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Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil



EPA Research Programme 2021-2030

EPA Research Call 2024 – Technical Description Document

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Document Version History

Version No.	Changes Made
Version 1	Initial version of document for EPA Research Call 2024

EPA Research Call 2024

This document provides the Technical Description for the Environmental Protection Agency (EPA) Research Call 2024. Applicants should read this document carefully and also consult the other call documentation: (i) EPA Research 2021 - 2030 Guidelines and Terms & Conditions; (ii) EPA Research Evaluation Process.

Contents

Introduction	1
EPA Research 2030.....	1
EPA Research Hubs.....	1
EPA Research Call 2024	2
Overview	2
Available Funding	2
Co-funding partnerships.....	2
Timeframe	3
Application Process	3
Evaluation Process.....	4
Expected Outputs	4
Scope of EPA Research Call 2024	4
Addressing Climate Change Evidence Needs.....	6
Delivering a Healthy Environment.....	10
Facilitating a Green and Circular Economy.....	13
Protecting and Restoring our Natural Environment.....	16
Further Information	19

Introduction

As part of its wide range of functions, the EPA manages an environmental research programme that delivers essential scientific support for environmental policy development, implementation and broader decision making. The EPA Research Programme focuses on achieving environmental objectives, informing policy and bringing together researchers and research users.

EPA Research 2030

[EPA Research 2030](#) is the ten-year high-level framework for the EPA's research programme (2021-2030), designed to be agile, responsive and flexible. EPA-funded research is essential to:

- Supporting the monitoring, assessment, reporting and regulatory activities of the EPA.
- Generating evidence crucial in assisting Ireland in meeting its commitments and requirements under the various international, EU and national policies and strategies.
- Generating the evidence base that supports decision making, behaviour change and policy development.
- Addressing knowledge gaps, providing the evidence-base and responding to priority challenges.
- Supporting multi-disciplinary, cross-sectoral and multi-stakeholder partnership projects.
- Developing environmental research capacity in Ireland, recognising the importance of not only sustaining the research-base but also of building and training the researchers in specific areas.

EPA Research Hubs

EPA Research 2030 has a thematic structure comprising the following four interconnected hubs, which bring an integrated and cross-sectoral approach, enabling holistic management and protection of our environment:

Addressing Climate Change Evidence Needs: Climate change is already having an impact in Ireland, and strong mitigation and adaptation measures are needed. Research is essential in providing the evidence necessary to improve our knowledge systems and inform policy decisions that will advance our ambitions to be carbon neutral and resilient to climate disruption.

Delivering a Healthy Environment: A clean, vibrant and safe environment is a prerequisite for good health and wellbeing. Environmental degradation, pollution, as well as known and emerging substances of concern threaten our health and that of our supporting ecosystems. Research under this hub will contribute to understanding the environmental risks and benefits to our health, and to identifying appropriate policy and behavioural responses.

Facilitating a Green and Circular Economy: Environmental and sustainability challenges are inextricably linked to economic activities and lifestyles. Research under this hub will contribute to the mainstreaming of sustainable management of natural resources and waste, unlocking the potential of the circular and bio-economies, and boosting competitiveness, through resource efficiency and deployment of innovative technologies and solutions.

Protecting and Restoring our Natural Environment: Our natural environment provides us with clean air and water, food and the raw materials to sustain us and our economy. Research is required to inform and support a cross-sectoral approach to managing our natural environment and for the development of policies relating to the regulation of emissions and activities, and the protection of our water, land, and ecosystems.

EPA Research Call 2024

Overview

The EPA Research Call 2024 invites submissions under a range of broad research Themes with the aim of supporting innovative projects that will inform policy and build capacity in current and emerging priority areas. The research areas included in the call have been selected as part of an ongoing update of the EPA Thematic Research Priorities 2024-2026, which will be published later in 2024. Detailed descriptions, including the background and envisaged scope, of the Themes in this call are provided [later in this document](#) and applicants are advised to review these carefully.

Available Funding

All awards made under this call will be for Medium Scale Projects, which have:

- A maximum duration of four years;
- Maximum funding available of €660,000.

Note that the permitted duration and funding may be less than the maximum stated above, as specified in the Technical Description for the Theme. The EPA has increased the funding available for Medium Scale Projects in 2023 (by 33%) and again in 2024 (by 10%). No further increases will be made to these funding amounts during the course of the EPA Research Call 2024¹.

It is envisaged that up to three projects will be funded under each research Theme. It is noted that, should funding recommendations be approved for the maximum number of projects to be supported under the call, some projects may be placed on a reserve list to be funded at the beginning of 2025².

Co-funding partnerships

The EPA is pleased to announce that the EPA Research Call 2024 involves a partnership with Met Éireann, who may provide co-funding for any proposals selected for funding that are aligned with their research priorities. Other organisations may also provide co-funding, where relevant.



Met Éireann's mission is to monitor, analyse and predict Ireland's weather and climate and to provide a range of high quality meteorological and related information. As Ireland's National Meteorological Service, Met Éireann is maintained by the State under the UN Convention of the World Meteorological Organisation (WMO). It is the public service scientific organisation responsible to the Irish State for the collection and production of high-quality meteorological data; the communication of authoritative weather and climate services to protect life and property, and to promote wider societal and economic wellbeing; conducting

research into weather and climate, to inform decision-making; and representing Ireland to the WMO, ECMWF (European Centre for Medium-Range Weather Forecasts) and EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites). (www.met.ie)

¹ This includes any increase to account for recent or future revisions to researcher salary scales.

