

COMPETITION GUIDANCE FOR APPLICANTS

Competition Details

Innovate UK Competition:

Energy Catalyst Round 4

Mid Stage Awards

April 2016

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Executive summary

The Energy Catalyst has been established by Innovate UK, the Engineering and Physical Sciences Research Council (EPSRC), the Department of Energy and Climate Change (DECC) and the Department for International Development (DFID). Working together we support new investments in an integrated and coordinated programme through the Energy Catalyst.

In this Round 4 of the Energy Catalyst competition, DFID, EPSRC and Innovate UK will invest up to £9m. DFID and EPSRC are providing grant funding into this competition and to be in scope for funding, applications must address all aspects of the “Energy Trilemma” and also be relevant to the needs of developing countries.

The Catalyst will accelerate innovation in the energy sector from concept to pre-commercial readiness by providing investment and support at the time, in the way and at the scale innovators need it. Funding will be available for three stages of technology development; early stage feasibility, mid-stage technology development and late stage pre-commercial technology validation. Organisations can apply for any stage of funding, depending on where in the development cycle their technology sits.

The Energy Catalyst is open to UK businesses and research organisations, including academia, from any sector who can address the three key challenges facing the global energy sector. Organisations from developing countries may also participate in projects (but not lead) and are eligible for funding by DFID at the same intervention rates as apply to UK partners. The Energy Catalyst will fund projects which specifically deliver innovative solutions that address all elements of the energy ‘trilemma’ of reducing emissions, improving security of supply and reducing cost. DFID’s grant funding into Round 4 has the additional objective of “Transforming Energy Access” for poor households and communities, particularly in Sub-Saharan and South Asian countries.

The objective of the Energy Catalyst is to accelerate UK business growth and GDP in this global market area by leveraging the best of UK energy technology innovation. The energy “trilemma” presents an international as well as a UK market opportunity to UK businesses and applicants may focus on addressing market needs in any country provided that the project is also relevant to the needs of developing countries.

For Round 4 of the Energy Catalyst, DFID is targeting innovative energy technologies from UK enterprises and academia, optionally working with international partners that have the potential to transform energy access for poor households, enterprises and communities in developing countries, particularly sub-Saharan Africa and south-Asian countries where electricity grids are often unbalanced, unreliable or unavailable. DFID funding can be applied through Innovate UK and the Lead UK Partner in funded projects to support project partners in Developing Countries: applications into Round 4 are encouraged (not required) to include partners from Developing Countries. Additional background information on DFID’s “Transforming Energy Access” programme is available on the competition webpage.

The involvement of multiple funding partners in the Energy Catalyst, together with the wide spectrum of technology and markets being addressed by applicants, allows individual funders to direct their funding towards the highest-quality applications that additionally meet their specific requirements. In Round 4, EPSRC funding is directed towards academic partners in projects where the level of scientific excellence is highest; DFID co-funding is focussed on projects that can best address the needs of developing countries. In the event that additional co-funding for Round 4 becomes available at any time, Innovate UK reserves the right to fund high-quality applications addressing the Energy Trilemma that were not funded by DFID.

This Guidance for Applicant document gives general details about all stages of the Energy Catalyst but these application guidelines are specifically for Mid-Stage:- Technology Development. Those applying for early-stage or late-stage funding should download the relevant documents from the relevant competition page.

BACKGROUND

Energy underpins almost every aspect of our daily lives and yet it is invariably taken for granted. However, global legislation, domestic energy policies, regional supplier disputes and rising consumer costs means we cannot do so any more. Consistent policy, regulation, coordination and funding are needed to ensure innovative technologies can be developed and demonstrated effectively to help solve the energy 'trilemma' of:

- reducing emissions
- improving security of supply
- reducing cost

Within the UK alone, domestic policy and legal requirements offer real opportunities to develop innovative new products and services in the UK, such as:

- the legally binding obligation that in the UK, 15% of total energy must come from renewable sources by 2020 and the statutory requirement that UK greenhouse gas emissions must be reduced by 34% by 2020 and 80% by 2050 (based on 1990 levels)
- the security of an estimated 85GW indigenous supply requirement in the UK by 2020 the need to provide affordable energy for all

The energy sector is already a significant contributor to the UK economy, in 2012 UK energy industries contributed 3.5% of GDP (£55bn) and directly employed approximately 176,000 people. In addition, the global market opportunity is valued in £trillions. The size of the market and the opportunities for innovation to address the trilemma are creating major opportunities for which the UK can develop and grow innovative, sustainable businesses and supply chains to deliver world-leading solutions.

The size of the challenge means that no one body can deliver an energy programme in isolation, so a coordinated approach is needed that allows publicly funded innovation to be developed from a concept stage all the way through to pre-commercial demonstration. It is for these reasons that the Energy Catalyst has been established.

THE ENERGY CATALYST

The Energy Catalyst has been established by Innovate UK, the Engineering and Physical Sciences Research Council (EPSRC) and the Department of Energy and Climate Change (DECC) to accelerate innovation by providing investment and support at the time, in the way and at the scale innovators need it. It will help stimulate and support innovation by funding stages of innovation which will take projects from concept to commercial readiness with an objective of bringing the best ideas, processes, products and skills to the UK energy supply chain.

The Energy Catalyst will support a wide range of technologies that address all elements of the energy trilemma. In Round 4, DFID funding is available only to projects that are relevant

to the needs of developing countries. Therefore proposals must have objectives and outcomes which will contribute to:

- reducing emissions
- improving security of supply, and
- reducing cost of energy
- the needs of developing countries.

Projects supported by the Energy Catalyst will play a critical role in responding to these challenges and in addition, will create the opportunity to build UK businesses and supply chains that deliver world-leading solutions.

The Energy Catalyst Round 4 competition opens on **4th April 2016**. To apply you must register by noon on **8th June 2016** and you must submit your application one week later, by **noon 15th June 2016**.

How to use this document

This document contains the eligibility criteria, key dates, competition process and application form details specific to this competition. It is essential for applicants to read this document before applying.

In addition, the six numbered items below offer further general guidance and are available in full on our website to help you complete your application. Links to these sections are below, and referenced throughout this document.

