



EPA Research - 2017 Call

EPA Research – Sustainability Research Call 2017

Technical Description

The EPA Research Programme is funded by the Irish Government.

Environmental Protection Agency Research Call 2017: Sustainability

This document provides the **Technical Description** for the Environmental Protection Agency (EPA) **Sustainability** Research Call 2017. Applicants should read the following carefully and also 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 2016¹ 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 generations².

The EPA Research Programme has allocated funding of approximately € 2.84m for new commitments as a result of this 2017 Sustainability research call.

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

- Resource Efficiency
- Health & Wellbeing
- Natural Capital and Ecosystem Services including soils and biodiversity
- 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 inter-disciplinary research is required on these themes, with expected social, economic, technological, environmental and policy impacts.

Funding Structure

The EPA invites research proposals under the specific topics listed in Table 1. These proposals will be Desk-Studies, Medium-Scale or Large-Scale Projects:

- **Desk-Study** will typically last from 6 to 12 months with an indicative cost range of €50,000 to €100,000;

¹ http://www.epa.ie/pubs/reports/indicators/SoE_Report_2016.pdf

² <https://sustainabledevelopment.un.org/sdgs>

- **Medium-Scale Project** will typically last from 24 to 36 months with an indicative cost range of €100,000 to €350,000;
- **Large-Scale Project** will typically last from 36 to 48 months with an indicative cost range for this Call of €350,000 to €650,000.

Cofunding and Partnerships

As part of the EPA Research Call 2017: Sustainability, Two topics will be cofunded with the European Recycling Platform and WEEE Ireland.



**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 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

Value for Money

All research proposals must **build on findings and recommendations** from past and current research³ projects (where relevant) and **demonstrate value for money**.

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 and can be maintained by the EPA after the completion of the project.

³ including EPA-funded, other Irish and EU and international research projects and initiatives/activities

List of Topics

Table 1: List of topics included in the EPA 2017 Sustainability Research Call

Call Topic Ref.	Thematic Areas and Project Titles	Max. Budget (€) per project
Resource Efficiency		
Sustainability 2017 Call - Project 1	Reuse and critical raw materials (CRM)-rich WEEE collection trials	€100,000 Cofunded by ERP Ireland and WEEE Ireland
Sustainability 2017 Call - Project 2	From EEE to WEEE – an investigation into the waste electrical and electronic equipment arising and not arising in Ireland	€150,000 Cofunded by ERP Ireland and WEEE Ireland
Health & Wellbeing		
Sustainability 2017 Call - Project 3	Mapping and harmonisation of data and prioritisation of substances for human biomonitoring in Ireland	€300,000
Sustainability 2017 Call - Project 4	Common noise assessment methodology for round 4 noise mapping under the Environmental Noise Directive	€350,000
Sustainability 2017 Call - Project 5	Environmental noise, health and wellbeing – understanding and quantifying the potential health impacts of environmental noise in Ireland.	€350,000
Sustainability 2017 Call - Project 6	Assessment of the relative contribution of various sectors to the impact and persistence of antimicrobial resistance in the environment and development of sector-specific solutions to halt further spread	€650,000
Sustainability 2017 Call - Project 7	Assessment of the environment and health impacts arising from mercury-free dental restorative materials	€150,000
Sustainability 2017 Call - Project 8	Market and use of dental amalgam and mercury-free alternatives in Ireland	€75,000
Radiation Protection		
Sustainability 2017 Call - Project 9	To investigate radioactivity of Irish Building Materials (RIBMat)	€150,000
Sustainability 2017 Call - Project 10	Radioactivity In the Coastal Environment (RICE)	€150,000

Natural Capital and Ecosystem Services including soils and biodiversity		
Sustainability 2017 Call Project 11	Follow-on Review of Effectiveness of SEA in Ireland	€150,000
Socio-Economic Aspects of a Sustainable Environment		
Sustainability 2017 Call Project 12	Environmental outcomes from licence enforcement	€150,000
Sustainability 2017 Call Project 13	Effectiveness Analysis of National Waste Policies (1996 to present)	€100,000
Sustainability 2017 Call Project 14	Behavioural change tools to promote going-beyond compliance in the regulated community	€100,000

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, '2017 Quick guide to the EPA online portal (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 '2017 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

2. 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.

The Resource Efficiency research theme has four subthemes:

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

Two topics are included in this 2017 EPA Sustainability Call under *Theme 1: Resource Efficiency*:

Sustainability 2017 Call – Project 1	Reuse and Critical Raw Materials (CRM)-rich WEEE collection trials
Sustainability 2017 Call – Project 2	From EEE to WEEE – an investigation into the waste electrical and electronic equipment arising and not arising in Ireland

Project Title: Reuse and Critical Raw Materials (CRM)-rich WEEE collection trials

Project Type: Desk Study

*To make an application under this topic area, you must use the following **Call Topic Reference:** **Sustainability 2017 Call - Project 1***

Background:

In line with the circular economy aims of Ireland and the EU, it is important to facilitate the promotion of waste electrical and electronic equipment (WEEE) reuse within the country, as well as recovery of Critical Raw Materials (CRM), such as rare earth elements present in LCD and plasma screens, from WEEE bound for the recycling chain. To facilitate re-use and CRM recovery, there is a need to trial and assess the feasibility and practicality of segregating suitable CRM-rich WEEE, as well as WEEE suitable for reuse, at the primary sites of collection in Ireland (i.e. civic amenity sites and retailers).