² Funding will be subject to confirmation of the EPA Research Budget for 2025.

Timeframe

The key dates for EPA Research Call 2024 are listed in Table 1. Applicants and Research Proposal Authorisers should note the deadlines carefully as these will be strictly enforced.

Table 1: Key dates and deadlines for the EPA Research Call 2024

04 April 2024	Call opening
23 May 2024, 16:00 (Irish standard time)	Deadline for queries relating to the technical contents of this call
30 May 2024, 16:00 (Irish standard time)	Submission deadline
06 June 2024, 16:00 (Irish standard time)	Approval deadline
July-September 2024	Evaluation process
October/November 2024	Notification / Negotiation
November/December 2024	Grant award of successful projects
By 31 March 2025	Start of successful projects

Application Process

All applications must be made using the EPA's Online Grant Management and Application Portal (<https://epa.smartsimple.ie>) in advance of the deadline.

In addition to this document, applicants should review the following documentation in advance of preparing an application, which is available to download from the EPA's Online Grant Management and Application Portal or from [the EPA website](#):

- [EPA Research Programme 2021 - 2030 Guidelines and Terms & Conditions](#)
- [EPA Research Calls Evaluation Process document](#)
- [EPA Online Grant Management and Application Portal System User Guides](#)

Frequently asked questions on the EPA Research Call are available [on our website](#) and will be updated throughout the application period. For other queries, please contact research@epa.ie.

Applications must be submitted under the correct *Research Hub* and *Call Topic Reference* as indicated in the detailed scope for each of the Themes. Proposals submitted under the incorrect Research Hub or Call Topic Reference will be considered ineligible and will not proceed to evaluation.

Applicants are permitted to make multiple submissions to the call but may only make a single submission under any Call Topic Reference. Submissions must be distinct in their scope and applicants must have the capacity to commit to all projects if selected for funding.

Applicants must adhere to the deadlines specified above which will be strictly enforced.

Evaluation Process

The evaluation process is set out in detail in the [EPA Research Calls Evaluation Process document](#) and applicants are advised to review this in advance of preparing their proposal.

The purpose of the evaluation process is to ensure that all proposals are assessed in a fair and transparent manner, and that the highest quality and most suitable proposals are selected for funding.

All eligible proposals³ will be subject to a two-step evaluation process:

- **Step 1 – Scientific Evaluation:** Proposals will be evaluated for scientific quality by independent international and national experts using predefined evaluation criteria and ratings;
- **Step 2 – National Overview:** Funding recommendations for project proposals will be made with the assistance of a National Overview Committees drawn from relevant government departments, agencies, and the EPA.

Evaluations at both Step 1 and Step 2 will be made in the context of the technical descriptions set out in this document.

Final selection of projects for funding will be made based on the recommendations of the National Overview Committee and subject to the availability of funding. The final funding decision lies with the EPA Board of Directors.

Expected Outputs

It is expected that, in their proposal, applicants clearly demonstrate the policy relevance of the outputs of their proposed research; the applicability of their findings; and how these outputs address a knowledge gap and can be efficiently transferred/applied to the implementation of policies. Applicants should clearly demonstrate how their proposed research will provide the evidence to support environmental policy in Ireland, in terms of identifying pressures, informing policy and developing solutions.

Please consult the [EPA Research Programme 2021 - 2030 Guidelines and Terms & Conditions](#) for the full list of expected outputs and interim/final reporting requirements.

Outputs from all projects should build on recently completed and existing research and other relevant information, where appropriate. Information on current and completed research projects being supported by the programme is available on the [EPA Research Project Database](#). Research Reports for all completed projects are also available on [our website](#).

Scope of EPA Research Call 2024

The Themes included in the EPA Research Call 2024 are listed in Table 2. The scope of these Themes is broad and invites applications for innovative research projects to inform policy and build capacity in current and emerging priority areas. All awards made under these Themes will be for Medium Scale Projects of up to four years in duration. Up to three awards are expected for each of the Themes included in the call.

³ All proposals submitted to the Research Call will undergo an eligibility check by the EPA before proceeding to the evaluation stage. Please see the EPA Research Programme 2021 - 2030 Guidelines and Terms & Conditions for more information on eligibility.

Applicants should carefully review the detailed scope of each Theme provided in this document and which can be accessed using the links in the table below. These descriptions provide information on the background, expected scope and outputs for proposals.

Applicants may submit queries on the technical descriptions to the EPA in advance of the deadline for technical queries specified above. These should be directed to research@epa.ie and clearly indicate the Theme to which they refer. Responses to technical queries will be published on the EPA website for reference by all potential applicants.

Table 2: List of Themes in the EPA Research Call 2024. Detailed descriptions can be accessed via the links in the table. It is important that applicants review the full technical descriptions carefully.

