

The Global Opportunity of Offshore Renewable Energy



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Chief Executive

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Working for a bright, clean energy future for Scotland



- Voice of Scotland's renewable energy industry
- "A Scotland leading the world in renewable energy"
- c250 member organisations





The global renewables market

- Worth over \$300bn a year
- In 2017 investment in renewables reached \$333.5bn, bringing cumulative global investment since 2010 to \$2.5 trillion (*RenewableUK, 2018*)
- By 2050, renewables will supply 87% of electricity in Europe, 55% in the US, 62% in China and 75% in India (*Bloomberg New Energy Finance, 2018*)

Offshore Wind

- Key markets include Germany, Denmark, Netherlands, Ireland, Poland, China, Taiwan, Belgium, Japan, USA and France
- Offshore wind in Europe expected to grow from c16GW (2017) to 25GW (2020), to c70GW (2030)
- Offshore wind turbines are getting bigger: the average size in 2017 was 5.9 MW, 23% up on 2016; GE now introduced 12MW turbine (world's biggest)

Wind Europe; RenewableUK



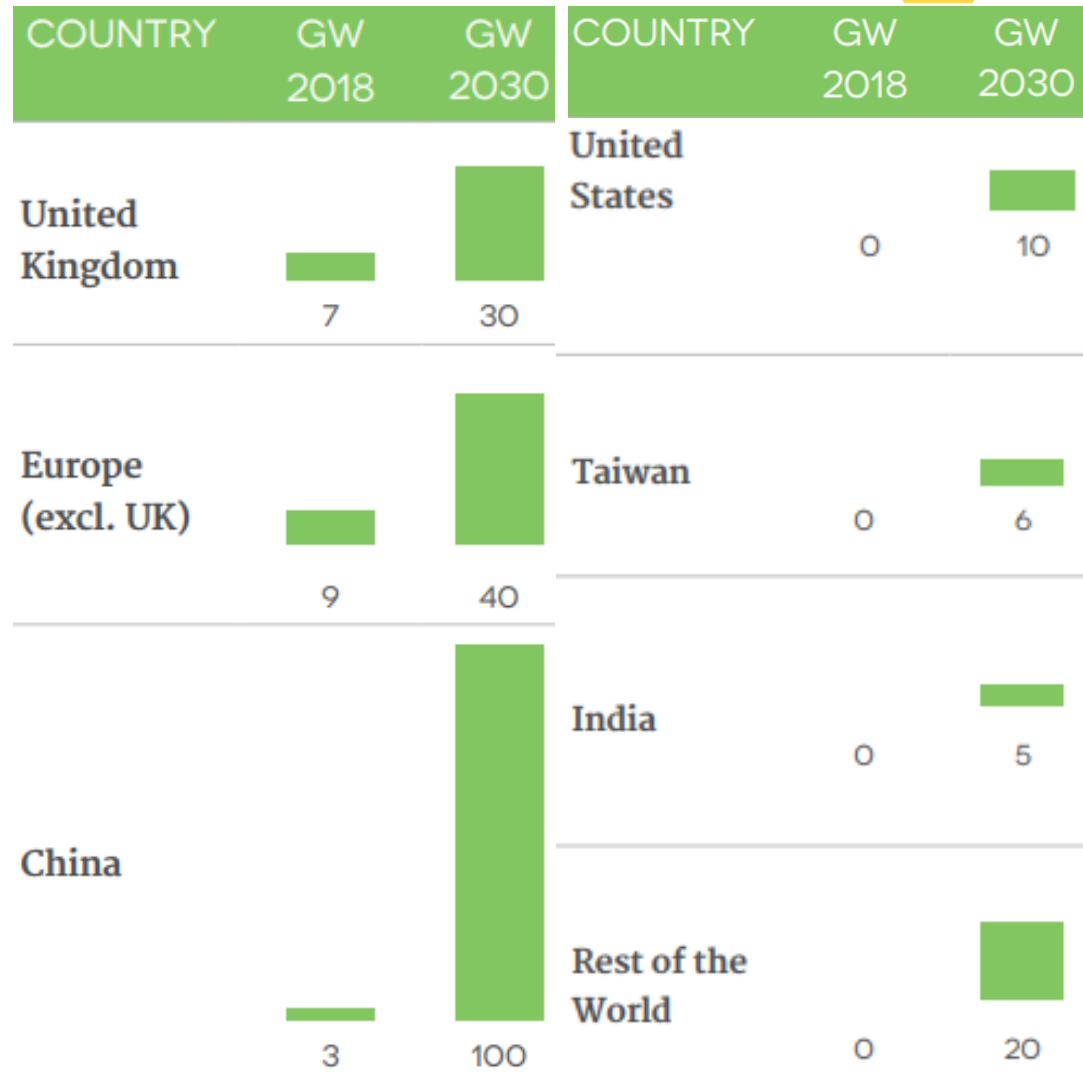
Eon – Robin Rigg wind farm

Generating capacity to 2030

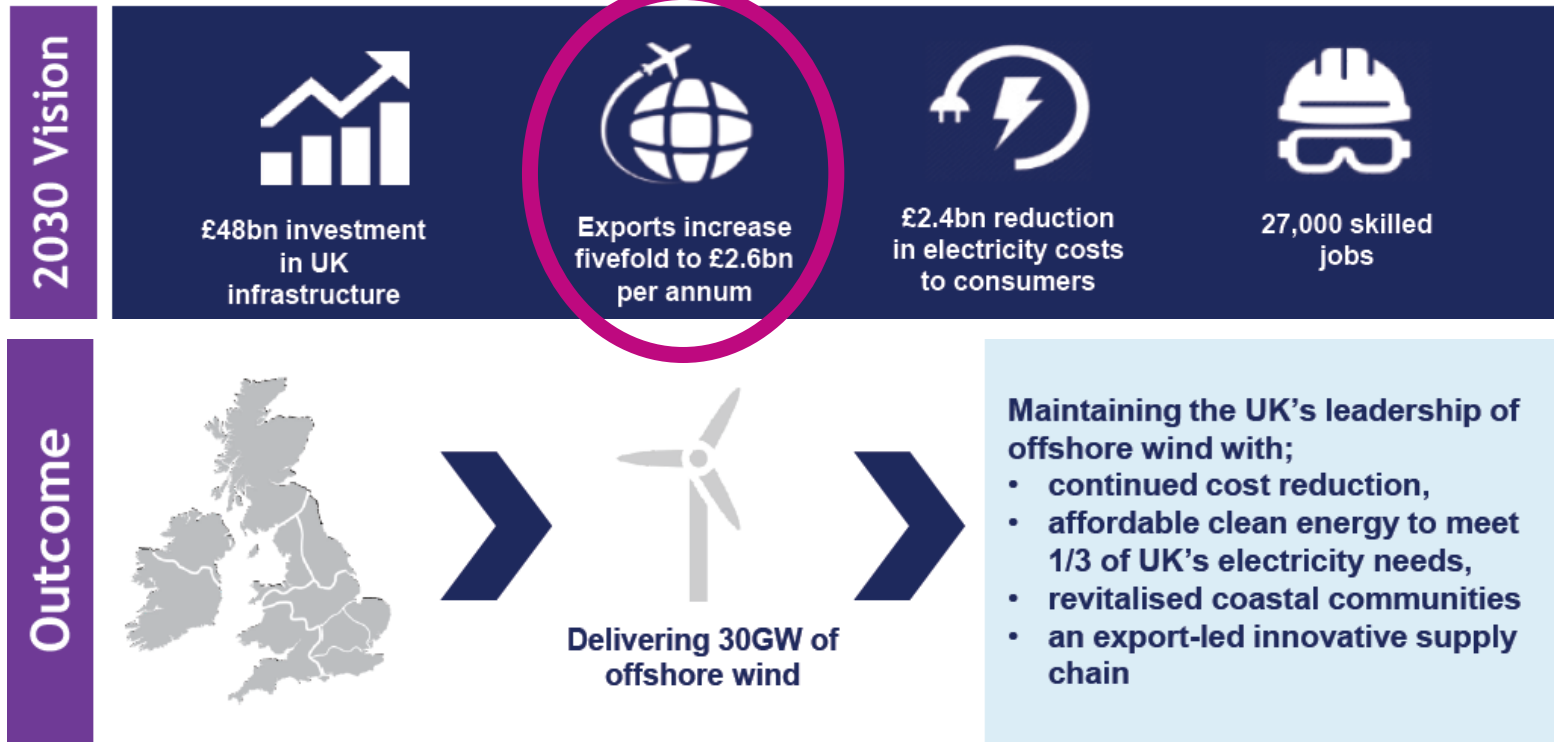
Offshore Wind Industry

Prospectus for the UK

Offshore Wind Sector Deal
(2018)



A Sea of Opportunity: UK Growth and Investment in Offshore Wind



Sector priorities

Ideas

Cutting edge innovation

- Reducing costs in engineering design, construction and Operations and Maintenance (O&M)
- Creating high value exportable goods and services, with spin offs for other sectors
- New opportunities for high-tech industries e.g. robotics & digitalisation

Business Environment

A globally leading supply chain