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Focusing on an identified high value waste stream, undertaking source-segregated collection trials for CRM-rich WEEE within select local authority civic amenity sites (those that are well-staffed, busy, secure) and retailers (those with a good record of WEEE segregation, storage and security). In carrying out the trials, the following should be considered:
 - Engagement with trial site staff to increase knowledge and awareness of CRMs.
 - Feasibility of employing appointed collectors through e.g. existing network of Professional Collection Specialists (PCS) sub-contractors.
 - Requirement for specialised receptacles for segregation of CRM-rich WEEE.
 - Continuous monitoring of monthly fill levels, collections, public engagement and use.
 - Examination of treatment operators seeking CRM-rich WEEE throughout Europe.
 - Associated costings including transport, transfrontier shipment, revenues, etc.
- Developing recommendations to inform best practice and policy.

While the primary focus of the project will be trialling collection of CRM-rich WEEE, there is also scope to examine WEEE for reuse. Close interaction and consultation with current and previous EPA-funded projects is essential in progressing this aspect of the research.

Applicants are encouraged to include letters of support from local authority civic amenity sites and retailers in their application which confirm their intention to participate in the proposed collection trials, if the application is successful.

Outputs arising from the research would profile and trial the segregation of CRM-rich WEEE and WEEE for reuse, at the point of collection within specified high value streams to determine the practicality, feasibility and potential requirements for more extensive implementation.

Outputs from this project MUST build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **12-month Desk Study**, with an indicative budget of up to **€100,000** (which includes a 5% provision for communication costs⁴). Please refer to the **2017 Guide for Applicants** for further details.

This topic is cofunded with the European Recycling Platform (ERP) Ireland and WEEE Ireland

⁴ 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: From EEE to WEEE – an investigation into the waste electrical and electronic equipment arising and not arising in Ireland

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:** **Sustainability 2017 Call - Project 2***

Background:

Ireland is currently collecting waste electrical and electronic equipment (WEEE) volumes measured in by weight as 60% of the household electrical appliances placed on the market each year. However, to achieve the 65% overall (professional and household) collection target, more needs to be done. Certain waste categories and types of products account for a much higher percentage take back compared to others. A better understanding of the gaps in our current WEEE profile and investigation of the reasons behind these gaps (e.g. consumer hoarding, second hand markets, disposal behaviours, etc.) is urgently required. Moreover, understanding the authorised and unauthorised flow of WEEE in Ireland to ensure that we are able to accurately capture and record the required data to support our collection targets is of vital importance from a policy perspective.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Investigating the profile of WEEE arising at collection points and recycling facilities in Ireland.
- Examining second-hand EEE flows, as well as consumer hoarding, disposal behaviours and discards through the residual waste system. Examination of potential second-hand EEE flows within the Business-to-Business sector is essential.
- Evaluating the expected versus actual data in relation to WEEE arising and not arising and comparison with EEE placed on market (i.e. what are the gaps in the WEEE profile and where are these products going at the end of life?).
- Providing recommendations for future management of waste streams with poor collection rates.

Outputs arising from the research will provide a detailed understanding of current EEE to WEEE flows, information on the quantities and types of WEEE not currently entering the waste stream and insight into the fate of those articles. Evidence generated will provide guidance around specific waste streams which require focused and targeted action through, for example, future collection and awareness programmes for professionals and households.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **12-18-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs⁵). Please refer to the **2017 Guide for Applicants** for further details.

This topic is cofunded with the European Recycling Platform (ERP) Ireland and WEEE Ireland

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).

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 four subthemes:

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

Eight topics (including two topics related to radiation research) are included in this 2017 EPA Sustainability Call under *Theme 1: Health and Wellbeing*

Sustainability 2017 Call – Project 3	Mapping and harmonisation of data and prioritisation of substances for human biomonitoring in Ireland.
Sustainability 2017 Call – Project 4	Common noise assessment methodology for round 4 noise mapping under the Environmental Noise Directive.
Sustainability 2017 Call – Project 5	Environmental noise, health and wellbeing – understanding and quantifying the potential health impacts of environmental noise in Ireland.
Sustainability 2017 Call – Project 6	Assessment of the relative contribution of various sectors to the impact and persistence of antimicrobial resistance in the environment and development of sector-specific solutions to halt further spread.
Sustainability 2017 Call – Project 7	Assessment of the environment and health impacts arising from mercury-free dental restorative materials.
Sustainability 2017 Call – Project 8	Market and use of dental amalgam and mercury-free alternatives in Ireland.
Sustainability 2017 Call – Project 9	To investigate radioactivity of Irish Building Materials (RIBMat)
Sustainability 2017 Call – Project 10	Radioactivity in the Coastal Environment (RICE)

Project Title: Mapping and harmonisation of data and prioritisation of substances for human biomonitoring in Ireland.

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference:** **Sustainability 2017 Call - Project 3***

Background:

In Ireland, human biomonitoring (HBM) research, and the resulting data generated, is currently quite fragmented and siloed. There has been significant investment in HBM at a European level with the recent commencement of the European Human Biomonitoring Initiative (HBM4EU)⁶, which aims to “coordinate and advance HBM in Europe and provide better evidence of the actual exposure of citizens to chemicals and the possible health effects to support policy making”.

