

# Green Future Fellowships Accelerated International Route (GFF AIR)

## Expression of interest guidance notes

**There is no deadline for the submission of applications to the Green Future Fellowship Accelerated International Route (GFF AIR).**

*This route will remain open continuously for an initial two-year period, until September 2027.*

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## Programme overview

### Green Future Fellowships

Climate change presents not only a national but a global challenge. To meet the UK's targets of reducing carbon emissions by 77% by 2035, there is a critical need to support and develop climate solutions that address adaptation and mitigation. The next decade is a crucial period where innovation can make a significant difference in achieving these targets.

Announced in 2023 and supported through a £150 million long-term endowment investment from the Department for Science and Innovation and Technology, the Green Future Fellowship is a unique programme to support scientists, researchers and innovators to develop and scale up their breakthrough climate solutions.

The programme will support at least 50 exceptional scientists, researchers and innovators (10 a year for five years) to transform their pioneering engineering innovations into climate solutions with real-world impact. Individuals will receive a 10-year award with funding of up to £3 million.

The novel technologies supported by the Green Future Fellowship programme will:

- be practical and scalable
- reduce greenhouse gas emissions, and/or
- help the UK adapt sustainably to the impacts of climate change.

Innovations at all stages of development are eligible, from basic principles to proof of concept, demonstration, and application.

As well as funding for their fellowship, Green Future Fellows will also benefit from:

- mentorship from an Academy Fellow with relevant expertise to their programme of work, to provide independent advice and guidance throughout the duration of the award
- bespoke support package, including training opportunities
- access to the Academy's [Awardee Excellence Community](https://raeng.org.uk/about-us/awardee-excellence-community) (<https://raeng.org.uk/about-us/awardee-excellence-community>).
- Fast-track endorsement under the Global Talent Visa for successful applicants

### Accelerated International Route

Attracting exceptional talent from around the world has always been a key objective of the Green Future Fellowship programme. To support non-UK-based applicants, the Accelerated International Route (GFF AIR) offers a funding decision on an accelerated timeline. This route is designed to enable exceptional non-UK-based researchers and innovators to bring their pioneering climate solutions to the UK more rapidly. Eligible applicants will benefit from a faster application and review process, helping to facilitate their transition and contribution to the UK's climate innovation landscape.

## Diversity and inclusion

The Royal Academy of Engineering is committed to diversity and inclusion and welcomes applications from all underrepresented groups across engineering. It is the Academy's [policy](#) to ensure that no applicant is disadvantaged or receives less favourable treatment because of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, or sexual orientation.

Before you commence your application, you will be asked a few diversity monitoring questions to help the Academy monitor and assess our progress on diversity and inclusion in Academy programmes. It will only be used for statistical purposes with access restricted to staff involved in processing and monitoring the data. No information will be published or used in any way that identifies individuals. The Academy will retain personal information as per our [Data Retention Policy](https://raeng.org.uk/media/duhjwap2/raeng-privacy-policy-grant-or-award.pdf) (<https://raeng.org.uk/media/duhjwap2/raeng-privacy-policy-grant-or-award.pdf>) in line with the General Data Protection Regulations 2018.

The information will be treated as strictly confidential, nonattributable and will not be seen by anyone involved in any selection processes. You will need to complete the diversity monitoring section before you can submit the grant application form but can choose “prefer not to say” as responses.

## Grant programme details

### Eligibility criteria

- Applicants must be based outside of the UK and not currently have a substantive research or innovation presence in the UK. Please refer to [Substantive research or innovation presence in the UK](#) for more details.
- Applicants must be a recognised leader in their field or show clear potential to become a leader in their proposed area of work.
- Applicants must be able to demonstrate that their proposed project warrants consideration on an accelerated timeframe. This may include the project's urgency, strategic importance, or the risk of missed opportunities – such as time-sensitive partnerships, competitive offers from international counterparts or the need to rapidly establish a research presence in the UK to enable development and scale up of the proposed climate solution – which would not be possible via submission to the annual Green Future Fellowship call.
- Awards must be held at a UK-based organisation. This may be a university, research institute or company. For for-profit organisations, special rules on the types of application and funding allowed will apply – these are set out below. If you are in doubt over whether an organisation is eligible, please contact the team to discuss. Applicants may propose hosting the award within a new startup company that will be created for the project. In this case, additional financial and reporting requirements will apply.
- There are no nationality or age restrictions for applicants.

- There are no limitations on the career stage of applicants. Applicants are not required to hold a PhD.
- Applications are welcome for innovations at all stages of development, from basic principles to proof of concept, demonstration and application with no restrictions based on Technology Readiness Level (TRL). Applications must be centred around enabling and driving scalability of the proposed climate technology solution and demonstrate excellence or the potential for excellence in engineering or technology.
- Proposed projects must demonstrate the potential to deliver impact that benefits the UK, alongside any global impact.
- The Green Future Fellowship should be the applicant's primary source of employment. Applicants are eligible to hold other awards but must be able to dedicate the majority of their working time to Green Future Fellowship programme of work.
- Green Future Fellowships can be led by individuals from non-engineering backgrounds or disciplines, but they must provide clear evidence of how their research or innovation promotes engineering excellence and supports engineering outcomes.
- Applicants are only permitted to have one Green Future Fellowship application under consideration at any given time. Applicants are not permitted to apply simultaneously to the annual Green Future Fellowship call and the Green Future Fellowship Accelerated International Route.