- Supply chain investment and new market entrants will increase productivity and continue cost reduction
- Fivefold increase in export value from globally competitive companies
- Synergies and mutual benefit for other sectors

UK Offshore Wind Industry Prospectus

CROSS SECTOR OPPORTUNITIES



£2.5 TRILLION
INVESTMENT IN WIND
ENERGY BY 2040

THE COST OF ELECTRICITY
GENERATED FROM
NEW OFFSHORE WIND
PROJECTS HAS
FALLEN BY 50%



**OPPORTUNITIES FOR
INNOVATION**

OFFSHORE WIND
GLOBAL MARKET IS
**RAPIDLY
EXPANDING**



Floating Offshore Wind

- Emerging markets: Japan, USA, China, Taiwan, S. Korea, Norway, Spain/Canaries, Portugal
- Global market set to grow to at least 4GW by 2030 (£3.1bn annual market); 55GW by 2050 (£7.1bn annual market)
- Annual UK export value could be at least £230m by 2031 and £550m by 2050
- UK/Scotland has first-mover advantage; best placed to capitalise on the evolving technology





Wave & Tidal

- Up to 337GW of marine capacity could be deployed worldwide (IEA, 2012)
- Key country markets include Indonesia, Philippines, Canada, France, Japan, Chile, USA, Indonesia, South Korea, China, Netherlands, Portugal and Australia
- Island and remote areas can have high costs of energy, making marine energy more competitive
- France and Canada are key players offering attractive regulatory/financial support
- Scotland/UK remains at forefront of technology development, but uncertain



Events 2019

- **SR Onshore Wind Conference, 9 June, Glasgow**
- **Business Impacts of Network Charging Reform, 10 June, Glasgow**
- **Floating Offshore Wind UK, 31 October, Aberdeen TECA**
- **Scottish Green Energy Awards dinner, 5 December, Edinburgh**

scottishrenewables.com/events



Thank You

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