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Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

EPA Research Programme 2021-2030

EPA Research Call 2025 – Technical Description Document

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Document Version History

Version No.	Changes Made
Version 1	Initial version of document for EPA Research Call 2025

The EPA Research Programme is a Government of Ireland initiative funded by the Department of the Environment, Climate and Communications.

EPA Research Call 2025

This document provides the Technical Description for the Environmental Protection Agency (EPA) Research Call 2025. 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.

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 2025

Overview

The EPA Research Call 2025 invites submissions under 29 research Topics that will contribute to the development and implementation of environmental policies in Ireland. The research topics have been identified through consultation with relevant stakeholders and are aligned to the EPA Thematic Research Priorities 2024-2026. Detailed descriptions, including the background and scope, of the Topics in this call are provided later in this document and applicants are advised to review these carefully.

Available Funding

The funding and duration of awards made under this call will be based on the scope set out in the Topic descriptions provided later in this document. Depending on the specific Topic, awards will:

- Have a duration of between 12 and 48 months;
- Have funding available between €165,000 and €660,000.

Note that the **maximum** permitted duration and funding is specified in the Technical Description for the Topic and applicants must adhere strictly to these maximum values, although they may elect to request shorter durations or lower funding amounts than those specified. Applicants should also note the project type and associated page limits in the application form.

Co-funding partnerships

The EPA is pleased to announce that the EPA Research Call 2025 involves a partnership with Met Éireann, the Office of Public Works (OPW) and the National Parks and Wildlife Service (NPWS) who may provide co-funding for any proposals selected for funding that are aligned with their research priorities.

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)

The Office of Public Works (OPW) has responsibility for leading and coordinating a whole of Government approach to the implementation of the national flood policy. This involves the identification of flood risk and the development of a planned programme of feasible flood relief works, combined with a greater emphasis on non-structural flood risk management measures. Within this remit, the OPW supports and promotes research for flood hydrology, and applies this to the national programme of flood mapping and the design of flood protection schemes.

The **National Parks and Wildlife Service** is an Executive Agency within the Department of Housing, Local Government and Heritage, with primary responsibility for nature conservation, wildlife protection and the presentation and preservation of our National Parks and Nature Reserves.

Timeframe

The key dates for EPA Research Call 2025 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 2025

Call opening	03 April 2025
Deadline for queries relating to the technical contents of this call	22 May 2025, 16:00 (Irish standard time)
Submission deadline	29 May 2025, 16:00 (Irish standard time)
Approval deadline	05 June 2025, 16:00 (Irish standard time)
Evaluation process	July-September 2025
Notification / Negotiation	October/November 2025
Grant award of successful projects	November/December 2025
Start of successful projects	By 31 March 2026

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 Topics. 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 proposals[1] 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.

[1] 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.

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.

Use of Generative Artificial Intelligence (AI) in Applications

Applicants must declare in the online application whether any generative AI tools were used in the preparation of this submission. If generative AI tools were used, they must specify which tool(s) and version(s) were used and describe in which sections of the application and to what extent these tool(s) were employed. This information will be made available to evaluators of the proposal.

Scope of EPA Research Call 2025

The titles of Topics included in the EPA Research Call 2025 are listed in Table 2. Applicants should carefully review the detailed scope of each Topic 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 Topics in the EPA Research Call 2025. Detailed descriptions can be accessed via the links in the table. It is important that applicants review the full technical descriptions carefully.

		Max Budget (€)
	Addressing Climate Change Evidence Needs	
1	Policy interactions, synergies and trade-offs in the transport and food systems [Cross-cutting Topic*]	€330,000
2	Impact of global megatrends on environmental objectives [Cross-cutting Topic*]	€165,000
3	Indicators of policy impacts on progress towards climate targets	€330,000
4	Sources and sinks of methane in Ireland	€495,000
5	Vitality and stability of carbon sinks	€495,000
6	Ex-post emissions savings for climate-related policies in Ireland	€165,000
7	Integrated analysis of air pollution data in Ireland	€330,000
8	Joint probability of flood events for Ireland's coast	€165,000
9	Investment in resilient infrastructure	€330,000
10	Collective Action: case studies and best practice to deliver climate outcomes	€165,000
	Delivering a Healthy Environment	
1	Economic burden of radon-related lung cancer in Ireland and cost effectiveness of radon prevention in Irish homes	€330,000
2	Assessment of temporal and spatial trends of persistent organic pollutants in the Irish environment and waste	€330,000
3	Regulatory gaps and emerging challenges in Ireland's distilling sector	€165,000
4	Artificial intelligence and other novel tools to undertake market surveillance for restricted chemicals	€165,000
5	Greening of test methods used by regulatory chemistry laboratories	€330,000

		Max Budget (€)
6	Addressing nitrogen pollution in Ireland - developing a sustainable nitrogen management approach	€330,000
	Facilitating a Green and Circular Economy	
1	The effect of market prices, regulations and fiscal measures on the recycling rate of key waste streams	€165,000
2	Optimal extended producer responsibility (EPR) models for the circular economy	€165,000
3	The fate of post-consumer textiles exported from Ireland	€330,000
4	Monitoring system of the environmental and social sustainability and circularity of industrial biobased systems	€330,000
5	Analysis of packaging re-use systems for Ireland	€165,000
6	Assessing Ireland's waste system and its implications on waste capacity	€165,000
	Protecting and Restoring our Natural Environment	
1	Assessing the impact of landscape fragmentation on ecosystems	€165,000
2	Novel methods to remotely detect peat removal at scale	€165,000
3	Impacts of dams, in-stream barriers and hydromorphological alterations on thermal regimes in water bodies	€660,000
4	Building the evidence base for water reuse in a changing climate	€330,000
5	Long-term river flow statistics in the context of changing climate	€165,000
6	Improving the efficiency of Strategic Environmental Assessments by focusing on significant environmental effects	€165,000
7	Determining environmental impacts on landscape – understanding landscape sensitivity in assessment of strategic plans and programmes	€165,000

**Proposals to this Topic will be submitted under the "Addressing Climate Change Evidence Needs" Hub, but submissions may cross-cut any area(s) relevant to the EPA Research Programme.*

Addressing Climate Change Evidence Needs (10 Topics)

Policy interactions, synergies and trade-offs in the transport and food systems [*Cross-cutting Topic**]

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 1**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

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

Background

Ireland has set a national objective to transition to a climate-resilient, biodiversity-rich, environmentally sustainable and climate-neutral economy by 2050: an ambitious multifaceted objective that will require concerted action, engaging diverse policy areas and actors across society. Transformation of our energy, transport, food and industrial sectors is critical to achieving this sustainable future and cross-cutting, system-level issues across climate, land use, air pollution and biodiversity will need to be addressed.

As set out in the EPA's State of the Environment Report 2024, policy coherence – ensuring that sectoral policies are aligned with environmental goals – is an important prerequisite to effective policy implementation. However, achieving policy coherence is challenging, requiring effective and inclusive governance and institutional mechanisms to address policy interactions across sectors and aligning actions between different levels of government. 'Systems thinking' has gained currency as one approach to achieving more integrated policymaking, focusing on interconnections and feedback between governance issues within and across systems as a means of addressing global environmental and climate policy challenges in a more holistic and coherent way.

Scope

Research proposals under this topic will focus specifically on the **transport and food sectors** and will examine in detail the interactions arising from key sectoral policy options chosen individually and in combination, in terms of environmental and socio-economic co-benefits, synergies, risks and trade-offs. In this context, consideration will also be given to Ireland's performance against the Sustainable Development Goals (SDGs) and its global footprint under different policy scenarios.

