

Unconventional Hydrocarbons in the UK Energy System Open Call - Announcement of Opportunity

Intent to Submit (ItS) closing date: 16:00 on 31 August 2020
Full Proposal closing date: 16:00 on 12 October 2020

Introduction

This Open Call is funded through the Unconventional Hydrocarbons in the UK Energy System (UKUH) Programme.

This Call is open to all applicants from [eligible organisations](#) that meet the criteria outlined in the eligibility section (p.9). Applications are encouraged from both those currently unfunded by the UKUH programme as well as researchers from existing UKUH projects.

In summary, UKUH comprises a 4-year Programme starting back in September 2018, which aims to deliver robust evidence-based geoscience and social science to understand the risks associated with the potential development of shale gas in the UK.

The ambition of this Open Call is to maximise the legacy and impact of the UKUH Programme through addressing new research themes, which have emerged as the result of the relatively recent changes to the shale gas landscape in the UK. These changes include the hydraulic fracturing moratorium, the Net Zero statutory target set by the Climate Change Act, and most recently the discussions on the Green Recovery from the COVID-19 pandemic.

There is a maximum allocation of **up to £400,000** to fund a series of projects with the ambition of maximising the **legacy** and **impact** of the UKUH Programme; advancing the **integration** of socio-economic and geoscience research; as well as providing an opportunity to increase the **Equality, Diversity and Inclusion (EDI)** of the Programme and support **Early Career Researchers (ECRs)**.

The ambitions of the Open Call will be delivered through:

1. Funding an overarching Socio-economic and Geoscience **Nexus Project** of up to **£25,000**;
2. Funding up to 3 Large **inter-disciplinary** projects each to a value of up to **£70,000**, for **early career researchers**;
3. Funding up to 8 Small projects each to the value of up to **£20,000**;
4. Allocating up to a total of **£5,000**, to fund up to **5 EDI Ambassadors** responsible for promoting Equality, Diversity and Inclusion (EDI) and supporting Early Career Researchers (ECRs).

This document provides the details of the Open Call, including how it will be managed and governed.

Table 1: Call Headline Details

Key financial and eligibility information	
Funding level	80% of full economic costs (FEC)
Project duration	Nexus Project – 18 months duration Large Projects – maximum 18 months

	<p>Small Projects – minimum 3 months</p> <p>EDI Ambassadors – unspecified, but all activities must be completed by 31 August 2022.</p> <p>Projects must commence before 28 February 2021 at the latest to coincide with the end of the 4-Year programme on 31 August 2022.</p>
Costings	<p>Costings should be based on standard NERC rules¹. The funding is primarily for researcher salary costs, and could include research-related travel and subsistence, including attendance at UKUH events.</p> <p>All applicants are asked to include sufficient travel and subsistence costs to attend at least one UKUH Programme event, e.g. Annual Science Meeting or Integration Event (as organised by the programme coordination team/Challenge 1)</p>
Key Dates	
Launch Open Call – Call details available on UKUH website and disseminated by NERC-ESRC	Week commencing 20 July 2020
Q&A Surgeries	<p>3 sessions will be made available.</p> <p>Dates will be advertised on http://www.ukuh.org/opencall/</p>
Deadline for Intent to submit	16:00 on 31 August 2020
Deadline for full funding applications	16:00 on 12 October 2020
Programme Advisory Board (PAB) sub-group review meeting and UKUH Programme Executive Board (PEB)	November – December 2020
Contracts awarded	December 2020
Exchange of contracts deadline and Awards start (may be complete before that time)	February 2021
Key contact details	
<p>Rachel Brown UKUH Project Manager Newcastle University Rachel.brown@ncl.ac.uk</p>	<p>Dr. Ritwika Sengupta Programme Manager – Productive Environment (Energy) Natural Environment Research Council UH@nerc.ukri.org</p>

