



[REDACTED]

21 October 2024

Dear [REDACTED],

Freedom of Information request: FOI2024/00862

Thank you for your Freedom of Information request received on the 25 September in which you requested the following:

Your request:

I am requesting information under the Freedom of Information Act 2000 concerning the UK's involvement in upcoming climate change mitigation projects. As someone deeply concerned about the urgent need to address the climate crisis, I would like to understand the government's role in exploring new techniques and partnerships to combat climate change, including geoengineering methods.

Specifically, I am requesting the following information:

- 1. Details of any upcoming or planned projects addressing climate change mitigation, particularly those involving geoengineering techniques.*
 - 2. Information on partnerships or collaborations with other countries, organizations, or research institutions related to climate change initiatives.*
 - 3. A list of techniques or technologies being explored as potential solutions to the climate crisis, such as Stratospheric Aerosol Injection, Solar Radiation Management, and other forms of geoengineering.*
 - 4. Any assessments or evaluations of the most effective or promising techniques currently under consideration for combating climate change.*
 - 5. Information on funding or financial allocations for these initiatives, including any future projections.*
- Please provide the requested information in an electronic format. If any portion of this request is beyond your department's scope, I would appreciate your guidance on where I might find the appropriate information.*

Our response

I can confirm that UK Research and Innovation (UKRI) holds some information relevant to your request. Please see the information below.

- 1. Details of any upcoming or planned projects addressing climate change mitigation, particularly those involving geoengineering techniques.*

Any information UKRI holds in relation to upcoming or planned projects addressing climate change mitigation or involving geoengineering techniques, that have been funded is publicly available. Under Section 21 of the FOIA, information already reasonably accessible, information on UKRI's funding of research relating to climate mitigation and geoengineering is already available in the public domain via [UKRI's Gateway to Research](#)¹.

Recommended searches to view funded projects related to this topic include:

- [Geoengineering](#)²

¹ <https://qtr.ukri.org/>

² <https://qtr.ukri.org/search/project?term=geoengineering>

- [Solar Radiation Management](#)³
- [Earth Radiation Management](#)⁴
- [Greenhouse Gas Removal](#)⁵
- [Carbon Dioxide Removal](#)⁶

Section 21 is an absolute exemption which means that there is no requirement to conduct a public interest test.

Information on projects that have not yet been approved for funding is withheld under section 41 information provided in confidence. To explain further, companies submit grant applications in confidence with the understanding that details of their application will remain confidential if unsuccessful. If released, we believe it would result in an actionable breach of confidence.

Section 41 is an absolute exemption and does not require a public interest test.

In addition, we would like to highlight the following investments that UKRI have been involved in funding in this area, which may be of interest:

- [Greenhouse Gas Removal \(GGR\) from the Atmosphere research programme](#)⁷ (now ended) – NERC-led collaboration with EPSRC, ESRC and BEIS
- [Accelerating CCUS Technologies \(ACT\) second call](#)⁸ (now ended) – co-funded by EPSRC, NERC and BEIS
- [CO2 Storage Research Facility scoping study](#)⁹ (now ended) – funded by NERC
- The [Stratospheric Particle Injection for Climate Engineering \(SPICE\) project](#)¹⁰ (now ended) – EPSRC-led with NERC and STFC co-funding
- [Integrated Assessment of Geoengineering Proposals \(IGAP\) project](#)¹¹ (now ended) – EPSRC-led with NERC co-funding

The [Greenhouse Gas Removal Demonstrators \(GGR-D\) Strategic Priorities Fund](#)¹² £30.5m programme (NERC-led collaboration with AHRC, BBSRC, ESRC, EPSRC and Innovate UK), is investing in five demonstrator projects to investigate the effectiveness, cost, and limitations of five GGR approaches to understand if they can be proven at scale (specifically: restoring peatlands; enhanced rock weathering, biochar; afforestation; and perennial bioenergy crops). There is also a programme [Directorate Hub](#)¹³ which coordinates across the demonstrators and carries out cross-cutting research, and funding to support commercialisation. This programme works in partnership with the Department for Energy Security and Net Zero (DESNZ) and the Department for Food, Environment and Rural Affairs (DEFRA).

Recently, NERC have announced an intention to fund a research programme on modelling the [impacts of solar radiation management](#)¹⁴ (SRM) on the climate (with £10.5m of funding). A [call for research](#) is open until 08 October 2024. This research programme will be almost entirely modelling based and will include no research conducted outdoors. This research will model how key aspects of the Earth system would respond to SRM approaches to control Earth surface temperature, if ever implemented at scale. The research will deliver 'risk-risk analyses' which will consider the detrimental impacts of Earth heating under climate scenarios versus the response where SRM is deployed. There will be four projects across four themes. The first two themes focus on modelling on stratospheric aerosol intervention and marine cloud brightening. The third theme will investigate natural analogues (e.g. volcanic eruptions, wildfires ship track emissions) and mining of existing data to understand SRM. The final theme will investigate the impact of, to date, lesser studied SRM approaches.