		Max Budget (€) Per Project
Addressing Climate Change Evidence Needs		
1	Global risks to Ireland achieving its climate and environmental goals [Cross-cutting Theme*]	€ 330,000
2	Social science, citizen science and behavioural science for climate action	€ 660,000
3	Understanding vulnerabilities, risks and adaptation measures at the local level	€ 660,000
4	Developing climate neutral pathways for Ireland	€ 660,000
Delivering a Healthy Environment		
1	Towards zero pollution	€ 660,000
2	Chemicals that are safe and sustainable by design	€ 660,000
3	Further understanding the health impacts of a changing environment	€ 660,000
Facilitating a Green and Circular Economy		
1	Integration of the circular economy and bioeconomy into climate and biodiversity measures	€ 660,000
2	Enhancing the assessment of materials, products and value chains in the circular economy in Ireland	€ 660,000
3	Supporting and scaling up the just transition to the circular economy	€ 660,000
Protecting and Restoring our Natural Environment		
1	Integrating nature into decision-making	€ 330,000
2	Implementing effective protect and restore solutions	€ 660,000
3	Supporting the transition to sustainable land use planning and management	€ 330,000

**Proposals to this Theme will be submitted under the "Addressing Climate Change Evidence Needs" Hub, but submissions may be aligned to any area relevant to the EPA Research Programme.*

Addressing Climate Change Evidence Needs

Global Risks to Ireland Achieving its Climate and Environmental Goals [*Cross-cutting Theme**]

Call Topic Reference:	Addressing Climate Change Evidence Needs - Topic 1		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€330,000	Maximum Duration:	24 months

**Proposals to this Theme will be submitted under the “Addressing Climate Change Evidence Needs” Hub, but submissions may be aligned to any area relevant to the EPA Research Programme*

Background

Ireland has set out an ambitious and necessary objective to transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. Achieving this will require unprecedented changes in how we live and work, generate and use energy, produce our food, and manage our finite resources, while retaining a resilient economy and maintaining the well-being of our population.

National roadmaps and action plans outline the decisive action required to navigate this transition, but there remain risks, geopolitical, economic and otherwise, that fall outside the remit of these plans. It is important to consider how these strategic risks could impact our ability to meet our climate and environmental goals, how we might be more resilient to them and what mitigation options could be considered.

Scope

Research proposals are invited that explore themes, **in the context of Ireland meeting its climate and environmental objectives**, including but not limited to:

- Vulnerabilities to strategic risks (geopolitical, democratic, social, etc.);
- Critical supply chains and the impact of disruption to these;
- Critical raw materials essential to our transition to a sustainable economy, e.g., those required for the energy transition, for sustainable agriculture, etc.;
- External dependencies, for example, in areas such as waste management or others;
- Potential mitigating options to address strategic risks;
- Building resilience to risks, shocks or disruptions.

It should be noted that the impacts of climate change **occurring in Ireland** is excluded from consideration under this theme as this is covered in other parts of the call.

Applicants may wish to consider the [National Risk Assessment 2023](#), which outlines the top strategic risks facing Ireland. The European Commission 2023 Strategic Foresight Report [Sustainability and people's wellbeing at the heart of Europe's Open Strategic Autonomy](#) may also be a useful reference.

[Return to List of Themes](#)

Social science, citizen science and behavioural science for climate action

Call Topic Reference:	Addressing Climate Change Evidence Needs - Topic 2		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

The EPA's [Climate Change in the Irish Mind](#) project shows that there is widespread agreement on many climate change attitudes and strong majority support for climate action amongst the Irish public. Social science, citizen science and behavioural science for climate action can be used to further understand and influence human behaviour in the context of climate change mitigation and adaptation efforts.

Research under this theme should increase our understanding of how citizen science, the social sciences and behavioural science can be used to increase action on climate change in Ireland.

Scope

Innovative research proposals are invited in any of, but not limited to, the following areas:

- Building on existing research and knowledge, improve understanding of public perception, attitudes, beliefs and values related to climate change in Ireland. This includes studying factors influencing individuals' acceptance of climate science, perceptions of risk, motivations for action or inaction and barriers to meaningful public participation.
- Investigating human behaviour and decision-making processes related to climate-related actions, such as energy consumption, transportation choices, waste management, nature restoration and sustainable lifestyle choices.
- Analysis of public perceptions and attitudes to specific mitigation and adaptation measures or attitudes to the wider decision-making process (such as planning etc.).
- Exploring strategies for promoting community engagement and participation in climate action initiatives, including the effectiveness of various communication approaches, community-based interventions and participatory decision-making processes.
- Examining the role of citizen science and crowdsourcing in collecting environmental data, monitoring climate change impacts and fostering public participation in scientific research. This involves assessing the credibility, reliability and scalability of citizen science initiatives.
- Analysing social networks, peer influence and social norms in shaping climate-related behaviours and attitudes.
- Building climate literacy and promoting sustainable behaviours through different communication channels such as educational interventions, informal education approaches, messaging techniques and media campaigns.

Examining issues of equity, justice and social inequality in climate change impacts, vulnerability and adaptation responses. Assessing the effectiveness of social science, citizen science and behavioural interventions for climate action, including evaluating outcomes and identifying best practices for intervention.