¹ <https://nerc.ukri.org/funding/application/howtoapply/forms/grantshandbook/>

About UKUH

Unconventional Hydrocarbons in the UK Energy System (UKUH) is a NERC-ESRC funded Programme, which brings together an interdisciplinary team of researchers and stakeholders to provide independent scientific evidence to understand potential environmental and socio-economic impacts of the unconventional extraction of hydrocarbons. UKUH addresses a range of issues including, environmental processes and impacts, regional and national governance, and public perception. Specifically, the Programme is addressing the following five challenges:

- Challenge 1 (C1): Assessing and Monitoring the UK Shale Gas Landscape. The role of C1 is to provide coordination and synthesis across the UKUH Programme and its Project Manager, Rachel Brown, is providing the coordination role for this Open Call.
- Challenge 2 (C2): An integrated assessment of UK Shale resource distribution based on fundamental analyses of shale mechanical & fluid properties
- Challenge 3 (C3): Impact of hydraulic fracturing in the overburden of shale resource plays: Process-based evaluation (SHAPE-UK)
- Challenge 4 (C4): Evaluation, Quantification and Identification of Pathways and Targets for the assessment of Shale Gas RISK (EQUIPT4RISK)
- Challenge 5 (C5): Socio-economic impacts, which comprises the following three projects:
 - Understanding the spatial and temporal dynamics of public attitudes and community responses to shale gas: an integrated approach;
 - 'Fracking', Framing and Effective Participation;
 - The social construction of unconventional gas extraction: Towards a greater understanding of Socio-economic impact of unconventional gas development

More information about the Programme can be found at www.ukuh.org.

About this Open Call

Recognising the need to evolve to the changing shale gas landscape, the UKUH Programme has developed a portfolio of funding opportunities. These funding opportunities have been shaped from discussions with stakeholders and the wider academic community at the UKUH engagement events, such as Integration Events and Advisory Board meetings.

Through these engagement events, three key themes have emerged as key knowledge gaps in the UKUH Programme (Table 2). The Open Call aims to address these knowledge gaps through the funding of Large Projects (Large Projects are required to align with one of the three key themes and must be interdisciplinary, comprising both geoscience and social science or economic research) and Small Projects (Small Projects can be single discipline focused but must align with one of the three key research themes). We have provided example research questions for guidance only (Table 2). These questions are not exhaustive, and we are keen to see researchers' novel and innovative research questions above and beyond the examples given. An overarching Socio-economic and Geoscience Nexus Project will also be funded, and EDI ambassadors appointed to further increase the legacy and impact of the UKUH Programme.

The final funding decisions will consider the recommendations of the UKUH Programme Advisory Board review panel, the balance of projects across the themes, the aims of this call, as well as the available budget. The Programme Executive Board (PEB) reserves the right to allocate less than the total available funds of up to £400,000.

Q&A Surgeries

C1 will host at least three Zoom surgeries, which will be held at various timeslots during the working day (e.g. 10am, 12pm, 4pm) to support the current challenges for some during this period of COVID-19.

The times and dates of the surgeries will be advertised on the UKUH website, www.UKUH.org.

The surgeries will enable applicants to:

- ask questions about, and gain knowledge of, the UKUH Programme. The C1 representative will be to signpost potential applicants to details of the existing projects and UKUH published research <http://www.ukuh.org/publications/>;
- ask specific questions about the Open Call; and
- identify collaboration opportunities. C1 will support applicants to link up with other researchers to address the research themes (Table 2);

Potential applicants will be asked to sign up to these sessions in advance and sessions will be password protected for security. Frequently asked questions (FAQs) will also be posted online at <http://www.UKUH.org> after the Q&A surgeries.