1. Rules governing how much funding your project could receive

This guidance provides reference information on the different categories of funding and the associated rules arising from our state aid framework. <https://interact.innovateuk.org/-/funding-rules>

2. The project costs we fund and how to fill in the finance forms

This guidance contains detailed information on which project costs are eligible for funding, how to complete the finance forms as well as submitting any academic costs into the Je-S system (a requirement for all academic partners). <https://interact.innovateuk.org/-/project-costs> or download for print.

3. Submitting your application

This guidance explains how to submit your application, any accompanying finance forms and appendices. <https://interact.innovateuk.org/-/submitting-your-application>

4. What happens after you have submitted your application

This guidance provides information on Innovate UK assessment process, notification of decisions and how to access your assessor feedback. <https://interact.innovateuk.org/-/what-happens-when-you-have-submitted-your-application->

5. What happens if you are successful

This guidance tells you what happens if your project is granted funding. This includes information on the conditional offer letter, timescales, further information we require from your project team, the

Grant Confirmation Letter and the project monitoring process once you start your project.
<https://interact.innovateuk.org/-/what-happens-if-you-are-successful->

6. How to find out more

This guidance provides links to other areas which may be useful for completing your project.
<https://interact.innovateuk.org/-/finding-out-more>

Innovate UK complies with the requirements of the Data Protection Act 1998 and is committed to upholding the data protection principles. Further details with regards to the collection, storage, processing and disclosure of personal information by Innovate UK is accessible from the above link.

1. Competition information

Competition

Energy Catalyst Round 4, Mid Stage, April 2016

Funding

We are not pre-allocating specific budgets to each stage of the Energy Catalyst Round 4. Budget figures given in this document relate to the sum of the Early, Mid and Late Stages.

There is up to £9m of funding available from DFID and EPSRC, for research and development projects that address the technical challenges described in this document and in the Brief/Flyer for this Competition which can be located from the competition webpage.

Department for International Development (DFID)

DFID's funding into the Energy Catalyst programme for projects that DFID considers are relevant to the needs of developing countries. Innovate UK and EPSRC cannot fund overseas partners. However, DFID can fund overseas partners, and for projects that are relevant to the needs of developing countries, applicants are encouraged to involve partners from Developing Countries in their projects. Developing Country partners will be funded by DFID in this Competition at the intervention rates that apply to UK organisations.

Projects are not required to have partners from any specific countries outside of the UK, but, where appropriate to the project, partners from developing countries are encouraged and are eligible for grant-funding by DFID. UK lead partners of funded projects will be responsible for validating the work undertaken by their overseas partners and for submitting their financial claims. Grant payments for overseas partners will be made via the Lead Partner.

DFID co-funding will be allocated to projects using the same assessment and selection processes as other funders in the Energy Catalyst. Innovate UK and other co-funders reserve the right to apply a portfolio approach to the allocation of funding in this competition. In the event that additional co-funding for Round 4 become available at any time, Innovate UK reserves the right to fund high-quality applications addressing the Energy Trilemma that were not funded by DFID.

Requirements and eligibility

To be eligible for this competition, projects must fall under the Industrial research category. A full definition of this category is available in the guidance for applicants section of our website:

<https://interact.innovateuk.org/-/funding-rules>

- Expected total project costs of up to £1.5m
- projects are expected to last up to 36 months
- Innovate UK will fund up to 70% for Micro/Small enterprises, 60% for Medium enterprises and 50% for Large Companies.
- research participation will be capped at 30% of the overall project cost
- collaborations must be UK business-led and address the specific requirements of the competition as outlined in the scope of the Competition Brief
- only UK-based businesses are eligible to lead projects
- projects must be collaborative and involve at least one UK organisation as a partner additional to the UK Business Lead partner
- projects may involve partners from Developing Countries, but International partners will only receive grant funding if the project is selected for funding by DFID
- all applications will be assessed on individual merit in accordance with the normal Innovate UK process. However, we reserve the right to apply a 'portfolio' approach to ensure the distribution of funds across specific areas, subject to meeting the required quality criteria.
- in the event that additional co-funding for Round 4 becomes available at any time, Innovate UK reserves the right to fund high-quality applications addressing the Energy Trilemma that were not funded by DFID.

For more information on funding and state aid definitions please see:

<https://interact.innovateuk.org/-/funding-rules>

Competition scope

The Competition Brief contains the full details of the technical summary, background, challenge, scope, research area, key events and dates. The Brief can be found on the Competition website.

The Energy Catalyst will support businesses and researchers from any sector, who can deliver innovative solutions that contribute to *all* elements of the energy trilemma: reducing emissions, improving security of supply and reducing cost, when considered from a full 'energy system' perspective, acknowledging that some solutions may be biased more to one or two of these elements

The Energy Catalyst will fund projects from early concept stage through to pre-commercial technology validation, based upon innovation that incorporates, for example:

- new technologies
- enhancement or alternative applications of existing technologies
- development of components, sub-systems or systems
- integrated whole-system approaches
- enabling technologies for the energy system.

The Catalyst is keen to attract proposals which bring new and innovative solutions and applications into the energy sector and its supply chain. In addition, we want to encourage the adoption and integration of cross-cutting, enabling technologies which are applicable across a range of sectors, for

example, high-value manufacturing, advanced materials, sensors and information and communication technologies (ICT).

Indicative examples of technology areas that are within the scope of the Catalyst include, but are not limited to, those listed below:

| Theme no. | Technology Challenge Area | Indicative scope (not exclusive) |
|-----------|--|---|
| 1 | Carbon Abatement | Minimizing environmental impact of fossil fuels and associated applications to improve efficiency and reduced emissions. Includes carbon capture, transport, utilization and storage for large-scale power and industrial CO ₂ emitters. |
| 2 | Renewable energy | Wind, wave, tidal, solar (pv, thermal and concentrated) biomass*, geothermal, heat pumps, energy from waste |
| 3 | Nuclear fission | Front end fuel cycle, plant construction, commissioning, operation and maintenance. Waste management and decommissioning. |
| 4 | Hydrogen and fuel cells | Hydrogen production, transport and storage. Fuel cells for stationary and other applications (e.g. portable and auxiliary power) NB excludes technology development focused solely or predominantly on transport propulsion applications* |
| 5 | Energy networks and system integration | Includes electricity and heat networks and storage. Technologies for transmission, distribution and storage and integration of systems to deploy low carbon energy. Includes such things as system design, smart grid, power electronics, storage technologies, waste heat. |
| 6 | Demand side technologies | Technology development to reduce and/or manage energy demand at scale. Including energy efficiency measures for the end user, including industrial energy efficiency |
| 7 | Enabling technologies and processes | Includes ICT, high value manufacturing, robotics, advanced materials, sensors, control systems, virtual technologies, modeling and simulation |
| 8 | Open theme | Technologies where applicants are confident they meet the scope, but are not specifically covered by the above categories (eg energy harvesting) |

