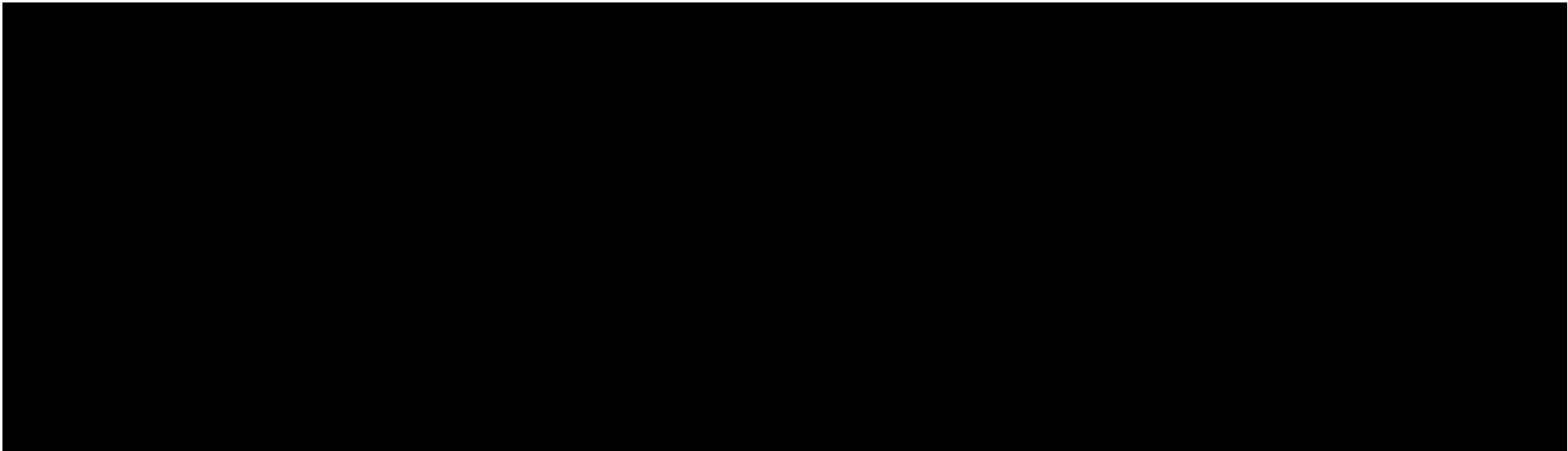


UK support: Supply chain development

- Make the most of UK strengths in manufacturing, attract strategic investment – and fill key gaps in the supply chain.
 - *Financial support for major manufacturing investments in the UK*
 - *Advice to companies on supply chain diversification*
 - *Working to develop skills for the renewables sector*
 - *Work with the finance & investment sector*

In summary

- 1** We will meet our renewable energy targets. The supply chain will be stretched – but this is a major commercial opportunity.
- 2** It's not just about targets its also economic benefit.
- 3** We need a great deal of investment in almost all aspects of the offshore wind supply chain.
- 4** There's stiff competition for investment – but we believe the UK is a strong commercial opportunity



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