Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

EPSRC/Energy Systems Catapult Whole Energy Systems Scoping Studies

Call type: Invitation for proposals

Closing date: 19 January 2017 16.00

How to apply: Full application on Je-S.

Assessment Process: Proposals will be considered by EPSRC's Energy team for remit requirements before being assessed by an expert panel.

Key Dates:

Activity	Date
Deadline for Full Proposals	19 January 2017
Expert Panel	01 March 2017

Additional information:

- Scoping studies should be up to nine months in duration.
- Up to £60k (80% FEC) is available for each scoping study funded, whereby we expect to fund up to 8 studies in the areas described within the call document.
- Proposals will be sifted for remit by the EPSRC/Energy systems catapult team before going to the expert panel.
- There is no limit to number of submissions per organisation; however a letter of support from the PI host organisation is required.

Contacts:

- Louise Anderson (louise.anderson@epsrc.ac.uk) - Whole Energy Systems portfolio manager, EPSRC
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EPSRC
Engineering and Physical Sciences Research Council

CATAPULT Energy Systems

EPSRC/Energy Systems Catapult Whole Energy Systems Scoping Studies

Call type: Invitation for proposals

Closing date: 19 January 2017 16.00

Related themes: Energy, Engineering, Mathematical sciences, Physical sciences

Summary

The EPSRC Energy theme and the Energy Systems Catapult (https://es.catapult.org.uk/) are inviting eligible UK academics to submit proposals for collaborative scoping studies in the six areas outlined below. Up to £500k is available for this Call, with a maximum of £60k (80% FEC) available for each scoping study submitted.

1. How could current whole systems energy modelling and scenarios approaches be better used by decision makers to drive policy development and investment strategy at different geographical scales e.g. international, national, regional and local scales? How could whole systems models and approaches at different scales be more effectively integrated or reconciled?

2. What is the future of energy system transition analysis? How might this change in a data-rich, machine learning world and how can 'off-model' emergent data and learning about energy solutions be combined with system models to derive improved scenarios?

3. What methods and approaches could be developed to compare and contrast whole system modelling approaches from leading stakeholders within the energy community e.g. National Grid, CCC, BEIS, IEA, UKERC, WholeSEM and Realising Transition Pathways to provide greater understanding and clarity to decision makers?

4. What approaches and methodologies can be developed to evaluate the impact of different regulatory frameworks, markets and institutions on delivering future energy system transitions? For example, what different regulatory approaches would affect the efficiency of take up and the impact of demand side response? What lessons can be learned from similar transitions in other sectors regarding what has enabled the transition, and what issues have been overcome that could be applied to the energy sector?

5. How could energy be transacted differently? How could this affect fuel poverty and vulnerable customers? What new business models / strategies could be developed that are more consumer-focussed where the customer pays for a service outcome as opposed to per kW/h? What would be the consumer, social, political, technical and infrastructural implications of such new business models?

6. What research methods could be applied to evaluate the implications of bringing together energy system transformation models with waste, air quality, legacy housing stock, new build and transport issues to de-carbonise at a city scale? What socioeconomic and technical architectures (markets, business models, community groups and physical assets) could result?

The EPSRC/Energy systems catapult will fund up to 8 studies across the 6 areas identified. Scoping studies are expected to be up to a maximum of 9 months in duration and up to £60k (80% FEC) in value. Funding could be used for researcher time, travel, workshops and other engagement activities to further develop consortia and larger programmes of work. Interdisciplinary collaboration and consortia building within applications is strongly encouraged as is partnership and engagement activities with organisations outside of academia e.g. Government, regulators and industry.

Proposals will be assessed using an expert panel which will include key stakeholders and academic/industrial researchers who have an understanding of the Energy space.

All proposals must be received by 16:00 on 19 January 2017 via the Research Councils' Joint electronic System (Je-S).

The outputs of the scoping studies funded will be used to inform a larger call for research (launching late 2017-early 2018) for fundamental research projects designed to undertake deeper studies in the areas identified. All scoping studies which are successfully funded will be expected to attend a one day wrap-up event towards the end of the project duration to present the outcomes and outputs of their research (30 minute presentation +Q&A) to the Energy Systems Catapult and the EPSRC.

Background

On the 30th June 2016, the UK Government accepted the 5th Carbon budget. It commits the UK to reduce carbon emissions by 57% by 2030, compared to the 1990 levels. This 2030 target is the next step to successfully reaching the overall target of an 80% reduction in emissions by 2050. (Committee on Climate Change, The Fifth Carbon Budget, (2015))

To meet these binding targets the UK Government will need to introduce new policies and interventions to influence related activity. To ensure that its choices are informed Government are likely to focus on developing clear potential energy scenarios and transition pathways. A key component of the overall success of any scenarios and pathways produced for supporting decisions makers hinges on the outputs, recommendations and insights being listened to, understood and acted upon by the Government.