In addition to the final research report, proposals should consider outputs, such as toolkits, policy briefs, infographics and dashboards, and **cost-benefit analyses** that will support policy makers to develop and implement coherent policy approaches in the transport and food sectors.

Applicants may wish to consider, where relevant, previously funded EPA research projects and reports, as well as the EPA's State of the Environment Report 2024. Applicants are also advised of relevant international publications such as from the European Topic Centre Report 2024/6: Exploring multiple pathways and policy mixes for transforming European food systems and the European Environment Agency Report on the Sustainability of Europe's mobility systems. Please note that this is not an exhaustive list but illustrative of potential considerations for this topic.

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Impact of global megatrends on environmental objectives [*Cross-cutting Topic**]

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 2**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

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

Background

There is growing interest in anticipatory knowledge and strategic foresight, both in Ireland and internationally, with a view to strengthening strategic policy discussions and designing more effective policies. Many 'drivers of change' that impact the environment are not of an environmental nature but may have a significant impact on Ireland's long-term environmental and sustainability outlook. These include so called global megatrends such as population growth; increasing urbanisation and global migration; accelerating technological change; global power shifts; climate change and environmental degradation; competition for resources; as well as diversifying values, lifestyles and approaches to governance.

Improved understanding of drivers of change and global megatrends in an Irish context will support better environmental policies and outcomes, and ensure they are as resilient and dynamic to adapt to future changes.

Scope

Proposals are invited that examine key global megatrends using EEA methodologies and consider their possible implications for Ireland's environment and our citizens. Proposals should focus on a detailed analysis on how selected key megatrends affect environmental objectives and include a comprehensive literature review with real world example case studies. Proposals should consider risks and opportunities, and provide actionable recommendations to enhance Ireland's resilience to identified key risks.

In addition to the final research report, proposals should consider additional outputs that may support policy makers such as a series of policy briefs in relation to specific megatrends, scenarios or sectors.

Applicants should consider, where relevant, previously funded EPA research projects and reports, as well as international work such as that from the European Environmental Agency *Mapping Europe's environmental future: understanding the impacts of global megatrends at the national level*.

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Indicators of policy impacts on progress towards climate targets

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 3**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 – 36 months

Background

There is a knowledge gap at the national level in Ireland, regarding how effective past climate and policies have been in affecting the required level of change to meet climate targets and commitments. The coherence or conflict between government policies in other domains and the expected outcomes of climate policy is largely unknown. Examining long-term trends in historical climate data in this context would provide valuable insights to optimise current and future national policy to accelerate progress towards Ireland's climate targets. This research would utilise long-term datasets from atmospheric monitoring stations in Ireland and the Environmental Protection Agency's (EPA) GHG inventory data to investigate the impacts of implemented policies over the previous 20-30 years.

Scope:

The primary objective of this research is to analyse the impacts of past and current policies in achieving climate and environmental targets. Research proposals are invited that address the following areas:

- Using national long-term datasets from atmospheric monitoring stations and incorporating EPA's GHG inventory data;
- Identifying indicators in existing historical climate data of national policy impacts;
- Determining coherence or conflicts between different economic and climate policies over time, assessing their efficacy towards climate targets;
- Providing a combined open-access and routinely updated database of historical and ongoing climate observational data from atmospheric monitoring stations to ensure availability for climate policy analysis;
- Providing recommendations for adapting existing government policies and implementing future policies.

Applicants should consider, where relevant, recent EPA-funded projects, such as *Top-Down estimates of Irish GHG's emissions using ground and satellite based observations*, *Emissions Inventory Research to improve flux estimates of GHGs and nutrients from agricultural and land*, *Understanding Ozone Levels in Ireland*, *Emission verification for nitrous oxide*, *Isotopic Tracing of Atmospheric Rivers and Irish Storm Extremes*, amongst others.

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Sources and sinks of methane in Ireland

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 4**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€495,000	**Duration:**	36 months

Background

Methane (CH_4) is the second most significant greenhouse gas responsible for global warming after carbon dioxide (CO_2). Since the 1990s, trends in atmospheric methane concentrations over Ireland have exhibited several features that warrant further scientific investigation. In Ireland, recent increased anthropogenic methane emissions are primarily attributed to agriculture and food production. Conversely, emissions from other anthropogenic sources, such as organic waste disposal, have been decreasing. Additionally, substantial biogenic sources of methane exist, including peatlands and microbial activity under anaerobic conditions. The influences of hemispheric transport from other sources are also important.

Scope

This research should use the increasing availability of observational data on methane emissions, concentrations, and sinks in and for Ireland, including data sourced from both ground-based and satellite observation systems, national inventory data, international databases, and incorporating atmospheric chemistry modelling and air mass transport modelling.

Research proposals are invited that employ this data to:

- Identify methane sources and sinks in Ireland;
- Determine the factors that influence the observed levels of methane in Ireland – both anthropogenic and natural;
- Integrate findings with national and international programs aimed at advancing the scientific understanding of atmospheric methane levels under various programmes;
- Identify and where feasible map 'hot spots' of methane emissions in Ireland or international emissions hotspots influencing observations in Ireland;
- Provide emissions reductions options or supports to manage or eliminate methane emissions in Ireland.

This research should aim to contribute to the broader scientific understanding of methane dynamics and support efforts to mitigate its impact on climate change, such as the work the Global Carbon Project and ongoing research on long-range air pollutant transport under the Convention on Air Pollution.

Applicants may wish consider, where relevant, recent EPA-funded projects, such as *Analysis of terrestrial methane emissions and impacts of peatland restoration on Ireland's Carbon Cycle.*

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Vitality and stability of carbon sinks

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 5**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€495,000	**Duration:**	36 months

Background

The uptake of carbon dioxide (CO_2) by oceans and terrestrial systems plays a crucial role in mitigating the increasing levels of CO_2 in the atmosphere. However, the vitality of terrestrial carbon and ocean sinks is threatened by climate change. Terrestrial carbon stock in soils and biomass may become more vulnerable as global temperatures rise. Ireland is expected to experience more extreme weather events and changes in seasonal patterns, impacting the growing season and other natural cycles, which could add stress to terrestrial sinks. This underscores the need for greater and more rapid reductions in greenhouse gas (GHG) emissions, particularly CO_2.

There is an increasing amount of data on CO_2 emissions and removals, including in-situ observations of atmospheric CO_2 concentrations, CO_2 flux measurements across various ecosystems, and remote sensing data from satellite observations. This data provides a valuable resource for understanding the dynamics of terrestrial carbon sinks and the factors that influence their vitality.

Scope

This research project would use the growing database of observational data on CO_2 emissions and removals in Ireland, in combination with land use analysis, ecosystem modelling, and weather and climate data, to explore the vitality of terrestrial sinks and the factors that may influence them.
Research proposals are invited that include but are not limited to the following:

- Evaluate the health and stability of terrestrial carbon sinks in Ireland;
- Determine the factors influencing emissions or removals from different land uses and ecosystems;
- Analyse the impacts on biodiversity and air quality of loss of terrestrial carbon stocks and sinks;
- Identify areas of vulnerability and where feasible establish metric and indicators of vitality for terrestrial sinks.

Applicants should consider, where relevant, recent EPA-funded projects, such as *Carbon capture and soil carbon sequestration in annual and perennial grasslands*, *Farm-Carbon: Hedgerows and other non-forest woodland carbon*, *Scenarios Quantifying land Use & Emissions Transitions towards Equilibrium with Removals*, *Evaluating Land-Use and Land Management Impacts on Soil organic Carbon in Irish Agricultural Systems*, and *Soil Organic carbon and Land Use Mapping.*

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Ex-post emissions savings for climate-related policies in Ireland

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 6**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

The EPA prepares detailed ex-ante policy and measures (PaMs) savings as part of EU reporting requirements (e.g. European Environment Agency PaMs database). These emissions savings relate to PaMs across all sectors such as Energy (Transport, Industry, Residential, Services etc), Agriculture and Land Use, Land-use Change and Forestry (LULUCF). However, there is a lack of ex-post emissions savings data for climate-related Government Policies and Measures.