## Substantive research or innovation presence in the UK

Applicants must not have a substantive research or innovation presence in the UK.

Applicants are **not eligible** to apply for GFF AIR if they meet any of the following criteria:

- they are currently resident in the UK
- they are currently on secondment outside of the UK but retain a substantive employment contract with a UK-based organisation
- they are eligible for submission under the UK Research Excellence Framework (REF)

**Please note non-UK-based applicants who already have a substantive presence within the UK are eligible to apply via the [annual Green Future Fellowship call](https://raeng.org.uk/green-future-fellowships)** (<https://raeng.org.uk/green-future-fellowships>).

The following do not constitute a substantive connection to the UK and therefore **would not** preclude an applicant from applying to GFF AIR:

- holding an honorary or affiliate position at a UK-based organisation that is nominal only and does not involve any active duties or salary
- serving as an advisor to a UK-based company, provided this is ad hoc and does not constitute employment with the company
- collaboration on UK-based awards, provided the applicant is not the named award holder or recipient of any UK-based funding or awards.

- co-authoring academic papers with UK-based collaborators
- having financial investment in a UK company, so long as the applicant is not currently employed in the UK
- being an external examiner for UK-based PhD students

## **Relocation to the UK**

Green Future Fellowships must be held at a UK-based organisation. Applicants do not need to have secured a UK-based host organisation at the application stage.

If successful, applicants would be required to find a suitable UK-based host organisation and relocate to the UK. Successful applicants requiring a visa will be eligible to apply for a Global Talent Visa under the fast-track process of endorsement.

Relocation to the UK is not intended to be temporary or limited to the duration of the award. Successful GFF AIR applicants are expected to establish an ongoing presence in the UK and to make a sustained contribution to the UK's funding and innovation ecosystem beyond the duration of the fellowship.

Successful applicants will have up to one year from the offer in principle to start their fellowship, the Academy would expect GFF AIR awards to start as soon as possible to reflect the need for consideration on an accelerated timeframe.

The Academy is committed to supporting Fellows in overcoming potential barriers to relocation and will work closely with successful applicants to facilitate a timely move to the UK.

## **Part-time and flexible working**

The Academy is keen to support applicants to achieve a balance between their personal and work demands. We are happy to discuss individual requirements and consider part-time and other flexible working arrangements.

The Green Future Fellowship should be the applicant's primary source of employment. Green Future Fellowships can be held parttime, and applicants are eligible to hold other awards, but applicants must be able to dedicate the majority of their working time to the Green Future Fellowship programme of work.

Applicants with multiple sources of employment or those unsure if they meet the criteria should contact the Academy for guidance before applying.

Green Future Fellows should be entitled to maternity, paternity, adoption and sick leave under the host organisation's normal conditions of employment. The Academy will extend the duration of the Green Future Fellowship pro-rata to take into account such periods of leave.

## Mentoring and monitoring

Awardees will receive mentorship from an Academy Fellow throughout the award's duration. The mentor will provide independent advice and guidance.

Awardees will be required to comply with the monitoring requirements for the programme as stated by the Academy. Monitoring requirements will be dependent on the nature of the project, but all awardees will be required to update the Academy promptly on significant developments and submit an annual report and expenditure statement to the Academy.

## National Security

The Academy is the UK's National Academy for engineering and technology and seeks to increase the potential positive benefit that innovations can have for society, whilst reducing the risks of harm. Hence, in all our activities, we seek to minimise the risk that technology developed as part of work that we support could be misused by a foreign state to build a capacity to target UK interests in a hostile fashion or to control or repress their population. There is a risk that for some grant activities, failure to protect IP and a lack of due diligence into collaborators could result in sensitive technology being transferred to and misused by a hostile or repressive foreign state. As such all applicants should ensure they are familiar with the Academy's [Policy on National Security-Related Risks](https://raeng.org.uk/policies) (<https://raeng.org.uk/policies>).

## Funding guidelines: overview

Applicants are not required to have secured a UK-based host organisation at the application stage. If successful, applicants will be required to find a suitable UK-based host organisation. The following two sections provide information on the funding routes available via GFF AIR.

## Funding guidelines: universities/not-for-profit organisations

We will fund projects in not-for-profit organisations at 100% of eligible costs (including a suitable contribution to overheads) or Full Economic Costs (for university recipients or other organisations that have a [TRAC](https://www.trac.ac.uk/) (<https://www.trac.ac.uk/>) approach to costing), except where there is one or more specific for-profit beneficiary of the project identified, such that the funding risks becoming a subsidy to that beneficiary organisation under the terms of the UK subsidy control regime.

In the case where the funding might be considered a subsidy, then we will pay at a lower portion of the eligible costs of the project as a whole (where this includes costs both within the not-for profit organisation and the collaborating enterprise). The portion offered will be similar to those ratios within the Research, Development and Innovation Streamlined Route – see here for [guidance](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_t_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_t\\_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_t_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf)).

The ratio will depend upon on the size of the partnering enterprise(s), the nature of any partners and their publication rights, and whether the project is best considered as a

feasibility study, industrial research, or experimental development under the definitions within the route.