³ <https://gtr.ukri.org/search/project?term=solar+AND+radiation+AND+management>

⁴ <https://gtr.ukri.org/search/project?term=earth+AND+radiation+AND+management>

⁵ <https://gtr.ukri.org/search/project?term=greenhouse+AND+gas+AND+removal>

⁶ <https://gtr.ukri.org/search/project?term=carbon+AND+dioxide+AND+removal>

⁷ <https://www.ggrprogramme.org.uk/>

⁸ <http://www.act-ccs.eu/projects>

⁹ <https://www.bgs.ac.uk/news/co2-storage-testbed/>

¹⁰ <http://www.spice.ac.uk/>

¹¹ <http://www.iagp.ac.uk/index.html>

¹² <https://www.ukri.org/news/uk-invests-over-30m-in-large-scale-greenhouse-gas-removal/>

¹³ <https://co2re.org/>

¹⁴ <https://www.ukri.org/news/research-programme-to-model-impact-of-solar-radiation-management/>

NERC conducted a [public dialogue on geoengineering](#)¹⁵ in 2011. The new NERC research programme on modelling the impacts of SRM recognises the importance of the public voice in this topic, therefore NERC are planning a public dialogue working with the Sciencewise programme. This will be delivered in collaboration with the research funded through the wider research programme and these strands of activity will come together to provide a wider evidence-base of both the climatic impacts of SRM, and public views and considerations on the social and ethical issues bound up with research and potential deployment.

NERC also fund a range of other climate mitigation research including, for example. on clean energy, decarbonising industry, and emission modelling and measurement. Broadly, NERC extensively invest in general climate research, skills and capability.

ESRC has provided funding as follows:

- Centre to support the UK's transition to sustainable and equitable low-carbon living. [Centre in sustainable LC living Full Stage \(invite only\) – UKRI](#)¹⁶ – (£9.7M) – successful centre to be announced shortly.
- Centre in climate change and health. [Centre in Climate Change and Health Full Stage \(invite only\) – UKRI](#)¹⁷ - (£9.7M) – successful centre to be announced shortly.

BBSRC funding programmes include:

- The [AgZero+](#)¹⁸ programme and [IBERS resilient crops](#)¹⁹ as well as the [AFN Network](#)²⁰
- Co-Centres for [Climate and Sustainable Food](#)²¹ - the Co-Centres were funded through ISPF with co-funding from Ireland with further details available [here](#)²².
- Land Use for Net Zero ([LUNZ](#))²³ and [LUNZ projects](#)²⁴ with total investment £20.9M, funded between UKRI, Department for Environment Food and Rural Affairs (Defra) (on behalf of England and Wales), Department of Agriculture, Environment and Rural Affairs (DAERA), Scottish Government, Department for Energy Security and Net Zero (DESNZ)
- [UKRI BaGF](#)²⁵ - outlining a series of investments that support clean, green, sustainable living for all as part of our Building a Green Future strategic theme.

2. Information on partnerships or collaborations with other countries, organizations, or research institutions related to climate change initiatives.

Specific collaboration/partnerships between NERC for research programmes are highlighted above. Individual projects funded by NERC may have wider collaborations, although all funding is in accordance with [normal eligibility criteria](#)²⁶.

ESRC partnerships and collaborations are detailed below:

- Resilient UK Coastal Communities and Seas Programme (£14.8M) a collaboration between ESRC, Defra, AHRC, NERC that has funded four research projects and a new coastal network plus

¹⁵ <https://webarchive.nationalarchives.gov.uk/ukgwa/20170110120841/http://www.sciencewise-erc.org.uk/cms/geoengineering/>

¹⁶ <https://www.ukri.org/opportunity/centre-in-sustainable-and-equitable-low-carbon-living/>

¹⁷ <https://www.ukri.org/opportunity/centre-in-climate-change-and-health/>

¹⁸ <https://agzeroplus.org.uk/about>

¹⁹ <https://www.discover.ukri.org/bbsrc-strategically-supported-institutes/index.html>

²⁰ <https://www.agrifood4netzero.net/>

²¹ <https://www.ukri.org/news/joint-funding-for-new-co-centres-on-climate-and-sustainable-food/>

²² <https://www.gov.uk/government/news/60-million-joint-irish-government-uk-government-and-northern-ireland-executive-funding-announced-for-two-new-research-centres-on-climate-and-sustain>

²³ <https://lunzhub.com/news/>

²⁴ <https://lunzhub.com/projects/>

²⁵ <https://www.ukri.org/news/new-uk-projects-to-support-clean-green-sustainable-living-for-all/>

²⁶ <https://www.ukri.org/apply-for-funding/how-to-apply/check-if-you-are-eligible-for-research-and-innovation-funding/>

focused on boosting the resilience of coastal communities in all four nations of the UK. [£24.3 million to boost UK environmental resilience and decision making – UKRI](#)²⁷