This study would look at what ex-post data is available and how ex-post savings data could be generated in the future, focusing on the knowledge, technical and capacity gaps. The outcome of this work could be used to help utilise existing data, identify how this data could be collected and identify data gaps. Outputs from this project would be relevant to stakeholders such as the European Commission and Government Departments in Ireland, including Department of the Environment, Climate and Communications, Department of Enterprise, Trade and Employment, Department of Agriculture, Forestry and the Marine, Department of Transport, Department of Public Expenditure, NDP Delivery and Reform, Department of Finance and Department of the Taoiseach.

Scope

Research proposals are invited that include but are not limited to the following analyses:

- Review existing ex-post emissions savings data and methodologies;
- Identify best practice and case studies from other countries, if applicable;
- Propose methodologies for the systematic collection and reporting of ex-post emissions savings data;
- Develop guidelines for the implementation of these methodologies;
- Provide recommendations for improving the collection use of ex-post emissions savings data.

Proposals should consider engagement with relevant stakeholders, such as those listed above.
Applicants should consider, where relevant, recent EPA-funded projects, such as *Development of a Public Sector Net-Zero Monitoring Framework*.

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Integrated analysis of air pollution data in Ireland

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 7**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

Ireland has monitored levels of key atmospheric pollutants since the 1980s with measurements being carried out at a number of coastal boundary locations and inland sites. Pollutant deposition, either directly or through rain fall, impacts human health and ecosystems, but these air pollutants also influence climate change, where particulate matter is referred to as aerosols and which have cooling influences that mask some anthropogenic greenhouse gas warming.

Actions to improve air quality, in Europe and North America, have resulted in significant reductions in emissions of aerosol and precursor gases such as sulphur dioxide, nitrous oxides and ammonia. There have also been significant developments in atmospheric modelling and observation technologies including space-based and remote-sensing systems such as the EU Copernicus systems. These provide enhanced capacity for analysis of short, medium and long-range transport of air pollutants and assessment of their various influences.

The proposed research is to provide an integrated analysis of in-situ and remote-sensing air pollution data related to Ireland. This would be used to consider the performance of models across a range of scales to provide insights into changes in air pollution levels over Ireland. It will provide an approach to further integrate analysis systems and contribute to improved forecasting and inform policy responses. This will support evidence-based policymaking for air quality management, climate mitigation and climate adaptation strategies at national and European levels.

Scope

Research proposals are invited that include but are not limited to the following:

- Assess the performance of existing atmospheric models;
- Assess and integrate existing air quality data and remote sensing data;
- Analyse trends and impacts of various air quality measures over various timeframes;
- Develop and implement data integration and forecasting methods;
- Utilise these developments to engage with relevant stakeholders and provide insights and recommendations in the air quality policy landscape.

Applicants should consider, where relevant, recent EPA-funded projects, such as: *Developing Ireland's Greenhouse Gas and Transboundary Air Pollution Monitoring Network* and *Modelling air quality climate change and volcanic ash*.

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Joint probability of flood events for Ireland's coast

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 8**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000*	**Duration:**	12 - 18 months

**co-funding to be provided by the OPW*

Background

Flooding can come from multiple sources including fluvial, coastal and pluvial, and joint probability refers to the chance of two or more flood sources occurring at the same time. In the context of flood risk management, fluvial-coastal joint probability is concerned with the coincidence of extreme flows on a watercourse and high-water level from a coastal event. Several different hydro-meteorological variables contribute to these events including storm surge, river flow, rain, wind and tides. The dependency between two or more of these variables is what defines the likelihood of joint probability events. With current climate change projections, it is expected that flood events will become more frequent and severe. This will increase the importance of considering it in flood risk management, with potential increases such events.

Research is needed to examine best practices for determining joint probability dependencies and to map the joint probability for river and coastal occurrences around the coast of Ireland. The results can be used in defining flood risk parameters for flood mapping and the design of coastal and river flood defences, and to inform flood risk management.

Scope

Research proposals are invited that address, but are not limited to, the following areas:

- Conducting a comprehensive review of existing methodologies for determining joint probability dependencies;
- Identifying best practice and case studies from Ireland and other countries for determining joint probability dependencies;
- Mapping the joint probability of river and coastal flood occurrences around the coast of Ireland;
- Assessing how climate change projections might influence the frequency and severity of joint probability flood events.

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Investment in resilient infrastructure

Call Topic Reference:	**Addressing Climate Change Evidence Needs - Topic 9**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

The EPA's State of the Environment Report 2024 calls for more ambitious and transformative policy responses to set out a roadmap for achieving the transitions required across our food, energy, mobility, and production and consumption systems. It further states the need for Ireland to scale up and speed up the implementation of measures and critical infrastructure in energy, transport, waste and water to protect our environment and human health.

Investment in water, energy, transport and waste management infrastructure is essential to protect the environment now and into the future. The latest population projections undertaken by the Central Statistics Office (CSO) indicate that Ireland's population will reach 5.7 million by 2030, and it is projected to grow further to between 6.5 and 7 million by 2057 in medium- and high-growth scenarios, respectively. Persistent deficits in our energy, water and wastewater infrastructure have been called out as risking future demand from enterprises outstripping supply, representing a significant reputational risk for Ireland.

The research will explore investment in key infrastructure in medium and high-population growth scenarios. The research will include the embedding of adaptation and resilience considerations and the prioritisation infrastructure that supports long-term climate adaptation, aligns with anticipated future environmental regulations and could yield multiple environmental benefits.

Scope

Research proposals are invited that address, but are not limited to, the following areas:

- Assess current deficits and future requirements for Ireland's critical infrastructure;
- Analyse of the implications of medium- and high-growth population scenarios as projected by the Central Statistics Office (CSO) and determine the infrastructure requirements to meet the needs of a population based on these projections;
- Assess how adaptation and resilience considerations can be embedded into planning;
- Assess the impact of infrastructure investments on environmental protection and human health;
- Identify infrastructure solutions that can yield multiple environmental benefits;
- Include a stakeholder event with key semi-state and private stakeholders from across the critical infrastructure community.

Applicants may wish to consider, where relevant, recent EPA-funded projects, such as *Infrastructure climate change risk considering interdependencies and cascading hazards*, *Just resilience and adaptation in Ireland: sectors and regions*, *Transboundary Climate Risks for Island of Ireland*, *Towards a Climate Resilient Adapted National Network of Bridges*, and *Critical Infrastructure Vulnerability to Climate Change*.

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Collective Action: case studies and best practice to deliver climate outcomes

Call Topic Reference:	Addressing Climate Change Evidence Needs - Topic 10		
Project Type:	Desk Study		
Maximum Budget:	€165,000	Duration:	12 – 18 months

Background

Collective action refers to global action or multi-stakeholder collaboration. Under the National Dialogue on Climate Action, DECC are mapping community-level stakeholders across Ireland to support the achievement of climate goals. In 2024, the EPA published a report examining how behavioural science can help solve the climate collective action problems.

Building on this work, this research would investigate Irish examples of how collective action can support the joint achievement of our mitigation and adaptation climate goals and whether this is facilitated by the structure of national, sectoral and local climate objectives. Outputs from a research project would include case studies, recommendations for how to drive collective action and a toolkit for policy makers and practitioners engaged in promoting collective action.

