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Government of Ireland



EPA Research - 2018 Call

EPA Research – Sustainability Research Call 2018

Technical Description

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

Environmental Protection Agency Research Call 2018: Sustainability

This document provides the **Technical Description** for the Environmental Protection Agency (EPA) **Sustainability** Research Call 2018. Applicants should read the following carefully and consult the other documentation provided (i.e. Guide for Applicants, Guide for Grantees, EPA Terms and Conditions for Support of Grant Awards).

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1. Introduction

The EPA's Research Programme 2014-2020 is designed to identify pressures, inform policy and develop solutions to environmental challenges through the provision of strong evidence-based scientific knowledge:

- **Identifying Pressures:** Providing assessments of current environmental status and future trends to identify pressures on our environment.
- **Informing Policy:** Generating evidence, reviewing practices and building models to inform policy development and implementation.
- **Developing Solutions:** Using novel technologies and methods that address environmental challenges and provide green economy opportunities.

Ireland's Environment

Ireland's State of the Environment Report 2016 states that while the overall quality of Ireland's natural environment is 'good', this must be qualified. There are many challenges surrounding its protection both for now and into the future, along with more immediate local environmental issues such as air quality, water pollution, odours and noise that need to be resolved. Many of these problems can be masked by national level assessments but can have severe impacts on the health and wellbeing of the people in individual communities and on the quality of the local environment. From an emerging risks perspective, we need to be vigilant in relation to climate change-induced health risks, antimicrobial resistance and new chemicals and substances.

EPA Sustainability Research

The EPA Research Programme has a strong focus on policy and is driven by national policy and strategy, European Directives and International Policy commitments, such as the UN Sustainable Development Goals. The EPA recognises the importance of Ireland's role and the role of research in advancing the Sustainable Development Goals to protect the planet from degradation, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.

The EPA Sustainability Pillar is structured into four thematic areas of research as follows:

- Theme-1.** Resource Efficiency
- Theme-2.** Health & Wellbeing including Radiation Protection
- Theme-3.** Natural Capital and Ecosystem Services including soils and biodiversity
- Theme-4.** Socio-Economic Aspects of a Sustainable Environment

Research conducted under the umbrella of the Sustainability Pillar is cross-cutting with complementarity and links across the four themes listed. These links also extend to the Water and Climate pillars. Multi- and interdisciplinary research is required on these themes, with expected social, economic, technological, environmental and policy impacts.

The EPA Research Programme has allocated funding of approximately € 3.8m for new commitments for this 2018 Sustainability research call.

Funding Structure

The EPA invites research proposals under the specific topics listed in **Table 1**.

Proposals can be Desk-Studies, Medium-Scale, or Large-Scale Projects and Research Fellowships:

- **Desk-Study** will typically last from 9 to 12 months with an **indicative** cost of up to €100,000;
- **Medium-Scale Project** will typically last from 24 to 36 months with an **indicative** cost of up to €350,000;
- **Large-Scale Project** will typically last from 36 to 48 months with an **indicative** cost of up to €500,000;
- **Research Fellowship** will typically last from 24 to 36 months with an **indicative** cost of up to €250,000.

Co-funding and Partnerships

Co-funding will be provided by the following organisations:



**European
Recycling
Platform**

The European Recycling Platform (ERP) is Ireland's only pan-European compliance scheme for Waste Electrical and Electronic Equipment (WEEE) and waste battery recycling and is an approved body under the Waste Management (Waste Electrical and Electronic Equipment (WEEE))

Regulations (S.I. No. 355 of 2011). ERP's mission is to develop high-quality, cost-effective recycling services for the benefit of producer members, consumers and ultimately the environment and society. ERP Ireland has considerable expertise in managing WEEE and waste battery compliance for its members across various industry sectors from IT to pharmaceuticals and various organisational sizes from small to medium-sized businesses (SMBs) to some of the largest multinationals in the world. For more information please visit www.erp-recycling.ie



WEEE Ireland is the largest compliance scheme for the management of Waste Electrical and Electronic Equipment (WEEE) and waste batteries in Ireland. The not for profit Scheme, approved by the Minister for the Environment, works with a community of organisations on behalf of its

Members to help meet their Producer Responsibilities under Irish legislation.

WEEE Ireland works closely with retailers, local authorities, other collection points and stakeholders at a national level to develop the WEEE and battery take back system in Ireland. They also work with European colleagues in the WEEE Forum and Eucobat to share experiences, technical information and best practice in compliance scheme management on behalf of its members. For more information please visit

www.weeeireland.ie



The Southern Waste Region comprises the 10 local authority areas of Carlow, Clare, Cork County, Cork City, Limerick City & County, Kerry, Kilkenny, Tipperary, Waterford City & County and Wexford. The Region covers 42% of the land mass of the country, with a population of over 1.5 million people. The settlement patterns in the region are evenly split between urban and rural areas, with the four cities of Cork, Limerick, Kilkenny and Waterford having the highest population and strongest centres of economic activity.

Limerick City & County Council and Tipperary County Council are the lead authorities for the Region and manage the Southern Region Waste Management Office (SRWMO). The SRWMO coordinates the implementation of the Southern Region Waste Management Plan 2015 – 2021 and is a knowledge resource

for all stakeholders with the capacity to promote higher order waste actions in the areas of prevention, reuse, resource efficiency and recycling.

The [Geological Survey Ireland \(GSI\)](#) is Ireland's National Earth Science Agency. It is responsible for providing geological advice and information, and for the acquisition of data for this purpose. GSI produces a range of products including maps, reports and databases. The Griffith Geoscience Research Award Programme provides funding towards water-related research activities and towards marine and coastal, petroleum, geophysics related research. It is mainly driven by the Water Framework Directive and aims at developing models for the behaviour of groundwater, including the impacts of climate change and intensifying infrastructure on future groundwater supplies. It provides funding for research projects to Universities



& Research Institutions.

Value for Money

All research proposals must **build on findings and recommendations** from past and current research¹ projects (where relevant) and **demonstrate value for money**. Applicants **MUST clearly demonstrate the value for money of their proposal and that the amount requested as the project budget will allow the proposed research to be addressed appropriately**.

Open Access and Open Data

All projects must comply with the EPA's **Open Data** and **Open Access** rules, which are aligned with Horizon 2020 for the 2014-2020 EPA Research Programme.

Where project outputs include data and/or technical solutions (websites, developed software, database solutions etc.), the format of same **must be agreed with the EPA** to ensure that they are **compatible with EPA IT infrastructure, transferred to EPA systems and can be maintained by the EPA** after the completion of the project.

In addition, where relevant, any occurrence data collected as part of the research project must be lodged/archived with the National Biodiversity Data Centre².

¹ including EPA-funded, other Irish and EU and international research projects and initiatives/activities

² <http://www.biodiversityireland.ie/>

2. List of Topics

Table 1: List of topics included in the EPA Research Call 2018: Sustainability

Call Topic Ref.	Thematic Areas and Project Titles	Indicative Budget (€) per project	Expected N. of awards	Co-funding
Theme 1: Resource Efficiency				
Sustainability 2018 Call - Project 1	Ireland's Critical Raw Materials (CRM)	€300,000	Up to 1	GSI
Sustainability 2018 Call - Project 2	An assessment of the quantity of electrical and electronic equipment (EEE) that is initially placed on the Irish market and subsequently exported from Ireland as used EEE (UEEE)	€100,000	Up to 1	ERP Ireland and WEEE Ireland
Sustainability 2018 Call - Project 3	Analysis of packaging waste generation and measurement	€250,000	Up to 1	n/a
Sustainability 2018 Call - Project 4	Food Loss and Waste in Irish Agriculture	€175,000	Up to 1	n/a
Sustainability 2018 Call - Project 5	Higher Value Options for Recovery of Municipal/Bio-stabilised Residual Waste and Plastic Contamination of Quality Compost and Digestate	€250,000	Up to 1	Southern Waste Region
Sustainability 2018 Call - Project 6	Analysis of unmanaged waste arising	€85,000	Up to 1	n/a
Sustainability 2018 Call - Project 7	Qualifying and quantifying the Reuse Sector in Ireland	€200,000	Up to 1	n/a
Theme 2: Health & Wellbeing including Radiation Protection				
Sustainability 2018 Call - Project 8	Metallic/metalloid chemical substances of concern and priority substances: Characterisation and epidemiological linkages	€60,000	Up to 1	GSI
Sustainability 2018 Call - Project 9	Surveillance of health outcomes from environmental incidents	€85,000	Up to 1	n/a
Sustainability 2018 Call - Project 10	State of the Art on the Potential Human Health Impacts of Microplastics and Nanoplastics	€85,000	Up to 1	n/a
Sustainability 2018 Call - Project 11	Developing a chemical footprint of Irish Industry	€300,000	Up to 1	n/a