Table 2: Key research themes for the Open Call

Key Research Theme	Example research questions
<p>The Role of the Subsurface in Decarbonisation of the Energy Sector and the UK's Net Zero future: Application of UKUH's Research</p>	<p>Is there a role for shale gas (and more broadly natural gas) during the transition to a net zero emissions future, including the Clean Growth Strategy and the Industrial Strategy?</p> <p>What are the challenges and opportunities of the public acceptability of decarbonisation pathways in the UK?</p> <p>What potential (opportunities and challenges) is there for re-purposing onshore hydrocarbon infrastructure (including existing boreholes) to support the transition to a Net Zero future, e.g. for use of geothermal energy and Carbon Capture Usage and Storage (CCUS) and energy storage?</p> <p>What lessons could be learnt from the UK Shale Gas experience for the future of energy security in the UK and climate change policies?</p>
<p>Building upon UKUH's research of Public Perceptions and Acceptance of Shale Gas in the UK</p>	<p>Why did shale gas development fail to gain a social licence and what can other industries and energy infrastructure learn from this experience?</p>

Key Research Theme	Example research questions
	<p>What lessons regarding public perceptions and acceptance can be learnt from ‘shale failure’ by other subsurface industries, particularly subsurface energy sources, such as geothermal, and energy storage, and for governance and regulation of future energy infrastructure projects?</p>
<p>Shale Gas and Environmental Security</p>	<p>Are there circumstances and locations where shale gas extraction could proceed without unacceptable environmental risk, e.g. felt seismicity and groundwater pollution?</p> <p>What lessons regarding environmental protection and long-term risk management from shale gas development in England can be learnt by other subsurface energy industries (such as geothermal energy and energy storage) and to improve future governance and regulation?</p> <p>What are the opportunities and challenges associated with decommissioned wells onshore in the UK? Research questions could be wide-ranging and include environmental law and practice, environmental monitoring, liabilities and decommissioning costs and socio-economic aspects.</p>

Funds available and full costs details

The UKUH Programme can provide funding of up to 80% Full Economic Cost (FEC) and has allocated up to £400,000 of funding across the following funding streams:

Socio-economic – Geoscience Nexus Project

The UKUH Programme will fund up to one **Nexus Project** up to the value of **£25,000 (at 80% FEC)** which will work across all the successful Open Call projects and with the Challenge 1 (C1) team to:

1. Build collaborations with existing UKUH researchers and undertake a range of virtual networking opportunities for all successful researchers;
2. Develop outputs by drawing together research from across all the Open Call funded projects. These outputs could include journal articles, media commentaries etc.; and
3. Undertake horizon-scanning research into the future role of the subsurface for decarbonisation of energy.

Large projects (up to 3 projects will be funded each to a value of up to £70,000 (at 80% FEC))

This funding is available for innovative **interdisciplinary** research which must align with one of the three key research themes outlined in **Table 2** and is specifically to support Early Career Researchers (refer to **Eligibility**). All successful proposals will be expected to interact with the Nexus Project as well as attend at least one UKUH Programme-wide event, such as the Annual Science Meeting or Integration Event.

Small Projects (up to 8 projects will be funded each to a value of up to £20,000 (at 80% FEC))

This funding will be used to fund smaller projects up to the value of £20,000, which don't need to be interdisciplinary in scope but must focus on at least one of the following:

- a. Seedcorn funding, i.e. a pilot study which could have the potential to access larger amounts of funding in the future;
- b. Impact generation, i.e. to help realise impact from existing relevant research (not just confined to the UKUH Programme); or
- c. Knowledge exchange activities, i.e. a project which offers an opportunity to develop a relationship between an academic institution and business or other external organisations.

All successful proposals will be expected to interact with the Nexus Project as well as attend at least one UKUH Programme-wide event, such as the Annual Science Meeting or Integration Event.

EDI Ambassadors

Up to 5 EDI ambassadors may be funded through this Open Call. Each Ambassador will be provided with up to a £1,000 (at 80% FEC) stipend to support and mentor underrepresented groups in this research Programme. For these roles, it is essential that the applicant is a part of the UKUH Programme, therefore, EDI Ambassador funding will only be available for researchers currently funded by UKUH or successful Open Call applicants.

Example EDI Ambassador activities could include:

- **Training** designed to build knowledge and skills needed to support ECRs and underrepresented groups,
- **Outreach activities, engagement and communication** to disseminate UKUH research with a wider network of stakeholders, particularly those currently from underrepresented groups;
- **Networking and peer-support** to provide opportunities for collaboration and sharing of best practice.