Scope

Research proposals are invited that address, but are not limited to, the following areas:

- Identification and mapping of key stakeholders for climate action at the local, sectoral and national levels and links between these levels;
- Investigation of successful examples of collective climate action and analyses of the key factors involved in their success;
- Development of case studies that highlight best practice, challenges and key learnings.
- Development of recommendations for facilitating and driving collective climate action joining mitigation and adaptation;
- Completion of experimental research on the effects of collective action framing to promote and facilitate collective climate action in Ireland.

Applicants should consider, where relevant, recent EPA-funded projects and reports, such as *Encouraging Cooperation in Climate Collective Action Problems*, *Responding to the Energy Transition in Ireland: The Experience and Capacity of Communities* and *Developing the Potential of Community Energy Action Groups Towards Transition to a Low Carbon Society*

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Delivering a Healthy Environment (6 Topics)

Economic burden of radon-related lung cancer in Ireland and cost effectiveness of radon prevention in Irish homes

Call Topic Reference:	Delivering a Healthy Environment - Topic 1		
Project Type:	Medium Scale Project		
Maximum Budget:	€330,000	Duration:	24 months

Background

Reducing risks to our health from environmental exposures is one of the key priorities identified in the EPA's State of the Environment Report 2024. Our greatest radiation exposure comes from radon (59% of total average annual radiation dose), which is linked to approximately 350 new cases of lung cancer each year in Ireland.

The National Radon Control Strategy (NRCS) has as its overarching objective "*to minimise the exposure to radon gas for people in Ireland and to reduce to the greatest extent practicable the incidence of radon related lung cancers*". Primary prevention in new builds is the most effective way of protecting the population against radon, and strengthening radon prevention measures must be a critical element of national action to protect citizens from this modifiable cancer risk.

An analysis of the economic costs associated with radon-linked lung cancer cases was performed in 2016 and was estimated at that time to be approximately €341 million. An updated and more detailed analysis of the economic costs is now required incorporating the most up-to-date health-related data and costs.

Scope

Innovative research proposals are invited to provide an updated and detailed analysis of the economic cost of radon-linked lung cancer cases in Ireland, considering and utilising the most up-to-date health-related data and costs (including, but not limited to, lung cancer incidence rates, mortality rate, lung cancer treatment costs). The assessment should consider both direct (e.g. treatment costs) and indirect (e.g. productivity losses) costs.

Proposals should include the following:

- An in-depth assessment and cost-effectiveness analysis of a range of radon prevention strategies (e.g. installation of radon barriers nationwide, installation of passive radon sumps nationwide), taking into account current building standards, practices and associated costs;
- An evaluation of the cost effectiveness of radon interventions compared with National Institute for Health and Clinical Excellence (NICE) criteria;
- An impact analysis of radon prevention strategies with regard to lung cancer cases and deaths prevented.

In addition to the final research report, proposals should consider outputs such as policy briefs and indicators to support the implementation and evaluation of the NRCS and to inform future revisions to the Building Regulations to protect the population from radon.

Applicants should consider, where relevant, other EPA-funded research projects such as *Regulatory impact of possible radon prevention measures in new build homes in Ireland*.

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Assessment of temporal and spatial trends of persistent organic pollutants in the Irish environment and waste

Call Topic Reference:	**Delivering a Healthy Environment - Topic 2**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

Ireland is a Party to the UN Stockholm Convention with obligations including the development and periodic review of a National Implementation Plan outlining the measures taken to eliminate or restrict the intentional production, use and release of Persistent Organic Pollutants (POPs) to the environment. Ireland's first National Implementation Plan (NIP) on POPs, together with an Action Plan, setting out the tasks required to reduce the releases of unintentional POPs, was published in 2012. Article 7 of the Stockholm Convention requires Parties to update the NIP when new POPs are added. Ireland's first update of the NIP was published in 2018.

Due to the serious risks, both to human health and the environment, posed by POPs, many of these chemicals are already included in environmental monitoring programmes mostly focusing on water, air, and food. However, there is a need to collate and assess long-term monitoring and emissions inventory data to better understand trends across different media in the environment and waste.
There is also a need to identify monitoring gaps, identify how to better integrate POPs monitoring into existing environmental and waste monitoring programme, and how to develop systems to collate POPs data/tends and to make this available as open-source data. The research should also consider relevant published POPs inventory emissions data for air. Separately it should update where relevant the release inventories of unintentionally produced POPs.

Scope

Research proposals are invited that address, but are not limited to, the following areas:

- Collation and assessment of long-term monitoring data for POPs in Ireland, across different media types, including water, air, food, and waste, and analyse any trends in emissions and concentrations to better understand fate and sources of these chemicals, long terms trends, and their environmental impact;
- Synthesis and review of evidence from relevant research and projects related to POPs in Ireland, including EPA research and reports. Overview of any policy, regulatory and implementation needs identified;
- Identification of gaps in current POPs monitoring programs and determination of areas where additional monitoring efforts are needed to ensure comprehensive coverage. As part of this assessment consider the three PFAS substances PFOS, PFOA and PFHxS that are designated as POPs under the Stockholm Convention;
- Exploration of potential for integration of POPs monitoring into existing environmental and waste monitoring programs and development of potential strategies for seamless integration to enhance overall monitoring effectiveness;
- Review of inventories of unintentionally produced POPs, and updates to these release inventories of unintentionally produced POPs where necessary.

Continued …

Applicants should consider, where relevant, recent EPA-funded projects and reports, such as *Investigating PFAS from Source to sink*, *Assessment of the environmental contamination of Irish soils and sediments with hazardous chemicals*, *Persistent Organic Chemicals in the Irish Waste Stream*, *Elucidating Levels and Pathways of Human Exposure in Ireland to POP-BFRs and PFOS*, and *Furthering understanding of emissions from landfilled waste containing POP-BFRs and PFOS.*

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Regulatory gaps and emerging challenges in Ireland's distilling sector

Call Topic Reference:	**Delivering a Healthy Environment - Topic 3**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Whiskey fungus (*Baudoinia compniacensis* (Smith)) is associated with the distilling industry and grows in areas where spirit maturation occurs. Fungal colonies appear as a black sooty surface on trees and buildings, which can be a visual nuisance to local property owners and communities, and studies have raised concerns about potential for respiratory health impacts. With the distilling sector in Ireland expanding, the presence of the fungus could become a more common issue. However, it is not covered by current regulations and there is no clear international best practice for licensing and enforcement of activities that facilitiate Whiskey fungus growth.

In addition to the visual impacts caused, emissions from distilleries, which lead to the growth of this fungus, are relevant in the context of planned regulation of non-methane volatile organic compounds under the National Emissions Ceiling Directive as well as for the emissions inventory, under which data on distilleries is required. Furthermore, the lack of evidence of health impacts suggest that the potential risk is low; however, there is still a lack of knowledge in this area.

Scope

Research is required to review current knowledge, including regulatory approaches in other distilling regions, the causative link between spirit maturation and biological growth and potential human health impacts. A critical output of this project will be recommendations for existing/available and potential abatement techniques and regulatory controls that could be used to control and mitigate this issue on licenced sites in Ireland.

Outputs from the project should include guidance notes and toolkits for licencing and enforcement practitioners as well as recommendations for further research.

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Artificial intelligence and other novel tools to undertake market surveillance for restricted chemicals

Call Topic Reference:	Delivering a Healthy Environment - Topic 4		
Project Type:	Desk Study		
Maximum Budget:	€165,000	Duration:	12 – 18 months

Background

Fluorinated-gases (F-gases) are controlled under the F-gas Regulation as they are potent greenhouse gases as well as having significant environmental and health impacts through their reaction to form highly persistent chemicals, such as poly-fluoroalkylated substances (PFAS) compounds. These compounds are widely used due to their resistance to chemical breakdown in applications including refrigeration fluids, firefighting foams, medical devices and a large variety of industrial processes.