There is an opportunity now to coalesce Irish relevant HBM data in order to identify future needs and priorities for Ireland. Mapping and harmonising Irish relevant data and performing a prioritisation of substances of concern nationally could contribute significantly to European-led activities, while also building relevant national capacity.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Mapping, collating and integrating all Irish relevant HBM data creating an integrated and accessible repository of data for use by the Irish research community, as well as other relevant national and international stakeholders.
- Characterising and identifying pollutants/substances for potential inclusion in HBM4EU priority substances lists, while also providing a comprehensive and critical analysis of needs and areas of strategic opportunity for further development of HBM in Ireland. During prioritisation efforts, it is expected that the impacts on health, as well as the interplay and potential modifying effects of other environmental exposures, will be considered.
- Developing streamlined biomonitoring tools and procedures to enable longitudinal assessment of priority substances over time which can support and synergise with existing and future environment and population health monitoring programmes and studies.

One of the major aims of HBM4EU is to provide the data and tools to help us understand the impact of environmental exposures on human health by translating HBM data into health risks and linking to health outcomes. It is expected that Irish data generated by this project will align to and support Europe-wide efforts, while also building the necessary capacity (both people and knowledge) to contribute meaningful evidence to support policy-making and ultimately protecting human health through reducing exposure to harmful chemicals.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **24-36-month Medium-Scale Project**, with an indicative budget of up to **€300,000** (which includes a 5% provision for communication costs⁷). Please refer to the **2017 Guide for Applicants** for further details.

This topic was prepared in collaboration with the Health Service Executive.

⁶ <https://www.hbm4eu.eu/>

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:	Common Noise Assessment Methodology for Round 4 Noise Mapping under the Environmental Noise Directive.
ProjectType:	Medium-Scale Project
<i>To make an application under this topic area, you must use the following Call Topic Reference: Sustainability 2017 Call - Project 4</i>	

Background:

The Environmental Noise Directive (END) (2002/49/EC) is the main EU instrument to determine the exposure to environmental noise (from road and rail traffic, aircrafts and industrial sources), both at Member State- and at EU-level, through completion of strategic noise mapping and development of action plans in order to reduce noise pollution, where necessary. Work on the Round 3 noise mapping process is currently underway and noise contour maps using the existing noise assessment methodology should be completed by the end of 2017. Round 4 noise mapping is due to commence in 2019 using a new common noise assessment methodology (CNOSSOS)⁸ bringing a more coherent and harmonised approach to the assessment of noise levels, which will ultimately generate more comparable noise maps across Europe. The practical, technical and potential legislative challenges, which may hinder successful implementation of CNOSSOS methodology in Ireland, require significant investigation prior to its commencement in 2019.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Identifying the main barriers in relation to the implementation of the CNOSSOS methodology.
- Examining noise propagation issues and, specifically, the point-to-point sound propagation method within the CNOSSOS methodology.
- Identifying, testing and fine-tuning various practical and technical solutions (capture of input data, conversion of existing data, required software tools, etc.) in conjunction with the appropriate noise mapping bodies.
- Examining Round 3 datasets through the CNOSSOS methodology to determine data gaps, constraints and opportunities for Round 4.
- Assessing how the strategic noise mapping has been approached for Rounds 1-3 and how it might be best approached for Round 4.
- Identifying potential legislative amendments which may be required for the implementation of CNOSSOS.
- Developing national guidance for successful implementation of the methodology in Ireland.

Outputs arising from the research will identify the main technical challenges and practical solutions for the successful implementation of the EU's new common noise assessment methodology (CNOSSOS) in Ireland as part of the Round 4 Noise Mapping.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **24-36-month Medium-Scale Project**, with an indicative budget of up to **€350,000** (which includes a 5% provision for communication costs⁹). Please refer to the **2017 Guide for Applicants** for further details.

⁸ <http://faolex.fao.org/docs/pdf/eur146675.pdf>

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:	Environmental noise, health and wellbeing – understanding and quantifying the potential health impacts of environmental noise in Ireland.
Project Type:	Medium-Scale Project
<i>To make an application under this topic area, you must use the following Call Topic Reference: Sustainability 2017 Call - Project 5</i>	

Background:

Noise pollution within Europe constitutes a major environmental health problem and is noted by the World Health Organisation (WHO) as the second most significant environmental cause of ill health after air quality¹⁰. In Ireland, the EPA's 2016 State of the Environment Report recognises that local environmental issues such as noise need to be resolved from an environment and health and wellbeing perspective¹¹. Our current understanding of the real impacts and potential health outcomes of environmental noise, particularly in Ireland, needs to be improved, and a better understanding of the response needed to protect against noise is urgently required.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Performing a review of the current literature into health and wellbeing linked to environmental noise, with specific reference to transport noise and noise sources covered by the Environmental Noise Directive (END).
- Examining the findings of recent noise research and reports, including the EEA Noise Report (2014)¹² and the latest WHO Noise Guidelines¹³ and identifying their significance in the Irish context.
- Critically reviewing existing methodology(s) to assess their effectiveness in quantifying the extent of annoyance and stress due to transport related noise exposure in Ireland.
- Guided and informed by the review of existing methodology(s), re-assessing the extent of annoyance and stress due to transport related noise in Ireland.¹⁴
- Identifying the type(s) of strategies or planning actions that should be implemented to address the issues identified.
- Performing an assessment of the potential health and wellbeing impacts and outcomes related to transport related noise at a number of representative noise hotspots identified (e.g. residents in new housing development in larger urban areas).
- Determining the effectiveness of existing transport, roads and planning guidance and noise action plans in the protection of residents from significant environmental noise exposure.