Applicants should consider, where relevant, recent EPA-funded projects, such as *Using worldviews to inspire and scale climate action* ([2023-CE-1192](#)), *Deep Societal Innovation for Sustainability and Human Flourishing* ([2023-CE-1193](#)) and *Connecting Farmers and Policy Makers on Climate Change* ([2023-CE-1195](#)).

[Return to List of Themes](#)

Understanding vulnerabilities, risks and adaptation measures at the local level

Call Topic Reference:	Addressing Climate Change Evidence Needs - Topic 3		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

[Ireland's Climate Change Assessment](#) (January 2024) highlighted an adaptation deficit in Ireland. It outlined that actions taken today to reduce vulnerability and exposure and increase resilience will shape the future and should be seen as an investment rather than a short-term cost. By comprehensively assessing the vulnerabilities and risks to the impacts of climate change decision-makers can prioritise mitigation and adaptation strategies that address the specific needs and challenges of each locality. This includes furthering our knowledge of climate event attribution to understand the influence climate change is already having on weather events in Ireland and internationally. Research in this area aims to build capacity, provide actionable insights and practical solutions for ensuring and enhancing 'just resilience', reducing vulnerabilities and improving decision-making processes at the local level in the face of various climate risks and uncertainties.

Scope

Innovative research proposals are invited in areas including, but not limited to:

- Building capability in the area of extreme event attribution and attribution science, identifying tools and methodologies that are most suitable to be used in an Irish context, conduct retrospective analyses of extreme weather events, their social and economic impacts in Ireland and to analyse events as they may occur during the lifetime of a project.
- Evaluating existing policy frameworks and governance structures at the local and national levels to improve climate action-based decision making.
- Developing or improving upon methodologies and risk assessment models for better assessing and managing climate risks such as geo-spatial risk maps.
- Developing processes for more effective community engagement on climate mitigation and/or adaptation.
- Developing tools and resources which can be used for scenario planning at the local level to aid in building resilience to extreme events.
- Identifying barriers to taking adaptation actions including clarity of objective and mechanisms for decision making under uncertainty.
- Developing decision support tools and frameworks that integrate scientific knowledge, risk assessment results and stakeholder input to facilitate informed decision-making at the local level. These tools may include risk mapping, early warning systems, cost-benefit analysis and scenario modelling, including analysis of existing international tools and frameworks such as the [European Climate and Health Observatory](#).

Proposals should look to build upon and incorporate existing research and resources in this area, such as the [National Climate Change Risk Assessment](#), [Sectoral Adaptation Plans](#), Local Authority Climate Action Plans and the [National Climate Services Framework](#).

Applicants should consider, where relevant, previous EPA-funded projects, e.g., [ClimAtt: Tools for Climate Change Attribution of Extreme Weather Events](#), [HydroDARE: Detection and Attribution of Change in Hydrological Series \(2022-CE-1132\)](#), [Operationalising Resilience in Irish Climate Action \(2023-CE-1175\)](#), [TALX2: Place-Based Climate Action Partnerships \(2023-CE-1227\)](#).

[Return to List of Themes](#)

Developing Climate Neutral Pathways for Ireland

Call Topic Reference:	Addressing Climate Change Evidence Needs - Topic 4		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

Achieving climate neutrality by mid-century requires a comprehensive and strategic approach that aligns with national, EU and international climate objectives and contributes to the broader goal of limiting global temperature rise to below 2 degrees Celsius. [Ireland's Climate Change Assessment](#) (January 2024) highlighted a significant gap in understanding around climate-neutral pathways in Ireland. Although there have been studies to incorporate agriculture within the existing energy models, the mitigation options explored to date do not achieve net zero. Current knowledge gaps, especially in the LULUCF sector, make this more challenging.

Scope

Within this theme it is envisaged that research will advance knowledge in the area of developing integrated and cross-sectoral net-zero pathways for Ireland. Innovative proposals are invited in areas including but not limited to:

- Improving the assessment of Ireland's current greenhouse gas emissions in an integrated way across all sectors, including energy, transportation, agriculture, industry and waste. Consideration should be given also to the role of methane in assessing emissions, climate neutrality and developing pathways.
- Identifying key drivers of emissions in each sector, including both direct and indirect contributors in an integrated way. Analysing existing climate policies to identify gaps and opportunities for strengthening measures to support the transition to a climate-neutral economy.
- Review of definitions and methods used to assess climate neutrality and related greenhouse gas emissions.
- Assessing the economic implications of different climate-neutral pathways for Ireland, including costs and benefits associated with technology use, job creation, energy security, distributional impacts and long-term economic competitiveness.
- Engagement with a wide range of stakeholders, including government agencies, businesses, NGOs, academic institutions and community groups to co-develop climate-neutral pathways that are socially and politically feasible. Any projects in this area should build on the work done in climate futures projects such as [Imagining 2050](#).
- Developing multiple scenarios for achieving climate neutrality in Ireland by mid-century, considering different assumptions about technological progress, policy interventions, rates of deployment and socio-economic trends. Assess the feasibility, risks and trade-offs associated with each scenario.
- Developing strategies for implementing climate-neutral pathways in Ireland, including short-term actions and long-term milestones. Identify opportunities for synergies between different sectors and policy objectives, as well as potential trade-offs that need to be managed.
- Establishing mechanisms for monitoring progress towards climate neutrality and evaluating the effectiveness of mitigation measures over time. This could involve developing indicators, collecting data and conducting regular assessments to track emissions reductions and other relevant outcomes.