Application Process

Intent to Submit (ItS) – Closing on 16:00 31 August 2020 – [Application Form Link](#)

The purpose of the ItS stage is to help C1 coordinate the Open Call. The ItS stage will not be assessed; however, it is a prerequisite to be eligible to submit a full proposal. The ItS will be used by the funders to understand the likely number of applications, the level of interest within each of the three themes (**Table 2**) and to manage the evaluation process most effectively, e.g. selection of reviewers.

The ItS is completed via an [online form](#), which comprises:

- Type funding being applied for;
- Theme being addressed;
- Project title;
- Details of project team; and
- Summary of proposed project (<500 words)
- Register interest in applying for EDI Ambassador funding

Full Proposal Submission – Closing on 16:00 12 October 2020

Proposals and costings should be submitted using the following online forms:

1. [UKUH Open Call – Social Science-Geoscience Nexus Project](#) (up to the value of £25,000 at 80% FEC). The application process comprises an online form requiring the applicant to provide details of their proposed activities and deliverables. As part of the application process, we are looking for the applicant to detail:
 - a. the proposed synthesis / integration activities and how the applicant will work alongside C1 to deliver an integrated project in the context of the UK energy system;
 - b. how your experience and track record will meet the objectives of this Nexus Project;
 - c. a workplan, indicating key deliverables and dates; and
 - d. Justification of Resources (no more than 500 words) as well as details on how the funds would be spent, including a breakdown of costings by type and by institution.

2. [UKUH Open Call – Large Projects](#) (up to the value of £70,000 at 80% FEC). In order to apply for the larger value grant, applicants must submit a maximum of 5-page case for support to include:
 - a. 4-page outline of research proposal, including all necessary tables, figures and references; and
 - b. 1-page track record and a summary of capability to deliver the project;
 - c. a separate workplan, indicating key deliverables and dates;
 - d. Justification of Resources (no more than 500 words) as well as details on how the funds would be spent, including a breakdown of costings by type and by institution.

3. [UKUH Open Call – Small Projects](#) (up to the value of £20,000 at 80% FEC). The application process comprises an online form requiring the applicant to provide details of:
 - a. an outline of your proposed research, including details of deliverables;
 - b. track record and a summary of capability to deliver the project;
 - c. a workplan, indicating key deliverables and dates; and
 - d. justification of Resources (no more than 500 words) as well as details on how the funds would be spent, including a breakdown of costings by type and by institution.

4. [UKUH Open Call – EDI Ambassadors](#) (up to £1,000 at 80% FEC). The application process comprises an online form requiring the applicant to provide details of their proposed activity and a summary of the applicant’s capabilities to deliver this activity. As this stipend is only available for successful Open Call applicants or existing UKUH researchers, there is a requirement for the applicant to provide details of their Open Call Proposal or their existing UKUH research project.

Costings

Costings for the proposals should be based on [standard NERC rules](#)¹. The funding is primarily for researcher salary costs and should include research-related travel and subsistence. To ensure that the successful proposals are integrated into the wider UKUH Programme, all applicants are obliged to **attend at least one event organised by the Programme** (e.g. Annual Science Meeting or Integration Event). Applicants should ensure that they include appropriate travel and subsistence costs to attend such events.

It is important that all costs are listed, including in-kind support and match funding, if applicable. The breakdown should include (but is not limited to) costs associated with:

- Staff - Directly Allocated
- Staff - Directly Incurred
- Other Directly incurred costs detailed by type e.g. travel
- In-kind support by institution/organisation

Proposal costings should be submitted using the PI institution's JE-S report in addition to a letter of institutional support.

Assessment Criteria

Screening Process

Applications will be submitted through an online system. The applications will be screened against the following compliance criteria:

1. Submission of an ItS
2. All elements of the online application form completed correctly
3. Financial information has been supplied in correct Je-S format

At this stage the applications will be anonymised by redacting personal details from the application, such as name, gender, and other protected characteristics identifiers, prior to circulation with the reviewing panels.