Call Topic Ref.	Thematic Areas and Project Titles	Indicative Budget (€) per project	Expected N. of awards	Co-funding
Theme 3: Natural Capital and Ecosystem Services including soils and biodiversity				
Sustainability 2018 Call - Project 12	The role of Natural Capital Accounting (NCA) in achieving effective and sustainable environmental management, using the catchment services approach	€500,000	Up to 1	n/a
Sustainability 2018 Call - Project 13	Using High Resolution Images from Unmanned Aerial Vehicles (UAV) (Drones) for Environmental Mapping, Assessment and Monitoring	€500,000	Up to 1	n/a
Theme 4: Socio-Economic Aspects of a Sustainable Environment				
Sustainability 2018 Call - Project 14	Sustainable Production and Consumption: The Influence of Social Norms	€150,000	Up to 1	n/a
Sustainability 2018 Call - Project 15	Greening Dublin's Inner City	€150,000	Up to 1	n/a
Sustainability 2018 Call - Project 16	Plastics use in Irish homes	€85,000	Up to 1	n/a
Sustainability 2018 Call - Project 17	Plastic recycling market: opportunities and challenges	€85,000	Up to 1	n/a
OPEN Call				
Sustainability Call 2018 – OPEN Project 1; Sustainability Call 2018 – OPEN Project 2; Sustainability Call 2018 – OPEN Project 3	OPEN Topic		1 or more	

3. Application Process

Making an application online:

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

Guide to the EPA online application system:

The guide to the EPA online application system, 'Quick Guide to making an application' is available for download at <http://www.epa.ie/pubs/reports/research/opencalls/currentcalldocuments/>.

What to include in the application form:

To make the best application possible, it is recommended that you read the '2018 EPA Research Guide for Applicants' before drafting and submitting an application, available at: <http://www.epa.ie/pubs/reports/research/opencalls/currentcalldocuments/>.

To make an application under any of the topic areas:

Applicants must choose the correct Call Topic Reference, as indicated in this Document from the list under the OPEN Calls heading on the homepage of SmartSimple, the EPA's Grant Application and Project Management system.

It is the responsibility of the **Applicants** to ensure that proposals are submitted before the **call deadline**, and of the relevant **Grant Authoriser** (i.e. Research Offices / Managing Directors for companies) to ensure that the proposals are authorised before the **organisation approval deadline**.

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

4. Call Content

Theme 1: Resource Efficiency

In a world with growing pressures on resources and the environment, Ireland has no choice but to transition to a resource-efficient and ultimately regenerative circular economy. Irish and EU policy is driving this transition. This challenge presents us with many opportunities. Increasing resource efficiency is key to securing growth and jobs for Ireland as well as reducing our carbon footprint, limiting the environmental impact of resource use and increasing our sustainability.

The overall goal for this thematic area is to support research that will deliver solutions for more efficient use of resources, water and materials. In line with the Waste Framework Directive waste treatment hierarchy, prevention and minimisation should be prioritised. Where waste arises, research will be supported into approaches and technologies that recover the value in waste to yield raw materials for other processes and/or energy.

Resource Efficiency research will have four subthemes:

- Supporting Policy and Enforcement;
- Resource Efficient Production;
- Waste as a Resource; and
- Sustainable Waste Treatment Options.

Seven topics are included in this 2018 EPA Sustainability Call under Theme 1: Resource Efficiency:

Sust. Call 2018 - Project 1.	Ireland's Critical Raw Materials (CRM)
Sust. Call 2018 - Project 2.	An Assessment of the Quantity of Electrical and Electronic Equipment (EEE) that is initially placed on the Irish Market and subsequently exported from Ireland as used EEE (UEEE)
Sust. Call 2018 - Project 3.	Analysis of Packaging Waste Generation and Measurement
Sust. Call 2018 - Project 4.	Food Loss and Waste in Irish Agriculture
Sust. Call 2018 - Project 5.	Higher Value Options for Recovery of Municipal/Bio-stabilised Residual Waste and Plastic Contamination of Quality Compost and Digestate
Sust. Call 2018 - Project 6.	Analysis of Unmanaged Waste Arising
Sust. Call 2018 - Project 7.	Qualifying and Quantifying the Reuse Sector in Ireland

Project Title: Ireland's Critical Raw Materials (CRM)

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:***

Sustainability 2018 Call – Project 1

This topic is co-funded with the Geological Survey of Ireland.

Background

An objective of the EU's 7th Environmental Action Programme is "to turn the Union into a resource-efficient, green and competitive low-carbon economy". In this regard, it is important to identify those raw materials critical to the Irish economy and ensure that Ireland can move towards sustainable competitiveness through directing its efforts to protecting key natural resources, reducing waste, increasing recycling and consider substitution alternatives where possible. Furthermore, the EU Action Plan for the Circular Economy seeks to stimulate Europe's transition towards a circular economy, boost global competitiveness, foster sustainable economic growth and generate new jobs. The European Commission's Staff Working Document (SWD) (2018) 36 on Critical Raw Materials (CRM)³ and the Circular Economy identifies best practice for several areas and looks forward to possible future actions for this topic. Both initiatives will require a full understanding of which raw materials are critical for individual countries and this research should provide this information for Ireland. The research should also address relevant parts of the EC Communication: Roadmap to a Resource Efficient Europe (COM (2011) 571) which mentions, inter alia, the Raw Materials Initiative which includes sourcing minerals within the EU.

Scope

Innovative research proposals are invited to identify the mineral and non-mineral raw materials that are critical to Irish industry (excluding energy raw materials). The research should consider CRM for the Irish economy as a whole, and based on sectors (NACE Sectors A to L⁴); and identify the implications for the circular economy.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project **MUST** build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

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[https://ec.europa.eu/transparency/regdoc/?fuseaction=fmb&CL=en&language=en&doc=SWD\(2018\)36/F1&cote=SWD&cotelid=10102&year=2018&number=36&version=F1&Direction_gen=GROW](https://ec.europa.eu/transparency/regdoc/?fuseaction=fmb&CL=en&language=en&doc=SWD(2018)36/F1&cote=SWD&cotelid=10102&year=2018&number=36&version=F1&Direction_gen=GROW)

⁴ NACE Rev. 2 Statistical classification of economic activities in the European Community
<http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>

Project Structure and Funding

The EPA considers that proposals for a **24-month** Medium-Scale Project, with an indicative budget of **€300,000** (which includes a 5% provision for communication costs⁵) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. **This project will be co-funded by the Geological Survey of Ireland.** Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

⁵ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: An Assessment of the Quantity of Electrical and Electronic Equipment (EEE) that is initially placed on the Irish Market and subsequently exported from Ireland as used EEE (UEEE)

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:***

Sustainability 2018 Call – Project 2

This topic is co-funded with ERP Ireland and WEEE Ireland.

Background

Reuse⁶ is a non-waste activity and is therefore not subject to waste regulation and the resultant requirements for reporting on waste movements and environmentally sound management. The reuse, refurbishment and remanufacturing of used Electrical and Electronic Equipment (EEE) is being carried out, particularly by business to business (B2B) producers, but there is limited data on both the extent of this type of activity and the export of such used EEE (UEEE). A new Waste Electrical and Electronic Equipment (WEEE) collection target under the WEEE Directive (2012/19/EU) is coming into force in 2019. The target will be challenging for Ireland to meet, because many UEEE exports are going unreported. In addition, the quantity of all EEE within the scope of the WEEE Directive that is placed on the Irish market must be reported by EEE Producers to the 'Producer Register Limited' (PRL) but no system is in place to ensure that these Producers 'de-list' this UEEE if it is subsequently exported to another jurisdiction (i.e. as UEEE). This results in potentially distorted 'placed on the market' data as this exported UEEE is not arising as waste and not available for separate collection, and is therefore not reported, as waste (WEEE) in Ireland. Research is therefore needed to provide a detailed assessment of these issues and on how our national WEEE reporting systems can be enhanced to reflect the global movement of UEEE. Having substantiated estimates of UEEE exported would improve data reporting for Ireland and would also provide an enhanced ability to meet the 2019 waste collection target. It would also identify and quantify any misreporting of UEEE (non-waste) as WEEE (waste) or vice versa. Research on this topic would support the implementation of Ireland's WEEE Regulations that transpose the WEEE Directive, our national Waste Management policy (*A Resource Opportunity*, DCCA 2012) and the EU's Circular Economy.