[Return to List of Themes](#)

Delivering a Healthy Environment

Towards Zero Pollution

Call Topic Reference:	Delivering a Healthy Environment – Topic 1		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

In the EU, one in ten premature deaths are linked to environmental pollution⁴ and it is one of the five key drivers of biodiversity loss⁵. The European Green Deal [Zero Pollution Action Plan](#) aims to reduce pollution by 2050 to levels that are no longer a threat and thereby creating a toxic-free environment. It seeks to prevent, minimise and remediate pollution of air and noise, water, soil and consumer products.

The European Environment Agency (EEA) recently produced the [Zero Pollution Monitoring Assessment](#) to review progress towards interim 2030 targets set out in the Zero Pollution Action Plan. This report highlighted the need for more progress in reducing transport noise, excess nutrients and persistent chemicals in freshwater and marine ecosystems and waste and highlighted key emerging issues including hazardous chemicals and soil pollution.

In support of the EU’s progression towards Zero Pollution, intensified monitoring, measuring, mapping and modelling is required in Ireland to prioritise pollution risks, to identify and enact solutions and to measure their impact. Innovative research is needed to resolve, quantify, and prioritise the impacts of known and emerging pollutants and to explore potential solutions.

Scope

Within this theme, it is envisaged that research proposals will focus on Zero Pollution, advancing knowledge and informing solutions and policies relevant in an Irish context in areas including, but not limited to:

- Identifying opportunities and priorities for developing and expanding localised and long-term monitoring networks as well as harmonised monitoring approaches. This must build on or complement existing networks or approaches.
- Modelling sources and drivers of pollution and future trends.
- Developing metrics and indicators and identification of geographical hot spots of pollution with serious environmental health problems.
- Developing targeted interventions and remediation technologies and exploring the co-benefits of integrated solutions.

Applicants may wish to consider both current and emerging risks and pollutants, and the context of different environments (e.g., urban, rural, etc.) and sectors, where relevant.

[Return to List of Themes](#)

⁴ [As reported by the European Environment Agency: Health](#)

⁵ See reports from the [UN Environment Programme](#) and [Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#)

Chemicals that are safe and sustainable by design

Call Topic Reference:	Delivering a Healthy Environment – Topic 2		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

The production and use of chemicals are increasing globally and while they are essential for many aspects of life and play an important part in the world economy, many have hazardous properties and can significantly harm human health and the environment.

As part of the EU Green Deal's Zero Pollution Ambition, the Chemical Strategy for Sustainability promotes the use of safer and more sustainable chemicals through the [Safe and Sustainable by Design \(SSbD\) framework](#). This framework aims to protect citizens and the environment from harmful chemicals and to enable the transition to a circular economy and climate neutrality by supporting the improved safety, circularity and functionality of substances, materials, products, and processes throughout their entire life cycle. It supports the replacement of hazardous substances; the development of new chemicals and materials, including bio-based materials; the optimisation or redesign of production processes; and the use of substances currently on the market to improve their safety and sustainability.

The full extent of the occurrence/use of hazardous chemicals is not fully understood, particularly in industry, products, and waste. Regulation and enforcement are, in some instances, fragmented across different regulations and directives, e.g., REACH, RoHS, POPs, market surveillance and urban wastewater, and different agencies and departments. Understanding and prioritising the risks and identifying the options to move to chemicals that are SSbD could promote more co-ordinated monitoring and enforcement.

Scope

Research is needed to identify the challenges and opportunities in Ireland of moving to chemicals that are SSbD. Within this theme, innovative research proposals are invited to address key knowledge gaps in areas relevant to the transition to chemicals that are SSbD including, but not limited to:

- Developing tools, models and data to assist with the systematic assessment of hazardous chemicals across their life cycle, with a focus on restricted chemicals or those likely to be restricted, including those in products and waste, and opportunities for elimination.
- Exploring the opportunities and impacts of the removal or substitution of hazardous chemicals. Identifying progress by industry to date and future opportunities.

Assessing the effectiveness of existing regulatory frameworks for controlling hazardous chemicals and exploring innovative and co-ordinated regulatory approaches to support and promote the use of chemicals that are SSbD.

[Return to List of Themes](#)

Further Understanding the Health Impacts of a Changing Environment

Call Topic Reference:	Delivering a Healthy Environment – Topic 3		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

Despite pollution, climate change and biodiversity loss having a serious impact on physical and mental health, the full extent of current and future health impacts is not yet understood. The World Health Organisation estimates that approximately one quarter of deaths globally each year are caused by environmental risk factors. In Europe this figure is approximately 20%. Changes to our air, water, soil and biota resulting from extreme temperature or weather events or from increased exposure to environmental pollution (e.g., noise, hazardous chemicals, microplastics, artificial light, infectious disease, radon and radiation, etc.) will have impacts on our health that could be debilitating and life threatening.