Full Review Stage

The application process will be based entirely on merit alone. The anonymised proposals will be assessed by:

1. Peer-review by a sub-panel of the PAB (quorum = 3). The review panel will assess proposals for scientific quality as follows: 3 – Outstanding: is of excellent scientific quality and high capability to deliver; 2 – Excellent: is of high scientific quality and capability to deliver; 1 - Interesting/non-competitive: is insufficient quality and/or lacks capability to deliver objectives. The PAB will then make recommendation for funding to the Programme Executive Board (PEB).;
2. The peer reviewed results will be presented to PEB for final decision.
3. Feedback will be provided to all applicants.

Reviewers will base their assessment and scores (1-3) on the following criteria. Score weighting is provided in parentheses:

Excellence (developed from the REF 2021 guidance²) (40%):

² https://www.ref.ac.uk/media/1084/ref-2019_02-panel-criteria-and-working-methods.pdf

- Originality of research, e.g. will the project:
 - o develop or interpret new empirical findings?
 - o engage with new / complex problems?
 - o collect new types of data?
- Significance – does the project have the potential to influence knowledge and understanding or the development of new policy and / or practice
- Rigour – does the project demonstrate coherent and robust concepts and methodologies?

Fit to Call (40%):

- To what extent does the proposed research address UKUH legacy, and integrate across social sciences and geosciences to further develop knowledge beyond the current programme?

Applicant Track Record and Capability to Deliver (20%):

- To what extent has the PI demonstrated the key skills to deliver their project?
- To what extent has the PI demonstrated the necessary expertise, capability and vision to successfully execute a project as an individual, and through supporting the advancement of colleagues?

Resource Justification (Acceptable or Unacceptable, no weighting required):

- Are the resources requested appropriate for the research proposed?
- Does the proposal demonstrate value for money?

Eligibility

The call is open to all [institutions that are eligible to apply for NERC funding^{3,4}](#). We encourage applicants out with the existing UKUH Programme to apply for funding, as well as those who have existing contracts funded as part of UKUH.

Any single researcher is permitted to submit a maximum of **two** proposals; however, an applicant may only submit **one** application to this call as a Project Lead.

Eligibility criteria specific to the various funding routes on offer is detailed below:

Nexus Project

To meet the eligibility criteria of this funding and deliver on the Open Call objectives (which are to provide development opportunities for ECRs and PDRAs) the Project Lead must be eligible to apply as a NERC Independent Research Fellow³, Principal Investigator, New Investigator or Research Co-Investigator⁴.

Research Co-Investigators must provide a formal letter of commitment from their current PI at their research organisation to confirm that, if the proposal is successful, they will be supported to deliver the project and that their contract will be extended (if required) beyond the end date of the proposed project.

Applicants are asked to make submissions for work that will last for the duration of 18 months.

³ <https://nerc.ukri.org/funding/available/fellowships/eligibility/>

⁴ <https://nerc.ukri.org/funding/application/eligibility/>

Large Projects

To meet the eligibility criteria of this funding and deliver on the Open Call objectives (which are to provide development opportunities for ECRs) the Project Lead must:

- be eligible to apply as a NERC Independent Research Fellow³ or New Investigator⁴; or
- comply with NERCs definition of PI⁴ **AND** include a Research Co-Investigator⁴ within their project.

Applicants are asked to make submissions for work that can be delivered in a maximum of 18 months.

Small Projects and EDI Ambassadors

This funding is specifically focused at providing leadership opportunities to ECRs and Post-doctoral Research Assistants (PDRA) as well as other research staff employed at eligible research organisations.

In order to apply for this funding, you must:

- meet the eligibility criteria for NERC Independent Research Fellow³; or
- be research staff employed by a research organisation or, if not employed, have an existing formal arrangement with the organisation that enables you to carry out research there and receive all necessary management and infrastructure support from the organisation; or
- be scheduled to move to the submitting organisation before the proposed start date of the project.