Scope

Innovative research proposals are invited to provide substantiated estimates of EEE placed on the market in Ireland and exported from Ireland as UEEE to inform waste statistics reporting and WEEE Directive data needs and targets. It is envisaged that the research would identify existing/potential data sources to track UEEE exports on an on-going basis, including an assessment of other EU Member States' activities in this area. The research could identify options on how to ensure Producers 'de-list' their EEE originally placed on the market but subsequently exported as UEEE. The research, including the intelligence/data on exports of UEEE and reuse of UEEE, would provide recommendations on future waste prevention initiatives for EEE/WEEE under the National Waste Prevention Programme, implementation of the circular economy in Ireland and implementation of national waste management policy.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

⁶ 'Reuse' in the context of this research call means 'repair', 'remanufacturing' & 'refurbishment', but in general no intention/requirement to discard. For EEE initially placed on the Irish market, we need to know the quantity of exported UEEE that has been repaired/refurbished and resold in addition to UEEE that is exported and sold for reuse without further treatment. UEEE that is shipped out of Ireland for repair/remanufacturing/refurbishment and returned to the customer does not fall within this project's scope.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month** Desk-Study, with an **indicative** budget of **€100,000** (which includes a 5% provision for communication costs⁷) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. **This project will be co-funded by ERP Ireland and WEEE Ireland.** Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

⁷ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Analysis of Packaging Waste Generation and Measurement

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 3*

Background

Packaging waste generation is an area of policy and public concern. There is an increase in the use of single-use packaging and concerns regarding the impacts of marine plastic litter. Ireland has the highest per capita generation of packaging waste in the EU. How much of this relates to the accounting methods and how much relates to behaviour needs to be clarified if Ireland is to successfully respond to the EU Plastics Strategy (2018), which is part of the EU Circular Economy Package that aims to reduce the consumption of single-use plastic packaging by 2030. The EPA needs to identify if there are alternative and more effective and efficient methods acceptable to Eurostat to measure waste packaging generation statistics. The Department of Communications Climate Action and Environment (DCCAE) need information to target policy and have confidence in the methodology used by Ireland. REPAK Ltd. need information to more accurately target their schemes and subsidies at problem areas.

Scope

Innovative research proposals are invited to review and identify the most suitable methodologies for estimating packaging waste (especially plastic packaging waste) arising and recovered in Ireland, considering resources, data availability and quality. This should include very lightweight plastics bags (<15 microns) on the Irish market (importers/producers) which are currently outside the levy requirements in Ireland, but are to be reported on from 2020 (for the year 2018) under the Packaging Waste Directive (94/62/EC). The research should include a comparability study on the approaches used by different EU Member States in calculating packaging waste statistics required by the Packaging Waste Directive (including waste measurement and “placed on the market” approaches). An analysis of the pros and cons of the main approaches, including identifying coverage gaps (e.g. distance selling) that may exist, would form part of this comparability study. It is envisaged that the research would also cover the factors behind Ireland’s high per-capita packaging (particularly plastic packaging) waste generation statistics; as well as the suitability for Ireland of the options available for the reduction of single-use packaging and prevention of associated waste arising. This analysis should consider behavioural economics.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Following an early Stakeholder engagement, an interim report on the most suitable methodology for estimating very lightweight plastic bags (outside of the plastic bag levy) generated and recycled/recovered in the Republic of Ireland, which is to be **submitted by Month 12 of the Research.**

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA’s policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **24-month** Medium-Scale Project, with an **indicative** budget of **€250,000** (which includes a 5% provision for communication costs⁸) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

⁸ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Food Loss and Waste in Irish Agriculture

Project Type: Research Fellowship

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 4*

Background

Food losses and food waste are significant issues, both globally and nationally. National estimates put food waste generated in Ireland at 1 million tonnes per annum. However, this does not include food waste or losses from agriculture, as not a lot is known about the extent or nature of the problem, or indeed if it is a problem in Ireland. The FUSIONS research project (<https://www.eu-fusions.org/>) funded by the European Commission under FP7 has estimated around 88 million tonnes of food are wasted annually in the EU-28, with associated costs estimated at €143 billion (*Estimates of European Food Waste Levels*, 2016). However, there was no Irish data available at the production and processing stages of the supply chain due to current available data being of insufficient detail. Ireland is among 200 countries that signed up to the United Nations Sustainable Development Goals (SDGs) in 2015. These goals include a specific commitment on food waste (SDG 12.3): “By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.” EU policy on food waste is also aligned with the ambitions of the UN SDGs in the Circular Economy Action Plan. The food sector in Ireland has a significant economic value and is important to future Irish economic development. Current policy ambitions aim to increase food production. Inefficiencies in food production have business cost implications, given inputs to growing these crops and rearing livestock. Identifying potential resource efficiency gains within the food system, will reduce costs for agri-food sector businesses, supporting competitiveness and increasing the sustainability of this sector. To address this issue, there is a need for a quantitative understanding of how much and where food waste is generated/food is lost along the food supply chain (including agriculture), and to identify the reasons why and develop possible solutions/policy interventions. Globally, there is a significant knowledge gap in relation to food losses and food waste in agriculture. A study on Irish data could therefore be a significant contribution to this issue. Research on this topic should also be cognisant of the National Policy Statement on the Bioeconomy (February 2018).

Scope

Innovative research proposals are invited to address the knowledge gaps in relation to food losses and food waste in Irish agriculture. This includes developing a quantitative understanding of how much and where food waste is generated/food is lost in Irish agriculture. Reliable national data will be needed for reporting on progress towards food waste and losses targets. The research would seek to identify the reasons for the inefficiencies at the food production stage, as well as develop possible solutions/policy interventions for this problem.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA’s policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **24-month** Research Fellowship, with an **indicative** budget of **€175,000** (which includes a 5% provision for communication costs⁹) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

⁹ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).



Project Title: Higher Value Options for Recovery of Municipal/Bio-stabilised Residual Waste and Plastic Contamination of Quality Compost and Digestate

Project Type: Medium-Scale Project

To make an application under this topic area, you must use the following Call Topic Reference:

Sustainability 2018 Call – Project 5

This topic is co-funded by the Southern Waste Region

Background

Bio-stabilised residual waste¹⁰ is currently landfilled which results in the loss of a potentially valuable resource. Landfill capacity in Ireland is decreasing. With the correct processing, it may be possible to recover stable organic matter from residual municipal waste for uses in higher value areas other than landfill. This could potentially decrease waste volumes to landfill. Landfilling of waste is environmentally challenging and can result in the generation of leachate and greenhouse gases. Developing higher value end-uses (e.g. soil improver or fuels) from this waste stream would support the development of a circular economy. Increasing soil organic matter through its use has obvious nutritional benefits but might also have the potential to mitigate climate change through carbon sequestration. The landfilling, incineration and export of organic waste materials that can potentially be recovered as a higher value material is costly, wasteful and less sustainable. The EPA publication *Biodegradable Municipal Waste 2010 – 2016* states that the quantity of Biodegradable Municipal Waste (BMW) disposed to landfill increased in 2015 and 2016 and that Ireland has notified the European Commission of its intention to avail of the derogation for the 2016 target in the Landfill Directive on diversion of BMW from 2016 to 2020. This report notes that, while currently Ireland is not at risk of meeting the Landfill Directive targets, it is very important that there is adequate treatment infrastructure in the State to manage the increasing diversion from landfill of biodegradable waste.

The organic, biodegradable waste from the mixed waste bin that is mechanically separated, known as organic fines, is treated at specific in-vessel composting facilities. The organic fines are processed to produce bio-stabilised residual waste. This material is high in organic matter and nutrients and has potential for use, e.g. an organic soil amendment. This bio-stabilised residual waste is sometimes referred to as compost like output (CLO) and due to lack of robust research, assessment and validation, this material is typically not approved by regulatory authorities for use, other than at landfills.