As general guidance, we expect that most projects hosted by not-for-profit organisations will be considered as either basic research (funded at 100%) or industrial research with a research organisation that has the right to publish its own research results. In that case the ratios in the table below will apply (noting that they apply to the project as a whole, not the portion undertaken within the university):

Size of benefitting enterprise	Subsidy ratio
Small	85%
Medium	75%
Large	65%

Note also that where a collaborating company is engaged in supplying goods in Northern Ireland, there will be additional need to consider the implications of EU State Aid rules. Where these apply, they will be discussed with applicants at the point of award and may mean that different conditions apply to such awards.

## Funding guidelines: for-profit organisations

Green Future Fellowships aim to accelerate the benefits of technologies at all stages of development, including those that are best led within commercial organisations. Profit-making organisations are eligible to host Green Future Fellowships but are subject to additional requirements on the kinds of projects that are eligible and the nature of the funding that can be provided.

The Royal Academy of Engineering is a UK-based charity and therefore complies in full with the [Charity Commission guidance on grants to non-charities](https://www.gov.uk/guidance/grant-funding-an-organisation-that-isnt-a-charity) (<https://www.gov.uk/guidance/grant-funding-an-organisation-that-isnt-a-charity>). This means that our funding must have a significant different character from innovation grants from government or contracts between companies.

For GFF AIR we offer two routes for funding businesses:

- convertible loan
- grant requiring full public access to IP.

**Convertible loan:** on this route, successful applicants will be offered a commercial loan agreement for a loan of up to £3 million convertible to equity in the relevant company at suitable fundraising events, along the lines of commercially available investments in startup companies. In making this offer, the Academy will be pursuing in a balanced way, both an expectation of financial return to the Academy and furthering the charitable purpose of engineering excellence to address climate challenges. Hence the loan will be on broadly commercial terms and the loan funds must be used for a project which (at least in part) advances that charitable purpose. Applicants should note that although only projects judged excellent and with suitable impact will be offered, the loan is a commercial agreement to be negotiated with expectations of a suitable likelihood and scale of financial return to the Green Future Fellowships Fund and will require approval from a decision group considering this return on investment. The requirements of the subsidy control regime also apply to loan offers and will limit the



difference between the terms the Academy is able to offer and those that might be available on the market to those proportionate to the policy objectives being pursued by the Green Future Fellowship.

**Grant requiring full public access to intellectual property:** a company can receive a grant from the Academy directly provided that useful results of the research and development work are placed promptly in the public domain (typically through publication in a disciplinary journal or similar although alternative arrangements may be proposed). The company may retain ownership of the intellectual property but must make it available under strong open licence terms for others to benefit from it without compensation or other non-incidental benefit to the company. Additional conditions will be placed on the offer of the grant to ensure that these requirements are met in a proportionate manner. We anticipate that these will be negotiated at grant offer stage on a case-by-case basis because the range of potential circumstances is so large that a proportionate regime cannot be specified in the abstract.

Applicants are encouraged to contact the Academy if they have an alternative funding route for this fellowship, not outlined in the guidance notes, that they would like to discuss.

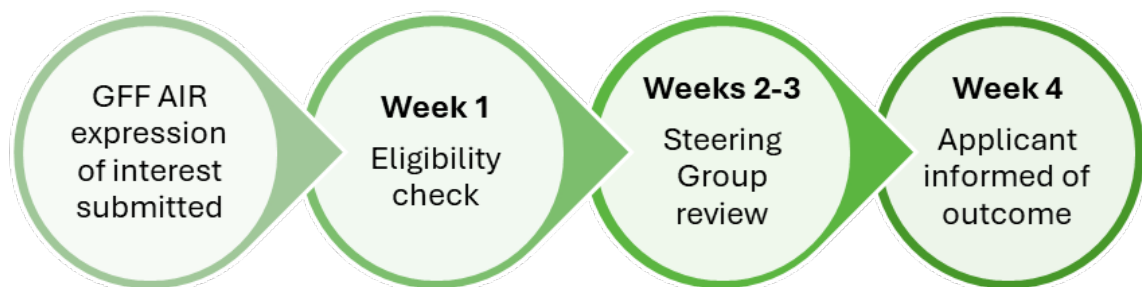
## Application process

Applications will be assessed through an accelerated two-stage application process:

### Stage one: expression of interest

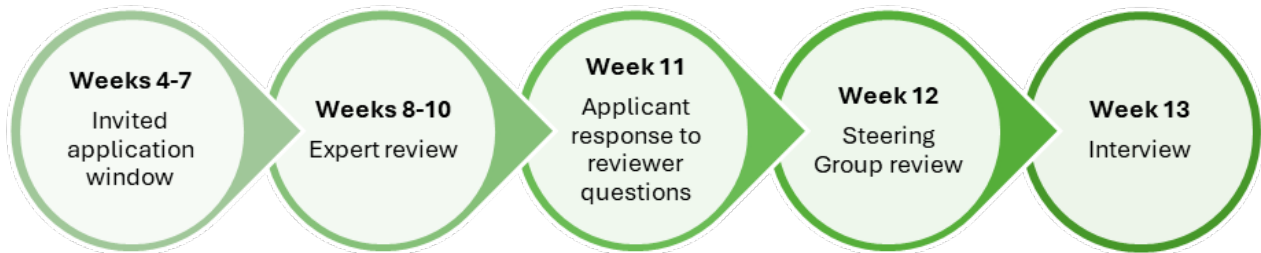
In the expression of interest applicants will be required to provide a brief outline of their motivation, innovation, climate impact, routes to success and long-term vision. Applicants will not be required to provide any details on project costs at this stage. Each question has a specified word limit, with a maximum overall word count for the expression of interest of 2,650 words.

