

Southampton-San Diego Cleantech Conference: Overview of UK Research Funding Priorities / Strategy

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Seven Research Councils covering all academic disciplines



Arts & Humanities
Research Council

EPSRC

Engineering and Physical Sciences
Research Council

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL



NATURAL
ENVIRONMENT
RESEARCH COUNCIL



Science & Technology
Facilities Council

The logo for Research Councils UK, featuring a stylized blue and white graphic above the text "RESEARCH COUNCILS UK".

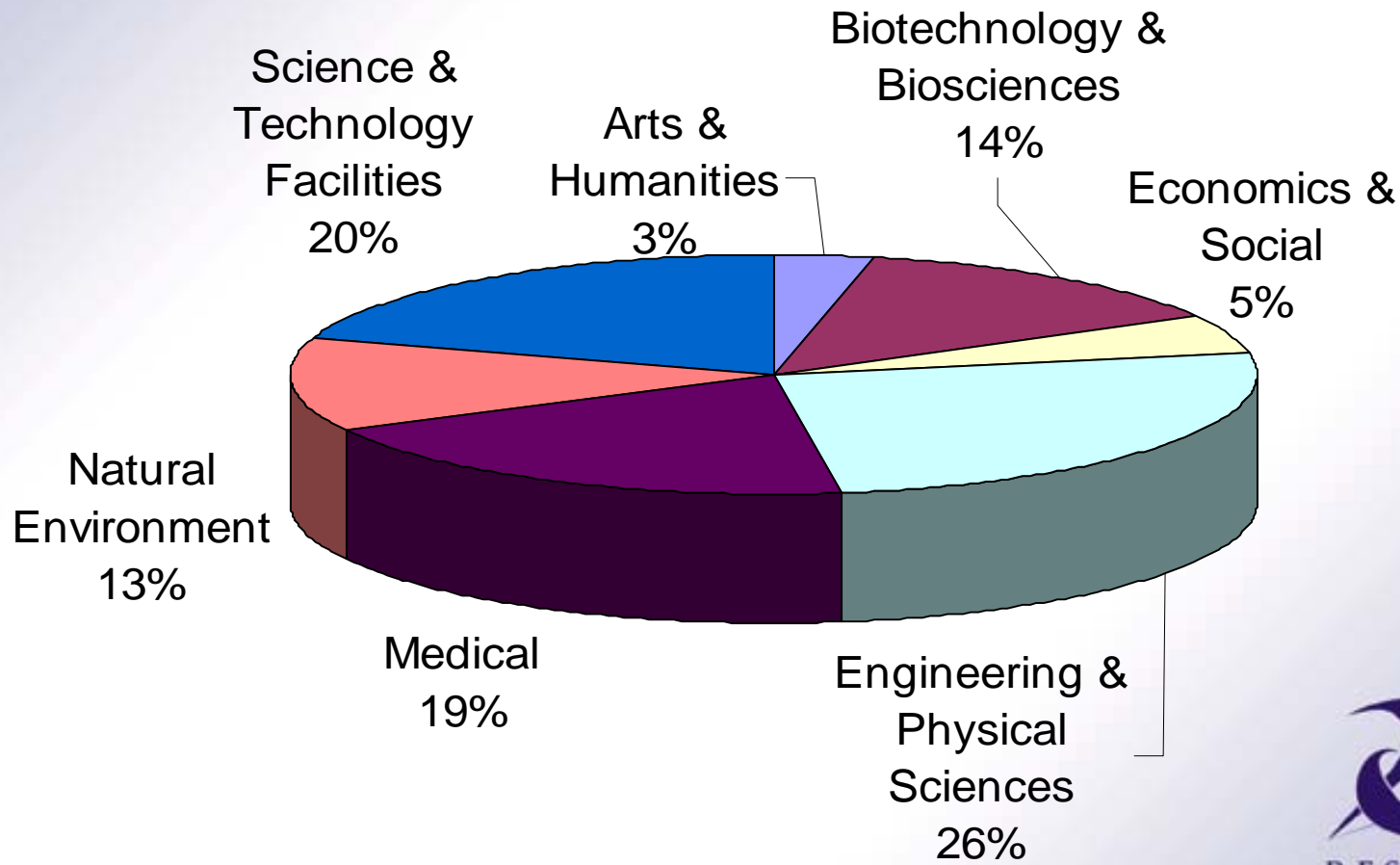
RESEARCH
COUNCILS UK

What do the Research Councils do?