Outputs arising from the research will improve our understanding of the prevalence of environmental noise risks and nuisance in Ireland and its impact on human health and wellbeing. The research will also provide guidance and recommendations that will inform noise mapping bodies, policy makers and planners in making our major urban areas quieter in the future and in implementing measures, so as to reduce the noise exposure of vulnerable people.

Applications for this topic will be accepted only from multi-disciplinary teams of researchers (involving environmental noise researchers, health researchers, planning researchers, etc.).

Outputs from this project MUST build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

¹⁰ http://www.euro.who.int/_data/assets/pdf_file/0008/136466/e94888.pdf

¹¹ <http://www.epa.ie/irelandsenvironment/stateoftheenvironmentreport/>

¹² <http://www.eea.europa.eu/publications/noise-in-europe-2014>

¹³ [WHO Night Noise Guidelines for Europe](#) – updated WHO Guidelines to be published in 2017

¹⁴ As distinct from stress/annoyance arising from other noise sources such as alarms, neighbourhood noise or business premises etc.

Project Structure and Funding:

This is a **24-36-month Medium-Scale Project**, with an indicative budget of up to **€350,000** (which includes a 5% provision for communication costs¹⁵). Please refer to the **2017 Guide for Applicants** for further details.

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).

Project Title:	Assessment of the relative contribution of various sectors to the impact and persistence of antimicrobial resistance in the environment and development of sector-specific solutions to halt further spread
Project Type:	Large-Scale Project
<i>To make an application under this topic area, you must use the following Call Topic Reference: Sustainability 2017 Call - Project 6</i>	

Background:

The unnecessary and excessive use of antimicrobial agents has significantly contributed to the development and spread of antimicrobial resistance (AMR) worldwide across the human and animal population, agriculture and the wider environment. The environment is extremely vulnerable to discharge and release of antimicrobials and resistant organisms, as well as other resistance-driving chemicals, such as biocides and heavy metals, through various routes. The pivotal role which the environment plays in the persistence and spread of AMR is increasingly being recognised and is a significant area of concern. There is now an urgent need to enhance our understanding of the issue and generate further supportive evidence in order to help develop and implement effective risk management and preventative strategies to halt further spread.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Assessing the relative contribution of various sectors in Ireland (health, agriculture, industrial) on the sources and levels of antimicrobials and antimicrobial resistant organisms in the environment.
- Determining the role and contribution of various environmental reservoirs (e.g. surface water, recreational waters, soil, air) on the persistence and transmission of AMR.
- Investigating the mechanisms which allow antimicrobials and resistant organisms to persist through e.g. treatment of wastewater and sludge/manure management processes, and developing and piloting innovative and cost-effective solutions for removal/minimisation of antimicrobials and antimicrobial resistant organisms.
- Providing recommendations on priority areas/sectors for action, and outlining feasible risk management and prevention/minimisation strategies to be implemented within those areas/sectors.

Outputs arising from the research will provide national-level data on key sources, hot-spots and drivers of AMR in the environment from various key sectors in Ireland. Evidence gathered will provide a clearer understanding of the true extent of environmental contamination by antimicrobials and AMR organisms in Ireland, which will inform relevant policy and practice in this area while also assisting with implementation of Ireland's National Action Plan on AMR which is due to be published in 2017¹⁶. Innovative and cost-effective solutions developed will also provide mitigation actions for implementation within priority areas/sectors.

It is expected that the project and project team will support and provide relevant national level data and evidence to assist with relevant on-going and future AMR activities.

Applications for this topic will be accepted only from multi-disciplinary teams of researchers.

Outputs from this project MUST build on existing research and information available, including but not limited to current^{17,18} and recently published¹⁹ EPA-funded research. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

¹⁶ <http://health.gov.ie/national-patient-safety-office/patient-safety-surveillance/antimicrobial-resistance-amr/>

¹⁷ <https://stareurope.wordpress.com/institutes/national-university-of-ireland-maynooth-nuim/>

Project Structure and Funding:

This topic is a **36-48-month Large-Scale Project**, with an indicative budget of up to **€650,000** (which includes a 5% provision for communication costs²⁰). Please refer to the **2017 Guide for Applicants** for further details.

¹⁸ <http://jpi-trace.eu/index.html#>

¹⁹ <http://www.epa.ie/pubs/reports/research/health/researchreport162.html>

²⁰ 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: **Assessment of the environment and health impacts arising from mercury-free dental restorative materials**

Project Type: **Medium-Scale Project**

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call - Project 7***

Background:

The Minamata Convention on Mercury²¹ is a global treaty to protect human health and the environment from the adverse effects of mercury. Under the Convention, governments will be encouraged inter alia to take measures to manage the environmental and health impacts of mercury exposure.

With the transposition of the 'EU Mercury Regulation' and ratification of the 'Minamata Convention on Mercury' into Irish law expected shortly, including measures to control the use of dental amalgam administered to children, breastfeeding and pregnant women, it is important to gain a better understanding of the constituents contained within mercury-free dental restorative materials with regards their fate and management when removed from the patient. While there has been much research and evidence published in relation to the environmental impacts of dental amalgam²², information on any potential environmental impact of mercury-free dental restorative materials is currently quite limited.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Performing a comprehensive review of current literature examining the potential environmental impacts of substances/particles of concern derived from mercury-free alternatives, as well as the capacity of amalgam separators (conforming to European Standards) to remove such substances/particles.
- Guided by literature review findings and identified knowledge gaps, performing a comprehensive assessment of the capacity and efficiency of amalgam separators currently used within Irish dental practices in removing substances/particles derived from mercury-free alternatives.
- Quantifying the levels of substances/particles entering the environment via wastewater and describing the potential impact of released substances/particles of concern on aquatic organisms and human health.
- Identifying the potential occupational exposure routes and risks within dental practices and providing recommendations as to how to minimise exposure if required.