Research in the UK on plastic in quality compost and digestate¹¹, and soils where they have been routinely applied, showed the importance of front end selection of feedstocks and back end screening but also that Polyvinyl Chloride (PVC) (and therefore phthalates) were being spread to land. It is therefore of interest to determine new ways to prevent plastic in compost and digestate and to identify the presence of micro-plastic contamination in compost, digestate and soils in Ireland. New methodologies for identifying the presence of micro-plastics in soil could also be applied to the use of plastics in agriculture which are allowed

¹⁰ Bio-stabilised residual waste: Residual biodegradable municipal waste that has been treated to achieve an EPA approved biodegradability stability standard (as defined in EPA licences) prior to landfilling or alternative use is agreed. Residual Waste: The fraction of collected waste remaining after a treatment or diversion step, which generally requires further treatment or disposal, including mixed municipal waste.

Organic fines: The undersize fraction obtained from the mechanical treatment of waste characterised by a high organic content.

¹¹ Compost: Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting of separately collected biowaste which complies with the compost quality standards outlined in EPA licences



to degrade or be ploughed back into the ground. For example, much of the maize production in Ireland is currently under plastic¹².

Scope

Innovative research proposals are invited to assess and identify the optimal conditions for the safe transformation of municipal/bio-stabilised residual waste into a higher value materials/useable biomass that complies with European and national regulations. This should include an assessment (through appropriate analysis) of the risks and benefits (and by extension the uses and limitations including full nutrient assessment) of using the output. It should also include an assessment of the output's impact on soil as a carbon sink and its potential to enhance carbon sequestration. It is envisaged that the research would develop specific standards for the output including end-of-waste criteria as appropriate. The research would also consider new ways to prevent plastics in compost and digestate, and develop test programmes to measure macroscale plastics and micro-plastics in composts and digestates, and soils where composts and digestates are applied. The research should reference international practice, advise on the potential to address other similar waste streams, review legislative barriers and advise on the implications of the research for the wider bio-economy.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **24-month Medium-Scale Project**, with an indicative budget of **€250,000** (which includes a 5% provision for communication costs¹³) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. **This project will be co-funded by the Southern Waste Region.** Please refer to the *2018 Guide for Applicants* for further details. It is expected that no more than one project will be funded under this topic.

¹² <http://www.agriland.ie/>

¹³ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Analysis of Unmanaged Waste Arising

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 6*

Background

Each person in Ireland generates slightly over a half a tonne of municipal waste each year, with significantly greater quantities arising from other activities, such as industrial activities. The EPA estimated that in 2014 the amount of unmanaged household waste in Ireland was approx. 44,000 tonnes. In 2006, it was estimated that approx. 30,000 tonnes of hazardous waste were potentially classified as unreported (10% of volume managed). Research is needed to review and improve the methodologies for estimating unmanaged waste (both hazardous and non-hazardous) so that they can be updated and used on an ongoing basis.

This topic addresses Ireland's statistical commitments under the Waste Framework Directive and Waste Statistics Regulation, as well as feeding into the work of the National Waste Prevention Programme (NWPP) and National Hazardous Waste Management Plan. Research is needed in this area to improve both municipal and hazardous waste generation statistics. It is also needed to improve our understanding of the behavioural/economic factors influencing unmanaged waste arisings and to support waste prevention/hazardous waste prevention activities.

Scope

Innovative research proposals are invited to identify methodology for estimation of unmanaged municipal waste being generated but not being managed via official waste treatment routes; as well as a methodology for estimating the amount of unmanaged hazardous waste (i.e. generated but not being managed via official waste treatment routes) and hazardous waste managed via an inappropriate waste stream. It is envisaged that the research would provide estimates for both the above waste streams based on the preferred methodology. The research would also encompass the behavioural/economic factors behind waste managed outside the established treatment infrastructure.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month** Desk-Study, with an **indicative** budget of **€85,000** (which includes a 5% provision for communication costs¹⁴) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

¹⁴ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Qualifying and Quantifying the Reuse Sector in Ireland

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:***
Sustainability 2018 Call – Project 7

Background

Reuse is a non-waste activity that covers a great diversity of businesses and projects, from online exchanges to refurbishment workshops and second hand retail. This makes it extremely difficult to measure. However, reuse is at the heart of the *Circular Economy*, and prevention of waste (including reuse of products) is the highest priority in the waste management hierarchy. Developing a clear understanding of the reuse sector is important as it will better enable decision makers to prioritise it accordingly. This project aims to develop a better understanding of the sector through qualitative and quantitative measures. Under the Commission's Circular Economy Package, the revised Waste Framework Directive (which should be transposed into Irish legislation in the next two years) will require all Member States to promote reuse through waste prevention programmes and track and measure reuse of products. Reuse is also important in realising household waste reduction targets, as set out in the regional waste management plans. To meet both the requirements of the revised Waste Framework Directive and contribute toward household waste reduction targets, reuse needs to be measured. However, as reuse involves non-waste, it is not reported through waste regulations and can be difficult to quantify for reasons outlined above. Research on this topic should improve our understanding of the scope of the reuse sector in Ireland, and identify methodologies to measure reuse in line with the demands of the revised Waste Framework Directive. Research on this topic should also consider how to facilitate local ambition for reuse / circular economy, e.g. where the sector can be measured and understood, it can be better supported through targets or other mechanisms. It should be noted however that research on this topic **excludes** those materials/waste streams that come under the scope of producer responsibility initiatives (e.g. WEEE, end of life vehicles, tyres, etc.).

Scope

Innovative research proposals are invited to address the qualitative description of the reuse sector in Ireland (e.g. types of activities, scale of activity) and develop metrics and recommendations for methodologies to measure for / techniques to capture data from a range of activities within this sector. It is envisaged that research would also address the quantitative description of the reuse sector, by (insofar as possible) developing a high-level estimate of quantities of goods diverted from waste through reuse.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project **MUST** build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **24-month** Medium-Scale Project, with an indicative budget of **€200,000** (which includes a 5% provision for communication costs¹⁵) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that no more than one project will be funded under this topic.

¹⁵ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Theme 2: Health and Wellbeing

Human health is fundamentally linked to our environment since our health depends on, for instance, the air we breathe, the water we drink, the noise levels we experience, the food we eat and our sense of wellbeing. The EPA addresses a broad range of environmental health issues including those that lie beyond its regulatory remit such as indoor air quality. The aim of the research funded under the Health & Wellbeing theme is: a) to develop national capacity in key areas; b) to generate data and make assessments of priority issues for Ireland; and, c) to mobilise this knowledge for use in environment and health protection.

The Health and Wellbeing research theme has five subthemes:

- Ecosystem Benefits for Health;
- Safe Water for Drinking Food Production and Recreation;
- Clean Air & Noise;
- Chemicals and Other Threats; and
- Radiation Protection.

Four topics are included in this 2018 EPA Sustainability Call under Theme 2: Health and Wellbeing:

Sust. Call 2018 - Project 8.	Metallic/metalloid Chemical Substances of Concern and Priority Substances: Characterisation and Epidemiological Linkages
Sust. Call 2018 - Project 9.	Surveillance of Health Outcomes from Environmental Incidents
Sust. Call 2018 - Project 10.	State of the Art on the Potential Human Health Impacts of Microplastics and Nanoplastics
Sust. Call 2018 - Project 11.	Developing a Chemical Footprint of Irish Industry

Project Title: Metallic/metalloid Chemical Substances of Concern and Priority Substances: Characterisation and Epidemiological Linkages

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference**:*

Sustainability 2018 Call – Project 8

This topic will be co-funded with the Geological Survey of Ireland.

Background

Increasingly, there is evidence to show negative health effects from cumulative, low level exposure to some metals. Soils represent a major sink for metal ions that can then enter the food chain (i.e. vegetables, drinking water) via surface (e.g. in runoff after episodic rainfall events) and subsurface pathways (i.e. groundwater). The objective of relevant EU policies is to achieve a quality of the environment where the levels of manmade contaminants on sites do not give rise to significant impacts or risks to human health and ecosystems. The most recent developments in soil policy at European level are the introduction of the thematic strategy for the protection of soils and the proposed Soil Framework Directive. Existing studies of metals and metalloids in groundwater have identified geological controls on, for example, occurrences of elevated selenium, uranium and arsenic in drinking water, but data gaps remain in places where regular monitoring networks or the possibility of sampling private wells does not exist. The need to link possible geological sources of metal/metalloid substances of concern / priority substances via epidemiological work is clear to develop appropriate interventions to protect human and animal receptors from elevated concentrations in drinking water and soil.

