

RCUK ENERGY RESEARCH PROGRAMME 'ENERGY AND COMMUNITIES' CALL FOR PROPOSALS

SPECIFICATION

1. Introduction

1.1 Proposals are invited under the [Energy Research Programme](#) (RCERP) for new research. The call is funded by the [ESRC](#) and the [EPSRC](#) with £7.5M available. Applications are expected to focus on one or more of the themes below from an interdisciplinary perspective including the physical sciences where appropriate. Projects may include both UK and international elements.

- Energy literacy and visibility
- Transformative innovation, lifestyles and social technical practices
- Communities, ownership and social movements
- Policy, governance and legislation

1.2 Projects funded under this venture would ideally commence in mid 2010 and can be funded for up to five years. We expect to fund a mix of short and longer projects.

1.3 The closing date for applications is 4pm on 11 March 2010.

2. Background

2.1 The RCERP has specific delivery plan objectives to develop its portfolio in energy demand reduction. This investment will make a significant contribution to this agenda by funding research and stakeholder engagement to inform energy reduction at the community level. The agenda has been developed over a period of time and has included a workshop and extensive dialogue with stakeholders.

2.2 It should be noted that from the outset, this investment has been developed on the basis that research projects can include, where appropriate, active engagement with community organisations and stakeholders throughout the research process. This principle and the expectations of what may emerge from such engagement are outlined below.

3. Rationale

3.1 Global energy demand is predicted to double by 2030. At the same time, the UK has been set the significant challenge of cutting 1990 carbon emission levels by 80% by 2050. In the shorter term, the Government has targeted a 34% cut in emissions by 2020. As outlined in the [Department of Energy and Climate Change's](#) Low Carbon Transition Plan, there is also a need to maintain secure energy supplies, to maximise economic opportunities, and to protect the most vulnerable. The transition to a low carbon economy thus presents a considerable challenge. In addition we are able to protect and enhance the environment more generally through individual, community and other actions. These objectives will only be achieved with a sound, research informed understanding of the barriers that must be overcome.

4. Issues

- 4.1 One mechanism to help achieve emission reduction targets may be to facilitate engagement by citizens through community initiatives or to provide a range of support to enable third sector organisations to interact with households, communities and businesses in achieving energy efficiency and reducing energy demand. This initiative will help develop a more comprehensive conceptualisation of communities and develop a more differentiated understanding of the role of specific attributes of communities according to criteria such as size, diversity, inclusiveness, stability and connectedness to other places. For the purposes of this initiative communities are considered in the broadest terms including local, virtual or distributed arrangements of people or groups.
- 4.2 Technological, economic and human factors are systematically linked so that substantial and long-lasting change requires focusing on a number of associated dimensions. Acquiring an understanding of these dimensions and an appreciation of how they may be remoulded is expected to lead to change when approached at the level of the community.
- 4.3 The focus on community-level engagement also reflects the contention that people are most likely to achieve real or at least perceived agency and ownership in relation to energy use and climate change adaptation and mitigation if they belong to a 'community of practice'. Such communities show opportunities for shared learning processes in social settings which are different to mainstream organisations. They have demonstrated the potential to redefine social norms, to overcome economic barriers and to encourage collective engagement with the carbon reduction agenda. As communities are socially, economically and culturally specific, the manner in which different communities most successfully achieve demand reduction will vary significantly reflecting multiple factors including skills and infrastructure available; the power and priorities of community organisations; and the nature of the business environment.
- 4.4 While a reduction in energy demand may require a shift in individual behaviour and practice, the people concerned are part of wider socio-technical systems of energy use, services and supply. Change in energy consumption is therefore not simply dependent on behavioural change at the individual level but on the co-evolution of communities and the emerging technology that is available. To understand the opportunities that must be realised and the barriers that must be overcome by different communities to achieve energy efficiency, research must also be interdisciplinary, taking into account the relationships between behaviour and emerging technology which may determine energy use.
- 4.5 Many communities across the UK continue to evolve in a manner that is inconsistent with the need to reduce energy demand, although there are increasing signs of innovative activity at the community level. While some research has been carried out on community-level engagement with energy systems and carbon emissions, effective links between research and users are limited. Shortcomings of existing research include the portrayal of consumers and communities as passive to the opportunities and constraints presented by technological development and central policy. A better understanding of what

forms of innovativeness are expressed by communities, and whether models of ‘open’, ‘user led’ or ‘systemic’ innovation are well suited to them need detailed study. There is limited research into community-level governance and regulatory measures and their effects. New research is also required to explore and better understand the links between and factors at play at the interfaces of global and national systems of energy supply, generation and regulation and the community level.

- 4.6 While applicants will be expected to take into account the existing RCERP and other initiatives and projects in preparing their research proposals, there are two central elements of this venture that distinguish it from existing investments: firstly, the specific interdisciplinary emphasis on energy demand reduction; and secondly, the expectation that this should be focused through the lens of communities. This will ensure a greater understanding of how individuals, households, businesses, local and other authorities and community organisations can be encouraged to work together, and with emerging technological opportunities, to achieve a transition in energy demand and consumption. This research investment aims to fulfil this requirement. Sustainability is at its core and world-class academic research will be supported, alongside close working with non academic stakeholders, to promote a step change in future energy scenarios.