Outputs arising from the research will assist in the identification of components of mercury-free dental restorative materials and gain an understanding of any potential risk to the environment and human health.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **18-24-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs²³). Please refer to the **2017 Guide for Applicants** for further details.

²¹ <http://www.mercuryconvention.org/Home/tabid/3360/Default.aspx>

²² <http://www.eeb.org/index.cfm?LinkServID=18E63323-5056-B741-DB93A97196489C66>

²³ 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: Market and use of dental amalgam and mercury-free alternatives in Ireland
Project Type: Desk Study

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call - Project 8***

Background:

To assist in the transposition of the 'EU Mercury Regulation' and ratification of the 'Minamata Convention on Mercury' into Irish law there is a need to gain a clear understanding of the current market and use of amalgam and mercury-free alternatives in Ireland, as well as the waste management providers and practices in place for disposal. Important baseline data attained through this research will permit future appraisal of policy and legislation measures introduced.

Objectives & Expected Outputs:

Proposals submitted under this topic could consider:

- Performing a comprehensive assessment of the quantities of amalgam and mercury-free alternatives imported for use in dentistry in Ireland;
- Determining the relative usage of amalgam and mercury-free alternatives within, and examining the usage variance between HSE salaried practitioners, contracted practitioners, as well as private practitioners in Ireland.
- Identifying the key waste management practices and waste operators for amalgam and mercury-free alternatives and determining the final treatment destination of this waste stream.

Outputs arising from the research will provide comprehensive knowledge and baseline data in relation to market, use and disposal of amalgam and mercury-free alternatives in Ireland.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **6-12-month Desk Study**, with an indicative budget of up to **€75,000** (which includes a 5% provision for communication costs²⁴). Please refer to the **2017 Guide for Applicants** for further details.

²⁴ 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: To investigate radioactivity of Irish Building Materials (RIBMat)

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call – Project 9***

Background:

Article 75 of the Council Directive 2013/59/Euratom (Basic Safety Standards Directive – (BSS)) requires Member States to identify and limit the use of those Building Materials liable to give rise to does exceeding 1 mSv per year from gamma radiation in the material. Implementation of the BSS must take account of the provisions of Council Regulation No 305 /2011, as implemented in Ireland by SI No 225 of 2013, which lays down harmonised conditions for the marketing of Construction Products in Ireland. In addition but separate to the BSS, the National Radon Control Strategy (NRCS) for Ireland²⁵ identified radon emanation from Building Materials (BM) as a knowledge gap warranting investigation. Radon emanation from BM is different from gamma radiation from BM. Future resource requirement (in personnel and expertise) to meet the additional needs of the BSS in terms of radiometric expertise, especially in the area of Naturally Occurring Radioactive Materials (NORM), is a priority for the Environmental Protection Agency (EPA). The BSS is to be implemented in 2018 and a review of the NRCS is also due in 2018.

The proposed research will provide an evidence-based framework to guide enforcement of the new regulations and the next phase of the NRCS. The research will help align policy under the BSS, CPR and NRCS thereby preventing duplication of effort under these separate policy frameworks. It will help identify BM that ought not to be used for certain purposes in new buildings in Ireland. This project will apply and test recent developments in capability at the EPA radiometric laboratory, taking advantage of these to produce a new reference dataset for radiation protection in Ireland. An assessment of BM (under Article 75 of BSS) will have an early benefits to building professionals, industry and Department of Housing, Planning, Community and Local Government (DHPCLG) by providing confidence that the products used in construction meet best international standards.

Objectives & Expected Outputs:

The proposed research could consider the following:

- The Construction Products Regulations (CPR) sets out 35 product areas, seven of which could be of concern from a radiation protection perspective (e.g. gypsum, aggregates, concrete products etc.). By analysing a representative number of samples from these seven product areas, it should be possible to identify BM of concern.
- An assessment of the radon emanation from BM will improve our knowledge of the behaviour of radon in Ireland and inform any review of radon measurement or remediation techniques.

It is anticipated that the project will be developed in close collaboration with the Radon and Radiation Monitoring sections of the EPA Office of Radiation and Monitoring (ORM)²⁶.

The project will use and build on recent developments at the EPA radiometric laboratory, in low background detection systems and in the modelling of summing and attenuation effects. Gamma spectrometric procedures for measurement of natural radionuclides in different matrices will be tested and refined. This will include evaluations of (dis)equilibrium for sealed and unsealed samples, and detailed uncertainty evaluation.

It is recommended that the researcher(s) will be trained in and conduct radiometric and radiological analyses at the EPA-ORM Radon, and Radiation Monitoring laboratories, in EPA offices, Dublin, under the co-supervision of an ORM member of staff (**All queries must be submitted to research@epa.ie**).

²⁵ <http://www.epa.ie/radon/getinformed/nationalradoncontrolstrategy/>

²⁶ All queries must be submitted to research@epa.ie

The proposal should describe particulars of the collaborative arrangement, the multidisciplinary activities that will be established through it, how these will help to develop and apply the expertise of the EPA Radon and Radiation Monitoring Sections, and how they will help build the corpus of Irish radiological expertise.