The F-Gas Regulation limits the amount of F-gases that can be placed on the market in the EU through phased reductions in imports. However, F-gases are also known to be entering the EU market through illegal imports which are bypassing EU Regulations.

Market surveillance refers to activities to monitor the compliance on products placed on the Irish market with EU legislation and significant environmental gains can be achieved by better controlling the illegal import of these chemicals. The EPA is the market surveillance authority for F-gases and other restricted chemicals placed on the Irish market under the Market Surveillance Regulation. The EPA has related obligations in relation to follow-up enforcement under the F-Gas regulation and the Chemicals Act 2008 (for PFAS and a wide range of chemicals).

Scope

Research proposals are invited to explore artificial intelligence (AI) tools and novel methods for conducting market surveillance of illegal F-gas sales, other PFAS compounds as well as other chemicals restricted under REACH and persistent organic pollutant POPs regulations. These chemicals may be present in blends and mixtures or branded products and therefore several hundred variables may exist.
Project outputs should include, but not be limited to:

- A review of best practice market surveillance for restricted chemicals in other European Member States and further afield;
- An AI toolkit, capable of searching for a wide range of restricted chemical compounds and identifying specific chemicals for further analysis by the market surveillance authorities; and
- Guidance that will support policy makers and market surveillance authorities to develop and implement coherent policy approaches to control the illegal imports of these restricted chemicals.

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Greening of test methods used by regulatory chemistry laboratories

Call Topic Reference:	**Delivering a Healthy Environment - Topic 5**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

Regulatory chemistry laboratories employ highly regulated chemical analyses, with compliance with regulatory needs required to take higher priority over considerations of the environmental impact of the analytical methods.

This research will investigate whether test methods used by regulatory chemistry laboratories can be made more environmentally sustainable while still meeting regulatory requirements. It will include an analysis of current methodologies and their impacts, whether they can be adapted to reduce their environmental impact or be replaced by new, more environmentally friendly test methods, what accreditation might be required and identifying where further research might be required to develop new testing methodologies.

Outputs will include research reports and briefs that could be provided to bodies such as the European Reference Laboratories, standardization bodies like CEN and ISO, and European Working Groups to inform policy development in regulatory areas.

Scope

This could involve research in any of, but not limited to, the following areas:

- Evaluation of the environmental impact of current chemical analysis methods in regulatory chemistry laboratories;
- Adapting existing methods in regulatory chemistry laboratories to make them more environmentally sustainable;
- Investigation of the potential for alternative, more environmentally sustainable test methods;
- Feasibility study for alternative test methods to be implemented in the Irish regulatory setting, including assessment of accreditation needs;
- Identification of knowledge gaps and areas of further research to aid in the development of replacement sustainable testing methods.

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Addressing nitrogen pollution in Ireland - developing a sustainable nitrogen management approach

Call Topic Reference:	**Delivering a Healthy Environment - Topic 6**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

The recent Global N_2O Assessment emphasizes the need to address the climate, ozone, health, air, and water quality issues posed by nitrogen pollution. Global anthropogenic N_2O emissions are predominantly a result of synthetic nitrogen fertiliser and manure use in agriculture. Ireland's N_2O emissions reflect this trend at a national scale and the EPA's State of the Environment Report 2024 highlights the impacts of this pollution on water and air quality.

The Water Action Plan commits to measures that will deliver multiple policy objectives and requires linkage with the Climate Adaptation Plans, Marine Spatial Planning, Flood Risk Management Plans, Biodiversity Action Plans as well as seeking to have Water Action Plan objectives included in future plans and policies. Furthermore, the State of the Environment Report highlights the need for a coherent national policy position on the environment and the need to close the implementation gap in existing legislation to improve the environment.

Scope

Research proposals are invited that aim to combine international and national frameworks to tackle nitrogen pollution sources to develop a "sustainable nitrogen management approach."
Project outputs should include but not be limited to:

- Policy document to highlight framework and policy synergies that can be leveraged to take a comprehensive approach to tackle nitrogen pollution issues;
- Cases studies of complementary and conflicting policy implementation and their impact on N pollution indicators, e.g., N_2O (GHG emissions), nitrate concentrations (water quality) and ammonia emissions (air quality);
- Other relevant outputs such as multi-stakeholder workshops.

Applicants should consider, where relevant, recent EPA-funded projects, such as *Emissions Inventory Research to improve flux estimates of GHGs and nutrients from agricultural and land*, *AgriBenchmark- benchmarking sustainable nutrient management on Irish farms*, *Framework for Achieving Environmental Sustainable Development Goals (SDGs)* and *Identifying Interactions for SDG Implementation in Ireland*.

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Facilitating a Green and Circular Economy (6 Topics)

The effect of market prices, regulations and fiscal measures on the recycling rate of key waste streams

Call Topic Reference:	Facilitating a Green and Circular Economy - Topic 1		
Project Type:	Desk Study		
Maximum Budget:	€165,000	Duration:	12 – 18 months

Background

The EPA's State of the Environment 2024 report states that a circular economy strives to minimise the consumption of new and virgin materials while increasing reuse and use of secondary or recycled materials. Extracting primary materials has negative environmental impacts such as biodiversity loss, land use degradation, water quality pressures and carbon emissions. When discarded, these materials contribute to waste generation with further negative environmental impacts. Ireland's Circular Material Use Rate (CMUR) – a key metric used to measure circularity in EU member states –is well below the European average, highlighting the urgent need for systemic change to accelerate the transition to a circular economy.

The potential of shifting to a circular economy is emphasised, for example, in The Future of European Competitiveness report, which states that more than 50-75% of the EU's metal requirements for clean technologies could be met through European recycling by 2050, with a recommendation to establishment a true Single Market for waste and circularity to achieve this.

Effective regulation, incentives and enforcement are required to influence businesses and consumers to adopt best practices in production, supply, purchasing, use and reuse of goods, products and services.

Scope

Research proposals are invited to assess tools such as market prices, regulatory requirements and fiscal incentives and measures that are available to achieve an increase in reuse and secondary material use. The research should consider the combined potential of these tools if an integrated approach was adopted to ensure policy alignment.

Project outputs should include, but not be limited to:

- A review of potential tools which could be adopted by Government policy makers to increase reuse and use of secondary materials in priority areas (electronics and ICT; batteries and vehicles; textiles; packaging; plastics; construction and buildings; food, water and nutrients);
- Guidance for Circular Economy stakeholders to increase their knowledge and understanding of how such tools can increase secondary material use, improve CMUR, and support Ireland's just transition to a circular economy.
- A framework for the implementation of potential tools by Government policy makers.

Applicants should consider, where relevant, recent EPA Research reports, such as: *A Critical Analysis of Ireland's Circular Material Use Rate (CAIR), Research 478: Critical Raw Materials for Ireland for a Resource-Efficient Circular Economy (CIRCLE),* as well as other EPA-funded research projects such as *Barriers and Enablers to Ireland's Circular Economy.*

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Optimal extended producer responsibility (EPR) models for the circular economy

Call Topic Reference:	**Facilitating a Green and Circular Economy - Topic 2**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Extended producer responsibility (EPR) is recognised by the European Commission (EC) as a key policy tool to accelerate our transition from a linear economy to a circular economy. Ireland uses the EPR model to manage a number of waste streams (packaging, batteries, waste electrical and electronic equipment (WEEE), end of life vehicles (ELVs), tyres and farm plastics). New EPR schemes were also recently introduced for certain single use plastics (SUP) such as wet wipes and fishing gear to meet EPR obligations under the SUP Directive. Producer Responsibility Initiatives (PRIs) have been developed for these waste streams based on the 'producer pays' principle, to ensure producers are responsible for financing the collection, sorting and treatment of their products at end of life.