Few studies to date investigate the cumulative health risks of metal(loid)s through aggregative pathways in humans. To reduce the exposure, it is important to identify predominant exposure pathways, which include both non-dietary and dietary pathways.

There are potentially strong policy applications in the area of best-practice for biosolid application in agriculture and the assessment of metal/metalloid priority substances, priority hazardous substances and watch list substances under EU regulations.

Scope

Innovative research proposals are invited to address the Irish background concentrations of key metals and metalloids of concern such as selenium, uranium, arsenic, molybdenum, tin, silver and antimony, incorporating relevant priority substances, priority hazardous substances and watch list substances. The research would look at subsequent potential human exposure and adverse health impacts using a source-pathway-receptor conceptual modelling and quantitative risk assessment approach. It is envisaged that the research would provide an assessment of the total detrimental risks and identifying hazardous exposure factors would be of great importance for the identification of predominant exposure pathways and pollutant controls to reduce the risks of detrimental health effects. Natural geogenic sources may be assessed using the Tellus soil, water and sediment geochemical survey data available from Geological Survey Ireland. Anthropogenic sources may be derived from diffuse, regional land application of biosolid products.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month Desk-Study**, with an indicative budget of **€60,000** (which includes a 5% provision for communication costs¹⁶) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. **This project will be co-funded by the Geological Survey of Ireland.** Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

¹⁶ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Surveillance of Health Outcomes from Environmental Incidents

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 9*

Background

An environmental incident, in public health terms, can be described as: “Any event (usually acute) in which there is, or could be, public exposure(s) to chemical or other hazardous substances which causes, or has the potential to cause adverse health impacts”. The primary aim in the management of an environmental incident is to protect public health. The main objective is to break any source-pathway-receptor linkages to prevent further exposures. Secondary objectives are to improve incident surveillance and to identify learning points and actions to improve future incident management. Regarding environmental policy, outcome data is the most important measure of successful health protection. Regarding human health policy, health protection is one of the four goals of Healthy Ireland, therefore, outcome data is essential. At present in Ireland, there are no standardised, evidence based surveillance systems in place for surveillance of health outcomes. Many environmental incidents are not reported to Public Health so they may not be followed up for health outcomes. Surveillance of hazards and exposures, in addition to health outcomes, can be critical to environmental public health practice and monitoring of these data can provide opportunities for early interventions. Therefore, to set priorities for action to prevent environmental health hazards, possession of adequate information on health effects caused by environmental exposures is essential

Scope

Innovative research proposals are invited develop a comprehensive and systematic approach to identify, acquire, collate and analyse data and information on environmental hazards, exposures and health outcomes. The research would report on the most effective surveillance system for health outcomes from environmental incidents based on international best practice and in consideration of Irish conditions (e.g. statutory responsibilities, structures, etc.). The research would identify populations at risk of environmentally-related diseases or of exposure to hazards; and establish the relationship between environmental hazards and disease. Overall, it is envisaged that the research would contribute to identifying, reducing, and preventing harmful environmental risks on human health; therefore advancing the public health basis for policy making, informing legislators, policy makers, communities, and individuals regarding potential environmental health risks.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA’s policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month** Desk-Study, with an **indicative** budget of **€85,000** (which includes a 5% provision for communication costs¹⁷) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

¹⁷ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: State of the Art on the Potential Human Health Impacts of Microplastics and Nanoplastics

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:***

Sustainability 2018 Call – Project 10

Background

Recent studies have shown that microplastics are ubiquitous in the environment. However, there are knowledge gaps regarding adverse human exposure effects. Because of their size, chemical composition, and physical properties, micro/nanoplastics can affect aquatic organisms and potentially human health. The EPA'S 'State of the Environment Report, 2016' has placed plastics on their list of priority areas. If inhaled or ingested, microplastics may accumulate and exert localized particle toxicity by inducing or enhancing an immune response. Chemical toxicity could occur due to the localized leaching of component monomers, endogenous additives, and adsorbed environmental pollutants. Chronic exposure is anticipated to be of greater concern due to the accumulative effect that could occur. Microplastics and nanoplastics have no regulation in drinking water or food. The use of mains water for the food-processing industries provides further potential pathways into the human food chain. The physical properties of plastic provide unique habitats for microbial communities. Microbes belonging to the Campylobacteraceae family that are known to cause gastrointestinal infections in humans were found to colonise microplastics that were collected downstream from Urban Waste Water Treatment Plants (UWWTPs). It is likely, therefore, that microplastics derived from UWWTPs pose a greater risk to humans than those from other sources. There is a lot of research happening in this field both at national, European and international level. Preliminary research is therefore required to establish the current state of the art in this field and identify key knowledge gaps to be addressed for future larger research studies.

Scope

Innovative research proposals are invited to establish the current state of the art in this field and identify key knowledge gaps to be addressed for future larger research studies. The ways in which humans can ingest microplastics include the consumption of species that have been exposed to microplastics, direct or indirect consumption of water containing microplastics and accidental ingestion through recreational activities, for example bathing. The research would encompass current knowledge/studies on risk assessment models to assess the likelihood of contamination and the adverse health effects.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA'S policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **9-month** Desk-Study, with an **indicative** budget of **€85,000** (which includes a 5% provision for communication costs¹⁸) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

¹⁸ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Developing a Chemical Footprint of Irish Industry

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 11*

Background

While the dangers of chemical pollution have long been known, or at least suspected, there is a great lack of indicators to monitor their use and potential impacts. Based on work developed in other countries (e.g. Sweden, United States) this work aims to develop and test an approach to calculate the potential environmental impacts of chemicals for Ireland using the European Pollutant Release and Transfer Register (E-PRTR¹⁹) emissions to air/water and relevant characterisation factors as a data source. This project would help to build up expertise and knowledge regarding various industrial sectors and the potential to impact the environment and provide a direct comparison of Irish chemical footprints (sector, substances) with other European Countries²⁰. A chemical footprint can provide a metric for benchmarking companies as they select safer alternatives and reduce their use of chemicals of high concern. The EPA through the regulation of industrial and waste facilities have issued over 800 licences/permits to date (www.epa.ie/licensing/). The purpose of this study is to identify EPA licenced sectors (and facilities) that have the potential to impact human toxicity and ecotoxicity.

Scope

Innovative research proposals are invited to identify key substances from EPA licenced facilities that have the greatest impact on human toxicity and ecotoxicity. The research could conduct trend analysis of human toxicity and ecotoxicity across various sectors and sub-sectors (NACE Sectors A to L²¹). The findings of this work could then be compared/benchmarked with other EU Member States. It is envisaged that the research would identify relevant case studies that can provide best practice in specific sectors.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

¹⁹ <http://prtr.ec.europa.eu/#/home>

²⁰ http://eippcb.jrc.ec.europa.eu/reference/BREF/CWW_Bref_2016_published.pdf

²¹ NACE Rev. 2 Statistical classification of economic activities in the European Community
<http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>

Project Structure and Funding

The EPA considers that proposals for a **36**-month Medium-Scale Project, with an indicative budget of **€300,000** (which includes a 5% provision for communication costs²²) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

²² For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Theme 3: Natural Capital and Ecosystem Services including Soils and Biodiversity

Natural capital refers to the elements of nature that produce value directly and indirectly to people, such as the stock of forests, rivers, land, minerals and oceans. It includes the living aspects of nature, such as fish stocks, as well as the non-living aspects such as minerals and energy resources.

Natural capital provides a huge range of benefits to us. These benefits, frequently referred to as ecosystem services, include the provision of food, materials, clean water, clean air, climate regulation, flood prevention, pollination, recreation and wellbeing. Since the flow of services from ecosystems requires that they function as whole systems, the structure and diversity of ecosystems are important components of natural capital. In this regard biodiversity, soil composition, land cover and land use are important elements to consider.

We continue to seriously degrade our natural capital, undermining our resilience to environmental shocks and jeopardising our sustainability. Sustainable management of natural capital is therefore required to protect and enhance the services we derive from it. This will require an integrated and cross-sectoral approach embedding ecosystem approaches such as natural capital, ecosystem services and green infrastructure into policy and practice

Over the period 2014-2020, the core areas of research will be within the following three areas:

- Evaluation/Assessment of our Natural Capital;
- Managing, Protecting & Restoring our Natural Capital; and
- Governance & Behavioural Changes.

