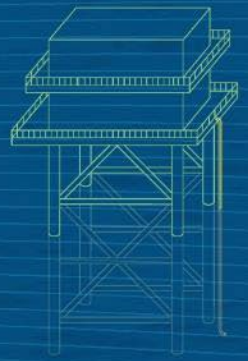
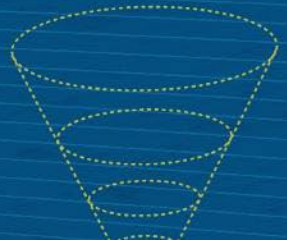
Carbon Trust

International collaboration in offshore renewable energy.





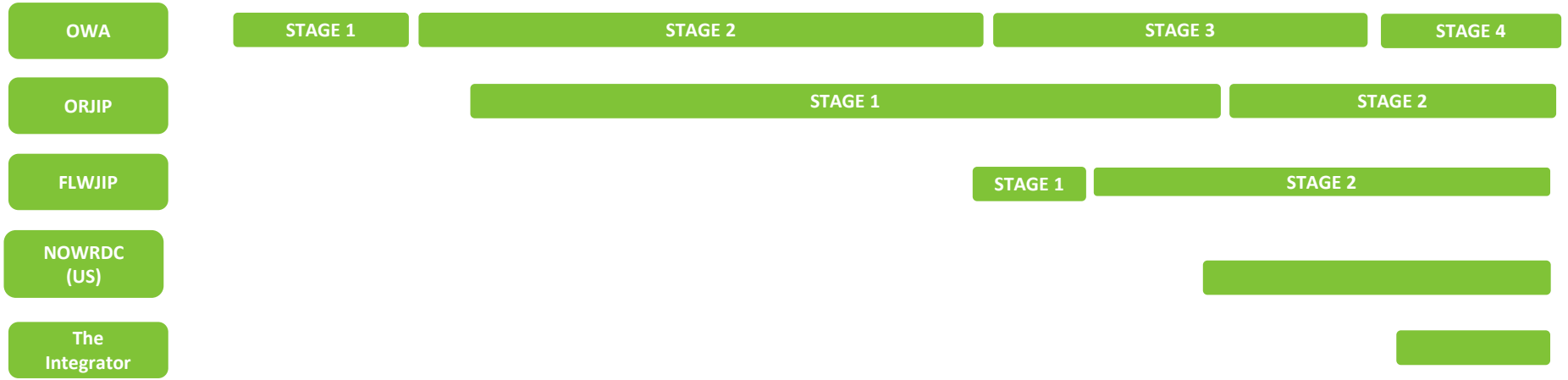
Our mission is to accelerate the move to a sustainable, low carbon economy

We work with governments, multilateral organisations, businesses and the public sector, helping them contribute to and benefit from a more sustainable future

Advice **Programme Design and Delivery** **Assurance and Certification**

Offshore Wind - Joint Industry Activities

Our programmatic JIP approach has been replicated many times



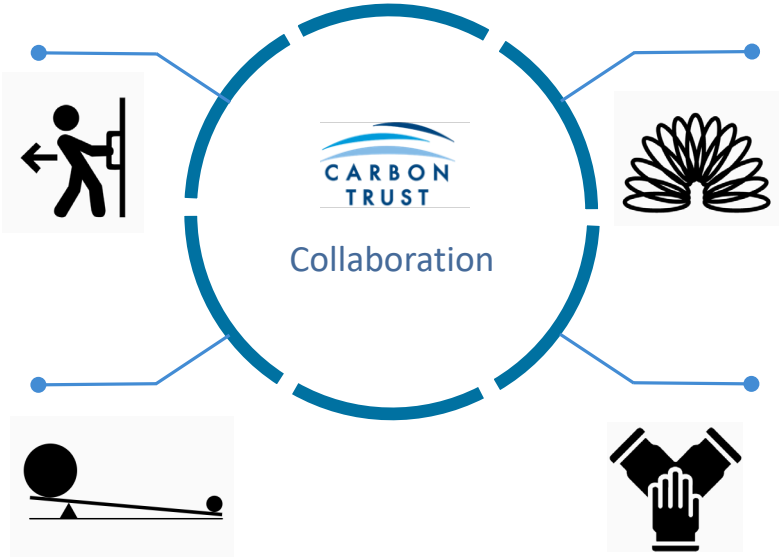
Benefits of a collaborative programme

Market-pull principle

- Near market, commercially focused RD&D
- Industry led and industry inclusive
- Industry-wide alignment on key issues provides clarity to the market and creates opportunities for innovators

Financial leverage

- Joint contributions
- Investment leverage
- Risk sharing



Flexibility

- Flexible nature and timing of projects
- Broad focus across several technical areas
- Flexible use of funding for the different projects
- Certainty and stability of the process and the resources available

Knowledge pool

- Large number of technical experts and strategists involved
- Open discussions, knowledge sharing and alignment of ideas at a technical and strategic level
- Open platform to innovators

Collaboration in a competitive market

Setting new Standards

PISA Project

Accelerating commercialisation

Floating LIDAR - FLIDAR

Compete

Collaborate

Influence supply chain

66kV

Share risk / cost

Suction bucket jacket

Floating Wind Joint Industry Project (JIP)

Objective: Investigate the challenges and opportunities for large scale floating wind farms

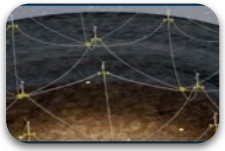
Since 2016
Driving international, cross-industry engagement