The Waste Action Plan for a Circular Economy contains a commitment to review objectives and practices of EPR schemes to capitalise on circularity potential and the Programme for Government 2025 also highlights the need to expand EPR schemes to include accountability for the full lifecycle of product. At an EU level, a new EPR scheme is proposed for textiles under a targeted amendment of the Waste Framework Directive, and a Circular Economy Act is anticipated. This enhanced EU legislation presents challenges and opportunities for the EPR sector.

The last review of the PRI model in Ireland was published over ten years ago and there have been significant developments in circular economy legislation and technology since then.

Scope

Research proposals are invited to analyse existing EPR models used in Ireland to assess if a more harmonised system should be developed. Consideration should be given to how the EPR system can increase circularity to move beyond recycling and recovery; promote sustainable practices that extend the life of products and reduce waste; and empower consumers to consider eco-design, material reuse, repair, refurbishment and remanufacturing.

Project outputs should include, but not be limited to:

- A review of existing EPR models used to Ireland including an assessment positives and negatives attributes.
- A review of EPR models adopted in other member states and identification of key case studies that demonstrate best practice.
- Guidance for Government policy makers to support in the development of an optimal EPR model for Ireland.

Applicants should include, where appropriate, approaches for engagement with relevant stakeholders. Applicants should consider, where relevant, previously funded EPA research projects and reports, such as A Review of Circular Economy and Bioeconomy Governance in Ireland, and Forecasting WEEE Arising for Electric Vehicle Batteries and Photovoltaic Panels in Ireland.

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The fate of post-consumer textiles exported from Ireland

Call Topic Reference:	**Facilitating a Green and Circular Economy - Topic 3**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

A separate collection mandate for textiles came into effect on 1 January 2025 under the Waste Framework Directive and will likely result in a significant increase in the volume of textiles collected in Ireland. As outlined in the recently published Circularity Gap Report Ireland - Post-Consumer Textiles, Ireland has the second highest rate of textile waste generation per capita in Europe, with an estimated two thirds of Ireland's post-consumer textiles not being separately collected and generally incinerated in waste-to-energy plants. The majority of Irish post-consumer textiles separately collected and destined for reuse, are exported on the global second-hand clothing market. However, there is significant uncertainty regarding the volume of exported textiles, the nature and quality of these textiles and their ultimate fate.

Having a clear understanding of the fate of Ireland's exported used textiles will be important, if as expected, extended producer responsibility (EPR) obligations for textiles are introduced in the future under the targeted amendment of the Waste Framework Directive.

Scope

Innovative research proposals are invited to address knowledge gaps on the nature and extent and fate of Ireland's exported post-consumer textiles. The research should investigate the complex flows of Ireland's used textiles in a global market, from the initial first destination country through to the final destination country.

Project outputs should include, but not be limited to:

- A review of the fate of Ireland's exported post-consumer textiles which includes:
    - The quality and quantity of exported textiles;
    - Identification of the main final destinations of exported textiles and main transit countries prior to final destination;
    - The final use of the exported textiles in the destination market.
- A guidance document for policy makers providing improved knowledge and understanding on the fate of Ireland's post-consumer textiles exported for reuse to enhance transparency and inform the development of an EPR model for textiles.

Applicants should consider, where relevant, previously funded EPA research reports and EPA reports such as Estimating the Quantity of Electrical and Electronic Equipment (EEE) Exported from Ireland As Used EEE; Developing a Circular Textiles System for Ireland and Nature and Extent of Post-Consumer Textiles in Ireland (an update of this report will be commissioned later this year).

Other potentially relevant information includes the Circle Economy report on the Destinations of Dutch Used Textiles, the EEA report on EU exports of used textiles and relevant national and local government resources available on www.gov.ie, such as the upcoming National Policy Statement & Roadmap on Circular Textiles and meetings of National Textiles Advisory Group.

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Monitoring system of the environmental and social sustainability and circularity of industrial biobased systems

Call Topic Reference:	**Facilitating a Green and Circular Economy - Topic 4**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 months

Background

The Programme for Government (2025), the National Policy Statement on the Bioeconomy and the Bioeconomy Action Plan 2023-2025 state the Government's vision for the bioeconomy is to grow Ireland's ambition to be a global leader for the bioeconomy. This will be through a coordinated approach that exploits the opportunities available, while monitoring and avoiding unintended consequences, including supporting and developing Ireland's bioeconomy in tandem with the circular economy.

Biorefineries are the core of the bioeconomy and industrial biobased systems, which sustainably transform biomass into value-added products and energy in respect of sustainability and circularity considerations. The value-added of the EU bioeconomy is estimated at EUR 614 billion (2017), out of which circa 65% is related to agriculture and food sectors, 19% to forestry and wood-based industries and 16.5% to other bio-based industries in the EU27.

The European Commission have launched an EU Bioeconomy Monitoring System to provide a comprehensive overview of European trends in indicators related to the EU Bioeconomy. The environmental, social, and economic assessment of Ireland's current and prospective industrial biobased system is required to monitor its contribution and path its course to support sustainable development, a circular economy and a just transition in moving from a linear fossil-fuel based economy to a circular bioeconomy. It is also necessary to identify the status quo, outline regional and multi-value chain opportunities and develop how to monitor for unintended consequences.

Scope

Innovative research proposals are invited to assess the whole life cycle of selected industrial bio-based systems and their products. Circularity and environmental assessments would consider climate change (mitigation and adaptation), land use, water resources and biodiversity impact as priorities, but also air, water quality, and soil quality, cascading use and waste generation. Climate impacts should also consider both greenhouse gas emissions as well as the carbon removal potential of biobased systems. Social impact assessments should consider the employment impacts of scaling up biobased innovations, and trade-offs and synergies between economic and social objectives, to ensure the transition to circular bioeconomy is sustainable, just and equitable.

Project outputs should include, but not be limited to:

- Development of scientifically robust metrics and performance benchmarks using available data, to develop an industrial biobased monitoring system;
- A digital decision-making tool, based on the monitoring system, for use by relevant stakeholders for the evaluation of the circularity, environmental and social impacts of biobased systems;
- Guidance for policymakers, stakeholders, and investors on how to use the monitoring system and associated decision-making tool to support the best performing biobased systems/sectors, leverage investments and ensure competitive solutions.

Continued …

Applicants should consider the on-going INFORMBIO and BioValue projects funded by Department of Agriculture, Food and the Marine.

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Analysis of packaging re-use systems for Ireland

Call Topic Reference:	**Facilitating a Green and Circular Economy - Topic 5**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Ireland generated 1.2 million tonnes of packaging waste in 2022, which included 29% plastic packaging and 32% of this plastic packaging was recycled. Under the EU Plastics Own Resource (POR) all member states must pay a new contribution to the EU budget and the amount each country must pay is based on the proportion of plastic packaging waste generated in the country each year and which is not recycled. In 2022, Ireland generated 234,000 tonnes of non-recycled plastic packaging which totalled to a POR contribution of €187 million.

The new Packaging and Packaging Waste Regulation (PPWR) which entered into force in February 2025, sets mandatory targets for packaging waste reduction, restricts certain single use plastics (SUPs) and establishes quantitative re-use targets for packaging, and requires the establishment of incentivised re-use systems. From January 2030, operators using transport/sales packaging (for example pallets, drums, crates, boxes) shall ensure 40% of packaging is reusable withing a re-use system and this target will increase to 70% reusable by 2040.

Scope

Research proposals are invited to identify optimal re-use systems for packaging in Ireland, particularly in the non-HORECA (hospitality, restaurant cafe) sectors, such as business-to-business (B2B) transport/distribution sector and in the import and export of goods.