Two topics are included in this 2018 EPA Sustainability Call under Theme 2: Natural Capital and Ecosystem Services including soils and biodiversity:

Sust. Call 2018 - Project 12.	The Role of Natural Capital Accounting (NCA) in Achieving Effective and Sustainable Environmental Management, using the Catchment Services Approach
Sust. Call 2018 - Project 13.	Using High Resolution Images from Unmanned Aerial Vehicles (UAV) (Drones) for Habitat Mapping, Assessment and Monitoring

Project Title: The Role of Natural Capital Accounting (NCA) in Achieving Effective and Sustainable Environmental Management, using the Catchment Services Approach

Project Type: Large-Scale Project

To make an application under this topic area, you must use the following Call Topic Reference:
Sustainability 2018 Call – Project 12

Background

Natural capital (NC) can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, including all ecosystem services, which make human life possible. Natural capital accounting (NCA) is the process of calculating the total stocks and flows of natural resources and services in each ecosystem or region. Accounting for such goods may occur in physical or monetary terms. This process can subsequently inform government, corporate and consumer decision making as each relates to the use or consumption of natural resources and land, and sustainable behaviour. Accounting for nature, and making clear distinctions between renewable (e.g. wind, forests, water, crop harvests) and non-renewable (e.g. oil, gas and mineral) resources provides metrics on which changes in stocks and flows of NC can be measured, and the long-term impacts of plans and policies and actions can be quantified and managed. NCA presents an alternative and/or a parallel process to Gross Domestic Product (GDP) as a measure of economic activity, and an alternative way to measure the success and long term health and sustainability of our society. GDP measures growth, and is criticised as it ignores externalities such as environmental and societal costs.

Natural Capital Accounting is a rapidly developing area. The European Commission (EC) Communication Roadmap to a Resource Efficient Europe sets 2020 as the year by which businesses, along with public authorities, will properly account for natural capital and ecosystem services. At UN level, a new UN accounting standard, the System of Environmental-Economic Accounting (SEEA), which covers accounting for environmental flows (such as water and energy), natural resources (minerals, timber, fish), environmental activities, and biodiversity, ecosystems and ecosystem services is being developed for use by governments²³. The OECD is continuing to develop and publish environmentally adjusted multi-factor productivity accounts which create an index of adjusted GDP growth based on pollution created, contribution of natural capital, and other factors²⁴. The UK Office of National Statistics (ONS) in January 2018 published UK natural capital ecosystem service accounts for 1997-2015²⁵. The UK ONS approach could be mirrored in an Irish context using existing datasets (e.g. CSO Material Flow accounts) to provide a first pass at Natural Capital Accounts for Ireland. This would allow the concept and some basic application of the concept to be demonstrated using actual Irish figures to Irish stakeholders and policymakers, to demonstrate the value of this approach and its ability to inform policy.

Currently, there is no national framework for NC Accounting in Ireland. Businesses are beginning to use the Natural Capital protocol developed by the Natural Capital Coalition. There is increasing interest, especially amongst the large corporate sector in natural capital accounting. Some Irish companies (e.g. Coillte²⁶, Microsoft²⁷) are including natural capital as part of their corporate social responsibility plans. For example, Microsoft is targeting additional payments to farmers involved with the Native Woodland Scheme via The

²³ <https://unstats.un.org/unsd/envaccounting/Brochure.pdf>

²⁴ <https://stats.oecd.org/Index.aspx?DataSetCode=EAMFP>

²⁵

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapital/ecosystemserviceaccounts1997to2015>

²⁶ <https://www.eftec.co.uk/project/%20%09accounting-corporate-natural-capital-account-coillte-forestry>

²⁷ <https://www.irishtimes.com/news/environment/tech-giant-microsoft-gets-into-the-irish-native-trees-business-1.3080089>

Forest Service. There is also scope for the EPA to assist with targeting any investment in natural capital to where benefits will be maximised e.g. Areas for Action identified in the River Basin Management plan, other priority areas based assessment of environmental data by the EPA, or priority areas identified by other agencies/bodies. There is scope for schemes like this to expand over the next 5-10 years. An agreed accounting protocol for Ireland would ensure that a consistent approach is taken across sectors, and that companies can report on this consistently, and in an accurate and verifiable manner. This could be done at both company and/or project scale, with innovative financial and other management mechanisms a possibility (e.g. biodiversity offsetting, green bonds).

Scope

Innovative research proposals are invited to review the NCA literature and approaches, especially in the UK and Europe; and to identify suitable NCA frameworks that may be appropriate for Ireland. It is envisaged that the research would evaluate how to account for the various components of NC based on information available e.g. gap analysis, and compare existing GDP accounting approaches to NCA framework(s) identified. The research would develop a suitable NCA approach for Ireland; and apply NCA framework(s) to existing CSO and other datasets (e.g. CSO Material Flow Accounts for last three years) and using this to demonstrate strengths/weaknesses of any accounting framework(s) identified, and how these NC accounts can be made immediately policy relevant.

The research could develop a management framework with tools for return on investment to be calculated for management actions that could *inter alia* inform a prioritisation protocol for decision makers for the management/restoration of NC stocks in Ireland; as well as create a Risk Register of NC stocks and critical thresholds to facilitate gap analysis of the condition-service relationships and a formal value of information analysis for monitoring and gathering information on NC in Ireland.

The research **must include an Interim Report at Month 12** on the **feasibility of applying Green Accounting in Ireland**, following active engagement with all relevant stakeholders (including relevant Departments) as well as an analysis of the data availability. The outcomes of this feasibility study will inform, where required, the scope of the remainder of the project.

A **trans-disciplinary** approach to this project is encouraged, and as such would encourage applicants to form partnerships across different academic disciplines (e.g. environmental economists, statisticians, accountants, geologists, ecologists etc.) to ensure a wide range and depth of knowledge is available to deliver this project.

It is envisaged that this research will require a **multi-institutional approach**.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy and build on work conducted to date in this area in Ireland²⁸ and abroad.

²⁸ For example: Ireland's Sustainable Development Model
(<http://www.epa.ie/researchandeducation/research/researchpublications/strivereports/strivereport47.html>)

Outputs

A report on the Feasibility of applying Green Accounting in Ireland must be submitted by Month 12. Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **48-month** Large-Scale Project, with an **indicative** budget of **€500,000** (which includes a 5% provision for communication costs²⁹) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

²⁹ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Using High Resolution Images from Unmanned Aerial Vehicles (UAV) (Drones) for Habitat Mapping, Assessment and Monitoring

Project Type: Large-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:***

Sustainability 2018 Call – Project 13

Background

Our environment is defined by the complex and dynamic relationships of different ecosystem. Damage or changes to one ecosystem can have a significant impact and influence on others. It is essential to understand our environment and these connected ecosystems through detailed environmental mapping, assessment and monitoring activities that allow for the detection of change over time. This can facilitate better planning for and mitigation against pollution, flooding events, and climate change, while also allowing for the implementation of various policies.

Traditionally environmental mapping, assessment and monitoring activities are labour intensive, expensive and complex to implement resulting in more limited national programmes. However, with the emergence of Unmanned Aerial Vehicles (UAV) (Drones) technology, this is now changing with huge potential for more cost effect implementation. The capabilities of UAV technologies are growing rapidly allowing for the capture of an expanding range of data from very high resolution low flown cameras, high resolution video capture, LiDar scanners and other sensor technologies.

This research should focus on the practical application of UAV technologies in the mapping, assessment and monitoring of the environment. The key challenges will be to provide automated approaches to assessment and the monitoring of change over time. Although the research should explore application on a wide variety of environmental topics there should be a specific focus and practical application of UAV technology on the mapping of Irish habitats. It should also build upon both the [existing habitat mapping](#) undertaken by the National Park and Wildlife Service for the purposes of designating habitats under the Habitats Directive, and on the national landcover and habitat mapping programme co-ordinated through a national working group that includes the EPA. It should also ensure a close connectivity to satellite mapping techniques such as COPERNICUS.

