



Developing the offshore wind supply chain

**COMPETITION FOR FEASIBILITY STUDIES AND DEVELOPMENT
AND DEMONSTRATION FUNDING**

NOVEMBER 2012



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Summary

The Department of Energy and Climate Change (DECC) and the Technology Strategy Board are to invest up to £11.2m in technical feasibility studies; development and demonstration of component technologies; and knowledge transfer partnerships (KTP) to stimulate innovation in the UK offshore wind sector and to strengthen the supply chain.

The deployment of wind farms off the coast of the UK will see the UK continuing to lead the global market over the coming years. However, the cost of energy from offshore wind remains relatively high and the UK supply chain captures relatively little value in current deployments. This competition aims to help the development of technologies that will minimise the cost of energy to the UK consumer while ensuring that the UK economy captures more benefit from increased supply to future projects.

Development and demonstration

Up to £7m is available for the third round of DECC and the Technology Strategy Board's offshore wind component technologies development and demonstration scheme.

Applications to this scheme should be made to DECC and should seek to develop and demonstrate components across the offshore wind system. Applications will be welcomed from single businesses or consortia, including those not currently established in the UK or those seeking to expand into the offshore wind sector. Successful projects are expected to attract between about 25% and 60% public funding, and may receive up to £4m funding per project. This element of the competition opens in early November and the deadline for applications is noon on **16 January 2013**.

Feasibility studies

Up to £3m is available for technical feasibility studies lasting up to a year and **applications should be made to the Technology Strategy Board**. Projects must be led by a UK business and may be developed by a single company or be collaborative. They will attract up to 75% public funding of up

to £100k for pre-industrial research, with total project sizes expected to be between £100k and £150k. The competition for feasibility studies opens on **5 November 2012**. The deadline for registration is noon on **9 January 2013**, and the deadline for applications is noon on **16 January 2013**.

A briefing event for development and demonstration funding, feasibility studies and the KTP call will be held on **13 November 2012**.

Knowledge Transfer Partnerships

Further funding of £1.2m will be made available in a separate complementary targeted call for KTPs, co-funded by the Natural Environment Research Council (NERC), to support transfer of innovation ideas, capability, and knowledge into industry from academia. Details of this call are available in a separate document at www.innovateuk.org under Competitions.

We welcome complementary applications to the development and demonstration and feasibility competition and the targeted KTP call, but organisations should ensure that their proposals can stand alone and are not dependent on both applications being successful.

Background

Offshore wind power is expected to be the large-scale renewable energy of choice over the coming decades as the UK moves to a lower emissions energy system. The *Offshore Wind Technology & Innovation Needs Assessment* (2012), produced by the cross-governmental Low Carbon Innovation Coordination Group (LCICG), says continued innovation through the coming decades is expected to substantially reduce energy costs, saving the UK energy system up to £89bn to 2050, and allowing UK firms to compete better in the UK and global markets, bringing £35bn GVA (gross value added) to the economy.

This competition aims to bring forward new technologies to demonstration more quickly, and to bring new ideas and products into the sector from parallel industries.

The Offshore Wind Cost Reduction Task Force, an industry group set up recently by DECC, reported that a 40% reduction in cost of energy was possible by 2020 through improved technology, more industry alliances, and supply chain development.

While the UK does not have a domestic offshore turbine manufacturer, the cost of the turbine itself only makes up about a quarter of the cost of producing energy from it. The balance is in foundations, support structures, electrical infrastructure, installation, operations and maintenance, and project development. The UK can compete for turbine sub-components, and in many of these other areas, especially by leveraging expertise in parallel sectors such as aerospace, automotive, defence, and oil and gas.

A steering group of turbine manufacturers and project developers will be set up as part of the feasibility programme to help guide and pull through development into the sector, while giving the industry sight of emerging technologies that may benefit it.

DECC and the Technology Strategy Board share a common aim of supporting innovation in the offshore wind supply chain and are working together, and with other innovation funders in the LCICG, to ensure our support programmes for offshore wind innovation are well aligned.

This competition builds on the first two rounds of DECC and the Technology Strategy Board's offshore wind component technologies scheme. Further details of awards from these rounds can be found at www.decc.gov.uk/innovation

Looking for partners?

Go to **_connect** (www.innovateuk.org/connect) to find collaborators and networks. The **_connect** group for this competition is at <https://connect.innovateuk.org/web/9214127/overview>



Scope

The generic scope for feasibility and development and demonstration projects is outlined below. Applications for feasibility studies will be administered by the Technology Strategy Board and the specific scope, funding allocation and project details are in the panel below. Applications for development and demonstration projects will be administered by DECC and the specific details are in the panel on the back page.

All projects, whether applying for feasibility or development and demonstration funding, must demonstrate their new technology's potential to reduce the levelised cost of energy (LCoE) from offshore wind. The LCoE is the cost at which electricity must be generated from a specific source to deliver reasonable financial returns over the lifetime of the project. A standardised LCoE model will be provided as a common basis for this assessment. This will be in detailed guidance available when the competition opens.

The competition is open to applicants from within and outside the offshore wind sector.

The technical scope is broad and can include innovation for all sub-areas of the offshore wind system, including but not limited to:

- turbine components and sub-structures (for large scale i.e. 5MW-plus)
- foundations
- electrical connection and transmission
- installation
- operation and maintenance.