Outputs arising from the research will allow the alignment of the CPR regulations and the BSS Directive. Recommendations could then be made regarding the use of BM considered problematic. The research will inform EPA advice and DHPCLG policy governing public exposure to naturally occurring radioactive materials (NORM), as well as radon in BM (specifically DHPCLG guidance / policy on CPR (SI No 225 of 2013) and Part D of the Building regulations). It will also inform future policy on exposure to radon from BM under the NRCS.

Training of the researcher(s) in the area of environmental radiometrics and radiological protection will help develop the corpus of Irish professionals in this area. This project is expected to contribute to building research capability through multidisciplinary collaborations (e.g. across physics, chemistry, and engineering) established through this project.

Outputs from this project MUST build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **36-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs²⁷). Please refer to the **2017 Guide for Applicants** for further details.

A modified overhead rate may be applied, to take into account the use of the EPA Radon and Radiation Monitoring Sections laboratories. Applicants are asked to complete the normal budget template available from the Application Form on the online EPA Grant Application & Management system, keeping in mind that the overheads may be revised accordingly during the Negotiation process, if the proposal is successful. Please refer to the **2017 Guide for Applicants** for further details.

²⁷ 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: Radioactivity in the Coastal Environment (RICE)

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call – Project 10***

Background:

The proposed research aims to provide a status update on radioactivity in Irish coastal/inshore sediments and organisms, with a focus on evaluation of the effects of material that accumulates or is disposed of in this environment. In relation to naturally occurring radionuclides, the European Council Directive 2013/59/Euratom Annex VII (limits for Exempted Practises) refers to 1 mSv/a above natural background radioactivity. IAEA-TECDOC-1759²⁸ describes approaches to ‘Determining the Suitability of Materials for Disposal at Sea’. This uses the *de minimis* concept and works from a base of 0.01 mSv/a above pre-existing levels for evaluation of naturally occurring radioactive material (NORM), as well as artificial radionuclides. It also describes adoption of reference levels for flora and fauna; incorporating recent recommendations of the International Commission on Radiological Protection, which originated through the European Radioecology Alliance²⁹. The radiometric laboratory of the Environmental Protection Agency (EPA) regularly receives samples of material related to dredging activities, for which NORM levels need to be accurately reported. Future resource requirement (in personnel and expertise) to meet the additional needs of European Council Directive 2013/59/Euratom in the areas of NORM, has been identified as a key risk for EPA in the area of Radon, Radiation Monitoring and Air Quality.

The project proposal should address these issues from the perspective of applied environmental radiometrics and radioecology. It should highlight linkages to policy through e.g. the Euratom Directive, Marine Strategy Framework Directive and OSPAR convention, as well as implications for stakeholders such as consumers, the inshore fisheries industry, the Department of the Communications Climate Action and Environment, the Department of Agriculture Food and the Marine, and the EPA.

Objectives & Expected Outputs:

The proposed research could consider the following:

- Collating and reviewing existing relevant Irish data.
- Selecting and sampling locations subject to, or potentially subject to, accumulation of material with the potential to be classified as NORM (‘natural’ processes resulting in the accumulation of material with elevated levels of radioactivity may also be considered).
- Experimentally evaluating radionuclide concentrations in sediments and selected organisms.
- Modelling of radionuclide transfer and/or radiation exposure.
- Producing scientific papers, delivering presentations at international conferences, and developing EPA activities in international platforms (e.g. ALLIANCE).

It is anticipated that the project will be developed in close collaboration with the EPA Radiation Monitoring Section of the EPA Office of Radiation and Monitoring (ORM)³⁰ and help to develop the expertise and knowledge-base. The project will use and build on recent developments at the laboratory, focussing on low background detection systems and in the modelling of summing and attenuation effects in gamma spectrometry, but also including methods such as alpha spectrometry and liquid scintillation counting to facilitate inter-comparison of results. Procedures for measurement of natural radionuclides in different matrices will be tested and refined. This will include evaluations of (dis)equilibrium and detailed uncertainty evaluation.

²⁸ <http://www-pub.iaea.org/books/iaeabooks/10841/Determining-the-Suitability-of-Materials-for-Disposal-at-Sea-under-the-London-Convention-1972-and-London-Protocol-1996-A-Radiological-Assessment-Procedure>

²⁹ <http://er-alliance.eu/>

³⁰ All queries must be submitted to research@epa.ie

It is recommended that the researcher(s) will be trained in and conduct radiometric and radiological analyses at the EPA-ORM Radon, and Radiation Monitoring laboratories, in EPA offices, Dublin, under the co-supervision of an ORM member of staff (**All queries must be submitted to research@epa.ie**).

The proposal should describe particulars of the collaborative arrangement, the multidisciplinary activities that will be established through it, how these will help to develop and apply the expertise of the EPA Radon and Radiation Monitoring Sections, and how they will help build the corpus of Irish radiological expertise. The results will provide a spatially detailed reference dataset and historical review, for comparison with present and future routine monitoring of a necessarily more limited set of sites and sample types, and to help understand results obtained from samples analysed on an ad-hoc basis for stakeholders.

Outputs from this project MUST build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **36-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs³¹). Please refer to the **2017 Guide for Applicants** for further details.

A modified overhead rate may be applied, to take into account the use of the EPA Radon and Radiation Monitoring Sections laboratories. Applicants are asked to complete the normal budget template available from the Application Form on the online EPA Grant Application & Management system, keeping in mind that the overheads may be revised accordingly during the Negotiation process, if the proposal is successful. Please refer to the **2017 Guide for Applicants** for further details.

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).