Scope

Innovative research proposals are invited to assess how high resolution images, videos and other sensors from Unmanned Aerial Vehicles (UAV) can be used for environmental mapping, assessment and monitoring but with specific practical application on habitat mapping. It is expected that the research would assess to what degree detection can be automated and develop appropriate analytical systems to extract this information. Where possible/available, the research must utilise existing datasets.

It is envisaged that this research will require a **trans-disciplinary and multi-institutional approach**. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project MUST build on existing research. To ensure consistency with national mapping methodologies the successful proposal will be required to interact with the National Landcover Habitat Mapping Working Group. This group is currently chaired by the National Parks and Wildlife Service (NPWS) with representation by the EPA. Please refer to Section 6 for more information regarding EPA-funded

expected outputs. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **48-month** Large-Scale Project, with an **indicative** budget of **€500,000** (which includes a 5% provision for communication costs³⁰) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

³⁰ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Theme 4: Socio-Economic Aspects of a Sustainable Environment

Environmental socio-economic research looks at the relationship between economy, society and environment. It is the study of the sociological and economic factors, policies, behaviours, instruments, interactions, interventions, etc., that exert an influence – for good or bad – on our environment. It seeks to identify opportunities for, and roadblocks to, leveraging and sustaining environmental gains through socio-economic approaches or mechanisms.

This theme will examine the role of social and economic ‘forcers’ that trigger, motivate, create barriers or solutions to sustainable production/provision of goods and services, and sustainable consumption choices and behaviour change. This theme is also interested in the effectiveness of existing or possible future government policies and measures in promoting sustainability in consumption and/or production.

The core areas of research will be within the following three areas:

- Production & Service Provision;
- Consumption; and
- Governance.

Four topics are included in this 2018 EPA Sustainability Call under Theme 4: Socio-Economic Aspects of a Sustainable Environment:

Sust. Call 2018 - Project 14.	Sustainable Production and Consumption: The Influence of Social Norms
Sust. Call 2018 - Project 15.	Greening Dublin’s Inner City
Sust. Call 2018 - Project 16.	Plastics Use in Irish Homes
Sust. Call 2018 - Project 17.	Plastic Recycling Market: Opportunities and Challenges

Project Title: Sustainable Production and Consumption: The Influence of Social Norms

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:***
Sustainability 2018 Call – Project 14

Background

Climate change, population growth, depletion of fossil-based resources and other challenges are affecting supply of and demand for natural resources. This has significant impacts on the economy, society and the environment. New developments, such as those provided by the emerging bioeconomy, smart agriculture, and the Internet of Things, provide opportunities for more sustainable production and consumption of natural resources. Understanding consumer aspects in relation to such developments is fundamental to the commercialisation of such technologies and market acceptance of resultant products and services. Furthermore, greater insight and understanding potentially supports the development of a society that can embed sustainability as a social norm. Social norms play an important role in social phenomena, including decisions related to resource use such as energy and food consumption (McDonald and Crandall, 2015). As such, they have an important role in determining behaviour. Such behaviours and associated social norms can be changed over time through a range of interventions including taxation (e.g. plastic bag levy). Simultaneously combining regulatory approaches with initiatives to promote cultural change provides a wide range of opportunities to achieve more sustainable production and consumption and highlights a role for a diversity of actors, beyond government, in the achievement of same. This research has the potential to support the delivery of policies that underpin sustainable development, e.g., National Planning Framework, the Circular Economy, National Mitigation Plan, UN Sustainable Development Goals, etc.

Scope

Innovative research proposals are invited to critically evaluate social norms in what people do and what they are expected to do in the context of agriculture, food and the bioeconomy. It is envisaged that the research would increase awareness amongst the national population of the impact of consumption to facilitate an increase in conscious consumption at the individual level as a social norm. The research would identify an evidence base for policy makers and others in the design a range of interventions to facilitate more sustainable consumption practices and behaviour in Ireland to guide behaviour towards more sustainable consumption; and design a range of interventions to facilitate more sustainable consumption practices and behaviour in Ireland. The research could deliver a range of outputs that provide an increased understanding of the social norms, their determinants and impacts on consumption behaviour in a range of consumption contexts.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project **MUST** build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12 to 18**-month Medium-Scale Project, with an indicative budget of **€150,000** (which includes a 5% provision for communication costs³¹) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

³¹ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Greening Dublin's Inner City

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:***
Sustainability 2018 Call – Project 15

Background

At present in Ireland, there is a need to reduce pollution and carbon emissions in city centres, such as in Dublin's Inner City. One part of the solution is to increase the presence of 'Green Infrastructure' or 'Blue-Green Infrastructure' defined as a network providing the 'ingredients' for solving urban and climatic challenges by building with nature. Increased community engagement helps to raise greater awareness on the multiple roles of urban planting, trees and green infrastructure in cities in terms of health benefits, reducing pollution, amenity value, enhanced biodiversity and economic gain. Recognising this, the EPA and the Health Executive Service have funded in the past several projects in that space (e.g. ECO-Health (www.ecohealth.ie); NEAR-Health, [Green and Blue Infrastructure and Health](#) (GBI- Health)).

Scope

Innovative research proposals are invited to identify ways to foster increased community engagement about ways to add 'Green Infrastructure' in urban environment, including the consideration of a pilot planting project. It is envisaged that the research would critically examine the economic value of trees in urban environments; and develop a policy-focused state of the art review of the multidisciplinary evidence of greening: green infrastructure, trees and urban planting on ecosystem services in Dublin's inner city. The research could establish a citizen science initiative on the role of trees in the wellbeing of people that live, work and play in cities. Research in this area would facilitate increased policy focus on the economic, social, health and environmental value of maintaining and increasing greenery in Dublin.

Where possible, a **trans-disciplinary and multi-institutional approach** should be considered. **Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.**

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for an **18 to 24**-month Medium-Scale Project, with an indicative budget of **€150,000** (which includes a 5% provision for communication costs³²) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

³² For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Plastics Use in Irish Homes

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 16*

Background

In the 1950s the world made about 2m tonnes of plastic a year. Now that figure is 330m tonnes a year – and it is set to treble again by 2050. Plastics are valuable materials covering a wide range of applications in everyday life and are found everywhere, from households to industry. Plastics have the potential to be recycled many times while retaining their value and functional properties. However, within the EU-28, a large share of this material (74%) is currently wasted, either sent to landfill or incinerated for energy recovery. In the context of a Resource Efficient Europe, increasing the reuse and recycling of materials is considered a high priority for realising the vision of a circular economy within the EU. The European Commission has amended several waste related EU Directives (COM(2014) 397 final), to include proposals for higher targets for the recycling of different waste streams and materials and specifically significantly higher recycling targets for plastic packaging waste (45% by 2020 and 60% by 2025). This requires considerable expansion in the recycling of plastic waste in EU-28.

Scope

Innovative research proposals are invited to critically evaluate plastic use in Irish homes and develop a Citizen Science protocol for home audits and reductions in plastic use in homes. It is envisaged that the research could develop a comprehensive and systematic approach to gather evidence on plastic usage in Irish homes; build citizen science capacity and increase awareness of risks and harm from plastics and develop an educational toolkit for green schools.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month** Desk-Study, with an indicative budget of **€85,000** (which includes a 5% provision for communication costs³³) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that no more than one project will be funded under this topic.

³³ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Project Title: Plastic Recycling Market: Opportunities and Challenges

Project Type: Desk-Study

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2018 Call – Project 17*

Background

The Circular Economy Package includes a legislative package which revises a range of Waste Directives (Packaging, WEEE, Batteries, Waste Framework, End of Life Vehicles and Landfill). This package focusing on increased reduction, recycling and recovery of waste, thereby reducing reliance on landfill, secured political agreement in December 2017. Under the current Packaging Directive Member States are required to recycle 22.5% by weight of all plastic packaging. Under the new Circular Economy legislative package the Commission is increasing this target to 50% by 2025 and 55% by 2030. The package includes an Action Plan which comprises a suite of primarily non-legislative measures. The proposed actions contribute to “closing the loop” of product lifecycles through greater recycling and re-use to the benefit of both the environment and the economy. Plastics was identified as one of the priority areas by the Action Plan where measures are required to address the challenges throughout the plastics value chain considering their entire life-cycle. In January 2018, the Commission published the Plastics Strategy which noted that in the EU the plastics sector employs 1.5 million people and generated a turnover of €340 billion in 2015. Ensuring vibrancy of the industry against the necessity to protect the planet is a challenge that the EU Strategy is hoping to meet. It focuses on plastics production and use and sets a goal of ensuring all plastic packaging is recyclable by 2030.