**There is no deadline for the submission of applications to the Green Future Fellowship Accelerated International Route (GFF AIR).** This route will remain open on a continuous basis for an initial two-year period with a review after the first year (September 2026). Each application will be processed in line with the indicative timeline outlined below.



## Stage two: invited application

This part of the application process will require invited applicants to submit a more detailed application including a breakdown of the required costs.



## How to apply

All applications must be submitted via the Academy's online grants system available here: <https://grants.raeng.org.uk>.

All applicants must first register and provide some basic login details to create a profile.

The application should be submitted by the applicant. We recommend leaving plenty of time to complete the application form ahead of the deadline and thoroughly going through your application prior to submission. While the guidance notes are embedded within the system itself, we recommend you keep this document to hand when completing the application form. All of the questions have prescribed word limits which are designed to keep your answers focused and indicate the level of detail we require. The number of words you have used will be displayed beneath the question and updated in real time.

## Use of generative AI tools in funding applications

The Academy has aligned with other UK funders around the use of generative artificial intelligence (AI) tools in funding applications through the Research Funders Policy Group [joint statement](https://wellcome.org/what-we-do/our-work/joint-statement-generative-ai) (<https://wellcome.org/what-we-do/our-work/joint-statement-generative-ai>).

Applicants are fully responsible for all of the content presented in their grant application(s). While these tools may be used to assist in various aspects and the grant process does not penalise the use of generative AI tools, applications **must** reflect the applicant's own ideas, work and voice. Applicants must provide clear acknowledgement if they have used generative artificial intelligence (AI) tools in the process of writing their grant application and a failure to declare use may result in your application being removed from the review process.

## Completing the expression of interest

After logging into the online grants system and selecting Green Future Fellowships: expression of interest in the 'Start application' section, you should be presented with the 'Instructions' screen.

Here you will see some general instructions on how to use the system, as well as links to each of the five sections of the application form given below:

1. Applicant and host details
2. Project details
3. Expression of interest
4. Responsible research
5. Marketing and notifications
6. Use of generative AI
7. Applicant declaration

At any stage in the application process, you can save your work and return to it later. You can answer the questions in any order you like, so you may skip some sections to return to later if you wish.

### 1. Applicant and host details

#### **Q. Applicant name and contact details**

Please provide your name and preferred contact details. Please ensure that the contact email address is correct and will be valid for the entirety of the application process.

#### **Q. Country of residence**

Please confirm your country of residence.

#### **Q. Host organisation status**

**GFF AIR is only open to non-UK-based applicants.** Applicants are not required to have secured a UK-based host organisation at the application stage.

#### **Please confirm your host organisation status.**

You will be required to indicate whether you have been in contact with any UK-based organisations regarding the hosting of this fellowship or which organisation would be the preferred UK host. Maximum 200 words.

#### **Q. Host organisation confirmation (if applicable)**

It is the applicant's responsibility to contact the host organisation to confirm they are able to host the fellowship if successful.

Please indicate whether you have confirmation from the proposed host organisation that they are able to host the fellowship if successful.

## 2. Project details

### Q. Project title

Please give your project title. The title should be **no longer than 15 words** and should be understandable to a non-specialist reader. The essence of the project should be captured in the title, and it should be as informative as possible.

### Q. Short synopsis

Describe your project and the key objective(s). **Maximum 250 words**

### Q. Keywords

Please provide a maximum of **10 keywords** that describe your project. These will be used to help identify reviewers.

### Q. Subject category

Select one single broad engineering category that best aligns with your project. The category selected will be used to help identify reviewers. If your research proposal fits into several categories, please pick the category that is most applicable to your project. [Please refer to Annex A for further information.](#)

## 3. Expression of interest

Applicants should respond to the below questions in a manner that best fits their specific project, technology, or innovation.

### Candidate's motivation and experience

#### Q. Motivation for applying

Please explain why you are applying for this fellowship, what attracted you to this programme and why your application should be considered through the accelerated route.

In your response, please provide details on the following points:

- describe any time-sensitive factors and the potential consequences or missed opportunities if your application were to be submitted through the annual Green Future Fellowship call.
- how will this fellowship enable you to achieve your research and innovation goals?

**Maximum 400 words**

#### Q. Leadership and track record

GFF AIR applicants must be exceptional individuals who are either recognised leaders in their field or demonstrate clear potential to become leaders. Please provide evidence of your leadership or leadership potential in your field.

In your response, you may include details on the following points:

- key achievements
- demonstrated leadership capabilities
- commercialisation success
- original and influential research or innovation contributions

- management of major research or innovation grants
- publication track record
- measurable outcomes of your work
- influence on policy, practice or industry

**Maximum 300 words**

### **Q. Research interests**

What are your primary research and innovation interests, why are you passionate about the specific field, and what are your long-term research and innovation goals?