There has already been a significant amount of research across the UK into future energy scenarios and associated transition pathways in whole energy systems. Initial estimates by the Energy Systems Catapult (ESC) suggest that over £100 million has been invested in related work in the UK over the last 10 years. Despite the excellent quality of much of this research, the ESC considers that the key messages are not yet having the desired impact on policy and investment decisions. Furthermore, it is widely recognised that further research is required to better inform the whole systems perspective of future energy systems modelling.

Through joint collaboration, the EPSRC and the ESC will work with the academic community to:

- enable the commissioning of new, focused work to complement, challenge or enhance existing research or investigate new territory;
- encourage effective interdisciplinary approaches to whole systems modelling of future energy scenarios that necessarily bring together a range of disciplines;
- develop common methodologies including communications to support building commonality across multiple stakeholders to enhance the impact of research; and
- support multi-directional knowledge sharing between industry, academia and Government

Following a number of consultation exercises with the energy community and discussions between the EPSRC and ESC the area of "Co-dependencies, interdependencies and interoperability of the future energy system" was identified as a theme for further research investment.

The EPSRC and Energy Systems Catapult held a scoping workshop with 25 academics in Birmingham from the 10th – 12th July 2016. The assembled guests were asked to consider some challenge questions which have been used to scope this call.

For more information about EPSRC's portfolio and strategies, and EPSRC's Energy remit, please see:

- https://www.epsrc.ac.uk/research/ourportfolio/
- https://www.epsrc.ac.uk/research/ourportfolio/themes/energy/

Further information regarding the Energy Systems Catapult can be found at:

- https://es.catapult.org.uk/

Funding available

- Up to 500k is available for this Call, with a maximum of £60k (80% FEC) for each scoping study submitted, whereby we expect to fund up to 8 scoping studies.

- Funding could be used for researcher time, travel, workshops and other engagement activities to further develop consortia and larger programmes of work.

- Interdisciplinary collaboration and consortia building within applications is strongly encouraged as is partnership and engagement activities with organisations outside of academia e.g. Government, regulators and industry.

Equipment

Equipment section should not be completed as such expenses are not applicable under this call.

For more information on equipment funding, please see:
https://www.epsrc.ac.uk/research/facilities/equipment/

Eligibility

There is no limit to number of applications per organisation. However, as submissions to this call count towards the Repeatedly Unsuccessful policy, applicants are encouraged to contact their Research Office before making an application.

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide:
https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/

As this call is a targeted funding opportunity provided by EPSRC, higher education institutions, and some research council institutes and independent research organisations are eligible to apply. A list of eligible organisations to apply to EPSRC is provided at: http://www.rcuk.ac.uk/funding/eligibilityforrcs/

How to apply

Submitting an application

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (https://je-s.rcuk.ac.uk/).

When adding a new proposal, you should select:

- Council 'EPSRC'

- Document type 'Standard Proposal'

- Scheme 'Standard'

- On the Project Details page you should select the 'EPSRC/ Energy Systems Catapult Whole Energy Systems Scoping Studies' call.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. Please allow sufficient time for your organisation's submission process between submitting your proposal to them and the call closing date. EPSRC must receive your application by 16:00 on 19 January 2017.

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (https://www.epsrc.ac.uk/funding/howtoapply/) which should be consulted when preparing all proposals.

Guidance on writing an application

The proposal should follow the standard EPSRC proposal structure, with some additions:

- Case for Support (up to eight pages), to include:
    - A track record (up to two sides of A4) detailing the relevant expertise that the investigator/team will bring to the research programme.
    - A description of the proposed research and its context (up to five sides of A4).
    - Management description covering management structure, details of external advice streams, collaboration and partnering activities including potential users of the research (up to one side of A4).
- Pathways to Impact (up to two pages of A4). As the scoping studies are co-funded by the Energy Systems catapult, applicants should look to explore ideas that have the potential to generate maximum impact within the energy research and development community.
- Work Plan (one side of A4), a brief plan including details of when important decisions on the direction of the scoping study will be taken and when researchers will engage with collaborative partners.
- Justification of Resources (up to two sides of A4), this should be a narrative description of the need for the resources requested.
- Letter of support (one side of A4 only) a brief letter of support from the lead host organisation.
- CVs (optional- up to two sides of A4 for each named researcher, visiting researcher and researcher co-investigators, if applicable).
- Project Partner Letter of Support (optional- where applicable, no page limit).

