UKRI policy fellowships 2027

Fellowship position

Fellowship title:

Environment Agency novel chemicals and environmental risk in emerging carbon capture technologies fellowship

Fellowship type:

Core policy fellowship

Host organisation:

Environment Agency (EA)

Host team:

Net Zero and Circular Economy Research Programme within the Chief Scientist's Group

Academic discipline/s:

Environmental science, chemistry, chemical engineering, public health, ecotoxicology

Summary:

Opportunity to advise on novel chemicals and mixtures arising from emerging carbon capture technologies in wastes and emissions to air, land and water, applying multidisciplinary evidence to understand their behaviour in the environment and risks to public health, and develop innovative approaches that shape effective, robust decision-making where evidence is limited or uncertain.

Policy topic:

The proposed fellowship focuses on UK Government's net zero ambition and its potential environmental impacts, particularly the emerging challenge of understanding and managing novel chemicals generated by net zero technologies, supporting the Government's Clean Energy Superpower mission and the Clean Energy Industries sector of the IS-8, which prioritises accelerating the transition to secure, low carbon energy while safeguarding environmental and societal outcomes.

Research career stage:

Open to early and mid-career researchers

Fellowship structure

The fellowship is scheduled to begin on 1 October 2027 subject to security clearance requirements. The fellowship will have three phases:

- inception: duration is 3 months at 0.4 FTE
- main placement: duration is 12 months at 0.6-1 FTE
- knowledge exchange: duration is 3 months at 0.4 FTE

Work arrangements

Location requirements:

The fellow will join a national team working across multiple locations, including Wallingford, Bristol, London, Newcastle and Manchester. The team primarily meets online twice a week, with quarterly in-person meetings, across different locations. The fellow will be welcome to work in an Environment Agency (EA) / Department for Environment, Food and Rural Affairs (Defra) Group office local to them and to attend quarterly in-person team meetings.

Hybrid working:

Hybrid working is available for both the inception and placement phase. The fellow would not be required to work in an EA/ Defra Office if home working most of the time is preferred. Opportunities are available for more regular in-person collaboration with members of the Net Zero research theme, should the fellow wish to do so. Working from an EA office may also provide valuable opportunities to build relationships and gain a broader understanding of the organisation. Eligible travel and subsistence costs are supported in the main UKRI grant. Please see full call text and guidance for more details.

To support their day-to-day work, the fellow will be provided with full access to the EA's IT systems, in the same way we onboard seconded contractors. They will receive an EA email address, laptop, Office365 access, and will be added to all relevant mailing lists, internal webinars, MS Teams channels and programme communications so they can stay fully connected with the team's activities.

Security clearance and nationality eligibility criteria:

Basic Personnel Security Standard (BPSS) checks and, if London based, Counter Terrorism Check (CTC). We would ask the person taking up this fellowship opportunity to start the security clearance application process as soon as their fellowship has been confirmed as security checks can take 3-4 weeks to complete. The inception phase may begin whilst clearance is underway but must be complete before the 12-month placement phase can begin. Please see national security vetting: clearance levels for further information.

Fellowship position description

This fellowship will deliver new interdisciplinary evidence to support the assessment and management of risks posed to public health and the environment from chemicals released by carbon capture technologies. As carbon capture deployment expands as part of the transition to net zero, there is a growing need to understand the environmental behaviour and potential impacts of novel chemicals and chemical mixtures associated with these technologies.

Working closely with Environment Agency teams, areas of focus may include the fate and behaviour of chemicals following emission to air, land, and water; the potential risks to public health and the environment; and the development of approaches for assessing and managing risks where evidence is limited or uncertain. By generating new evidence on these challenges, the fellowship will contribute to Environment Agency policy and practice, supporting future regulation and permitting. The precise scope of the research will be co-designed during the inception phase, drawing on both Environment Agency priorities and the fellow's expertise and interests.

Anticipated Impact and Outcomes:

The fellow will add value by:

- synthesising and integrating evidence from academic, regulatory and industry sources to strengthen the evidence base relating to chemicals associated with carbon capture technologies
- improving understanding of the fate, behaviour and potential impacts of novel chemicals and chemical mixtures across air, land and water
- applying quantitative and analytical expertise to address key evidence gaps and uncertainties relevant to environmental regulation and risk assessment
- developing innovative, practical approaches for risk assessment and environmental standards under uncertainty
- strengthening the Environment Agency's technical capability to regulate carbon capture technologies proportionately and effectively
- producing a small number of focused, high-quality outputs such as technical reports, policy briefings and peer-reviewed journal publications, that contribute to both scientific knowledge and regulatory practice
- build collaborations between academia and Government to foster long-term collaboration around a critical part of the net zero transition

Benefits to the Fellow:

The fellow will benefit from:

- the opportunity to co-design, undertake and publish original research with direct policy and regulatory relevance
- being embedded within the Environment Agency, gaining insight into environmental regulation, permitting and evidence-based decision-making
- access to relevant expertise, datasets, and professional networks across government, academia and industry
- opportunities to engage with policymakers, regulatory, scientists and external partners working on environmental risk, chemicals regulation and emerging technologies
- knowledge exchange opportunities through workshops, conferences, professional communities including the Environment Agency's Research Profession and Science Profession, and wider government networks

Person specification

Applications will be assessed by UKRI panel assessment against the following essential opportunity-specific requirements in addition to the generic eligibility and call criteria.

Essential criteria:

- demonstrated experience of designing, conducting and/or leading high-quality research relevant to the public health and/or environmental impacts of the net zero transition, particularly related to novel chemicals and complex mixtures
- strong knowledge of, and experience in, applying quantitative, analytical and/or modelling approaches to understand the occurrence, fate, behaviour and risk of chemicals and mixtures in the environment, including the application of innovative methods
- experience of engaging effectively with diverse stakeholders, supported by strong communication, collaboration and relationship-building skills

Applicants shortlisted from the panel assessment will be invited to a host led interview. At this stage the host will also take into account the following desirable fellowship-specific requirements.

Desirable criteria:

- demonstrated experience of working across academic, policy and practice communities to co-produce research, evidence, and policy-relevant insights
- demonstrated experience of translating research findings into policy development, operational guidance, tools, frameworks, decision-making processes, or other decision-support products
- knowledge of current and emerging policy, practice and research issues relevant to the fellowship topic

Processing personal data

If applicants are shortlisted by the UKRI assessment panel UKRI will need to share the application and any personal information that it contains with the host for the host led interview selection process.

Your personal data will be handled in line with UK data protection legislation and managed securely. If you would like to know more, including how to exercise your Rights, please see the UKRI privacy notice.

Please see the Environment Agency privacy notice and they will delete your data at the end of the selection process unless you are successful, in which case we will retain your data as an independent data controller.