**Maximum 250 words.**

### **Q. Innovation and novelty**

Please provide details on the innovative aspects of your project with consideration for the following points:

**Novelty:** How does your project demonstrate innovation and excellence in engineering and/or make a potential solution more useable or scalable? What makes your approach or solution better compared to existing technologies or methods? Or how does it integrate or build upon existing technologies in innovative ways?

**Key technical challenges:** What are the key scientific and/ or technical challenges you aim to address?

**Current state of knowledge:** How does your project advance the current state of knowledge or technology in your field?

**Project success:** What are your aspirations for your innovation, and what real-world impact do you envision it achieving?

**Maximum 400 words.**

### **Q. Impact on climate mitigation and/or adaptation**

The Green Future Fellowship programme is focused on supporting both climate mitigation and adaptation to achieve climate resilience. *Proposed projects must demonstrate a clear and compelling potential to deliver impact that benefits the UK, alongside any global impact.*

**Mitigation:** How will your project support climate mitigation, and what are the anticipated sustainability (environmental, economic and social) impacts of your project?

**Adaptation:** And/or how will your project contribute to helping achieve climate resilience, and help sustainable adaptation to the impacts of climate change?

**Maximum 200 words.**

### **Q. Routes to success: Impact and value**

For the following section, the expected level of detail will vary based on the current TRL of your project. Please provide details on your proposed routes to success with consideration for the following points:

**Scalability:** What is the current Technology Readiness Level (TRL) of your innovation? How can your innovation be scaled up and/or out to practical, widespread application? What challenges do you foresee in scaling your technology sustainably, and how do you plan to address them?

**Commercialisation plans:** What are your plans for developing your innovation to commercialisation/adoption or other routes for widespread use within the duration of the award? What steps will you take to bring your technology to market?

**Value of the innovation:** What is the value of your innovation – how do you see this innovation generating public benefit, and what are the anticipated outcomes?

**Anticipated beneficiaries:** Who do you anticipate being the primary customers or beneficiaries of your technology, and what is their readiness to engage and adopt this technology?

**Maximum 450 words.**

#### **Q. Long-term vision and sustainability**

Please set up the long-term vision for your project that is not covered elsewhere in this application:

**Long-term vision:** How do you plan to sustain and grow the impact of your innovation? Please explain the potential public benefits of your project to the UK and beyond. *Proposed projects must demonstrate a clear and compelling potential to deliver impact that benefits the UK, alongside any global impact.*

**Additional funding:** Funding beyond the initial amount from this fellowship will be needed to fully realise the commercialisation impact of a new technology. How do you see this fellowship helping you to attract additional funding?

**Maximum 200 words.**

## **4. Responsible research**

The Academy aims to uphold the highest standards of ethical conduct and responsible research. If you are invited to submit an application, we will require further information on the below areas to ensure compliance with Academy policies and sector best practice. [Please refer to Annex B for further details on our grant policies.](#)

#### **Q. Does your host organisation have a public plan in place to reduce carbon emissions?**

Please indicate whether your host organisation has a public plan to reduce carbon emissions.

If you answer no to this question, and are successful in your application, you will need to develop a plan before receiving funding.

#### **Q. Does your proposed research project involve the use of animals or animal tissue?**

Please indicate whether your project will involve the use of animals or animal tissues.

**Q: Does your proposed research project involve the use of human participants, human material or personal data?**

Please include whether your project will involve the use of human participants, human material or personal data.

## **5. Marketing and notifications**

**Q. How did you hear about the Green Future Fellowship programme?**

This section is optional, but any information provided will help the Academy to understand which of the programme's marketing materials and approaches were most successful and enable us to improve our future communications activities.

## **6. Use of generative AI**

**Q. Have any generative artificial intelligence (AI) tools been used in the preparation of this application?**

Please provide details on how generative AI tools were used in the preparation of your application. Details should be provided on the following:

- specify the generative AI tool or platform used
- describe how the tool(s) were used
- where possible include any prompts that were used and how the resulting outputs were incorporated into this application.

There is no word limit for this question.

Please refer to [Use of generative AI tools in funding applications](#) for more details.

## **7. Applicant Declaration**

Please tick the checkbox once you have read and understood the declaration included in the application form.

A 'submit application' button will become available once the application form is completed.

## **Assessment of applications**

### **Stage one: expression of interest**

Expressions of interest will be assessed by members of the Green Future Fellowship Steering Group. Applicants will be informed of the outcome within four weeks of the submission of their expression of interest.

### **Stage two: invited application**

Invited applications will be assessed by three expert reviewers who will be asked to provide comments, a score and any questions that require clarification from the applicant. Applicants will be given the opportunity to respond to the reviewer questions.

The Steering Group will consider the expert reviewer comments and scores along with the applicant response to the questions to confirm if the applicant should be invited to attend an interview.

## **Assessment Criteria**

Expressions of interest will be assessed against the following criteria:

### **Candidate's motivation and experience**

- the extent to which the candidate's need, expertise, experience, and ambitions align with the goals of the Green Future Fellowship Accelerated International Route.

### **Innovation and novelty**

- clear articulation of what makes the proposed approach or solution better compared to other technologies, the key challenges and the envisioned real-world impact.
- understanding of how the project advances the current state of knowledge or technology
- demonstration of excellence, or potential for excellence, in engineering or technology.