* see exclusions in section below

Further information on many of the above technology challenge areas can be found in the Technology Innovation Needs Assessments (TINAs) produced on behalf of the Low Carbon Innovation Coordination Group <http://www.lowcarboninnovation.co.uk>

DFID SCOPE

DFID is seeking to accelerate the best innovations and research with the potential to transform access to clean, affordable and resilient energy for poor households, enterprises and communities, particularly in Sub-Saharan Africa and South-Asia. For example, UK innovation development focussing on market applications for localised energy systems that can operate where the grid is unbalanced, unreliable or unavailable may also be directly relevant to the needs for reliable, affordable and clean energy in sub-Saharan Africa and south-Asian countries. All technologies are within scope and DFID has highlighted the following technology areas as likely to be most consistent with its scope requirement that projects address all aspects of the energy trilemma and are relevant to the needs of developing countries:

- Renewable energy;
- Energy networks and system integration;
- Demand side technologies;
- Enabling technologies and processes;
- Open theme; includes technologies where applicants are confident they meet the scope, but are not specifically covered by the above categories.

DFID's funding into the Energy Catalyst forms a part of DFID's much larger "Transforming Energy Access" Programme, an applied research and innovation programme to respond to the challenges of significantly scaling up access to reliable, clean energy to serve the poor. This is a five year programme that will address critical evidence gaps and test what innovative technology applications, business models and financing, and skills development that can dramatically accelerate the provision of affordable, clean energy based services to poor households and enterprises. DFID's TEA Programme is aimed at:

- Stimulating Technology Innovation
- Accelerating Innovation
- Supporting Clean Energy Partnerships
- Developing Local Skills and Expertise

A sector-expert TEA Research Programme Delivery Consortium will coordinate the work streams within TEA on DFID's behalf to ensure investment is optimised and results are efficiently translated into use. This Research Programme Delivery Consortium will provide a range of services varying from coordinated oversight monitoring for the established partnerships and commissioning processes, through to direct undertaking of scoping activities, analysis and commissioning of additional research. Projects funded by DFID under Round 4 will therefore be likely to have some oversight interactions with DFID.

Additional background information and details on the scope of DFID's "Transforming Energy Access" programme is available on the competition webpage.

OUT OF SCOPE

No specific technologies or sectors are out of scope in Round 4 of the Energy Catalyst. However, to be within scope, applications must show "relevance to the needs of Developing Countries", and applicants will need to clearly explain this relevance. DFID is seeking to accelerate the best innovations and research with the potential to transform energy access for poor households, enterprises and communities in Sub-Saharan Africa and South-Asia. Applicants should note, therefore, that DFID considers it unlikely that those objectives would best be met by projects focussed on innovations or applications in nuclear, carbon abatement or transport.

Stages of Awards

The Energy Catalyst will support three stages of award in Round 4 which are designed to assist the acceleration of an idea from concept to commercialization and applicants must decide which award is most applicable to their project. Organisations can apply for any stage award, but must ensure they comply with the guidelines for the relevant stage. The three stages are:

- Early-Stage Awards: Technical Feasibility
- Mid-Stage Awards: Technology Development
- Late-Stage Awards: Pre-Commercial Technology Validation

These award types align with the formally defined Technical Feasibility, Industrial Research and Experimental Development types respectively, as described at <https://interact.innovateuk.org/-/funding-rules>. Applicants should refer to these definitions to clarify the appropriate stage of their proposal.

EARLY STAGE AWARDS (TECHNICAL FEASIBILITY)

Early-Stage awards are to fund projects that will explore and evaluate the technical potential of an early stage innovative idea or concept through technical feasibility studies.

The work will seek to establish that a pre-industrial concept is ready for further technology development.

This award type aligns with the formally defined Technical Feasibility type.

<https://interact.innovateuk.org/-/funding-rules>

MID-STAGE AWARDS (TECHNOLOGY DEVELOPMENT)

Mid-Stage awards are to fund projects that take innovative ideas forward through the technology development stage by conducting industrial research and development including for example, laboratory studies, component or system development and testing, verification and evaluation in simulated environments.

This award type aligns with the formally defined Industrial Research type.

<https://interact.innovateuk.org/-/funding-rules>

LATE-STAGE AWARDS (PRE-COMMERCIAL TECHNOLOGY VALIDATION)

These projects will demonstrate and evaluate the capability and performance of innovative technologies through pre-commercial technology validation including for example, prototype and pilot testing and field trials at the component and system levels in realistic operating environments.

This award type aligns with the formally defined Experimental Development type.

<https://interact.innovateuk.org/-/funding-rules>

Competition briefing recording

There is a webinar recording of the process and application to assist in completing your application. The recording will be available to download from the secure FTP (file transfer protocol) site which you will receive access to after registering to apply.

Brokerage events are periodically arranged to enable prospective applicants to find and meet partners and to learn more about applying for Innovate UK funding. Event notifications and registration links can be found at: <https://connect.innovateuk.org/web/energy-catalyst>.

Competition key dates for your calendar

If you are intending to submit an application to this competition, please make a note of the key dates below.