> £4m
Invested in R&D projects

70%
Funded by industry

> 24
R&D projects

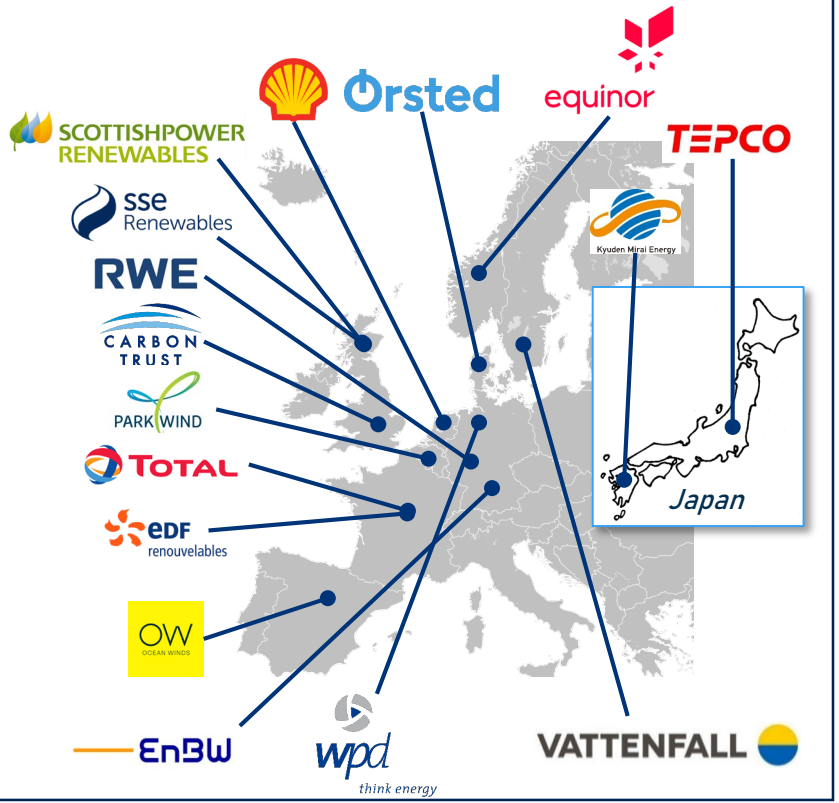

Electrical Systems


Mooring Systems


Turbine-Foundation Optimisation

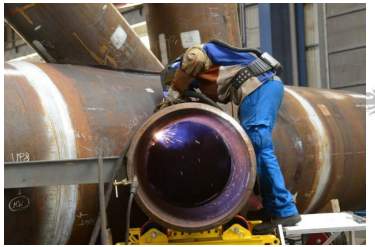

Asset Integrity

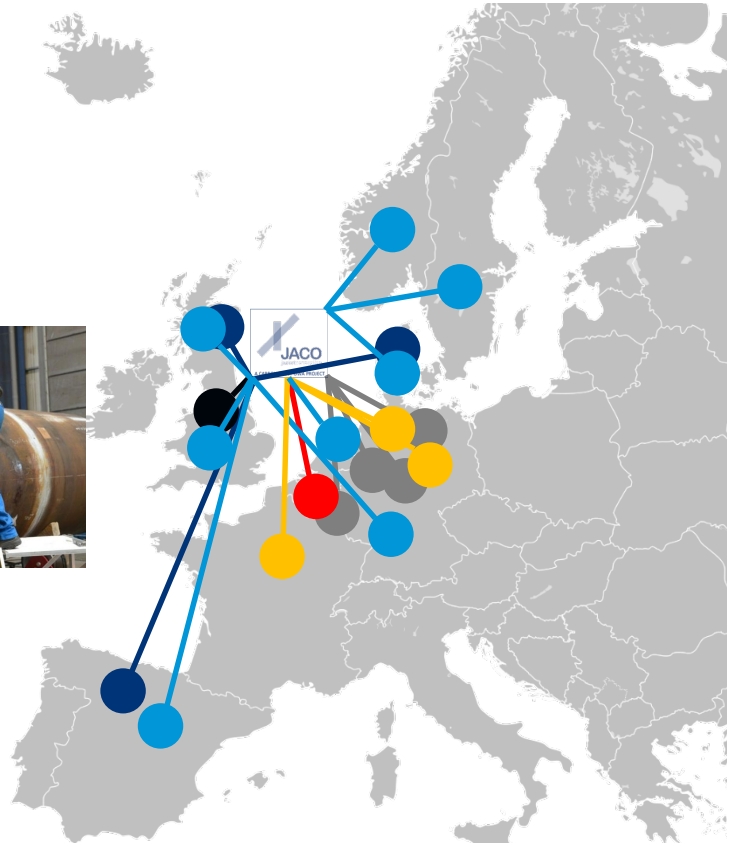

Logistics



Improved Fatigue Life of Welded Jacket Connections (JaCo) project

JACO
jacketconnection
A CARBON TRUST OWA PROJECT





Objective:

Improve S-N curves and fatigue classes for welded jacket nodes through extensive stress testing

Validation of robotic against manual welding

Fabricate a number full size jacket nodes

Stress test these nodes using both conventional (hydraulic) and innovative (resonant) testing techniques

- Testing House (OCAS)
- Project Partners
- Node suppliers
- Base material supplier
- Techn. Review Panel
- Independent Advisor

CARBON TRUST
OCAS
Ørsted
equinor
SCOTTISHPOWER RENEWABLES
EnBW
VATTENFALL
SIEMENS Gamesa
sse Renewables
EEW
FABRICATION
KVÆRNER
Navantia
FAB
ArcelorMittal
SALZGITTER AG
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