5. Main Features and Themes

- 5.1 There are four key themes through which the initiative will explore the broad challenges identified above. Applicants are required to adopt an interdisciplinary and innovative approach in focusing on at least one of these themes. Applicants will be expected to outline strong, innovative plans for engagement and to demonstrate why their proposed approach to engagement will add value to the research.
- 5.2 In consideration of the themes outlined, applicants will be expected to root their proposals in the understanding that people do not use energy but the services that energy provides. Adopting this as an underlying principle necessitates interdisciplinary and innovative research that will unpack the complex and dynamic matrix of factors, including business models, which affect energy consumption.
- 5.3 ***Energy Literacy and Visibility.*** Research is needed into how energy use can be made visible and shared by consumers in ways that enable changes to established practices. Addressing this challenge will require an assessment of emerging technology available for making energy use visible as well as consideration of the impact that understanding and visibility may have on habits, practice and behaviour.
- 5.4 The links between people through increased visibility of energy consumption and their behaviour in response to this is expected to vary enormously. Of particular interest are issues regarding how people share information on energy use and in particular within communities. There is increased recognition that reciprocal interaction through social networks around differences and similarities within communities play an important role in social change. A deeper understanding of the forms of innovation which are successful in doing this is needed and

investigations of pioneering experiments within communities deserve closer attention.

- 5.5 ***Transformative innovation, lifestyles and social technical practices.*** Established lifestyles are embedded within diverse networks which meet needs such as shelter and mobility, and lock-in to high energy, high carbon practices is a continuing challenge. Energy demand is inextricably linked with the technological systems that have co-evolved with modern ways of living. Social norms strongly influence the energy intensive lifestyles that we adopt and are determined by the communities and households within which we dwell. Businesses, the services that they provide and the regulatory frameworks within which they operate, respond to and shape these norms, thus reinforcing high levels of energy demand.
- 5.6 There is a clear need for the dynamics of transformative innovation to be explored at the community level. The roles of actors and communities in enabling novel, system-wide experiments in community settings require investigation. The capacity for sharing learning between different places through wider communities also needs exploration. This may require a focus on value systems and their links to energy-related behaviour and practice as well as consideration of how particular lifestyles that require lower levels of energy consumption may be achieved through new socio-technical systems.
- 5.7 ***Communities, Ownership and Social Movements.*** This theme is focused on the socio-technical dynamics linked to community ownership and management of energy resources. There is a growing consensus that the most effective projects aimed at developing sustainable energy systems are those built by communities and merely facilitated by regulators. In adopting this ‘bottom-up’ approach, however, there remains a significant degree of uncertainty regarding the most effective means of development. For instance, it remains unclear which forms of emerging technology and resource ownership are best equipped to generate sustainable energy use, how community dynamics may be consolidated to work towards a common aim, and what factors are unique to the community level that may inhibit or enhance the likelihood of success. The potential for combined heat and power systems to achieve energy efficiency at the community level could be explored, for example.
- 5.8 ***Policy, Legislation and Governance.*** This aspect is concerned with the regulatory mechanisms and systems of governance that enable and constrain reductions in energy demand at the community level. Energy demand is significantly affected by the legislative framework that is in place at all levels, the institutional systems which deliver and monitor the implementation of such regulation, and the forms of governance that are adopted by different bodies and organisations at a range of scales. It is vital that the interface between these influences and the socio-technical energy systems in place at the community level are investigated. Where constraints are identified, the nature of these will require exploration, as will the potential for overcoming or removing barriers to energy demand reduction that emanate from systems of governance. The potential for a carbon trading model to be implemented at the community level would provide an interesting example of how governance systems may be adapted to achieve reductions in energy demand.

6. Community and stakeholder engagement

- 6.1 Energy demand reduction benefits from effective engagement with relevant bodies at the community level. These will include authorities, housing associations, businesses and Third Sector organisations. The involvement of community stakeholders at all stages of the research process is likely to enhance the impact that the research is able to have. Applicants should therefore consider if and how they might collaborate with community organisations, groups or stakeholders during the development, implementation and dissemination of their research project.
- 6.2 Applicants should set out a comprehensive impact plan in their application highlighting how knowledge exchange will be maximised. The Commissioning Panel will look for the direct involvement of community stakeholders where this is appropriate to the specific aims and objectives of an application.
- 6.3 The need to generate new and applicable findings about the potential for energy demand reduction at the level of the community in itself requires conceptual, methodological and practical innovation. Proposals exploring such challenges should demonstrate how they will engage with informed academic stakeholders as well as, where appropriate, communities and/or their representatives.
- 6.4 Given the scope and purpose of DECC's recent £10M '[Low Carbon Communities Challenge](#)' synergies could be gained from applicants to this investment collaborating with the successful communities under the Department's scheme. The winners of phase 1 of the Challenge are expected to be known by 21 December 2009, and those of phase 2 by the end of January. If you are interested in pursuing collaboration with one or more of these communities, please contact Harriet Festing at harriet.festing@decc.gsi.gov.uk.