In addition, the applicant must provide a formal letter of commitment from their current PI or Line Manager at their research organisation to confirm that, if the proposal is successful, they will be supported to deliver the project and that their contract will be extended (if required) beyond the end date of the proposed project.

Applicants are asked to make submissions for work that can be delivered in as short as 3 months (note that longer duration 'small' projects are eligible).

Equality, Diversity and Inclusion (EDI)

The UKUH Programme supports the diversity of their staff and stakeholders, enabling all to realise their full potential by valuing the contribution of everyone and recognising and harnessing the benefits that differences can bring.

Our approach to promoting EDI as part of this Open Call is as follows:

- 1) **Marketing:** In addition to carrying out a standardised advertising campaign with our existing contacts and utilising NERC-ESRC contacts, we will implement positive action to advertise this Open Call to groups that are currently underrepresented in the UKUH research community. This positive campaigning will be done through targeted advertising via the following organisations:
 - a. @BB_STEM (Via Twitter account)
 - b. Association for Black and Minority Engineers (AFBE-UK)
 - c. WISE Campaign (Women in Science and Engineering)
 - d. POWERful Women
 - e. TIGERSTEMM
 - f. UK Energy Research Centre (UKERC)
 - g. British Academy
 - h. Academy of Social Sciences

i. @AccessibleGEO

(Note: this is not an exhaustive list. The coordinating team will use its discretion to market the Open Call should other opportunities become available).

- 2) **Dissemination:** We will publicise the Open Call details via a video posted on our UKUH website and we will use our existing marketing channels to share this video as widely as possible. We will hold at least three online Q&A ‘surgeries’ using Zoom.
- 3) **Support:** We will establish a network of EDI Ambassadors. Each ambassador will be given a £1000 stipend (from existing C1 funding) to support ECRs and underrepresented groups, e.g. BAME, women etc. The C1 team is seeking applications from researchers (either those already on the UKUH Programme or successful applicants through the Open Call) who will employ innovative ways of supporting and mentoring funded researchers (including those already funded within the Programme as well as those newly funded as part of the Open Call) to further their career by offering leadership and networking opportunities. We will fund a total of five EDI Ambassadors through this Open Call.
- 4) **Assessment process:** In order for proposals to be assessed on merit alone, all personal identifiers (as well as any identifiers of gender, race etc.) will be removed ahead of the reviewing panel assessment for all proposals submitted to any of the four funding streams

Proposals will be assessed and graded on their merits, in accordance with the criteria and the aims and objectives set for the call (as set out in the Assessment Criteria section of this document). If you are employed by an eligible UK institution and satisfy NERC’s current regulations on investigator eligibility (please see the Funding Guide) you are eligible to submit a proposal, regardless of your nationality or ethnicity.

As part of the proposal submission process we will be collating equality data in order to measure the diversity of applicants. This will provide baseline information to support the marketing / advertising, planning and implementation of future open calls / flex funding. It is important to note that an applicant is not obliged to answer the EDI questions and any data collected will remain confidential.

Terms and Conditions

Terms and conditions of standard NERC grant awards will apply. All project outputs and engagement should include UKUH and NERC-ESRC branding. Funded projects will be required to produce:

- a) a final report which summarises key outcomes (format TBC); and
- b) a summary of project findings for publication on the UKUH website.

Management of the Open Call

This call has been developed by C1 of the UKUH Programme, guided by the advice of the UKUH PEB. The PEB membership includes the Head of Productive Environment from NERC as well as Senior Portfolio Manager, Environment from ESRC, in addition to an independent consultant. Further details can be found at www.ukuh.org.

Contacts

For specific queries associated with NERC terms and conditions and eligibility criteria, please contact NERC’s UKUH Programme Manager, [Ritwika Sengupta](mailto:Ritwika.Sengupta@nerc.ac.uk). All other enquiries related to this Open Call should be directed to: [Rachel Brown](mailto:Rachel.Brown@nerc.ac.uk).