Applicants should use the Ethical Information section on the Je-S form to demonstrate to peer reviewers that they have fully considered any ethical issues concerning the material they intend to use, the nature and choice, current public perceptions and attitudes towards the subject matter or research area. EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. All relevant parts of the Ethical Information section must be completed. If the research will involve human participation or the use of animals covered by the Animals (Scientific Procedures) Act 1986 it is recommended that applicants pay particular attention to the guidance highlighted below. EPSRC reserves the right to reject applications prior to peer review if the Ethical Information sections are not completed correctly.

Further guidance on completing the Je-S form can be found at:

https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm

Other relevant guidance includes: EPSRC's policy on animal use in research (https://www.epsrc.ac.uk/about/standards/animalresearchpolicy/) and the Responsible Innovation Framework (https://www.epsrc.ac.uk/research/framework/).

Please note that on submission to EPSRC all non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc), the document is converted to PDF prior to attaching it to the proposal.

For advice on writing proposals see:

https://www.epsrc.ac.uk/funding/howtoapply/preparing/

Assessment

Assessment process

EPSRC reserve the right to reject proposals which are considered to be outside of the Energy remit or the remit of this call without reference to peer review. The proposals for scoping studies will be assessed by a panel of experts only and will not undergo postal peer review. Funding decisions will be made at the expert panel date on 01 March 2017.

Assessment criteria

Proposals that fit the remit of this call will be judged based on the following criteria:

Quality

- The novelty, relationship to the context and timeliness.
- The ambition, adventure, and transformative aspects identified.
- The appropriateness of the proposed methodology.

Importance

- National importance of this research on a 10-50 year timescale.
- Contribution to other research areas, societal challenges, success of the UK economy, emerging industries.

Impact

- The relevance and appropriateness of the beneficiaries identified and collaborators proposed.

Applicants' ability to deliver the proposed research

- Balance of skills of the proposed project team.

Resources and management

- The effectiveness of the proposed planning and management, including management of risk.
- Appropriateness of the estimated resources to be requested.

Fit to the call

- The level of adventure and novelty (the proposed research must be speculative and in the form of a feasibility/scoping study).
- Demonstrate meaningful application of new research expertise from the wider engineering and physical sciences into whole energy systems research.
- Demonstrate an awareness of the broader context surrounding the proposed research.
- Evidence of dissemination routes, intended collaborations/ partnering activities and consortia building.

Feedback

Information about the panel can be viewed on Grants on the Web (http://gow.epsrc.ac.uk/) and will be available approximately **one** month after the meeting date.

Feedback from the panel will be available upon request.

Moving forward

Submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/

Additional grant conditions

In addition to the standard terms and conditions for grants, successful applicants will be expected to attend a one day wrap-up event towards the end of the grant funding. All scoping studies will be expected to attend this event to present the outcomes and outputs of their research (30 minute presentation +Q&A) to the Energy Systems Catapult and the EPSRC.

Key dates

Activity	Date
Call closing date	19 January 2017, 16.00
Expert Panel	01 March 2017

Contacts

Any enquiries related to this Call should be directed to:

- Louise Anderson (Louise.anderson@epsrc.ac.uk - 01793 444131)

Any queries regarding the submission of proposals through Je-S should be directed to:

- The Je-S helpdesk (JeSHelp@rcuk.ac.uk - 01793 444164)

Change log

Name	Date	Version	Change
Louise Anderson	[30/10/2016]	1	Initial version
Louise Anderson	[08/11/2016]	2	Added comments from peer review policy
Louise Anderson	[11/11/2016]	3	Added comments from system change manager
Louise Anderson	[18/11/2016]	4	Amended contradiction on page 5

Appendices

Je-S attachments Check List

Standard:

Attachment Type	Maximum Page length	Mandatory/Optional	Extra Guidance
Case for Support	8 pages	M	Comprising up to two A4 sides for a track record, and five A4 sides describing proposed research and its

			context, and up to one page describing management structure.
Pathways to Impact	2 pages	M	
Work Plan	1 page	M	
Justification for Resources	2 pages	M	
CVs	2 pages each	Optional	For named and visiting researchers, and researcher co-investigators only.
Project Partner Letters of Support	No page limit	As Required	Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date.
Other attachment	No page limit	As required	This can be used for a document that does not fit under any of the headings above. This attachment type is not seen by reviewers or panel members.

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over length or unnecessary attachments may result in your proposal being rejected.