- Fund research projects, programmes or centres in UK universities and Research Council Institutes
- Fund masters degrees, PhDs, Fellowships and postdoctoral training
- Develop and manage large research facilities in the UK and enable UK researchers to access research facilities world-wide
- Fund knowledge transfer and innovation activities
- Engage the public and young people about science



Research Council Budgets (\$4.4 billion in FY 2008-09)



Engineering and Physical Sciences Research Council (EPSRC)

Mission:

- Promote and support, by any means, high quality basic, strategic and applied research and related postgraduate training in engineering and the physical sciences
- Advance knowledge and technology and provide trained scientists and engineers, which meet the needs of users and beneficiaries (including the chemical, communications, construction, electrical, electronic, energy, engineering, information technology, pharmaceutical, process and other industries)

EPSRC – Active Funding Calls

- Nanotechnology Grand Challenges: Solutions for the Environment - £5 million (closes 5 August) – Special focus on Carbon Capture and Utilization - <http://www.epsrc.ac.uk/CallsForProposals/NanotechnologyGrandChallengesEnvironment.htm>
- Towards a Sustainable Urban Environment: Expressions of Interest (closes 26 June) - <http://www.epsrc.ac.uk/CallsForProposals/urbanenvironment.htm>
- Low Carbon Shipping - £3 million (closes 11 June) - <http://www.epsrc.ac.uk/CallsForProposals/lowcarbonshipping.htm>



Supporting interdisciplinary research

All Research Councils ensure equality of opportunity for proposals at the interface between traditional disciplines:

- Minimise consideration by applicants of Council remits, discussing internally proposals that cross disciplines
- Neither advantage, nor disadvantage, single discipline research
- Collaborate on assessment
- Regularly co-fund

RCUK: interdisciplinary themes to 2010-11

ENERGY

EPSRC lead

BBSRC
ESRC
NERC
STFC



LIVING WITH ENVIRONMENTAL CHANGE

EPSRC
BBSRC
ESRC

NERC lead

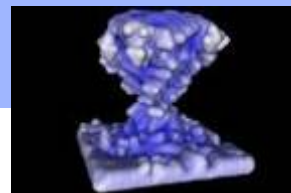
STFC
MRC
AHRC



NANOSCIENCE THROUGH ENGINEERING TO APPLICATION

EPSRC lead

BBSRC
ESRC
NERC
STFC
MRC



AGEING: LIFE LONG HEALTH & WELLBEING

EPSRC
BBSRC
ESRC

NERC
STFC

MRC lead

AHRC



DIGITAL ECONOMY

EPSRC lead

AHRC
ESRC
MRC



GLOBAL UNCERTAINTY: SECURITY FOR ALL IN A CHANGING WORLD

EPSRC
BBSRC

ESRC lead

NERC
STFC
MRC
AHRC



RCUK - Sustainable Energy

RCUK investment 2008-09 to 2010-11: £319M. Focus areas include:

- Power generation and security of supply, demand reduction, increasing use /effectiveness of renewables, CO2 reduction, transport, research capacity building, and international engagement
- Major focus on collaboration with business and govt.
- Close working with the Energy Technologies Institute (ETI), its company members, TSB, etc.
- Priority for US collaboration is training in nuclear engineering
- A new international strategy for the programme is in development

RCUK - Living with Environmental Change (LWEC)

RCUK investment 2008-09 to 2010-11: £363M. Specific Objectives include:

- to predict the impacts of climate change, mitigate or adapt to these and manage extreme events better
- to manage ecosystems for human well-being and protect the natural environment as the environment changes
- to promote human well-being, alleviate poverty and minimize waste by ensuring a sustainable supply of food and water
- to protect human, plant and animal health from diseases, pests and environmental hazards
- to make infrastructure and its associated systems more resilient to environmental change, less carbon intensive and more socially acceptable
- to help people from different cultural and social backgrounds respond to a changing environment

RCUK International Strategy

- Encourage collaboration between UK researchers and the best in the world
- Promote the movement of researchers
- Give UK researchers access to international data, facilities and resources
- Influence the international research agenda
- Promote the UK as a world centre for research and innovation

RCUK Objectives in the US (I)

Focus on agency-to-agency collaboration:

- Promote mutual understanding of Research Council and US research funders strategies and priorities
- Remove/reduce barriers to collaboration 'bottom-up'
- Facilitate researcher mobility, looking at opportunities to work together to train next generation of researchers

RCUK Objectives in the US (2)

Focus on agency-to-agency collaboration:

- Facilitate access to world-class facilities & data
- Spot opportunities to share research findings with users
- Share best practice on research funding and policy issues
- Contribute to efforts to promote the UK research base



International Collaborators on Research Council grants

- All Research Councils permit collaborators on grants to be based overseas*
 - Applicants to MRC or ESRC can include overseas **co-applicants**; contact the relevant program manager for details
 - Managed by the UK-based research organisation; overseas researcher receives funds from the UK Principal Investigator
- * Applicants should speak with programme officer before submitting application to develop best case for added value of international component.