The deadlines below are absolute and final. Please note that our submission deadlines are always at 12.00 noon and we are unable to accept any applications after this time.

| Timeline summary | |
|--|---|
| Competition opens | 04 th April 2016 |
| Final date for registration | Noon 08 th June 2016 |
| Submission of Expression of Interest applications | Deadline: Noon 15th June 2016 |
| Decision provided by Innovate UK | End of business 08 th July 2016 |
| Stage 2 opens (for invited applications) | 11 th July 2016 |
| Feedback to applicants – full stage applicants | 14 th September 2016 |
| Full Stage Briefing (successful applicants from the Expression of Interest <i>only</i>) | 11 th July 2016 (tbc in notification e-mail) |
| Submission of the full application (including Je-S submission, finance forms & appendices) | Deadline: Noon 14th September 2016 |
| Decision to applicants | End of Business 28 th October 2016 |
| New projects workshop | Date and location to be confirmed |

Important Note:

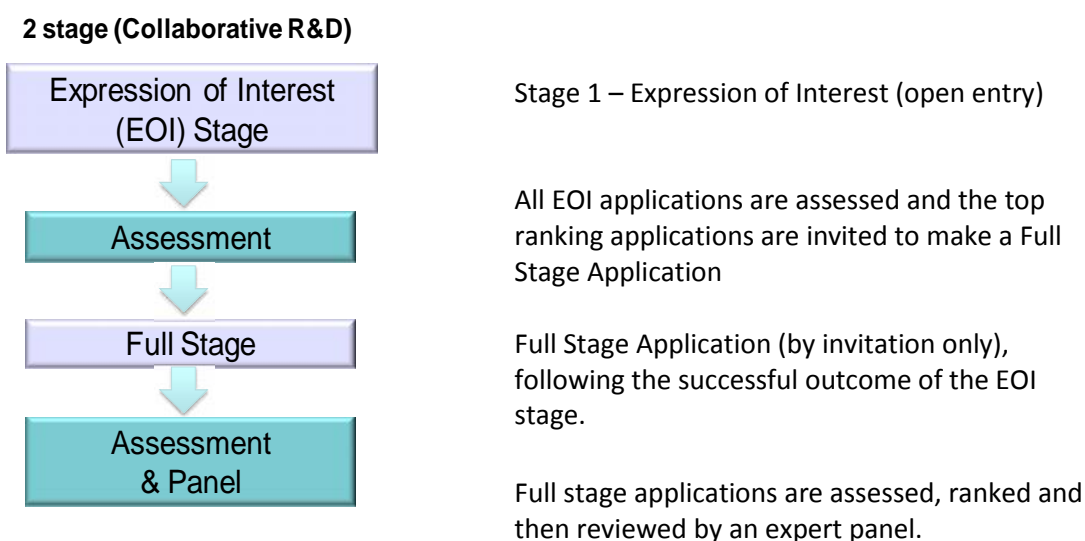
Please do not leave your submission to the last minute.

If any technical difficulties arise or if you identify any errors in your submission, we will not be able to grant an extension to the above deadlines.

It is your responsibility to ensure you follow the competition guidance rules and in doing so allow sufficient time to complete all of the competition requirements described in this document.

Competition process

This competition will follow a two stage process:



2. How to apply for this competition

This guidance is for the Mid-Stage Awards only. Please see separate guidance documents for the other types of awards. The Energy Catalyst awards funding through a competitive process. The process for each type of award is defined in the relevant individual guidance documents. We may apply a portfolio approach across the different award types, subject to applications reaching the required quality threshold.

The Mid-Stage Awards category will follow a two stage process which involves an Expression of Interest application followed by a full written application for invited applicants only. Please note that applicants that submit a full written application may also be requested to attend an interview panel.

Projects that span more than one category of award

You must apply for the category of award in which the vast majority of your work aligns. However, depending on the proposed technology, the work packages in a project might align with more than one category of award. For example, some mid-stage technology development projects may include small elements of late-stage pre-commercial technology validation work. If this is the case, you should identify which work packages in the project fit within each category of award and seek a grant commensurate with the aggregated work packages.

The Assessors will judge whether work packages are correctly assigned across the research categories. If the Assessors judge that they are not correctly assigned, the Energy Catalyst funding body will adjust the grant percentage accordingly. It is not expected that a single project will contain more than two categories of research.



REGISTER

To enter this competition, the lead partner for your project must register via the competition website at <https://interact.innovateuk.org/>

You will receive an email acknowledgement of your registration immediately and then an additional email containing a username and password for our secure upload facility, along with a unique application form and number. Following your registration acknowledgement, please allow up to 48 hours for receipt of your email application form

Please note: As stated in the above Key Dates section, the last date to register for a competition is noon 7 days prior to the close date.

Multiple project applications

If you wish to apply for funding for more than one project, you must register once and then request additional application forms by emailing an additional registration request to support@innovateuk.gov.uk You will then be able to make separate submissions by completing a unique application form for each separate project, ensuring the appropriate application form is uploaded to the site under the correct application number.

If repeat applications for the same project are submitted, then the repeat applications will be ineligible and not assessed.



DOWNLOAD documents

Once you have received your unique username and password, you can log into the secure website to access additional documentation relevant to the competition. For this competition these are:

- Finance forms – for full stage only.



COMPLETE documents

Expression of interest (EOI) stage

For this stage of the process, you will need to submit your Expression of Interest application using your unique numbered application form. Please see Section 3 for details on the application form.

Full stage application (invited applicants only)

If you are successful at the EOI stage, you will be invited to submit a full stage application. This stage requires you to submit the following documents:

- | | |
|---------------------------------------|---|
| • Full Stage application form | supplied with your unique application number for this competition |
| • Project Appendices | (please see Section 4 of this document for more information) |
| • Partner Finance Form | (for every non-academic partner in your project) |
| • Je-S Submission pdf Output Document | (for every academic partner in your project – if any) |

The appendices allow you to provide additional supporting information for the assessors on your project. The finance forms provide details on your project costs for each partner in your project consortium. For information on eligible project costs and the partner finance forms please click here <https://interact.innovateuk.org/-/project-costs>



UPLOAD
documents

Please ensure that you allow plenty of time to upload your completed documents for submission to the competition. Our submission close dates can be very busy which means that upload can take some time. We recommend that you upload your application in plenty of time as the deadline is final.

To upload your application documents, log on to the secure website using the details supplied with your secure username and password. See detailed instructions here:

<https://interact.innovateuk.org/-/submitting-your-application>



NOTIFICATION
received

Once the competition submission deadline is reached, your application is sent for assessment. We will notify you or your lead partner of the outcome of your application on the date stated in the timeline.

If you are successful at EOI stage, you will be invited to make an application to the full stage of the competition. You will be able to review your assessor feedback on the date stated in the timeline. You should then repeat steps 2-5 for submitting your full stage application.