Project outputs should include, but not be limited to:

- A review of best practice packaging re-use schemes in other member states (MS) which are applicable to the Irish context, noting the majority of MS have different urban patterns and shorter supply chains;
- Guidance for Government policy makers and industry stakeholders to increase their knowledge on how to develop the eco-design of Irish transport/sales packaging and a re-use system for such packaging.

Applicants should consider, where relevant, recently EPA-funded Research and EPA reports such as Packaging Waste Statistics, Producer Motivations and Consumer Behaviour, and the Circular Economy and Waste Statistics Highlights Report 2022

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Assessing Ireland's waste system and its implications on waste capacity

Call Topic Reference:	**Facilitating a Green and Circular Economy - Topic 6**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Approximately 15.7 million tonnes of waste was generated in Ireland in 2022, which was primarily treated through privately-owned and operated waste-to-energy facilities, co-incineration plants, landfills and recycling and recovery facilities. As stated in the EPA's State of the Environment Report 2024, Ireland remains overly reliant on export markets for the treatment of many waste streams including residual municipal solid waste (MSW), hazardous waste, packaging waste and, more recently, biowastes. The capacity to manage MSW and construction and demolition (C&D) waste continues to be under pressure, particularly for hazardous soil and stone wastes.

There is limited resilience in the Irish waste treatment system to deal with market requirements or unforeseen events that can generate increased volumes of waste and challenge capacity. Improving Ireland's self-sufficiency in waste treatment and expanding domestic waste and recycling capacity for residual MSW and C&D waste is essential to build resilience and for Ireland to transition to a circular economy. Research is needed to inform policy development and the effective regulation and management of Ireland's waste treatment capacity.

Scope

Research proposals are invited, but not limited to:

- Assess the current vulnerabilities of Ireland's waste management and regulatory system and the associated implications on the national waste capacity;
- Evaluate the risks associated with Ireland's reliance on export markets for the treatment of several wastes streams;
- Evaluate how the Irish waste management and regulatory system compares to other EU Member States and the United Kingdom to identify common issues and potential solutions;
- Develop policy and regulatory recommendations to mitigate identified risks and build resilience in Ireland's waste treatment capacity.

Project outputs should include, but not be limited to:

- A review of Ireland's waste management and regulatory system and national waste capacity;
- Development of case studies from Member States and the UK that demonstrate best practice waste management systems that are both resilient and have the adaptive capacity to respond to changing circumstances;
- Guidance for waste management and circular economy stakeholders to support policy and regulatory development aimed at addressing the current vulnerabilities of Ireland's waste treatment system and build resilience in Ireland's waste capacity.

Continued …

Applicants should consider, where relevant, recent EPA-funded research reports and EPA reports such as A Review of Circular Economy and Bioeconomy Governance in Ireland and Circular Economy and Waste Statistics Highlights Report 2022 and the National Waste Management Plan for a Circular Economy 2024-2030.

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Protecting and Restoring our Natural Environment (7 Topics)

Assessing the impact of landscape fragmentation on ecosystems

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 1**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Land take, urban sprawl and economic activities lead to landscape fragmentation, creation of physical barriers through building of roads, railways, and physical barriers such as walls and housing. It is also driven by forestry and agricultural land uses where one habitat type can be removed or converted to another type, decreasing the resilience of ecosystems. The European Environment Agency (EEA) has highlighted that monitoring fragmentation supports policy actions that aim to ensure remaining land can deliver across a wide range of societal needs. Although the EEA ranks landscape fragmentation in Ireland as one of the lowest in the EU, the National Biodiversity Indicators rate the threat from fragmentation as "Amber" on a Red-Amber-Green scale. Phase 1 of the Government's Land-use Review recommends that fragmentation data for Ireland should be combined with ecological data to determine where fragmentation is having the most acute impact in Ireland, and what thresholds should apply for different habitat or land-use types.

Scope

Recommendation 13 of the Land-use Review advises that research is required to integrate the use of a fragmentation map – such as the EEA map – with ecosystem extent and condition data to assess the impact of fragmentation on ecosystems and whether the impacts are greater on some habitat types than others. Research proposals are invited that will:

- Assess fragmentation drivers and risks in Ireland and create a fragmentation map. Data from the new national landcover map, or a further derived product, could help to identify the potential for increasing landscape connectivity (biodiversity corridors etc). This could, for example, subdivide fragmented areas into those that have potential to increase connectivity in the short term.
- Examine how fragmentation data could be used to inform and guide targeted policy or planning interventions.

The outputs from this research would be of relevance for ongoing work on national land use as well as in the context of the Nature Restoration Law and should include maps, risk rankings, guidance and toolkits. Applicants should consider, where relevant, recent EPA-funded projects, such as Reframe: Landscape Character Assessment and the National Land Cover Map.

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Novel methods to remotely detect peat removal at scale

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 2**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000*	**Duration:**	12 – 18 months

**to be co-funded by NPWS*

Background

An EPA licence is required for peat extraction in excess of 50 ha. The ability to automatically detect potential peat removals that exceed this threshold and are not licenced would help the EPA to target necessary actions. Recent developments in earth observation technology and the use of AI have shown increasing promise in correctly identifying particular land uses and changes to land use. Furthermore, the use of remotely sensed images has become part of data and evidence gathering in regulatory authorities.

Scope

The EPA has assessed the use of satellite imagery (using optical and SAR analysis) to track unauthorised peat removal and invites researchers to build on this existing work.

Research proposals are invited that will:

- Develop novel image analysis and categorisation or combination of approaches to help develop a peat extraction monitoring tool for Ireland;
- Identify suitable images to use in environmental enforcement and strategies for rapid detection of change;
- Assess the ability to detect the use of different harvesting approaches, year-round usability and changes in parameters other than area, e.g., slope;
- Assess the barriers to operationalisation of change detection or image classification tools in environmental enforcement work. The EPA assessment has identified the high return of false positive results as one barrier to be addressed.

Proposals should consider peat extraction as a specific use case for the application of image classification in a wider context of using image classification approaches to identify changes linked to other environmental crime, and how these approaches can be operationalised in environmental enforcement.

In addition to the final research report, outputs of the project should include tools and scripts.

Applicants should consider, where relevant, recent EPA-funded projects, such as The Use of Earth Observation and Machine Learning for Waste Crime identification and prevention, Habitat mapping, assessment and monitoring with high resolution imagery and Identification, mapping assessment and quantification of the effects disturbance on the peat soil C stock in Ireland, as well as other relevant ongoing projects, such as AI2Peat.

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Impacts of dams, in-stream barriers and hydromorphological alterations on thermal regimes in water bodies

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 3**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€660,000	**Duration:**	48 months

Background

Good hydromorphological conditions are required to create and maintain diverse aquatic habitat for invertebrates, fish and plants, which in turn support healthy aquatic ecosystems and good ecological status. The EPA has identified hydromorphological alteration as the second most significant pressure on water bodies in Ireland. Activities causing hydromorphological pressures include impoundments and other instream barriers which alter the natural distribution and timing of river flows. Alterations to the natural hydrological regime may in turn disrupt the thermal regime of water bodies.

The related Abstractions and Associated Impoundments Regulations, which came into operation in 2024, require an understanding of the risk posed to water bodies and their environmental objectives due to abstraction and impoundments associated with abstraction. However, while there are policy and plans driving action in this area, there is a knowledge gap in relation to the impact of large impoundments, small-medium in-stream barriers, and hydromorphological alterations on the thermal regime of waterbodies.