### **Impact on climate mitigation and/or adaptation**

- evaluation of how well the project supports climate mitigation and/or adaptation efforts

### **Routes to success: Impact and value**

- the scalability of the innovation and its potential for adoption, considering factors that may facilitate or hinder integration into current ecosystems and market readiness.
- within the duration of the award, clear plans for commercialisation and/or the sustainable continuation of the technology or innovation by other means.
- articulation of the value of the innovation and potential for public benefit.

### **Long-term vision and sustainability**

- clear articulation of the long-term vision to sustain and grow the impact of the innovation with an understanding of funding opportunities beyond the Fellowship.
- the potential for public benefit from the project to UK society and beyond.

## **Contact details**

If you have any questions about the Green Future Fellowship programme, please contact [gff@raeng.org.uk](mailto:gff@raeng.org.uk).



## **Annex A: engineering category**

### **Civil, construction and environmental**

Including aspects of civil and structural engineering; construction materials; earthquakes; wind and fire engineering; building engineering physics; construction management; numerical modelling; environmental engineering; water resources and flooding; offshore and coastal engineering; hydraulics; climate change and sustainability; waste management; geotechnical engineering; geomatics/surveying.

### **Materials and mining**

Including metallurgy; metal forming; corrosion; failure analysis; structural integrity; non-destructive testing; inspection technologies; failure prevention; fabrication and repair technologies; welding and joining technologies; discovery and development of mineral resources; extraction and processing of minerals; mining engineering; materials performance; materials research; plastics and composites; structural materials (excluding materials specifically covered elsewhere).

### **Chemical and process**

Including all aspects of chemical and process engineering; aspects of fuel technology; oil; coal and gas technologies; carbon; carbon sequestration; clean technology; combustion; catalysis; particulates; food processing; fermentation processes; pharmaceutical engineering; biotechnological processes.

### **Aerospace**

Including all aspects of aeronautical engineering and aerospace manufacturing; turbomachinery and aerothermal engineering; avionics; radar systems; antennae; satellite systems; autonomous systems; aspects of systems engineering; airlines; materials for aerospace.

### **Transport and mechanical**

Including all aspects of mechanical engineering; automotive; rail and marine engineering; transportation infrastructure; engines; turbomachinery; mechatronics; acoustics and vibrations; ultra-sonics; heat and thermodynamics; fluid dynamics.

### **Manufacturing and design**

Including manufacturing management and manufacturing process innovation; manufacturing business improvement and re-engineering; CAD/CAM; robotics for manufacturing; engineering design.

### **Electrical and electronic**

Including electrical, electronic and control engineering; design for electronics; aspects of nanotechnology and semiconductor engineering; lasers; optoelectronics; photonics; microwave engineering; instrumentation; display technology; solid state electronics.

### **Energy and power**

Including energy technologies; electric power and energy systems engineering; nuclear and renewable energy generation; energy infrastructure; management of energy and energy resources for generation, storage, and transmission; distribution and conversion of electric energy and power; electricity supply and energy conservation; hydrogen power; fuel cells.

## **Medical and bioengineering**

Including all aspects of medical and biomedical engineering; orthotics; prosthetics; ultrasound for medicine; medical scanning and imaging; drug delivery; biomedical materials; tissue engineering; medical devices; medical robotics and computer assisted surgery.

## **Computing and communications**

Including computational and software engineering; informatics; web and data science; telecommunications; mobile telephony; broadband; wireless spectrum; signal processing; television, film, and broadcasting; computer and video games; special effects.

# **Annex B: relevant grant policies**

## **Sustainability assessment**

The Academy [acknowledges its responsibility](https://raeng.org.uk/media/vdnl2cm4/environmental-sustainability-policy.pdf) (https://raeng.org.uk/media/vdnl2cm4/environmental-sustainability-policy.pdf) to minimise the impact of its activities on the environment as an intrinsic part of its ambition to harness the power of engineering to build a sustainable society. As part of that commitment, we are requiring all Green Future Fellowship host organisations and collaborators to provide information on their carbon emissions commitments.

Applicant's and collaborators shortlisted to submit an invited application will be reviewed against the Academy's sustainability framework which requires host organisations and collaborators to have carbon emissions plans that include meaningful and public targets for emissions reduction across scopes 1 and 2 and regular reporting on progress.

## **Declaration on Research Assessment**

The Academy's research programmes are aligned with the principles of the Declaration on Research Assessment (DORA), which is a set of principles aiming to improve the ways in which the output of research is evaluated by funding agencies, academic institutions, and other parties. The outputs from research are many and varied, and as a funder of engineering research the Academy needs to assess the quality and impact of these outputs in order to make awards - it is thus imperative that research output is measured accurately and evaluated wisely.

For applicants and reviewers we would like to emphasise that all outputs are welcome and considered valuable to the Academy. Outputs can include open data sets, software, publications, commercial, entrepreneurial or industrial products, clinical practice developments, educational products, policy publications, evidence synthesis pieces and conference publications that you have generated.

With regard to research articles published in peer-reviewed journals, we ask applicants to use a range of article metrics and indicators on personal/supporting statements as evidence of the impact of individual published articles and other research outputs. The Journal Impact Factor in particular is unacceptable for inclusion in any part of an application, and applicants may be asked to resubmit if anything is found to contradict this as part of the eligibility checks.