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

It is proposed that over the period 2014-2020, the core areas of research carried out by the EPA Research Programme in the area of Natural Capital be within the following three areas:

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

One topic is included in this 2017 EPA Sustainability Call under Theme 3: *Natural Capital and Ecosystem Services including soils and biodiversity*

Sustainability 2017 Call – Project 11 Follow-on Review of Effectiveness of SEA in Ireland

Project Title: Follow-on Review of Effectiveness of SEA in Ireland

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call – Project 11***

Background:

The Strategic Environmental Assessment (SEA) Regulations have been in place in Ireland since 2004, with the aim of ensuring that environmental considerations are taken into account during the preparation of plans/programmes. Eight years after the introduction of SEA in Ireland³², a review of SEA effectiveness in Ireland was published by EPA in 2012. While broadly positive, the review highlighted specific areas where SEA effectiveness could be improved, including during the implementation stage of plans, and listed recommended actions in an accompanying Action Plan. SEA effectiveness is under review at EU-level, with a recent 2016 study highlighting examples of good (and poor) SEA practice in various Member States.

With this in mind, a follow-on review of SEA effectiveness in Ireland is warranted to update the on-going progress made in implementing SEA in Ireland and to identify areas where further improvements are required, and the actions needed to address these issues.

Objectives & Expected Outputs:

The proposed research could consider the following:

- Assessing compliance with SEA statutory requirements.
- Evaluating the influence and effectiveness of the SEA consultation process and the role of the statutory environmental authorities and other stakeholders.
- Evaluating the extent to which the SEA findings have been integrated into the plans and reflected in the SEA Statements.
- Evaluating the linkages between parallel assessment processes including, for example, Appropriate Assessment and Strategic Flood Risk Assessment.
- Reviewing current practice at plan/programme implementation stage including SEA related monitoring.
- Reviewing a number of Case Studies to be reviewed which will inform the on-going work and development of the National SEA Forum and the associated SEA Action Plan.
- Developing recommendations for future 'Best Practice'.

Outputs arising from the research will build on the 2012 Effectiveness Review and recent SEA research and provide an important and timely evaluation of the progress that has been made in implementing SEA in Ireland. Outputs will provide information on current best practice in SEA integration and SEA related implementation in Ireland and a comparison with international best practice. Another key output is a good practice guidance note on the SEA-related monitoring of significant environment effects at the Plan implementation stage. The guidance note could include a series of suggested 'standardised' SEA objectives, targets and indicators for different types of land-use and sectoral plans, set at the relevant local/regional/national level.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

³² <http://www.epa.ie/pubs/advice/ea/SEA%20EFFECTIVENESS%20REVIEW%20MAIN%20REPORT%202012.pdf>

Project Structure and Funding:

This topic is an **18-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs³³). Please refer to the **2017 Guide for Applicants** for further details.

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).

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.

It is proposed that over the period 2014-2020, the core areas of research carried out by the EPA Research Programme in the area of Socio-Economic Aspects of a Sustainable Environment will be within the following three areas:

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

Three topics are included in this 2017 EPA Sustainability Call under Theme 4: *Socio-Economic Aspects of a Sustainable Environment*

Sustainability 2017 Call – Project 12	Environmental outcomes from licence enforcement
Sustainability 2017 Call – Project 13	Effectiveness Analysis of National Waste Policies (1996 to present)
Sustainability 2017 Call – Project 14	Behavioural change tools to promote going-beyond compliance in the Regulated Community

Project Title: Environmental outcomes from licence enforcement

Project Type: Medium-Scale Project

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call – Project 12***

Background:

The EPA has been regulating large industries since 1994 and large waste facilities since 1996. However, there are currently no metrics in place to measure the environmental **outcomes/impact** from EPA licensing and enforcement activities. These activities were licensed under either the Integrated Pollution Control system or national waste legislation (later to evolve to a mix of Industrial Emissions (IE) licences and IPC or waste licences). The scope of the research topic will be mostly on the enforcement of larger industrial emissions facilities (regulated under the IE Directive). Through extensive monitoring, reporting and enforcement there is significant data available.

Objectives & Expected Outputs:

The proposed research could consider the following:

- Developing suitable repeatable metrics to determine the environmental effectiveness and outcomes from regulation (licensing and enforcement) of industrial and waste facilities.
- Critically evaluating available monitoring, reporting and enforcement data.
- Developing recommendations for future 'Best Practice'.

Outputs from the research will be a suite of metrics to determine environmental outcomes from regulation (licensing and enforcement) of industrial and waste facilities. The research will also facilitate enhanced engagement with key stakeholders in the regulated community.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **12-18-month Medium-Scale Project**, with an indicative budget of up to **€150,000** (which includes a 5% provision for communication costs³⁴). Please refer to the **2017 Guide for Applicants** for further details.

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).

Project Title: Effectiveness Analysis of National Waste Policies (1996 to present)
Project Type: Desk Study

*To make an application under this topic area, you must use the following **Call Topic Reference:**
Sustainability 2017 Call – Project 13*

Background:

This proposed research project is envisaged as a structured evaluation of past and current national waste policies (1996 to present) so as to attribute and link changes in the state of the environment, as well as changes in compliance, awareness, behaviours, and the market, to specific policies (including Plans, Statute, Awareness Campaigns, Reviews, and Regulation). The proposed ex-post evaluation is a backward looking exercise, which aims to appraise national waste policies with regard to their impact, specifically, effectiveness, efficiency, coherence and relevance. The evaluation framework utilised should align with standard evaluation criteria and procedures used in ex-post evaluations of EU policies.

