

Research Councils UK Energy Programme

For a Low Carbon Energy Future

All Energy Conference 2010

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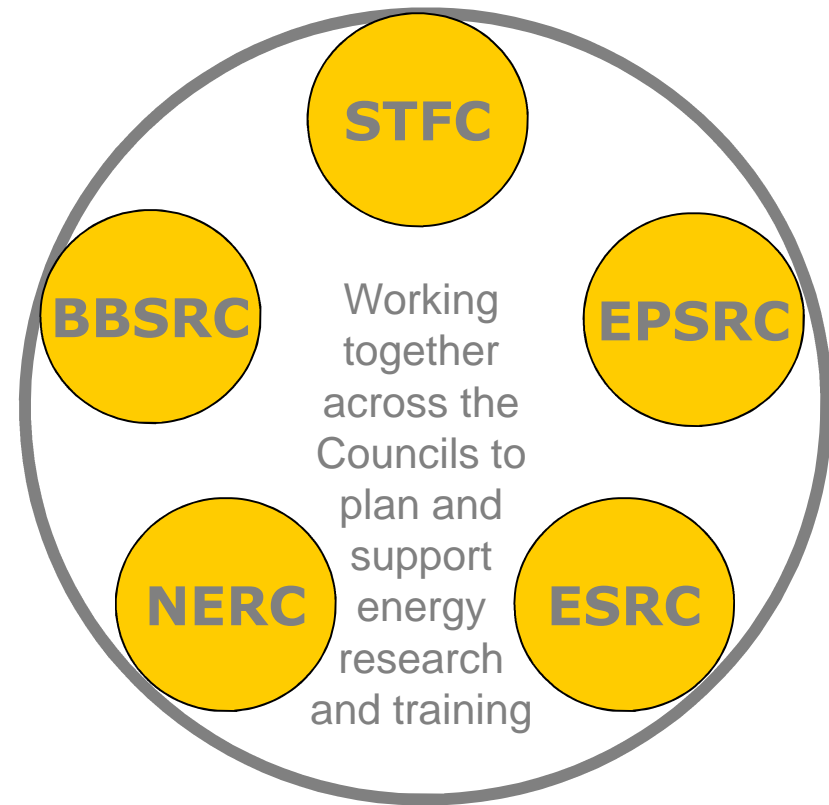
Mission



To position the UK to meet its energy and environmental targets and policy goals through high quality research and postgraduate training.

Drivers:

- ☞ Tackling climate change by reducing carbon dioxide emissions both within the UK and abroad.
- ☞ Ensuring energy security.
- ☞ Ensuring energy affordability.



Our Objectives



To support a **full spectrum of Energy research** to help the UK meet the objectives and targets set out in the Energy White Paper

To increase the **international visibility** and level of international collaboration within the UK energy research Portfolio.

To expand the **UK research capacity** in energy-related areas.

To **work in partnership** to contribute to the research and postgraduate training needs of energy-related business and other key stakeholders

What we do ... Support a **full spectrum of Energy research**



How we do it ...

Our current portfolio of ~£560M supports research, training & knowledge transfer activities at universities in the following areas:

- ☞ Wind
- ☞ Marine
- ☞ CCS
- ☞ Energy efficiency
- ☞ Networks & Storage
- ☞ Solar
- ☞ Bio-energy
- ☞ Nuclear – Fission & Fusion
- ☞ Hydrogen & fuel cell technology
- ☞ Policy, society & economics

What we do ... **Capacity Building**



Providing focused support for training centres in our priority areas (£76M investment). With over 100 collaborators.

How we do it ...

Centres for Doctoral Training:

7 multidisciplinary centres bringing together diverse areas of expertise to train scientists and engineers with the skills, knowledge and confidence to tackle today's challenges covering:

- ☛ Whole Systems
- ☛ Nuclear Fission and Fusion
- ☛ Renewables
- ☛ Energy Demand Reduction
- ☛ Low Carbon technologies.

Industrial Doctorate Centres:

5 centres each equipping 50 students with the business skills they require to turn pioneering ideas into products and services covering:

- ☛ Nuclear Engineering
- ☛ Energy Demand Reduction
- ☛ Transport and the Environment
- ☛ Urban Sustainability and Resilience
- ☛ Carbon Capture and Storage.



What we do ... Increasing **international visibility & collaboration**



Sustaining global leadership position in energy research through international cooperation and collaboration.

How we do it ...

Examples of activities include:

- Four joint calls with China in renewable energies, cleaner fossil fuels, CCS technologies, solar & fuel cells - £15M of UK funding.
- Joint initiatives with India in solar (£10M) & civil nuclear (£1.2M).
- Scoping joint training programme with US on nuclear.
- Support for international development energy research.
- Planned joint £12M initiative with India – Bridging the Urban & Rural Divide – 2010/11.

What we do ... Working in Partnership



How we do it ...