Exposure and vulnerability to environmental health hazards are not equal across society and the European Environment Agency has highlighted regional differences and social vulnerabilities across Europe⁶. There are resources at a [European level such as the Environmental Health Atlas](#) and the [European Climate and Health Observatory](#) to access environmental health data such as noise and air pollution risks and access to green and blue spaces, but further work is needed at a national level for Ireland.

Research is needed to further explore the health impacts of pollution, climate change and biodiversity loss in homes, workplaces and communities in Ireland, to build on and localise European data by identifying those at higher risk and to identify opportunities for risk reduction and prevention.

Scope

Within this theme, research proposals will focus on exploring the health impacts of pollution, climate change and/or biodiversity loss. Applicants are particularly encouraged to consider the exposure, risks and impacts for vulnerable groups in Ireland. In this context, it is envisaged that proposals will address knowledge gaps and inform solutions, policies and actions in areas including but not limited to:

- Establishing links between environmental hazards and health impacts and exploring routes and indicators of exposure and developing metrics.
- Assessing short- and long-term as well as localised health impacts considering morbidity and mortality.
- Modelling and predicting emerging and future trends to support decision making, and developing surveillance and early warning systems.
- Determining the impact of the totality of exposures including the synergistic and cumulative effects of multiple environmental hazards on health throughout life.
- Exploring opportunities for linking environmental and health data in Ireland and for supporting the EPA's development of an Environmental Health Atlas for Ireland, building on any existing projects or tools, for example, the [EPA's My Local Environment](#).
- Evaluating and implementing integrated mitigation and prevention strategies and solutions.
- Exploring social determinants of exposure to environmental health hazards in workplaces, homes and communities. Identifying solutions to protect and prepare the most vulnerable and working with communities through meaningful engagement and co-design and improving the provision of local information on environmental health hazards.

[Return to List of Themes](#)

⁶ [Unequal exposure and unequal impacts — European Environment Agency \(europa.eu\)](#)

Facilitating a Green and Circular Economy

Integration of the Circular Economy and Bioeconomy into climate and biodiversity measures

Call Topic Reference:	Facilitating a Green and Circular Economy - Topic 1		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

According to the [EU Circular Economy Action Plan](#) (CEAP, 2020), half of greenhouse gas (GHG) emissions and 90% of biodiversity loss are due to resource extraction and processing. Decoupling economic growth from resource use and transitioning to a Circular Economy and Bioeconomy is key to achieving net-zero GHG emissions by 2050 and restoring biodiversity.

While the [European Green Deal](#) sets out an ambition to take an integrated approach to addressing climate change, biodiversity loss and the transition to the circular economy, there remain challenges associated with the implementation of this cross-cutting approach, and understanding trade-offs and synergies between priorities, sectors and policy areas.

Research is required to assess the role of the Circular Economy and Bioeconomy in the mitigation of climate impacts and biodiversity loss in Ireland.

Scope

Within this theme, innovative research proposals are invited to address knowledge gaps and inform Government policies and initiatives in areas including, but not limited to:

- The quantification of greenhouse gas emissions associated with Irish waste generation in the priority areas⁷ and the correlation between the implementation of circular economy policies and legislation, and climate mitigation and adaptation, and biodiversity loss mitigation in Ireland.
- The role of the bioeconomy in reaching GHG emission reduction targets by displacing fossil-based resources with biobased products and biorefineries, while following the cascading biomass use principals.
- Exploring how the production and use of regenerative materials including nutrients, textiles and construction materials could reduce GHG emissions and biodiversity loss.

[Return to List of Themes](#)

⁷ Food, water and nutrients, textiles; packaging; plastics; electronics and ICT; batteries and vehicles; construction and buildings

Enhancing the assessment of materials, products and value chains in the Circular Economy in Ireland

Call Topic Reference:	Facilitating a Green and Circular Economy - Topic 2		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

The [EU Circular Economy Action Plan](#) (CEAP) established a product policy framework for sustainable products, services and business models to enable the transition to a European Circular Economy. The CEAP considers the whole life cycle of products from design, extraction, importation, production, consumption, recovery and finally end of life. The importance of the analysis of materials and products over their life cycle is demonstrated through various EU and Irish policies and legislation including the proposed [Ecodesign for Sustainable Products Regulation](#), the updated [Construction Products Regulation \(CPR\)](#) and the recently published [Bioeconomy Action Plan 2023-2025](#).

Life cycle assessments (LCA) of materials, products and by-products in the key product value chains⁸ is necessary to capture the flow of materials in our Circular Economy and Bioeconomy and assess the environmental impacts (intended and unintended) of Government circular economy and Bioeconomy policies.

Scope

It is envisaged that proposals under this theme will build on existing LCA knowledge and analyse the environmental ‘footprints’ but also ‘handprints’⁹ of circular product value chains. Research will focus on (but not limited to):

- Assessing the whole life cycles of products and materials in key product value chains which include electronics and ICT; batteries and vehicles; textiles; packaging; plastics; construction and buildings; food, water and nutrients.
- Moving beyond traditional LCA and to analyse how circular materials, products and systems can have positive ecological, economic, and social impacts and help companies can achieve sustainability targets. Research should consider beyond the net zero goal of doing no harm, to a regenerative system view of adding something good.