The Plastics strategy is built around four key actions:

- Improving the economics and quality of plastics recycling;
- Curbing plastic waste and littering;
- Driving innovation and investment towards circular solutions; and
- Harnessing Global Action.

The strategy lists future EU measures and recommends measures to national authorities and industry for the attainment of its goals. The detailed measures are outlined in the Annex to the Strategy. The strategy is ambitious - Irish industry’s ability to respond will need to be closely evaluated as it is very reliant on external markets for recycling plastic. China has introduced new contamination rates above which they would not accept waste for treatment. This has effectively closed the Chinese plastic recycling market, introducing economic and environmental challenges for waste operators in Ireland seeking new markets. However, closing the market in China presents an opportunity for Ireland and Europe to consider the possibility of developing indigenous capacity, although there is a considerable challenge in delivering on that capacity in good time.

Scope

Innovative research proposals are invited to the opportunities and challenges for the plastic recycling market in Ireland arising from the more stringent standard introduced by China.

Proposals should demonstrate added-value for money as well as how the outputs from the proposed research will inform policy.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

The EPA considers that proposals for a **12-month** Desk-Study, with an indicative budget of **€85,000** (which includes a 5% provision for communication costs³⁴) would allow this specific topic to be addressed appropriately. Nonetheless, this does not preclude the submission and selection of proposals requesting other amounts. Please refer to the *2018 Guide for Applicants* for further details. It is expected that **no more than one project** will be funded under this topic.

³⁴ For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

Open Topic

Project Type: OPEN

*To make an application under this topic area, you must use one of the following **Call Topic References**:*

Sustainability Call 2018 – OPEN Project 1

Sustainability Call 2018 – OPEN Project 2

Sustainability Call 2018 – OPEN Project 3

Background

Under each of the 2018 EPA Research Calls, a section of the calls is targeted to an OPEN Call.

The same proposal should NOT be submitted more than once. Applicants must ensure that they select the most relevant Open Topic (i.e. under the 2018 Water, Sustainability or Climate Calls).

Applicants can submit up to three proposals under this Sustainability Call 2018 Open Topic:

- To make one application under this topic area: you must use Call topic Reference **Sustainability Call 2018 – OPEN Project 1**;
- To make a second application under this topic area: you must use Call topic Reference **Sustainability Call 2018 – OPEN Project 2**;
- To make a third application under this topic area: you must use Call topic Reference **Sustainability Call 2018 – OPEN Project 3**.

Scope

Proposals for innovative research are invited to provide the evidence to support environmental policy in Ireland. It is critical that applicants clearly demonstrate the relevance of their proposed research to:

- EPA Research Strategy 2014-2020; and
- National environmental policy context, e.g. Towards a Resource Efficient Ireland - 2014, Healthy Ireland, National Biodiversity Action Plan - 2017, National Planning Framework, Our Sustainable Future: Ireland's Framework for Sustainable Development, National Policy Statement on the Bioeconomy; and
- Implementation of the UN Sustainable Development Goals.

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. It is strongly recommended that the applicants familiarise themselves with and utilise the tools provided in the EPA Bridging the Gap Resource Kit:

- [EPA Research Report 131](#): BRIDGE: Tools for science-policy communication;
- [EPA Research Report 132](#): Good Practice Guide for science-policy communication; and
- [EPA Research Report 133](#): A Knowledge Transfer Guide for Researchers.

Where appropriate, applicants are being encouraged to consider how best to integrate the use of Earth Observation (e.g. COPERNICUS) to address their selected research question.

All research proposals must **build on findings and recommendations** from past and ongoing research^[1] projects (where relevant), and should consider linkages and synergies with projects to be funded under the other topics included in this current call - **clearly demonstrating that there will be no duplication**.

Proposals requiring access to Irish Water-owned data or assets, should include a contingency plan, should such access not be granted.

Outputs

Outputs from this project MUST build on existing research and other information. Proposals must comply with the EPA's policy on [Open Access and Open Data](#). Please refer to [Section 5](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding

These proposals can be for Desk-Studies, Medium-Scale or Large-Scale Projects (See [Section 2](#) for indicative budget (which includes a 5% provision for communication costs^[2]) and duration). **Applicants must clearly demonstrate the value for money of their proposal and that the amount requested for the project budget as well as the type of project selected (i.e. Desk-Studies, Medium-Scale, or Large-Scale Projects) will allow the proposed research to be addressed appropriately.** Please refer to the *2018 Guide for Applicants* for further details. It is expected that **one or more projects** will be funded in 2018 under this Open topic and a Reserve List will be established for consideration in 2019.

^[1] including EPA-funded, other Irish and EU and international research projects and initiatives/activities

^[2] For example, a €100,000 grant award is made up of €95,000 for project costs, and €5,000 for communication costs (€3,000 of which relates to communication activities and events which take place over the lifetime of the project and €2,000 which relates to post completion dissemination costs).

5. Expected Outputs

For all projects, expected outputs include, but are not limited to:

- **Final Report**, which should provide a clear and detailed account of all the steps and methodologies used during the project and ensure that the objectives, set out above, are met – including recommendations.
- **Synthesis Report** (20-30pp), which provide a clear non-technical summary of the research and of the recommendations.
- **Infographics** including but not limited to one on inception of the project describing the project aims & objectives; and one on completion of the project summarizing the main findings.
- **Policy Briefs and Dissemination 2-pager**, which will be used to disseminate the findings of the research to the key stakeholders.
- **Workshop/Dissemination event(s)** to all stakeholders in the relevant arena (e.g. Policy, monitoring, regulatory, NGOs, media, public, etc.).

The list provided above is indicative and relevant alternatives will be considered. Please consult the *2018 Guide for Applicants*, *2018 Guide for Grantees* and the *EPA Terms and Conditions of award* for the full list of interim and final reporting requirements.

A **dedicated website/webpage/Twitter account** should be created and maintained, presenting the project and work carried to-date. It is also expected that several **dissemination outputs**, such as posters, leaflets, newsletters, policy briefs, peer-reviewed publications and presentations, will arise from the projects.

It is essential that applicants clearly demonstrate, in their proposal, 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 our 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.**

It is strongly recommended that the applicants familiarise themselves with and utilise the tools provided in the EPA Bridging the Gap Resource Kit:

- [EPA Research Report 131](#): BRIDGE: Tools for science-policy communication;
- [EPA Research Report 132](#): Good Practice Guide for science-policy communication; and
- [EPA Research Report 133](#): A Knowledge Transfer Guide for Researchers.

6. Indicative Timeframe

23 rd April 2018:	Call Opening
18 th June 2018 (5.00 pm):	Deadline for queries relating to the technical contents of this call
27 th June 2018 (5.00 pm):	Deadline for submission of applications by applicants
6 th July 2018 (5.00 pm):	Organisation Approval Deadline for authorisation by Research Offices
July/September 2018:	Evaluation Process
September/October 2018:	Negotiation ³⁵
November 2018:	Grant Award of Successful Projects
By 31 st March 2019:	Start of Successful Projects

³⁵ The EPA may consider calling the shortlisted applicants for interview at this stage.

7. Further Information

Information on current research projects being supported by the programme is available in the Research Section of the EPA web site (www.epa.ie/researchandeducation/research).

Alternatively, for further information on this call, please contact research@epa.ie. Follow us on Twitter [@EPAResearchNews](https://twitter.com/EPAResearchNews) to keep up-to-date with all our activities

The following additional documents are available from the EPA website:
<http://www.epa.ie/pubs/reports/research/opencalls/currentcalls/documents/>

- 2018 EPA Research Guide for Applicants;
- 2018 EPA Research Guide for Grantees;
- 2018 EPA Research Terms & Conditions for Support of Grant Awards;
- Quick Guide to making an application;
- User Guide for Applicants;
- Guidelines to Open Access Research Publications and Data in Horizon 2020;
- Open access to publications and data in Horizon 2020: Frequently Asked Questions (FAQ) – Fact Sheet;
- EPA Research Programme Policy on Maternity, Paternity and Adoptive Leave;
- Communications Plan Template;
- Work Packages Template

All queries MUST be submitted to research@epa.ie

All queries, other than on the submission process, should be submitted by the 18th June 2018, 5.00 pm at the latest.