

ABERDEEN – MAY 2008

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Why do we like wind?
&
Why do we have supply
chain issues?

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Clean Credentials

- No Carbon dioxide
- No SOX
- No NOX
- No particulates

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Wind is also

Safe

Secure

Sustainable

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Can we apply the same criteria to the supply chain?

Safe?

Secure?

Sustainable?

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SAFE

- To invest in relatively new but established technology
- To invest in an end product that produces something we all need
- Safe to invest in a growing market

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SECURE

- To invest in a large component market for UK & Europe
- To invest the in UK & Europe – the World's largest planned growth area
- The UK has Government aims and targets

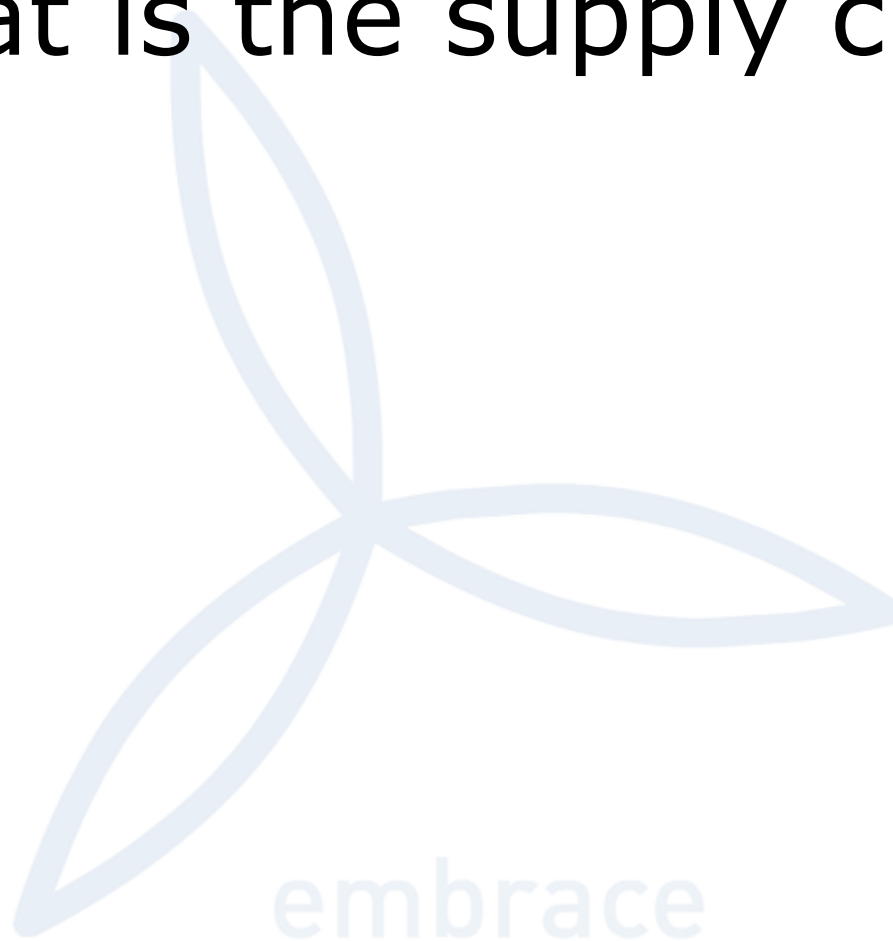
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Sustainable

- A market that is set to grow with new developments and refurbishing or replacement of existing installations
- A Worldwide market set to continue growing for the foreseeable future