Research will provide data and evidence to inform the Government policies, initiatives and investments required for the Circular Economy transition. The research will also help Irish businesses scale up their circular and biobased business, identify opportunities for industrial symbiosis, develop indigenous waste management systems and infrastructure and reuse and repair product-as-service models.

[Return to List of Themes](#)

⁸ Food, water and nutrients, textiles; packaging; plastics; electronics and ICT; batteries and vehicles; construction and buildings

⁹ [Conditions and pathways for sustainable and circular consumption in Europe](#) (Briefing, European Environment Agency, 2023)

Supporting and scaling up the just transition to the Circular Economy

Call Topic Reference:	Facilitating a Green and Circular Economy - Topic 3		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

According to the latest [Circularity Gap Report](#) (2024), despite mainstreaming of the Circular Economy, most materials entering the global economy are virgin materials, with the use of secondary materials declining from 9.1% in 2018 to 7.2% in 2023.

As we transition to a sustainable society, we must ensure that this is done in a just and equitable way. While the term just transition is most often applied in relation to the energy transition, it is also relevant in our transition to a circular economy, in the context of job creation, elimination and substitution, industrial transformation, and ensuring equity in accessing and benefitting from the opportunities of this transition.

In Ireland, our consumption and waste generation has grown steadily since 2012 and we have the third lowest [Circular Material Use Rate](#) in Europe at 2% (the EU average is 12%). These statistics highlight the need to support and scale up the transition to a Circular Economy and Bioeconomy in Ireland, to assess how to change product value chains and consumption rates, and to explore how this transition can be managed in a just and equitable way.

Scope

Research under this theme, will address knowledge gaps and inform Government policies and initiatives in areas such as:

- The financial incentives and systems required to support industrial transformation, servitisation and consumer behaviour changes.
- Further development of circular business and collaborative consumption models, infrastructure and social enterprises.
- Assess the potential socio-economic impacts of the transition to Circular Economy and Bioeconomy at local and regional level and in rural and urban areas.
- Identify holistic solutions to achieve a just and inclusive transition.

It is noted that research expertise in social sciences and humanities will be essential in ensuring a just transition that accounts for socio-economic and gender vulnerabilities, inequalities, and risks.

[Return to List of Themes](#)

Protecting and Restoring our Natural Environment

Integrating nature into decision-making

Call Topic Reference:	Protecting and Restoring our Natural Environment - Topic 1		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€330,000	Maximum Duration:	24 months

Background

Public and private investments are typically driven by short-term economic gain with little or no consideration of harmful impacts of economic activities on the long-term health of ecosystems. The EU sustainable finance agenda is about re-orientating investment towards environmentally sustainable economic activities, with the [EU's Taxonomy Regulation](#) providing a framework to assess risks not only to achieving climate targets but also those that might impact broader environmental objectives such as healthy ecosystems. As well as aiming to accelerate sustainable investment, it will enhance transparency through disclosure requirements derived from the [Corporate Sustainability Reporting Directive](#).

Approaches, such as natural capital accounting, have been developed to integrate the contributions of environmental and ecosystem assets to the economy and society with established economic accounting frameworks such as the System of National Accounts. There is now a need for research that will enable the promotion, adoption and implementation of these and analogous approaches into decision and policy making in an Irish context and to ensure that financial flows and investments are directed for the benefit of ecosystem restoration and protection.

Scope

Innovative proposals are invited that will advance the development, deployment and assessment of approaches to recognise and value nature in public policy in Ireland. Areas of research may include, but are not limited to:

- Inclusion of ecosystem valuation into innovative policy instruments in Ireland, e.g., in priority areas such as land use and nature restoration.
- Going beyond ecosystem accounting to derive indicators to facilitate the use of ecosystem accounts in policies.
- Assessment and disclosure of long-term investment risks associated with climate change, nature degradation and biodiversity loss.
- Guidance for key sectors in Ireland on the integration of nature into relevant decision-making processes including through the use of Natural Capital.
- Developing accounts and flows for specific policy questions, reflecting current and future considerations for implementing the EU Nature Restoration Law, Soil Monitoring Law and Water Framework Directive, as well as the national Biodiversity, Bioeconomy and Climate Action Plans.
- Systems and standards for the implementation of the UN System of Environmental Economic Accounting for Ecosystem Accounts.

In the preparation of proposals, applicants may wish to review recent publications by the National Economic and Social Council on [Natural Capital Accounting: A Guide for Action](#), [International Case Studies of Ecosystem Accounting](#), as well as by the European Environment Agency on [Unlocking finance and investments in nature](#). The CSO is tasked with delivering the first set of Ecosystem Accounts for Ireland and have published an [Information Note on Ecosystem Accounting](#), which will be relevant in the context of the scope of this thematic area.

[Return to List of Themes](#)

Implementing effective protect and restore solutions

Call Topic Reference:	Protecting and Restoring our Natural Environment - Topic 2		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€660,000	Maximum Duration:	48 months

Background

Wider and more rapid implementation of solutions will be essential to address climate change, changes to water quality and quantity, biodiversity loss, and nature restoration. However, there is limited knowledge on monitoring and scaling-up such solutions. Protecting and restoring our water bodies is a requirement of the Water Framework Directive and while the contours of the Nature Restoration Law in Ireland are not yet known, effective solutions will need to be implemented to achieve long-term and sustained recovery of biodiverse and resilient nature in a changing climate. Protecting and restoring key species, habitats and their ecosystem services is also a key objective of the National Biodiversity Action Plan particular areas of focus include peatland rehabilitation for multiple benefits across climate change and biodiversity, and tackling biodiversity loss through the control of alien invasive species.

