



Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil



EPA Research Programme 2021-2030

Emissions Statistics Research Fellowship Call 2021 – Technical Description Document

October 2021

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

Emissions Statistics Research Fellowship Call 2021

This document provides the Technical Description for the Environmental Protection Agency (EPA) Emissions Statistics Research Fellowship Call 2021. Applicants should read the following carefully and consult the other documentation provided (e.g. 2021 Guidelines and Terms & Conditions).

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Introduction

EPA Research 2030¹ 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.

Environmental policies must be underpinned by an in-depth level of knowledge that needs to be delivered through a systematic programme of environmental research and assessment. Research can play an important role by generating evidence that will support the design and implementation of effective and robust policy, evaluate its outcomes, and demonstrate its value. EPA Research 2030 will further our understanding of our environmental and natural systems. It will enable the outcomes from research to be put in action to protect and improve our natural and built environment.

The EPA Emissions Statistics team is responsible for compiling the inventories and projections of greenhouse gas emissions for Ireland and for reporting the estimates to the European Commission and the United Nations Framework Convention on Climate Change (UNFCCC). Over the last number of years this has involved a significant increase in the National demand for further analytical capability centred more on supporting the reporting and accounting of actions to tackle climate change.

The Climate Act places a central role in legislation for the EPA Inventories and Projections to be used to assess the projected impact of actions and to verify their delivery. To support this need requires that the EPA be able to critique and assess the proposed and implemented measures and to assess the outputs of different modelling approaches with a view to reinforcing the robustness of both Inventory and Projections.

Thematic Research Approach

EPA Research 2030 thematic structure comprises four interconnected hubs that bring an integrated and cross-sectoral approach, enabling holistic management and protection of our environment.

¹ <https://www.epa.ie/our-services/research/epa-research-2030/>

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.

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.

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 risks and benefits, and to identifying appropriate policy and behavioural responses.

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.

Funding Structure

Proposals for Research Fellowships are invited for a maximum term of 24 months, with a maximum budget of €180,000.

Application Process

Making an Application

Applications **must** be made online at <https://epa.smartsimple.ie>

You will also need to refer to the following documentation, which is available to download from the EPA's Online Grant Management and Application Portal or from the EPA website²:

1. 2021 Guidelines and Terms & Conditions; and
2. EPA Online Grant Management and Application Portal System User Guides.

² <http://www.epa.ie/our-services/research/>

IMPORTANT

Please refer carefully to the Technical Description Document and ensure that you choose the correct Call Topic Reference when creating your application on the EPA's Grant Management and Application Portal as **mistakes will not be rectified**.

For all co-funded topics, **researchers may not apply for or participate in projects that are to be co-funded by their organisation, even if their organisation would not be in receipt of funding.**

Deadlines

It is the responsibility of the Applicant to ensure that proposals are submitted before the call deadline, and the responsibility of the relevant Research Proposal Authoriser (i.e. Research Offices/Managing Directors for companies) to ensure that proposals are authorised before the organisational approval deadline. Deadlines are absolute and are enforced by the system automatically. Discussion WILL NOT be entered into in the case of late submissions and/or approvals, how-so ever caused. **The EPA's decision in this matter will be FINAL.**

FAILURE TO MEET EITHER OF THE DEADLINES OUTLINED MEANS THAT YOUR PROPOSAL WILL NOT BE CONSIDERED FOR FUNDING.

Eligibility Criteria

- Proposals that exceed the maximum duration and/or request funding in excess of the maximum specified in the Technical Description for the call topic will be deemed invalid and will not proceed to the evaluation stage.
- Proposals which do not use the correct templates will be deemed invalid and will not proceed to the evaluation stage.
- Proposals which do not address the scope of the call topic under which they are submitted, will be deemed invalid and will not proceed to the evaluation stage.
- Applications for funding will only be considered where the lead applicant organisation is located³ on the island of Ireland.

All research proposals must build on findings and recommendations from past and current research⁴ projects (where relevant).

Open Access and Open Data

All projects must comply with the EPA's Open Access Policy available from: <http://www.epa.ie/our-services/research/epa-research-2030/strategies-and-policies/open-access-policy/>

³ For the avoidance of doubt an applicant organisation is considered to be located on the island of Ireland where it has an established legal presence here and is registered for all relevant employee and corporate taxes in the respective jurisdictions of either Northern Ireland or the Republic of Ireland.

⁴ Including EPA-funded, other Irish and EU and international research projects and initiatives/activities.

List of Topics

The EPA invites research proposals under the topics listed in Table 1 for the Emissions Statistics Research Fellowship Call 2021.

Up to one award is expected for each of the topics included in the call.

Table 1. List of topics for the Emissions Statistics Research Fellowship Call 2021

Call Topic Reference	Call Topic Title	Max Budget (€) Per Project
Addressing climate change evidence needs		
Addressing Climate Change Evidence Needs 2021 Call Topic 15	Analysis of Energy related air emissions and policies and measures to support the development of Ireland's greenhouse gas inventory and projections	€180,000
Addressing Climate Change Evidence Needs 2021 Call Topic 16	Analysis of Transport related air emissions and air emission modelling to support the development of Ireland's greenhouse gas inventory and projections	€180,000

Call Content

Addressing Climate Change Evidence Needs

Call Topic Title:	Analysis of Energy related air emissions and policies and measures to support the development of Ireland’s greenhouse gas and air pollutant inventories and projections		
Call Topic References:	Addressing Climate Change Evidence Needs 2021 Call Topic 15		
Project Type:	Research Fellowship		
Maximum Budget:	€180,000	Maximum Duration:	24 months

Background

The EPA responsibility for compiling the inventories and projections of greenhouse gas emissions for Ireland now requires a significant increase in analytical capability centred on supporting the reporting and accounting of actions to tackle climate change. The Climate Action and Low Carbon Development (Amendment) Act 2021 places a central role in legislation for EPA Inventories and Projections to be used to assess the projected impact of actions and to verify their delivery.