FEEDBACK
received

You will be able to access feedback on your application from the assessors by logging into the secure site on or after the date published in the key dates section. For further information on what happens after you submit your application please click here: <https://interact.innovateuk.org/-/what-happens-when-you-have-submitted-your-application->

We will give feedback to unsuccessful applicants approximately 4 weeks after you have been notified of the decision. The lead applicant can access the feedback by logging on to the secure website where you uploaded your application documents. It is the responsibility of the lead partner to communicate the feedback with the rest of the consortia. No additional feedback can be provided and there will be no further discussion on the application.

3. The application form

This section explains the structure of the application form and offers guidance on the information to include in each section.

The application form has the same structure for both Expression of Interest and Full Stage with the exception of the public description. The structure is as follows:

- Application details
- Summary of proposed project
- Gateway question: scope
- **Section 1 – The business proposition (4 questions)**
- **Section 2 – Project details (4 questions)**
- **Section 3 – Funding and added value (2 questions)**
- Public description of the project (Full Stage only)
- Other funding from public sector bodies
- Finance summary table

Sections 1 to 3, highlighted above, address specific questions; these are listed in the following tables with guidance notes. When you submit your application form, it will be assessed according to how well it answers the specific questions. Each question has an equal weighting of 10 marks per question.

The Full Stage application form has the same structure as the EOI form but provides more space to expand upon your answers to the questions.

It is important that you address and respond to each question clearly. To help you, the guidance below provides an explanation of what is required for each question. The guidance notes are not intended to be exhaustive; you should develop your own responses based on your own skills, knowledge and experience.

When completing the application form it is important to take into account that the space provided is to enable you to give the specific amount of information for each question as you feel appropriate for the application. You are encouraged, therefore, to utilise fully all available space and any appendices at your disposal.

Please ensure that you upload the final and complete version of your application by the deadline. It is your sole responsibility to ensure you upload the application form intended for submission and assessment and not a blank or incomplete application form.

Key tips

- number the answers to each question
- use headings for the answer to each question.

DFID question – additional guidance

On the application form you will find a question that asks “Do you consider that your application could be relevant to the problems of developing countries? “. If you feel that your proposal meets this description of potential eligibility for DFID funding you can select ‘Yes’; an explanation of how you feel your proposal is potentially eligible for DFID funding should be included in your answer to the Gateway Question on Scope.

Applications answering “Yes” will be specifically considered for funding by DFID. Please note DFID will have access to all applications submitted in Energy Catalyst Round 4, and may also choose to fund applications that have selected “No” to this question. Whether applicants select “Yes” or ‘No’ to this question they will also be eligible for and considered for funding by Innovate UK and EPSRC.

Non-UK partners in DFID eligible proposals

If your project is seeking DFID funding and includes a partner(s) from a Developing Country, the roles & activities of overseas partners should be included in the application form in same way as UK partners.

If invited to full stage, a partner finance form should be completed for each overseas partner with total costs and grant request also being included in the finance summary table. Partners from Developing Countries can only be funded if selected for funding by DFID and intervention (grant) rates will be applied at the same rate as would apply for UK organisations of the same type.

Important: Please note the following process requirements for the application form:

- You may only use the application form provided. It contains specific information including a unique reference number for your project.
- The application form contains specific fields and it is important that you complete each field and present a fully completed form. Incomplete forms will be rejected.
- The application form must not be altered, converted or saved as a different version of Microsoft Word.
- The space provided in each field of the form is fixed and you must restrict the content of your responses in each of the fields to the space provided. The typeface, font size and colour are predetermined and cannot be changed. Illustrations and graphics cannot be included in the application form. Please check your completed application form in PRINT VIEW: any text that can't be seen in this view or when the form is printed will not be assessed.
- The light grey shaded fields are completed automatically from other information entered on the form, e.g. the total columns of a table. These cannot be overwritten.

| Application details | |
|---|--|
| Field | Guidance |
| Competition | This field will show the full name of Innovate UK competition to which the form applies. You do not need to enter anything here |
| Have you applied for funding with this proposal to any other TSB, EPSRC or DECC competitions or calls? | Yes or No |
| Are you or your organisation submitting as the lead applicant into more than one Award type in the Energy Catalyst? | Yes or No |
| How are you intending to match fund the grant? | Please select from 'Existing Funds', 'Revenue', 'Seeking New Funding' or 'Other' |
| Is your application relevant to International Development objectives? | Yes or No |
| Project title | Enter the full title of the project. |
| Project timescales | Enter the estimated start date and its planned duration. These are indicative at this stage and are not guaranteed |
| (Lead) organisation name | Enter the full registered name of the (lead) organisation for the project and the company number (as provided by Companies House). If you are not in a consortium application, these will be your organisation details. Please note that the lead organisation will be the main point of contact between Innovate UK and the project team. |

| | |
|-------------------------------------|--|
| (Lead) organisation contact details | Enter the full name, postcode, e-mail address and telephone number of the main point of contact between Innovate UK and the project. |
| Document ID | This is completed automatically. |
| Applicant number | This is completed automatically and is the reference that you should use on all correspondence (this is the 5 or 6 digit number after the dash). This is sometimes referred to as the TP number. |
| Appendices | The specific requirements for Appendices are provided in Section 4 of this document. |
| Technology Area | <p>Please select at least one and up to three technology (and/or application) areas that your project involves.</p> <p>Nineteen technology and market application areas are listed below. Please select three of these that collectively best describe the main themes of your project. On the application form there are three drop-down boxes containing numbers 1-19 and “20-other”. Referring to the list below, enter up to three numbers on the application form.</p> <p>Your selection will be used to help assign assessors to score your application. If none of these areas are relevant to your project or if you prefer that energy-sector assessors are randomly assigned to your project, then please either use “20-other” or leave this question blank.</p> <p>Carbon abatement 1-CO2 sequestration technologies (incl. CCS & CCU)</p> <p>Renewable Energy 2-solar photovoltaics (& other photonics, photocatalysis technologies, etc) 3-renewable heat (solar thermal, heat-pumps, thermal storage, geothermal, biomass, etc) 4-onshore wind (utility to small scale) 5-offshore renewables (marine wind, wave, tidal) & hydroelectricity</p> <p>Nuclear 6-nuclear fission – all technologies & supply-chain operations</p> <p>Fuel Cells, hydrogen & electrochemical power conversion 7-fuel cells, flow-batteries, batteries & other electrochemical generation/storage, etc 8-hydrogen generation (electrolysis, reforming, etc), storage & transport</p> <p>Energy Networks, Systems Integration & Supply 9-electricity grid, networks, system & supply chain (DNO interactions, generation-demand-storage-timeshift integration &</p> |