7. Governance

- 7.1 The commissioning of this initiative is managed by the ESRC. Funding recommendations will be made by a Commissioning Panel in the light of comprehensive interdisciplinary peer and merit review. A member of the ESRC board will chair the Panel. The ESRC's underlying principles of excellence, impact and independence will be enforced throughout the commissioning process.
- 7.2 Projects can, where required, apply for funding for comprehensive engagement with community stakeholders to support the co-design and production of the research and knowledge.
- 7.3 Awards will be issued by the ESRC to ESRC recognised research organisations in the normal way.

8. Application information

- 8.1 Up to £7.5M (at 100% FEC) is available under this call. This comprises funding from ESRC and EPSRC. There are no constraints on the sums that may be

requested although it is unlikely that individual awards will be made for less than £20,000. Projects may last for up to 5 years.

- 8.2 In line with Research Council funding policy, successful projects will be awarded funding at 80% of FEC. The research organisation at which the Principal Investigator is based will be required to fund the remaining 20% of the costs associated with successful applications. Unless otherwise specified, the ESRC's '[Research Funding Guide](#)' should be adhered to in the calculation of costs associated with projects.
- 8.3 All applications must be submitted to the ESRC through the Research Councils' Joint Electronic System (Je-S). In preparing applications for submission, please refer to the Je-S guidelines which accompany this specification and are specific to this call.
- 8.4 All applications should be submitted to the ESRC by 4.00 pm on 11 March, 2010. However, there is a further layer of administration between an applicant's submission of their application and the application being submitted to the ESRC (i.e. the institution's submitter pool). It is therefore strongly advised that applicants allow sufficient time for completion of the institution's submission process checks and authorisation.
- 8.5 **All applicants are strongly advised to communicate with their Research Organisation's research support office in the preparation of applications at the earliest possible stage.**

9. Assessment Process

- 9.1 Following the close of the call, all submitted applications will be subject to eligibility checks carried out by the ESRC Research Directorate. This will ensure that all proposals meet with the eligibility criteria imposed upon this call (please see section on 'Eligibility Criteria') and contain all required documents as detailed in the Je-S guidelines.
- 9.2 Research proposals will then be subject to a full and comprehensive interdisciplinary peer and merit review. This will be coordinated across the Research Councils to ensure appropriate referees from the full range of disciplines covered by an application are selected. Reviewers will be selected by the Research Councils, in addition to reviewers nominated by applicants. Reviewers will be required to review proposals in line with the assessment criteria for this call and the objectives of RCEP.
- 9.3 Following the peer review process, applications will be reviewed by two assessors. These will be drawn from the Commissioning Panel established specifically for this call. The Commissioning Panel will comprise an interdisciplinary spread of both academics and users working in this research area and will include representation from each of the co-funding partners. Assessors will take into account the reviews submitted by peer reviewers, as well as the applicants' written response to these reviews, in making their own assessments of research proposals.

- 9.4 A meeting of the Commissioning Panel will be held in May 2010 at which the funding recommendations will be made. Decision letters will be sent to applicants following this meeting after which successful applicants will be contacted by the ESRC's Finance and Awards Management Division (FAM) regarding any cost queries and the issuing of grants. It is expected that projects will commence on or after 1 July 2010. An initiative wide advisory group may be established comprising scientists, key stakeholders from the public, private and third sectors, and research funders to assess progress and reflect upon the outcomes and future implications of the individual projects and overall call.

10. Criteria for Funding

- 10.1 Projects supported through the call will:
- i) address *at least one of the key themes* detailed above;
 - ii) be integrative and interdisciplinary;
 - iii) be cutting edge and innovative; and,
 - iv) where appropriate, engage fully with a community or communities at all stages of the research process.
- 10.2 While taking these requirements into account, reviewers will assess proposals under the following headings:
- i) aims, methods and overall approach;
 - ii) interdisciplinarity;
 - iii) originality and potential contribution to knowledge;
 - iv) building networks and capacity for knowledge exchange and learning;
 - v) impacts, beneficiaries, plans for monitoring and evaluation;
 - vi) project team and management; and,
 - vii) value for money.

11. Eligibility Criteria

- 11.1 All applicants that would normally be eligible for funding from the ESRC are eligible to apply under this scheme. This primarily means that applicants should be based at UK Higher Education Institutions (HEIs), Research Council institutes or Independent Research Organisations (IROs) that are recognised as such by the Research Councils. Further information can be found at: <http://www.rcuk.ac.uk/research/eligibility.htm>.

13. Contacts for Further Information

- 13.1 In the first instance please contact Ian Devine or Ali Noble via email at Ian.Devine@esrc.ac.uk or Alison.Noble@esrc.ac.uk