Scope

Data, evidence and knowledge gaps remain to allow effective protection and restoration programmes, including actions identified in national plans. Research proposals are invited that explore themes, in the context of Ireland’s capacity to implement effective protect and restore solutions, including but not limited to:

- Better knowledge to develop, deploy and assess nature-based solutions for multiple benefits.
- Understanding the impacts of climate change on ecosystems in need of protection or restoration to ensure that the actions selected are effective, sustainable and cost efficient under changing conditions.
- Understanding the impacts of climate change on existing classification and assessment methodologies against a background of shifting typologies and/or reference conditions.
- Understanding the impacts of physical and hydrological modifications to water bodies on their physical and biological condition to identify effective solutions.
- Understanding the water quality and quantity implications up and downstream of rehabilitated/rewettered peatlands in the context of Water Framework Directive and flood protection.
- Identification of areas for designation as Protected/Areas for Action/Restoration, considering scale, connectivity and multiple pressures and multiple benefits.
- Understanding the impacts of alien invasive species and biodiversity loss on existing classification and assessment methodologies.

Applicants may wish to consider actions laid out in the [Draft River Basin Management Plan](#), the [National Biodiversity Action Plan](#) and the [Climate Action Plan](#).

Applicants should further ensure to build on and leverage the ongoing work of the EPA-funded *SLOWATERS* ([2018-W-LS-20](#)), *WFD Futures* ([2020-W-CD-3](#)) and *RESTORE* ([2023-NE-1182](#)) projects as well as the *RESET* ([2023-NE-1224](#)) and *Ag-E-Valuate* ([2023-NE-1213](#)) projects funded in 2023.

[Return to List of Themes](#)

Supporting the transition to sustainable land use planning and management

Call Topic Reference:	Protecting and Restoring our Natural Environment - Topic 3		
Project Type:	Medium Scale Project (up to 3 projects to be funded)		
Maximum Budget:	€330,000	Maximum Duration:	24 months

Background

Land is a finite resource that is under demand for a variety of purposes and how we use our land has implications for human life, biodiversity and climate action. At EU level and nationally, the Agriculture, Forestry, and Other Land Use (AFOLU) sector has been identified as part of the solution to address urgent climate mitigation efforts and biodiversity loss. The Programme for Government committed to a [Land Use Review](#) to ensure that optimal land use options inform all relevant government decisions.

Research needs in the area of land-use planning and management relate to the development of indicators for soil monitoring, food system impacts, land-use measures and actions, urbanisation, amongst others. Consideration should also be given to socio-economic and cultural dimensions of transition in land use to ensure a fair and sustainable distribution of effort, including recommendations highlighted in [NESC's report on Just Transition in Agriculture and Land Use](#).

Scope

Research proposals are invited that explore themes, in the context of Ireland's transition to sustainable land-use planning and management, including but not limited to:

- Better understanding of the social and cultural barriers to changing land management practices and transitioning to sustainable land-use, considering coherence of policies, governance and reduction of risks in transition.
- Development of appropriate integrated models to monitor and track the environmental and socioeconomic impacts of changes in land uses and land management practices.
- Development of a place-based approach to local citizen engagement and local knowledge co-production in relation to influencing land use outcomes.
- Review of indicators to include all impacts of food systems from production to consumer, and post-consumer is required, including research and scoping to understand what indicators would apply to Ireland's food systems.
- Understanding the impacts of ecosystem fragmentation across different habitat and land-use types.
- Development of urbanisation indicators for Ireland to assess the potential impacts of urban development.
- Assessment of the distributional impacts across the agriculture and land-use sector including consideration of existing and potential effort-sharing mechanisms.

Applicants may wish to consider the recommendations of [Phase 1 of the Land Use Review](#), and the ongoing work of the EPA-funded *LandingZoNES* project ([2022-NE-1140](#)) and *The Development of Land Use Indicators for the Protection of Our Natural Environment* project ([2023-NE-1202](#)).

[Return to List of Themes](#)

Further Information

Information on current research projects being supported by the programme is available in the Research section of the EPA website: <http://www.epa.ie/our-services/research/> and on the [EPA Research Project Database](#).

The following additional documents are available from the EPA website:
<http://www.epa.ie/publications/research/current-call-documents/>

- EPA Research Programme 2021 - 2030 Guidelines and Terms & Conditions.
- EPA Research Programme 2021 - 2030 – Communicating Research.

Other relevant EPA Research Programme Strategies and Policies are also available from the EPA website: <http://www.epa.ie/our-services/research/epa-research-2030/strategies-and-policies/>.

For updates on the EPA Research Call 2024:

1. Follow us on [LinkedIn](#) and on Twitter ([@EPAResearchNews](#))
2. Visit the [EPA Funding web pages](#)
3. Check the [Research Call Frequently Asked Questions web page](#)

Any queries that are not covered in the call documentation or on the FAQs web page must be submitted to research@epa.ie.