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| | <p>management, etc); and heat networks</p> <p>10-oil, gas, coal & unconventional fossil (supply-side technologies, including distribution & supply networks)</p> <p>11-fuel processing technologies (pyrolysis, gasification, reforming, synthetic fuels, biofuels, etc)</p> <p>Demand Side & Energy Efficiency</p> <p>12-combustion (non-engine)</p> <p>13-engines & thermodynamic cycles</p> <p>14-industrial process improvement (large-scale energy efficiency, etc)</p> <p>15-energy efficiency (smaller-scale, component & device level, etc)</p> <p>Enabling & Cross-Cutting Technologies</p> <p>16-processing of materials for energy applications (manufacture, synthesis, deposition, fabrication, etc)</p> <p>17-operations, maintenance, testing (as appropriate to individual energy sectors)</p> <p>18-enabling infrastructure, deployment, decommissioning, handling, etc (as appropriate to individual energy sectors)</p> <p>19-digital & ICT technologies (software, IT, communications, data management, sensors, systems control, instrumentation, hardware, etc) (as appropriate to individual energy sectors)</p> <p>Other</p> <p>20-additional to or not covered by any of the above</p> |
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Summary of proposed project (not scored)

| Question | Guidance |
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| Please provide a short summary of the content and objectives of the project including what is innovative about it. | <p>This is an opportunity to provide a short summary of the key objectives and focus areas of the project. It is important that this summary is presented in reference to the main outline of the project, with sufficient information to provide a clear understanding of the overall vision of the project and its innovative nature.</p> <p>This summary is not scored, but provides an introduction of your proposal for the benefit of the assessors.</p> |

Gateway question: Scope (not scored, Yes/No answer)

Important note: If the majority of assessors consider that the answer to the Scope Gateway question is 'No', then the application will not be approved for funding. Guidance on the 'Gateway Question: Scope' question is, therefore, critically important and is provided below.

| Question | Guidance |
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| Gateway question: Scope - How does this application align with the specific competition scope? | <p>All applications must align with the specific competition scope criteria as described in the relevant competition Brief.</p> <p>Note: To demonstrate alignment, you need to show that a clear majority of the project's objectives and activities are aligned with the specific competition. In forming their judgment on this, the assessors</p> |

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| | <p>will also consider whether the application addresses the research objectives and topics it claims to. It is important, therefore, for you to understand fully the background, challenge and scope of the competition, as outlined in the Competition Brief/Flyer.</p> <p>Full Stage Applications:</p> <ul style="list-style-type: none"> • For a full stage application, if feedback has already been given on this section, be careful not to write yourself out of scope. • only improve this section in the full stage if the feedback requested further clarity and/or information on the response to meeting the objectives of the scope. |
| Section 1: The business proposition | (10 points per question = 40 points in total) |
| Question | Guidance |
| 1. What is the business opportunity that this project addresses? | <p>Outline the business opportunity and what the project team needs to do to successfully address it within the desired timeframe and cost.</p> <p>Describe the nature of the problems or issues facing you and/or your potential customers and how the intended outputs of the project will address these problems and issues.</p> |
| 2. What is the size of the market opportunity that this project might open up? | <p>Describe the size of the market opportunities that this project might open up, including details of:</p> <ul style="list-style-type: none"> • current nature of the specific market(s) at which the project is targeted (eg, is it characterised by price competition amongst commoditised suppliers? Is it dominated by a single leading firm?) • the dynamics of the market including quantifying its current size, actual and predicted growth rates • the projected market share for the project outcome, with justification in the light of any potential competitors • the potential to create value-added for the UK and/or the European Economic Area (EEA). <p>Describe and clearly quantify the return on investment that the project could achieve and provide relevant source data references.</p> <p>Where possible, provide evidence for your statements about the addressable market for project outcomes and outline your strategy for developing market share.</p> <p>For highly innovative projects (see question 6) where the market may be unexplored, explain:</p> <ul style="list-style-type: none"> • what the route to market could or might be • what its size might be • how the project will seek to explore the market potential. |
| 3. How will the results of the project be exploited and disseminated? | <p>List or describe the potential exploitable outputs of the project such as:</p> <ul style="list-style-type: none"> • products or services • processes • applications. |

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| | <p>Then describe how these outputs will be exploited including, where applicable, the route to market; protection of intellectual property rights; reconfiguration of the value system; changes to business models and business processes and other methods of exploitation and protection.</p> <p>Where helpful to the exchange of best practice, and not damaging to commercial interests, the results from this work should be made public on a voluntary basis and a strategy for dissemination of generic outputs from the funded project should be included.</p> <p>PLEASE NOTE: Where research organisations are involved in a project and funded for undertaking non-economic activity, we will expect to see evidence in the answer to this question of plans to disseminate their project outputs over a reasonable timescale. The requirement for dissemination of research results intends to secure wider benefit from the higher level of public support given to research organisations. For further information, please click here: https://interact.innovateuk.org/-/funding-rules</p> |
| 4. What economic, social and environmental benefits is the project expected to deliver to those inside and outside of the consortium, and over what timescale? | <p>Explicitly identify all benefits that will accrue inside and outside of the consortium as a result of the proposed project. Truly sustainable development balances economic growth with social impacts and benefits and the protection of the environment.</p> <p>Benefits to those outside the consortium and to consortium participants should be considered and you should make a clear distinction between the two.</p> <p>Economic – This is the real impact the organisation has on its economic environment. This is not simply traditional corporate accounting profit, and can include cost avoidance, so you should highlight any expected ‘spill over’ benefits external to the project, eg, benefits to users (intermediaries and end users), suppliers, the broader industrial markets and the UK economy. The application should identify and quantify where possible the benefit to each of the beneficiaries.</p> <p>Social - Quantify any expected social impacts, either positive or negative, on, for example, the quality of life, social inclusion/exclusion, education, public empowerment, health and safety, regulation, diversity, and any expected impact on Government priorities.</p> <p>Environmental – Demonstrate how your project will benefit the natural environment as much as possible or at the least do no harm and curtail environmental impact. For example, this could include careful management of energy consumption and reductions in carbon emissions whilst reducing manufacturing and materials waste, rendering waste less toxic before disposing of it in a safe and legal manner (cradle to grave) or re-manufacturing (cradle to cradle).</p> |