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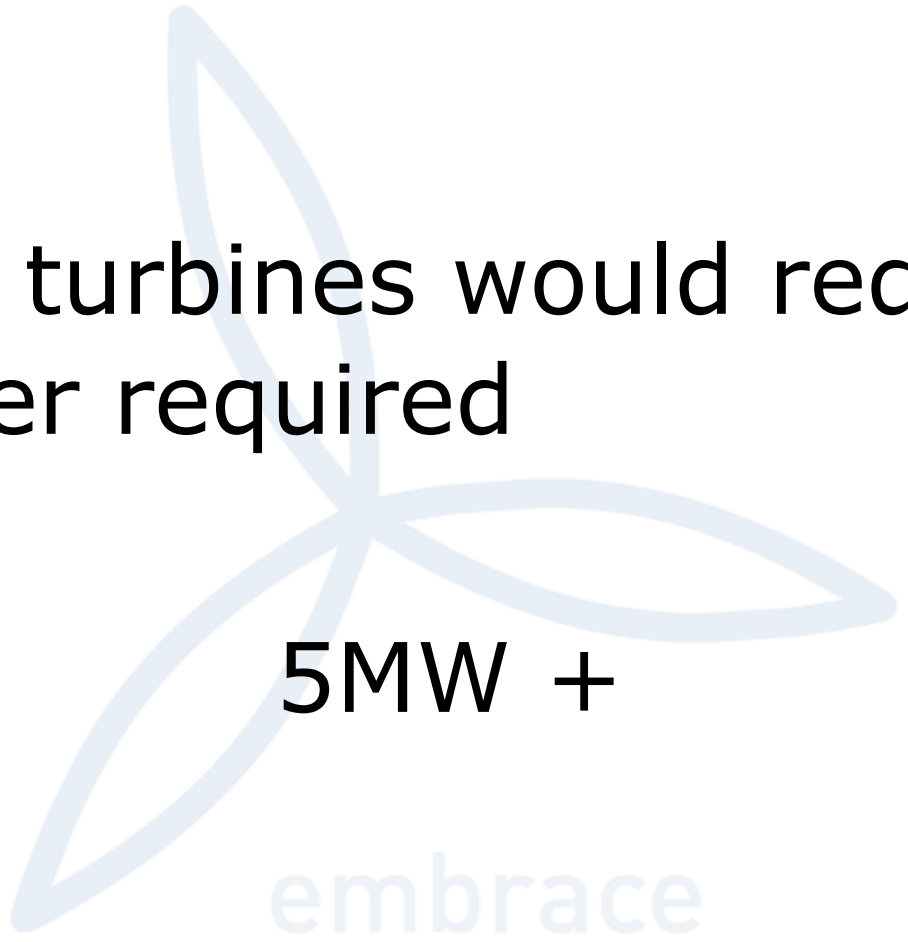
What is the supply chain?



How many turbines **Offshore** by 2020

- 2000 to complete R1 & R2
- + 2500 get to 20GW
- + 3000 to achieve 33GW

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Bigger turbines would reduce the
number required

5MW +

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With Onshore included 10500 turbines in 12 years

Each turbine has 40,000 parts (on
average)

+ blades

+ towers

+ foundations

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Major supply chain delays in the turbine

- Castings & Gearbox
- Bearings

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They also need

- Transformers
- Cables
- Vessels & Ports

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Vessels

Owners & operators appear to have plans in hand to adjust to the demand if required, but steel costs rising

Supply chain OK?

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BLADES

- The raw materials are increasing in price with the link to petrochemicals
- World carbon fibre shortage
- But the manufacturers are focused on expansion

Supply Chain OK?

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UK Ports

- For Storage
- For O&M
- For Repair
- For Turbine/Blade/Tower manufacture and/or assembly

Do the UK ports want to get involved?

UK Ports

UK needs at least two ports with an assembly and manufacturing capability

East Coast and/or West Coast

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UK Ports

Can they be encouraged and supported to get involved by Government and RDAs and the turbine manufacturers and even the developers !!

A challenge for all parties

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The Proverbial Question

What came first the Chicken or the egg?

The manufacturer or the supplier?

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UK has a low supply input into wind turbines

UK wind turbine manufacture is virtually non-existent

What's the remedy?

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The UK

- Attracted Toyota & Nissan with its engineering heritage and manpower, market and Government support
- Sterling is continuing to weaken against the Euro – promotes UK manufacture – discourages imports

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The UK

- Needs component manufacturers to see it as a good place to invest in facilities
- Turbine manufacture can attract & develop the supply chain

Become the chicken that lays lots of
productive eggs

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The UK

- Are Joint Ventures between developers and manufactures a way forward?
- Is turbine manufacture under licence a way forward?
- Joint Ventures between turbine manufacturers and bearing, cable, transformer and gearbox manufacturers?

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The UK

- Change and simplify the project tendering process for grid connection like Germany has done - especially cables
- Simplify the planning and consent process

Both would help create confidence for the supply chain companies to invest in the UK

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We are not alone !!

The other sources of power for the UK
also have some challenges

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Nuclear

Components and Reactors

Skilled Engineers

Experienced Engineers

Feedstocks

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Conventional

Components

Environmental Impact

Secure feedstocks

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BIOMASS

Corrosion

Sulphur

Variable feedstock

Components

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Will the lights go out?

WHEN?

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The UK needs Wind Energy

Onshore and Offshore

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BWEA Offshore 2008

London June 4th

Key speaker

Hilary Benn – Secretary of State

DEFRA

+ CBI + Crown Estate

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