Technology Strategy Board Driving Innovation

Technical feasibility studies

Scope

Applications must meet the generic criteria outlined above this panel and must bring new ideas and technologies to the offshore wind supply chain in the UK. Projects will explore the technical feasibility of the concept at a stage preparatory to industrial research. Applications are encouraged from organisations already in the offshore wind sector, but also from parallel sectors such as oil and gas, defence, aerospace and automotive. Collaborations between organisations in the sector and technology providers from parallel sectors are very welcome.

Some examples of areas where parallel sectors might contribute to the offshore wind system are:

Aerospace:

- increasing accuracy and repeatability with composite materials
- high-reliability hydraulic and electric systems
- fleet operation and maintenance strategies and risk-based inspection systems
- computational fluid dynamics.

Automotive:

- advanced assembly methods
- supply chain and quality management
- cost reduction through investment and quantity manufacture
- computational fluid dynamics.

Defence:

- high-integrity systems
- systems for management of valuable assets
- radar management systems.

Oil and gas:

- marine and subsea operations technologies
- complex project delivery systems
- cable installation and protection technologies
- structural design and fabrication, including floating structures.

Funding allocation and project details

Up to £3m will be invested in technical feasibility studies lasting up to 12 months. The Technology Strategy Board will administer this funding. Projects must be preparatory to industrial research, led by a UK company and may be developed by a single company or be collaborative. Any size of company may apply, but we are

particularly seeking projects led by small and medium-sized enterprises (SME). We will therefore reserve half the funding for SME-led projects (where quantity and quality of applications allow). Feasibility studies can attract up to 75% funding, and we will provide up to £100k per project. We expect typical total project size to be between £100k and £150k. Academia and research establishments are eligible to apply but may not lead a project.

Application process

This competition will open on **5 November 2012**. The deadline for registration is at noon on **9 January 2013** and the deadline for applications is at noon on **16 January 2013**.

Note: All deadlines are at noon.

More information

To apply for this competition you must first register with us. You can do this by going to the web page for this competition at **www.innovateuk.org** under Competitions. When you register you will get access to all the supporting information you need to read before you apply, including the *Guidance for Applicants* and the application form.

Competition helpline: 0300 321 4357

Email: competitions@innovateuk.org



Component technologies development and demonstration

Scope

This third competition of the offshore wind component technologies scheme will support the experimental development and demonstration of component technologies of next-generation offshore wind systems.

In addition to the generic criteria outlined on page 3, successful projects will:

- demonstrate component technologies for offshore wind turbines or associated technologies greater than 5MW that could be incorporated into the offshore wind systems or farm designs of the major original equipment manufacturers (OEMs) and developers
- result in products or processes that – in terms of scale and/or complexity – go beyond current understanding and experience
- generate learning and practical experience that can improve confidence in innovative offshore wind systems and can help reduce future costs.

Applications are particularly encouraged from (but not limited to) organisations with projects addressing connection and transmission; installation; and operation and maintenance.

In addition, applicants are strongly encouraged to engage with others who can maximise the uptake of the innovation, such as OEMs or wind farm developers. This engagement could be secured by involving an OEM or developer as part of a formal project consortium or through more informal discussion and consultation.

Only capital funding is available for this part of the competition, and, as such, the funding may only be spent on expenses consistent with that definition (www.hm-treasury.gov.uk/d/capital_classification_paper.pdf). Funding for component technologies development and demonstration is only available until **31 March 2015**. Whilst projects may continue past this date (for up to one year), all grant-supported expenditure must be incurred by **31 March 2015**.

Funding allocation and project details

Up to £7m of capital budget will be invested in experimental development and demonstration of component technologies.

DECC will administer this funding. We expect to support projects with individual grant awards up to a maximum of £4m. Projects are eligible for between 25% and 60% public funding. Applications will be welcomed from single businesses or consortia, including those not currently established in the UK or those seeking to expand into the offshore wind sector. Grants are only available for projects taking place primarily in the UK.

Application process

This competition will open in **early November 2012** and the deadline for applications is at noon on **16 January 2013**.

More information

To apply for a development & demonstration project, go to www.decc.gov.uk/innovation. Guidance notes and application documentation will be available by early November.

DECC Innovation Help:
innovation@decc.gsi.gov.uk

Key dates

	Feasibility Studies	Development & demonstration funding
Competition opens	5 November 2012	Early November
Optional briefing day	13 November 2012	13 November 2012
Registration deadline	9 January 2013 noon	Not applicable
Deadline for receipt of applications	16 January 2013 noon	16 January 2013 noon

Further Information

Applications will be assessed on individual merit by an independent panel of experts.

A briefing event will be held in London on **13 November 2012** to highlight the key features of all the elements of this competition and KTP call and explain the application process.

Note: All deadlines are at noon

Publicity

As part of the application process all applicants are asked to submit a public description of the project. This should adequately describe the project but not disclose any information that may impact on intellectual property, is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded and the public description will be published once the award is confirmed as final. Information about unsuccessful project applications will remain confidential and will not be made public. E-mail pressoffice@tsb.gov.uk with any queries.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life.

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