Section 2:

(10 points per question = 40 points in total)

| The project details | |
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| Question | Guidance |
| 5. What technical approach will be adopted and how will the project be managed? | <p>Provide an overview of the technical approach including the main objectives of the work. Describe the main areas of work together with their resource and management requirements.</p> <p>In evaluating this the assessors will consider these questions:</p> <ul style="list-style-type: none"> • is the technical approach and methodology appropriate to the needs of the project and are the innovative steps achievable through the proposed approach? • is the project plan sufficient in comparison to the complexity of the project? For example, is there sufficient detail to understand the tasks involved and the resources required? • is the timing of key milestones realistic? • is there demonstration of sufficient resource commitment and capability to undertake the project? • are clear management reporting lines identified? <p>Describe rival technologies and alternative R&D strategies and describe why your proposed approach will offer a better outcome.</p> |
| 6. What is innovative about this project? | <p>Identify the extent to which the project is innovative both commercially and technically.</p> <p>In evaluating this section assessors will consider these questions:</p> <ul style="list-style-type: none"> • does it push boundaries over and beyond current leading-edge world science and technology? • is it looking to apply existing technologies in new areas? <p>Highlight and explain the timeliness and novelty of the research aspects of the project in an industrial and/or academic context.</p> <p>Describe any evidence you have to substantiate your belief that the intended work is innovative. This could include the results of patent searches, competitor analyses, literature surveys etc. If applicable, you should also outline your own background intellectual property rights, as related to the project.</p> |
| 7. What are the risks (technical, commercial and environmental) to project success? What is the project's risk management strategy? | <p>Innovate UK recognises that projects of this type are inherently risky, but seeks assurance that the projects it funds have adequate arrangements for managing this risk. Focus, therefore, on the arrangements for managing and mitigating risk as follows:</p> <ul style="list-style-type: none"> • identify the key risks and uncertainties of the project and provide a detailed risk analysis for the project content and approach, including the technical, commercial, managerial and environmental risks as well as other uncertainties (eg, ethical issues) associated with the project. The main risks should then be rated as High/Medium/Low (H/M/L) • state how the project would mitigate these key risks. You should address all significant and relevant risks and their mitigation |

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| | <ul style="list-style-type: none"> identify key project management tools and mechanisms that will be implemented to provide confidence that sufficient control will be in place to minimise operational risk and, therefore, promote successful project delivery. This should include the arrangements for managing the project team and its partners. |
| 8. Does the project team have the right skills and experience and access to facilities to deliver the identified benefits? | <p>Describe the track record of the project team members in undertaking and exploiting the results of research and development projects, to show your capability to develop and exploit the technology.</p> <p>In evaluating this, the assessors will consider whether:</p> <ul style="list-style-type: none"> the project team has the right available mix of skills and experience to deliver the project successfully the project team's formation objectives are clear and if it would have been formed without Innovate UK investment if a consortium, if there is additional benefit demonstrated from the collaboration, for example, increased knowledge transfer; and if the consortium is greater than the sum of its parts – how the organisations working together will achieve more than if they were working individually |

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| Section 3: | (10 points per question = 20 points in total) |
| Funding and added value | |
| Question | Guidance |
| 9. What is the financial commitment required for the project? | <p>Indicate the anticipated project cost making clear the level of contribution from any project participants and the level of funding required from Innovate UK. This information should be provided in the financial summary table in the application form.</p> <p>Supporting information and explanation for project costs should be provided in this section of the form. It must be consistent with the category of research & development being undertaken within each work package. Please see the guidance section of our website for further details on funding: https://interact.innovateuk.org/-/funding-rules</p> <p>Important: If the project spans more than one type of funding (e.g. because significant work packages are in both fundamental and industrial research), you must describe and justify the breakdown of costs between them within the answer to this question.</p> <p>In evaluating this the assessors will consider the following questions:</p> <ul style="list-style-type: none"> Is the budget realistic for the scale and complexity of the project? Does the financial support required from Innovate UK fit within the limits set by the specific competition? Is a financial commitment from other sources demonstrated for the balance of the project costs? Has a realistic budget breakdown been provided? |

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| | <ul style="list-style-type: none"> Have any work package breakdowns been described and justified adequately? <p>Detailed guidance on eligible and ineligible project costs is provided on our website: https://interact.innovateuk.org/-/project-costs</p> <p>Please note: For collaborations involving Research Organisations, the costs of PhD Research Students are no longer eligible to be included in project costs. This is in line with current Research Council guidelines. Please refer to the guidance via the above link for further details</p> <p>Ensure that all key points relating to the finances of your project that you wish the assessors to consider are included in the main body of your application form, or in the relevant appendix, as these are the key documents used within the assessment process.</p> |
| 10. How does financial support from Innovate UK and its funding collaborators add value? | <p>You will need to provide evidence that successful delivery of your project will increase the total amount of money the project team spends on research & development in the UK</p> <p>And either:</p> <ul style="list-style-type: none"> why the funding is required for the project to be able to proceed or how Innovate UK funding would allow you to undertake the project differently (more quickly, on a larger scale etc) and why this would be beneficial to the UK? |

| Public description of the project (not scored) | |
|--|---|
| This section only on Full Stage Applications (not EOI Stage) | |
| Question | Guidance |
| If your application is successful, Innovate UK will publish the following brief description of your proposal. Provision of this description is mandatory but will not be assessed. | <p>To comply with Government practice on openness and transparency of public-funded activities, Innovate UK has to publish information relating to funded projects. Please provide a short description of your proposal in a way that will be comprehensible to the general public. Do not include any commercially confidential information, for example intellectual property or patent details, in this summary.</p> <p>Whilst this section is not assessed, provision of this public description is mandatory. Funding will not be provided to successful projects without this.</p> |
| Finance summary table | |
| Column 1 Organisation name | Please provide the full names of the (lead) organisation and any participants in the project consortium (organisation names as noted in Companies House). |
| Column 2 Organisation Registration Number | Companies should provide the Company Registration Number (as noted in Companies House). Universities/HEIs should enter their RC number/Charitable status/legal entity registration number etc. |
| Column 3 Enterprise Category | Please select your Enterprise Category. (SME definition is based on the EU definition) For other definitions, please check the competition |