## **Human participants, materials and personal data in Research, Development, and Innovation**

Research, development and innovation involving human participants, human material or personal data can contribute to a better understanding of human health and disease as well as the technological efficacy of new and evolving innovations. The Academy will fund research, development and innovation involving the use of human participants, human material or personal data which complies with our [Humans in RD&I Policy](https://raeng.org.uk/media/4qmhhqf4/human-participants-in-research-development-and-innovation-policy.pdf) (https://raeng.org.uk/media/4qmhhqf4/human-participants-in-research-development-and-innovation-policy.pdf). If your proposal includes the use of human participants, human materials or personal data you will be asked to provide details of your work at the invited application stage.

Please note: applicable regulatory approval and licenses are not required to be in place at point of application, but all necessary approvals must be in place before the work begins and a clear plan to achieve this at the invited application stage.

## **Animals in research, development and innovation**

The Academy acknowledges that, at present, the use of animals remains the only way for some areas of research to progress. Research involving animals is regulated by comprehensive and strict legislation in the UK and must be conducted with a high regard for animal welfare. The Academy will fund research involving the use of animals in the UK which complies with our [Animals in RD&I Policy](https://raeng.org.uk/media/ctelvlvi/animals-in-research-innovation-and-development-policy.pdf) (https://raeng.org.uk/media/ctelvlvi/animals-in-research-innovation-and-development-policy.pdf). If your proposal includes the use of animals, you will be asked to declare this at the initial application stage and provide further details at the invited application stage.

If your proposal involves the use of animals and takes place outside of the UK, the Academy will generally not fund this work. Please contact the Academy before proceeding with your application.

Please note: applicable regulatory approval and licenses are not required to be in place at point of application, but all necessary approvals must be in place before the work begins.

## **Subsidy control**

The UK subsidy control regime began on 4 January 2023. As part of this regime, the Academy is required to report to the UK Government on how award funding is being used when applications collaborating with commercial enterprises are awarded. The regime determines the lawfulness of monetary awards made using public sector resources when given to businesses and other organisations that are engaged in economic activity.

## **Export Control**

The UK [Government's Export Control Joint Unit \(ECJU\)](https://www.gov.uk/government/organisations/export-control-joint-unit) (https://www.gov.uk/government/organisations/export-control-joint-unit) administers the UK's system of [export controls and licensing](https://www.gov.uk/guidance/uk-export-controls-and-licensing) (https://www.gov.uk/guidance/uk-

strategic-export-controls) for military and dual-use items. The Export Control Act 2002 and its related legislation establishes the strategic export controls of military and dual-use goods and technologies. The Academy is required to consider [export controls](https://www.gov.uk/guidance/export-controls-applying-to-academic-research) (https://www.gov.uk/guidance/export-controls-applying-to-academic-research) when assessing and reviewing relevant applications and we therefore need to know whether the information contained within your application is subject to such laws.

As part of our review process your submitted application will be sent out for review by independent reviewers and/or members of our review panel(s). Please be aware of this when considering the information you include within your application. We particularly want to flag considerations with respect to your/others Intellectual Property and research that is subject to [UK Strategic Export Control Laws](https://www.gov.uk/guidance/uk-strategic-export-controls) (https://www.gov.uk/guidance/uk-strategic-export-controls). Should you flag that the content of your application is subject to Export Control we will manage the review of your application accordingly.

## Intellectual Property and revenue changes

The Royal Academy of Engineering is making changes to its Grant Terms and Conditions, as they apply to Intellectual Property (IP) and resulting revenue.

The first of these changes applies to all Academy grants. The second applies to all Green Future Fellowship awards to universities and other not-for-profit recipients. The third applies only to those Green Future Fellowship awards to universities and other not-for-profit recipients that are eligible for 100% of Full Economic Cost (fEC) or eligible costs.

These new policies are required to ensure that the Academy, as a charity, complies with the laws and guidance for UK charities around ensuring that their resources are used for their charitable purpose. However, in all aspects of their implementation we are seeking minimal intervention to manage the risk and to avoid any barriers to achieving the maximum benefit to society of the innovations that may be created.

### **1. For all Academy grants: revenue to charitable recipients from commercialisation of outcomes of Academy grants must be used for the Academy's charitable purpose**

In general, we require that all the financial benefits to charitable grant recipients that result from our grants should be used within our charitable purpose. (Note that only financial benefits that the charity has discretion over their use fall within this requirement – any cost to generate those benefits or obligation to other parties is excluded.) However, since we know that in general our recipients invest much more than any such revenues into engineering excellence, we do not seek any evidence of compliance with this requirement or require charities to track the revenues generated by our grants to them except in particular circumstances.

The Academy may in certain circumstances require charitable recipients of Academy grants to report on revenues generated from the commercialisation of outcomes of Academy grants and evidence that they are used within the Academy's charitable purpose of Engineering Excellence for the benefit of society.

There are two cases where evidence of meeting this requirement will be needed:

- a) In any case where a recipient organisation decides to close its engineering activity, then it must, from the point of that decision, commit to sending all future such revenues to the Academy or another charity that supports engineering excellence for the benefit of society. It must provide the Academy with evidence of compliance with this requirement.
- b) If the Academy formally writes to request it on reasonable grounds, then a recipient charity must from that point begin reporting to the Academy both its revenue from such sources and its investment in engineering excellence. Such a formal request from the Academy will usually only be issued in a circumstance where we become aware of an unusually large revenue or a seriously dropping investment in engineering within the recipient charity. Where the revenue exceeds the investment over a sustained period (usually several financial years), then the Academy may further notify the recipient that it must in future, send such excess to either the Academy or another charity that supports engineering excellence for the benefit of society.