To support this need, the EPA must be able to critique and assess the proposed and implemented policies and measures and to assess the outputs of different modelling approaches with a view to reinforcing the robustness of both Inventories and Projections.

Scope

Innovative research proposals are invited to analyse and assess factors related to energy emissions and implementation of policies and measures.

Proposals could consider, but are not limited to:

- Providing a critique of the existing ex-ante and ex-post savings estimates of energy policies and measures included in the EPA’s greenhouse gas Inventory and Projections and evaluating savings estimates for measures in future Climate Action Plans.
- Assessing how a range of emissions projections scenarios can test the sensitivity of Ireland’s greenhouse gas emissions to changes in key economic and physical parameters.
- Evaluating how projections scenarios could incorporate an analysis of differing levels of behavioural change, leading to different energy requirements.
- Assessing the applicability and limitations of available monthly indicator data to early estimation of greenhouse gas (GHG) emissions for a given year.
- Assessing the role and potential of carbon capture utilisation and storage (CCUS) and negative emissions technologies for Ireland based on the latest available data and research.
- Undertaking analysis and review of Ireland’s progress towards transition to a low carbon economy for a specific sector.
- Contributing to energy policies & measures related research in relation to potential future measures and the challenge of reflecting savings in the National Air Emissions Inventories and Projections.

The fellowship will need to work closely with the EPA's Emission Statistics team who compiles the National Greenhouse Gas Inventory and Projections. It is anticipated that the research fellow would spend the equivalent of at least one week per month working on site with the Emissions Statistics team in the EPA headquarters in Wexford.

Call Topic Title:	Analysis of Transport related air emissions and air emission modelling to support the development of Ireland’s greenhouse gas and air pollutant inventories and projections		
Call Topic Reference:	Addressing Climate Change Evidence Needs 2021 Call Topic 16		
Project Type:	Research Fellowship		
Maximum Budget:	€180,000	Maximum Duration:	24 months

Background

The EPA responsibility for compiling the inventories and projections of greenhouse gas emissions for Ireland now requires a significant increase in analytical capability centred on supporting the reporting and accounting of actions to tackle climate change. The Climate Action and Low Carbon Development (Amendment) Act 2021 places a central role in legislation for EPA Inventories and Projections to be used to assess the projected impact of actions and to verify their delivery.

To support this need, critiquing and assessing the modelling approaches used in the transport sector reinforce the robustness of both Inventories and Projections.

Gaining a better understanding of the projected and actual impact of proposed and implemented transport policy measures also aids the accurate projection and subsequent assessment of different policy options.

Scope

Innovative research proposals are invited to assess the estimation of air emissions and modelling approaches used in the transport sector and could consider, but are not limited to:

- Evaluating and assessing the applicability of the different road transport models being used by various organisations for the Irish and European transport sectors.
- Assessing approaches to develop improved emissions estimates relating to domestic and international shipping.
- Assessing how a range of emissions projections scenarios can test the sensitivity of Ireland’s greenhouse gas emissions to changes in key economic and physical parameters.
- Assessing the emissions estimates relating to off-road mobile machinery.
- Comparing bottom-up emissions estimates using transport sector activity data and top-down estimates based on fuel sold.
- Assessing the sensitivity of transport projections to variations in the assumptions behind key transport parameters.
- Critiquing the existing estimation of ex-ante and ex-post savings attributable to transport policies and measures included in the EPA’s greenhouse gas Inventory and Projections and evaluating savings estimates for measures in future Climate Action Plans.

The fellowship will need to work closely with the EPA’s Emission Statistics team who compile the National Greenhouse Gas Inventory and Projections. It is anticipated that the research fellow would spend the equivalent of at least one week per month working on site with the Emissions Statistics team in the EPA headquarters in Wexford.

Expected Outputs

Please consult the **2021 Guidelines and Terms & Conditions** for the full list of expected outputs and interim/final reporting requirements. It is expected that several peer-reviewed papers will be published.

Outputs from ALL projects must build on recently completed and existing research and other relevant information.

Where project outputs include data and/or technical solutions (websites, developed software, database solutions etc.) then the format of same must be agreed with the EPA to ensure that they can be installed on EPA infrastructure and maintained by EPA staff after the completion of the project. The EPA can supply a current list of approved data formats and technology on request and the exact format of all outputs must be agreed with the EPA before development of same commences. All data outputs must have a comprehensive set of metadata and all technical solutions must be fully documented according to EPA requirements.

It is essential 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 and the protection of the environment. Applicants **must** 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.

Timeframe

Wednesday 20 th October 2021 at 11:00 GMT	Call opening
Wednesday 17 th November 2021 at 17:00 GMT	Deadline for queries relating to the technical contents of this call
Wednesday 24 th November 2021 at 17:00 GMT	Submission deadline
Wednesday 1 st December 2021 at 17:00 GMT	Approval deadline
December 2021	Evaluation process
January/February 2022	Negotiation ⁵
February 2022	Grant award of successful projects
By 31 st March 2022	Start of successful projects

⁵ The EPA may consider calling the shortlisted applicants for interview at this stage.

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/>.

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

- 2021 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 Emissions Statistics Research Call 2021:

1. Subscribe to [EPA Research Newsletters](#)
2. Follow us on Twitter [@EPAResearchNews](#)
3. Visit the [EPA Funding web pages](#)
4. 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.