Scope

Innovative research proposals are invited that:

- Examine the impacts that both impoundments associated with abstraction, and other small-medium in stream barriers identified as part of the National Barriers Programme, may have on the thermal regime of water bodies.
- Assess the influence of the operating regime (particularly for large impoundments), and how impacts on the thermal regime might be mitigated or exacerbated by physical characteristics of the water body e.g. river channel shape and riparian shading.
- Provide a better understanding of the impacts of altered thermal regimes on biological communities in Ireland, in particular those monitored as part of the Water Framework Directive. This will support monitoring and assessment of these pressures and the design of measures to mitigate against them, as well as inform the management of impoundments now and in the future.

Outputs from this research might include a risk-based approach for use in the assessment of abstraction licences, a dataset of water body temperature at selected hydromorphologically altered sites, a model to predict changes in thermal regime in impacted water bodies.

Applicants should consider, where relevant, recent EPA-funded projects, Guidance for Regulatory Standards in Hydromorphology for Surface Waters in Ireland and Assessment of extent and impact of barriers on freshwater hydromorphology and connectivity in Ireland.

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Building the evidence base for water reuse in a changing climate

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 4**		
Project Type:	**Medium Scale Project**		
Maximum Budget:	€330,000	**Duration:**	24 – 36 months

Background

The EU Water Reuse Regulation, which came into effect in June 2023, sets out minimum requirements for water reuse and seeks to support the management of water resources through the practice of reusing treated wastewater for irrigation in agriculture. A recent study which evaluated the applicability of water reuse for agricultural irrigation in Ireland, highlighted a number of key knowledge gaps in this area.

There is no specific requirement on EU Member States to implement the Water Reuse Regulation. However, there is a reporting requirement for Member States on the appropriate application of the Regulation, which is repeated on a six-yearly cycle. In Ireland, the application of water reuse for agricultural irrigation is not currently a necessity due to prevailing climatic conditions. However, given the impacts of climate change, there may in the future be a demand for water reuse.

Scope

Research is required to understand the drivers and potential for water reuse for irrigation in agriculture across the knowledge gaps identified. As there is a wide scope for potential research in this area, proposals are invited that address water reuse from some or all of the following perspectives:

- Governance and Regulation;
- Identification of areas suitable for water reuse;
- Pilot water reuse projects;
- Consumer Sentiment.

This should include but may not be limited to understanding water reuse in the context of legislative requirements and policy cohesion, particularly between the Water Action Plan, Food Vision 2030 and the Climate Action Plan.

Applicants should consider, where relevant, previous EPA-funded projects, such as Water Reuse in the Context of the Circular Economy and A Framework for Catchment-based Digitally Integrated Industrial Water Stewardship.

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Long-term river flow statistics in the context of changing climate

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 5**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Long-term river flow statistics are used in a range of regulatory applications including determining emission limit values in discharge licences, assimilative capacity calculations and loading estimates.

The significance of climate induced changes, especially on low-flow statistics, are only partially understood, and a consistent evidence-based approach is needed to determine which time periods are representative for inclusion when calculating low-flow statistics for current and future flow conditions.

Scope

Research is needed to develop an improved methodology for generating low-flow statistics at EPA river gauges to account for temporal changes in climatic conditions in recent decades. With both longer and shorter flow records at hundreds of river gauges across the Island of Ireland, a consistent approach for devising low-flow statistics which represent current and future flow conditions is of key importance.

Outputs should include a review of methodologies in use elsewhere, a summary report of findings with recommendations of the best approach to assess low-flow conditions at Irish rivers and a guidance methodology document for internal EPA regulatory applications for assimilative capacity.

Applicants should consider, relevant findings in recent EPA-funded projects, such as HydroPredict - Ensemble Riverflow Scenarios for Climate Change Adaptation and IHRN: Update and Expansion of an Irish Hydrometric Reference Network for monitoring climate signals.

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Improving the efficiency of Strategic Environmental Assessments by focusing on significant environmental effects

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 6**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

Strategic Environmental Assessment (SEA) is the process by which environmental considerations are required to be fully integrated into the preparation of certain plans and programmes prior to their adoption. The objective of SEA is to provide for a high level of protection of the environment by ensuring that 'the likely significant effects on the environment' of a plan or programme are identified, decribed and evaluated. In practice, the assessments can often be overly complex and extensive, due to a tendency for SEA practictioners to scope issues in rather than exclude them. This has time and resource implications and can impact on the decision-making process and the delivery of the plan.

Appropriately determining the scope of SEA is critical to ensure that the assessment is focused and that proportionate emphasis is placed on the environmental topics of greatest relevance and significance in the context of the plan being assessed. This will ensure that that resources are directed at achieving positive environmental outcomes, while also helping to avoid unnecessarily lengthy and complex documentation that can delay decisions and increase costs.

Scope

Research proposals are invited that will consider the range of environmental topics required to be considered in SEA with a view to identifying sector-specific significant environmental effects which should be given greater priority in the assessment and in subsequent implementation and monitoring. Improving the scoping process will enable SEA practitioners to rationalise the assessments and focus on significant matters, thereby helping to improve environmental outcomes and deliver more efficient (and less costly) assessments.

Proposals should include outputs such as case studies, guidance documentation and toolkits for effective scoping in SEA for the sectors covered in the SEA Directive.

Applicants should consider, where relevant, recent EPA-funded projects and research reports, such as the Second Review of SEA Effectiveness.

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Determining environmental impacts on landscape – understanding landscape sensitivity in assessment of strategic plans and programmes

Call Topic Reference:	**Protecting and Restoring our Natural Environment - Topic 7**		
Project Type:	**Desk Study**		
Maximum Budget:	€165,000	**Duration:**	12 – 18 months

Background

New EU Directives and Regulations to rapidly advance strategic projects under the EU Green Deal (e.g., those related to renewable energy, critical raw materials and net-zero technology) establish procedures to replace project-level assessment of environmental impacts (EIA) with strategic environmental assessment (SEA) at the level of plans and programmes. These may encompass national, regional and local levels. It has been highlighted that there is a lack of a consistent national approach on assessment of impacts on landscape change, which may pose a risk for future planning. Current landscape-change assessments in Ireland are mainly conducted at the local authority level, which can lead to inconsistencies and variability in data which provide the baseline for strategic environmental assessments (SEA) of plans and programmes. Furthermore, there is also a reliance on guidance from the UK and Scotland on landscape sensitivity, which may not take the Irish and EU legislative context sufficiently into account.

Scope

Research is required to examine how a system for classification of landscape sensitivity can be developed nationally, identifying parameters available from national and European Union datasets, to improve assessment of environmental impacts on landscape of plans and programmes.

The outputs will inform the development of future national planning statements, actions and measures and may include maps, guidance documentation and toolkits. This will be used to provide a consistent approach to SEA monitoring of national plans and programmes for landscape and cumulative effects and to identify data required for this to streamline environmental assessments.

The project outputs should include:

1. Literature review of current best practice for classification of landscape sensitivity for the purposes of SEA of plans and programmes within EU Member States. This should also include a review of European Commission datasets which could be used in Ireland and in use by other EU Member States (first 6 months);
2. To take into account transboundary effects for SEA, commonalities between EU best practice identified and current practice within Northern Ireland/UK should be included;
3. Technical workshop for Departments which are competent authorities for SEA and for members of the National SEA Forum to inform outputs;
4. Technical report on methodology to ensure repeatability;
5. A briefing note for policy makers to inform future national guidelines to be issued and/or white paper by Government for public consultation;
6. Presentation to the National SEA Forum of final results.

Continued …

Applicants should consider, where relevant, EPA Guidance, recent EPA-funded projects, such as ReFRAME and the work of the Land Use Review, Phase 1 and Phase 2. Furthermore, recent European Commission guidance on environmental assessment under new legislation should be consulted.

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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 2025:

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.