Objectives & Expected Outputs:

The proposed research could consider the following:

- Performing an ex-post impact and effectiveness analysis of National Waste Policies in Ireland since 1996.
- Identifying the sustainability (social, economic, environmental and governance) gains of this policy programme, and generate evidence to inform future policy interventions.
- Gathering relevant and necessary data for assessment of national waste policies.
- Conducting a comprehensive critical analysis of success and failure within previous national policies (e.g. achievements, what worked well, what did not work well).
- Developing recommendations to ensure smart, effective and timely achievement of, and adherence to, current and future national waste policies.

Outputs arising from the research will provide greater insight and an improved understanding of National Waste policy. In gathering relevant and necessary data for assessment of national waste policies, the proposed project would develop a comprehensive and extensive data resource using information from existing literature, as well as key stakeholder and data providers within the policies areas of focus.

Outputs from this project **MUST** build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **12-month Desk Study**, with an indicative budget of up to **€100,000** (which includes a 5% provision for communication costs³⁵). Please refer to the **2017 Guide for Applicants** for further details.

³⁵ 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: Behavioural change tools to promote going-beyond compliance in the regulated community

Project Type: Desk Study

*To make an application under this topic area, you must use the following **Call Topic Reference: Sustainability 2017 Call – Project 14***

Background:

Ireland has a well-developed system of environmental legislation, much of which is based on EU directives. The Office of Environmental Enforcement (OEE) is responsible for the regulation of activities licensed under the EPA Acts, Waste Management Acts and the Waste Water Discharge (Authorisation) Regulations, in addition to the supervision of local authorities in relation to the performance of their statutory environmental protection functions. The EPA's enforcement objective of maintaining and securing environmental compliance is achieved through a combination of measures ranging from compliance promotion such as guidance and assistance, the monitoring of compliance and, where necessary, the escalation of enforcement sanctions from administrative to legal action (see Figure 1: EPA, Enforcement Tools). Currently there are over 700 hundred licensed industrial sites in Ireland.

The EPA has developed a new approach to the identification and prioritisation of priority sites for enforcement. This National Priority Sites system is based on several key indicators of compliance, including compliance investigations, complaints, incidents and non-compliances. Licensees have been advised of their place on the National Priority Sites list since 2016 and this has prompted a significant response from licensees in improving compliance. It also shows that there are a relatively small number of licensed sites with significant compliance issues and a large cohort with substantially good compliance. The EPA will be publishing the National Priority Sites List later in 2017³⁶. It would be useful to assess critically evaluate the use of the priority list in driving behavioural change and to consider how other enforcement tools could be used to engage the more compliant operators in maintaining and going-beyond compliance.



Figure 1: EPA, Enforcement Tools.

³⁶ <https://www.brighttalk.com/webcast/9897/184797>

Objectives & Expected Outputs:

The proposed research could consider the following:

- Measuring the effect, with a view to optimise the different enforcement tools in achieving environmental compliance at industrial and waste facilities.
- Critically evaluating which enforcement tools deliver the best environmental outcomes (both in securing compliance and in going beyond compliance).
- Assessing what sociological/social science tools may be used to influence/secure compliance at regulated sites, to optimise compliant behaviours, and moreover drive management and operational to adopt a 'beyond-compliance' culture.
- Including an assessment of international practice in the above points.

Outputs arising from the research will provide greater insight and understanding into the factors that drive and influence behaviour amongst the regulated community. The research will provide more comprehensive guidance and greater visibility, on which tools lead to the best enforcement outcomes in meeting and going beyond compliance and therefore to assist future enforcement policy.

Outputs from this project MUST build on existing research and information available. Please refer to [Section 3](#) for more information regarding EPA-funded expected outputs.

Project Structure and Funding:

This topic is a **12-month Desk Study**, with an indicative budget of up to **€100,000** (which includes a 5% provision for communication costs³⁷). Please refer to the **2017 Guide for Applicants** for further details.

³⁷ 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).

3. Expected Outputs

For all projects submitted under the 2017 Sustainability Call, 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.
- **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 **2017 Guide for Applicants, 2017 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 a number of **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 sustainability-relevant policies and the protection of our environment.

4. Indicative Timeframe

5th May 2017:	Call Opening
26th June 2017 (5pm):	Deadline for queries relating to the technical contents of this call
3rd July 2017 (5pm):	Deadline for submission of applications by applicants
14th July 2017 (5pm):	Organisation Approval Deadline for authorisation by Research Offices
July/September 2017:	Evaluation Process
September/October 2017:	Negotiation ³⁸
November 2017:	Grant Award of Successful Projects

³⁸ The EPA may consider calling the shortlisted applicants for interview at this stage.

Further Information

Information on current research projects being supported by the programme is available in the Research Section of the EPA web site (www.epa.ie/pubs/reports/research/opencalls/currentcalldocuments/). 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 of our activities

Additional Documents available from the EPA website:

<http://www.epa.ie/pubs/reports/research/opencalls/currentcalldocuments/>

- *2017 EPA Research Guide for Applicants*
- *2017 EPA Research Guide for Grantees*
- *2017 EPA Research Terms & Conditions for Support of Grant Awards*
- *2017 Quick guide to the EPA on-line portal (How to make an application)*
- *EPA's Open Data and Open Access Rules*

All queries MUST be submitted to research@epa.ie .

All queries, other than on the submission process, should be submitted by the 26th June 2017, 5pm at the latest. No queries will be entertained afterwards.