- Advancing Capacity for Climate and Environment Social Science (ACCESS - £6.25M) providing leadership on the social science contribution to tackling and solving a range of climate and environmental problems. [ACCESS | Home What is ACCESS about \(accessnetwork.uk\)](#)²⁸
- The Driving Urban Transitions (DUT) Horizon Europe Partnership aims to create more inclusive, safe, resilient, climate-neutral and sustainable cities across Europe. The partnership currently has over 60 partners from 28 countries. ESRC, AHRC and EPSRC are participating in the Driving Urban Transitions 2024 call (£2.1M – UKRI contribution) which is currently live. Preproposal applications are due by 14 November. See the UKRI funding opportunity: [Driving Urban Transition \(DUT\) partnership 2024 – UKRI](#)²⁹. This builds on the 2022 call where we funded 5 projects within the 15-minute city transition pathway ([Driving Urban Transitions Partnership – UKRI](#))³⁰.
- 2023 International Joint Initiative for Research in Climate Change Adaptation and Mitigation led by Canada. More information see the UKRI funding opportunity [International research on climate change adaptation and mitigation – UKRI](#)³¹ and the press release of the funded programme [Canada at the forefront of international research on climate change adaptation and mitigation - Canada.ca](#).³²
- SOLSTICE – Enabling Societal Transformation in the Face of Climate change – funding with 10 partner countries [SOLSTICE – JPI Climate \(jpi-climate.eu\)](#).³³
- UKRI Policy Fellowships programme for 44 academic fellows to work in 21 government departments and 5 What Works Centres across the UK to address large-scale complex challenges, including building a green future. [44 policy fellows to work in government and What Works Network – UKRI](#)³⁴
- Climate and Environment Thematic Research Lead for 2024 to 2026 with Parliamentary Office of Science and Technology (POST) and UKRI. [Parliamentary Thematic Research Leads - UK Parliament](#)³⁵
- Centre for Climate Change and Social Transformations – global hub for understanding the systemic and society-wide transformations that are required to address climate change (£5M). [cast.ac.uk - The Centre for Climate and Social Transformations](#)³⁶

BBSRC collaborations include the Global centres - [Global collaboration to accelerate clean energy innovation – UKRI](#)³⁷

3.A list of techniques or technologies being explored as potential solutions to the climate crisis, such as Stratospheric Aerosol Injection, Solar Radiation Management, and other forms of geoengineering.

This information is not held. UKRI itself does not explore the techniques, it only assesses the grant proposals and awards grants to researchers. Where research programmes have included research on specific approaches, these have been highlighted above.

4.Any assessments or evaluations of the most effective or promising techniques currently under consideration for combating climate change.

Please see response to question 3.

²⁷ <https://www.ukri.org/news/24-3-million-to-boost-uk-environmental-resilience-and-decision-making/>

²⁸ <https://accessnetwork.uk/>

²⁹ <https://www.ukri.org/opportunity/driving-urban-transition-dut-partnership-2024/>

³⁰ <https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/driving-urban-transitions-partnership/>

³¹ <https://www.ukri.org/opportunity/international-research-on-climate-change-adaptation-and-mitigation/>

³² <https://www.canada.ca/en/research-coordinating-committee/news/2024/06/canada-at-the-forefront-of-international-research-on-climate-change-adaptation-and-mitigation.html>

³³ <https://jpi-climate.eu/programme/solstice/>

³⁴ <https://www.ukri.org/news/44-policy-fellows-to-work-in-government-and-what-works-network/>

³⁵ <https://www.parliament.uk/get-involved/research-impact-at-the-uk-parliament/academic-fellowships/trls/>

³⁶ <https://cast.ac.uk/>

³⁷ <https://www.ukri.org/news/global-collaboration-to-accelerate-clean-energy-innovation/>

5. Information on funding or financial allocations for these initiatives, including any future projections.

Financial information on funded projects has been provided above and is also available on Gateway to Research. Future projections are unknown at this stage.

As part of our duty to provide advice and assistance you might find these webpages of interest:

- [Climate change and sustainability](#)³⁸
- A previous FOI response [FOI2024/00310](#)³⁹ which details NERC and STFC initiatives

If you have any queries regarding our response or you are unhappy with the outcome of your request and wish to seek an internal review of the decision, please contact within the next 40 working days:

Head of Information Governance

Email: foi@ukri.org

Please quote the reference number above in any future communications.

If you are still not content with the outcome of the internal review, you may apply to refer the matter to the Information Commissioner for a decision. Generally, the ICO cannot make a decision unless you have exhausted the review procedure provided by UKRI. The Information Commissioner can be contacted at: www.ico.org.uk.

If you wish to raise a complaint regarding the service you have received or the conduct of any UKRI staff in relation to your request, please see [UKRI's complaints policy](#)⁴⁰.

Yours sincerely,


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³⁸ <https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/climate-change-and-sustainability/>

³⁹ <https://ukri.disclosurelog.co.uk/disclosures/d7184ba6-0d52-4e15-8c86-d731cfc6994e>

⁴⁰ <https://www.ukri.org/who-we-are/contact-us/make-a-complaint/#skipnav-target>