- Research Consortia building with Industry – e.g. SUPERGEN.
- User-Led training & knowledge transfer activities
- Strategic partnerships / joint activities e.g E.ON, EDF, Sustrans, ABB, Scottish Power.
- Collaboration with public & private sector partners – ETI, TSB, Carbon Trust, DECC, Defra, DFID, DfT, BIS.
- Strategic Alignment e.g. Membership of Low Carbon Innovation Group.

Relevant Examples

SUPERGEN

Supporting research in sustainable power and generation.



£62m of support from the Energy Programme and with the Carbon Trust

- 14 consortia.
- 38 academic partners.
- 80+ business and other collaborators.

Approach reviewed in 2009.

Planned to move to approach, with associated network (run in association with the apt KTN) and open calls for grand challenges. Networks, marine and bioenergy to be the first to move to new model from 2010/11.

Providing support for user-led training.



How we do it ...

- Industrial CASE awards – PhD projects where business takes lead in arranging projects with an academic partner of their choice.
- Knowledge Transfer Accounts (KTAs) provide £55M to universities to support - Knowledge Transfer Partnerships (KTPs), proof of concept funding, secondments, entrepreneurship training and more.

Collaboration with other funders



TSB	Carbon Trust	ETI	DECC
Collaborative funding on R&D competitions and Innovation Platforms	Joint Carbon Visions Programme	RCUK Energy Programme is largest funder of ETI	Joint policy fellowships
Complementary funding: I-CASE allocations to KTNs, KTPs	Links through ETI	Links through LCIG	Links through ETI
Alignment of activities to encourage 'pull through' from research base	Links through LCIG		Links through LCIG
Links through ETI			
Links through LCIG			

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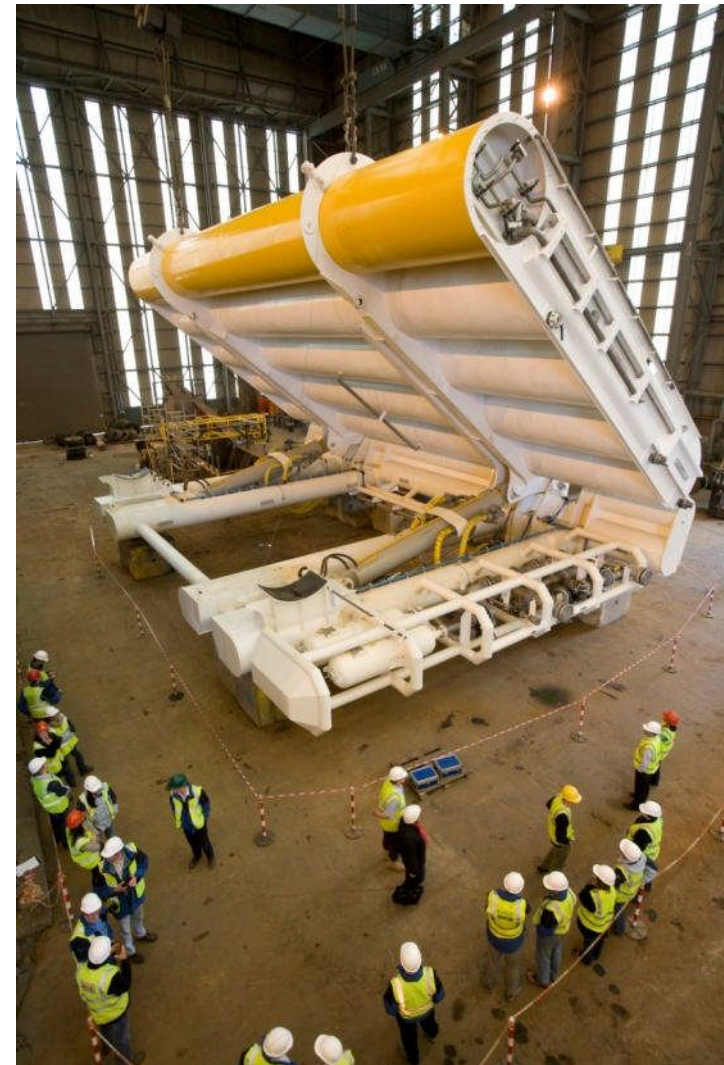


Everything we do is in partnership. We work closely with business, government, academia and other organisations to achieve major advances in energy research, development and demonstration.



Delivering Impact

- EPSRC funded work at QUB in 2003 led to the development of the innovative wave energy converter - Oyster.
- Aquamarine Power formed in 2005 to commercialise the technology.
- Further additional funding received through Industrial Case, TSB, Carbon Trust, Scottish Enterprise.
- 2009 – Oyster installation at EMEC
- Commercial ‘Oyster’ farms may be powering homes by 2013.



Why Work with the RCUK Energy Programme?



- Leverage on research funds, and shared risks/costs with Energy Programme-funded research projects
- Access to research findings ahead of competitors – new ideas and technologies
- Influence over how we spend our research and training budget
- Access to skilled academic experts carrying out leading-edge research and potential future employees.

Further information



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