MODELS: FUNDING INTERNATIONAL COLLABORATIVE RESEARCH

- Special solicitations ('calls'), e.g.
 - joint calls for proposals
 - Sandpits: intensive weeks with peer review in real-time and funding decisions at the end of the week
- Joint investigator-driven funding, with parallel or single merit review (single where possible)



Travel and Networking

- As part of the grant request: all Councils
- Schemes especially for UK-US – e.g. ESRC Transatlantic Fellowships, BBSRC Partnering Awards
- Schemes for early career researchers and students – e.g. ESRC International Activities for Early Career Researchers
- Workshops, seminars, networks – e.g. EPSRC bilateral research workshops and Network Grants
- Fellowships – e.g. MRC Collaboration Grant



Fellowships / Studentships

- Studentships can be requested on research grant applications to ESRC, EPSRC
- Some fellowship schemes allow international applicants – e.g. MRC and EPSRC
- Offering UK students a period overseas – e.g. ESRC (as part of original application or through networking scheme)



Upcoming Fellowship calls

- **Postdoctoral Fellowships: June 2009**

Call for a small number of postdoctoral fellows in selected topics for researchers who have completed a PhD within the previous three years.

- **Career Acceleration Fellowships: June-July 09**

To support talented researchers at an early stage in their career.

- **Leadership Fellowships: June-July 2009**

To support talented early- or mid-career researchers with the most potential to develop into the research leaders of tomorrow.

Other upcoming calls

- **Flashlight Funding: June 2009**

To invest in collaborative support in emerging areas linked to challenging engineering.

- **Bridging the Gaps: July 2009**

To support novel and innovative solutions to bridging gaps across engineering and the physical sciences.

EPSRC: international funding FAQs

- **My collaborator is an experienced scientist. Is it possible to arrange for them to work in my laboratory for up to a year or perhaps have a series of shorter visits over a year?**

Apply for support for a Visiting Researcher; consider arranging a programme of visits to other UK laboratories for your visitor to demonstrate other work in the UK.

- **I already have funding for a project and I have a willing international partner who has some funding. How do we find support for a meeting between ourselves and our groups?**

Apply for a small grant to request travel and subsistence for you and your research assistants to visit the overseas organisation.

- **I need funding for my part of a collaborative project. Is it possible to employ an research assistant from my collaborator's laboratory, possibly even a student? Would I also be able to apply for travel funds for myself and research staff to spent time in my collaborator's laboratory and even to support their group in the UK?**

A: Project studentships are open to any nationality. EPSRC grants can incorporate the UK costs for the research project as well as extra elements of overseas collaborations.



E.ON UK and EPSRC Working Together

- 2006: E.ON UK and EPSRC launched a £10 million fund for a research programme on next generation of low carbon energy solutions
- Broad themes for the fund: Pathways to a low carbon economy, energy efficient technologies, cleaner fossil fuel technologies
- Technical scopes for future calls for proposals are currently being developed. These will be available on the EPSRC website.



Cross-disciplinary proposals with other research domains

- **Research Councils work together on cross-disciplinary research:** they always discuss such proposals and advise on where to submit
- **EPSRC two-page remit query:** No detailed costs or references are required and the outline does not need to be more than two pages.
- **What happens then:** the programme team meets every two weeks to discuss the queries and then offers advice

Technology Strategy Board (TSB)

- Role is to stimulate technology-enabled innovation in the areas which offer the greatest scope for boosting UK growth and productivity. We promote, support and invest in technology research, development and commercialisation. We spread knowledge, bringing people together to solve problems or make new advances.
- The budget available for the Technology Strategy Board's work is currently around £200m per year, plus contributions from other organisations. The Government's Comprehensive Spending Review in October 2007 funding to around £1bn over the next three years, including RC and RDA contributions.

TSB Application Areas

- Environmental Sustainability: 1) Resource efficiency, waste and pollution management, 2) Energy Efficiency, 3) Water supply, sanitation and use, and 4) Sustainable food chain
- Energy Generation and Supply – See following funding call
- Transport
- Built Environment: Operate Modern Built Environment KTN

See - <http://www.innovateuk.org/ourstrategy/application-areas.ashx>

TSB Technology Areas

- High value manufacturing
- Advanced materials
- Nanotechnology
- Bioscience
- Electronics, photonics and electrical systems
- Information and communication technology

TSB Innovation Platforms

- Intelligent Transport Systems and Services
- Low Impact Buildings
- Low Carbon Vehicles

TSB Competitions

- Energy Generation and Supply - £15m Competition on Carbon Abatement Technologies (Opens 15 June 2009)
- Design and Decision Tools for Low Impact Buildings - £4m Competition (Expressions of Interest due by 23 July 2009)
- Monitoring of Demonstrator Buildings - £10m Competition (Opening date TBD)

TSB – Small Business Research Initiative (SBRI) Program

SBRI is a programme that brings innovative solutions to specific public sector needs, by engaging a broad range of companies in competitions for ideas that result in short-term development contracts.

Relevant Competitions:

- Self-sustaining Forward Operating Base (MoD) - Looking for technologies to power a Forward Operating Base whilst minimising or even removing the need for a fuel supply chain (closes 30 June)
- Retrofit for the Future (DCLG) – Aims to retrofit UK social housing stock in order to meet future targets in reduction of CO2 emissions and energy use (closes 24 June)
- Energy Efficient Soldier (MoD) – Looking for the rapid deployment of novel lightweight or high density power technologies to reduce the weight burden carried by infantry soldiers (closed 7 May)