**2. For all university and not for profit recipients of Green Future Fellowship awards: all university recipients of Green Future Fellowship awards are mandated, unless explicit written permission has otherwise been granted by the Academy, to:**

- a. Claim no more than 21.5% equity in any spin-out company resulting from the GFF work**
- b. To all relevant spinouts, apply TenU University Spin-out Investment Terms (USIT) Guide or the USIT for Software Guide**

The UK government's Independent Review of Spinouts recommended that all parties, including investors, should adhere to innovation-friendly university policies underpinned by guidance co-developed between investors, founders, and universities. This guidance is embodied in the TENU USIT Guides, and many UK universities already fully adhere to it. Because we seek for easy spin-out processes for any potential spin-outs that arise from Green Future Fellowships, we are mandating that the TENU USIT Guides are complied with where applicable, unless the university seeks and is granted, in advance of any commitment being made, written permission from the Academy to adopt another approach. In all cases, including those that lie outside the scope of the USIT guides, we require that university equity stakes be no more than 21.5% unless permission otherwise is given by the Academy in writing in advance. (This figure is chosen as the average equity taken by universities in spinouts in 2023, although that average has dropped since then and is expected to drop further.) Note that in this case "university" stakes includes all component parts of the university, such as departments, faculties and colleges, as well as central university authorities.

Such permission for exemption from these conditions, will usually only be granted where compliance with them would somehow hinder the realisation of social benefit from the particular Green Future Fellowship award – for instance if it somehow interferes with agreements with industrial collaborators to share IP or if the realisation of social benefit requires an unusual level of commitment from the host organisation that will not be possible without a higher equity share.

To seek permission to deviate from the TENU guidance or maximum equity share, the host university is required to write explaining the reason for the variation from TENU expectations to the contact named within their award letter.

Any organisation found to have not followed TENU guidelines or the maximum equity share without permission in advance will be required to rectify any issues that result. This may leave the organisation liable for the repayment of all GFF funds they had received to date, and to support the transfer of the individual recipient to an organisation compliant with the TENU guidance.

**3. For all charity recipients of Green Future Fellowship awards that are eligible for the award on a 100% fEC (or eligible costs) basis: recipients of such Green Future Fellowship awards (whether or not they accept the 100% funding) will be subject to a requirement to account for large revenues and potentially return a portion of them to the Academy. This requirement applies if:**

- **Commercial revenue raising activities related to the grant raise more than £3 million that is returned to the host organisation for its use (once any costs of commercialisation, obligations to investors, inventors or similar are deducted).**

**In this case:**

- **The recipient will be required to share 50% of the excess above £3 million with the Academy. These funds will be invested by the Academy to maximise the impact of the Green Future Fellowship portfolio. The recipient organisation can seek permission from the Academy to retain these funds in order to maximise the impact of the Green Future Fellowship(s) that they are hosting by making a written submission of how they propose to use the funds. The Academy will then assess against the benefits possible for impact of the wider Green Future Fellowship portfolio through reinvestment.**

In general, the Academy has a policy of assigning all ownership and rights for projects supported to the host organisation, with the expectation that if in realising the benefit of any research and innovation they generate a financial benefit, then it will be used to promote engineering excellence for the benefit of society within that organisation. However, we believe that the potential for large financial benefits to host organisations from Green Future Fellowship commercialisations is significant enough that we have to make provisions for exceptional cases of very large financial returns for those benefits to be shared more widely than the original host organisation. This is done so that we can meet the expectation that the charitable funds of the Green Future Fellowship will be used for maximum impact on the purposes that they were intended. We believe that for returns that are larger than the value of the original grant provided, then the Academy must review whether there would be greater impact towards the goals of the fund through wider distribution than is possible within the host organisation.

This revenue sharing review applies only to revenues returned to the host organisation (including its constituent elements such as departments and colleges) that are flexible for their use, so no claim is placed on any costs of commercialisation or payments due to inventors, investors or others.

A host organisation may apply to the Academy at any time to be exempt from this requirement if it is impeding the realisation of societal benefit from the grant. This might occur for instance because of obligations to other partners or because it is becoming impractical to manage the assessment of what return is arising from the Green Future Fellowship funds without impact on the societal benefit.

Where a host organisation is a smaller charity that does not yet have in place approaches to managing commercial returns, then it can apply to the Academy for bespoke guidance and additional financial support to enable the development of capacity to maximise the benefits of the Green Future Fellowship that it hosts.

Full guidance on the revenue sharing process will be shared with recipients at grant offer stage, but broadly once revenues (less any deductions that are not truly at the host organisations discretion as to use) exceed £3 million in total, then the host organisation should provide an annual statement to the Academy detailing the scale of revenues and explaining what it would propose to do with the 50% of the excess to promote impact on Green Future Fellowship goals. The Academy will then decide what portion of those revenues between 50% and 100% to allow the recipient to retain. This will be done by a comparison of the benefits to the societally beneficial impact of the overall Green Future Fellowship portfolio between the scenario proposed by the hosting organisation and the known opportunities to invest for impact across the wider group of Green Future Fellowships.