| | website: https://interact.innovateuk.org/-/funding-rules | | | | | | | | | | | | | | | | | |
|--|--|---------------------|-----------|---------------------|----|---------------------|--------------|------|----------------|----------------|-------|-----|----------------|---------------|-------|-----|---------------|--------------|
| | <table><tr><th>Enterprise category</th><th>Headcount</th><th>Turnover</th><th rowspan="4">or</th><th>Balance sheet total</th></tr><tr><td>Medium sized</td><td><250</td><td><= €50 million</td><td><= €43 million</td></tr><tr><td>Small</td><td><50</td><td><= €10 million</td><td><= 10 million</td></tr><tr><td>Micro</td><td><10</td><td><= €2 million</td><td><= 2 million</td></tr></table> | Enterprise category | Headcount | Turnover | or | Balance sheet total | Medium sized | <250 | <= €50 million | <= €43 million | Small | <50 | <= €10 million | <= 10 million | Micro | <10 | <= €2 million | <= 2 million |
| Enterprise category | Headcount | Turnover | or | Balance sheet total | | | | | | | | | | | | | | |
| Medium sized | <250 | <= €50 million | | <= €43 million | | | | | | | | | | | | | | |
| Small | <50 | <= €10 million | | <= 10 million | | | | | | | | | | | | | | |
| Micro | <10 | <= €2 million | | <= 2 million | | | | | | | | | | | | | | |
| Column 4 Postcode | Please provide the postcode of each organisation participating in the project. | | | | | | | | | | | | | | | | | |
| Column 5 Contribution to the project by each organisation (£) | Please list the total contribution to be made to the project by each organisation. | | | | | | | | | | | | | | | | | |
| Column 6 Funding sought from Innovate UK | Please enter the funding sought from Innovate UK for each participant organisation for this competition. | | | | | | | | | | | | | | | | | |
| Column 7 Other funding from public sector bodies | Please include any funding for the project from any other public sector bodies which has been applied for separately, and not as part of this competition. Funding from other public sector bodies might include other applications to research councils, other government departments, devolved administrations, other public sector organisations and some charities. The purpose of this column is to provide Innovate UK with information on the total public funding for the project. | | | | | | | | | | | | | | | | | |
| Column 8 Total (£) | The total cost of the project – this is the sum of columns 5, 6 and 7 and will be entered automatically. | | | | | | | | | | | | | | | | | |
| Bottom Row Total (£) | The total of each column will be entered automatically. | | | | | | | | | | | | | | | | | |

For full stage applications, you will be asked to submit a finance form for each industry and academic participant in your project which provides more detailed information on the total costs listed in your finance summary table.

For information on eligible project costs and how to complete the finance forms see the website <https://interact.innovateuk.org/-/project-costs> or download as a pdf file.

4. Project appendices

Appendices are only required for a full stage application. They are not submitted with EOI applications.

Appendices requirements for a full stage application form

Appendices are submitted with the application form. It is important to note that these are intended to contain supporting information and not substantive elements of answers to the application form questions. Do not, therefore, use the appendices as an overflow to the application form.

In order that assessors can open and read the appendices, each appendix must:

- conform to the maximum length specifications listed below
- be submitted in Portable Document Format (.pdf)
- be legible at 100% zoom/magnification
- display prominently the 'Project title' as entered on page 1 of the application form
- be named as per the specifications given in the guidance 'Submitting your Application' click here: <https://interact.innovateuk.org/-/submitting-your-application>

If you submit appendices longer than specified below, they will be truncated and the excess discarded.

Appendices may be printed or photocopied in black and white, so colour should not be used as the sole method of conveying important information.

| Appendix | Guidance |
|--|---|
| Appendix A Up to 5 sides of A4 | Use Appendix A to provide additional information to support Section 1 of the application form: The Business Proposition. You may wish to include graphics describing the nature of the problem, market dynamics and/or exploitation plans. |
| Appendix B Up to 5 sides of A4 (7 sides of A4 for academic and business applications) | Use Appendix B to provide further information to support Section 2 of the application form: The Project Details. You may include, for example, a Gantt chart, risk analysis table, project management structure and/or details of evidence for innovation. Academic and business applications may submit an additional 2 A4 sides for additional assessment information such as the Pathways to Impact. Please refer to separate guidance on your Project Costs for more information using the link below. |
| Appendix C Up to ½ side of A4 for each partner and subcontractor | Use Appendix C to provide details of the specific expertise and track record of each project partner and each subcontractor to address Question 8 of the application form. Academic collaborators may wish to refer to their research standing. |

5. Funding, finance forms and project costs

We are not pre-allocating specific budgets to each stage. Proposals will be judged on their quality and alignment to the Energy Catalyst objectives. We do however reserve the right to adopt a portfolio approach regarding the funds allocated to both the Stages and the technology areas, providing proposals reach the required quality threshold.

At the time of opening (April 2016), grant funding for applications into Round 4 is only available from DFID and EPSRC. In the event that additional co-funding for Round 4 becomes available at any time, Innovate UK reserves the right to fund high-quality applications addressing the Energy Trilemma that were not funded by DFID.

- Projects submitting into the Mid Stage Award must focus the majority of their work on Technical Development. If projects contain elements of Late Stage (pre-commercial technology validation), then the eligible costs should be calculated accordingly as described in the section 'Projects that span more than one category of award'
- We expect Mid Stage projects to be less than £1.5m in total project cost. The amount of funding available to each partner will vary according to the type of organisation, size and type of research being conducted in the project as defined in the Table below. If funding sought is above the upper limit, please contact the Customer Support Services on 0300 321 4357

Information on project finances is available in the guidance 'Your Project Costs' on our website: <https://interact.innovateuk.org/-/project-costs>

IMPORTANT FUNDING CRITERIA

For the Late Stage award category, the lead partner must be a business of any size working collaboratively with another UK business, academic or a research organisation

6. How to find out more (Data Protection Act 1998, Information Security, etc)

If you require further information or have a query regarding this competition, please contact the Customer Support Services on:

E-mail: support@innovateuk.gov.uk

Tel: 0300 321 4357