



The environment is a strategic and valuable asset for Ireland which must be protected and proactively managed to ensure it forms the basis for a healthy society and our economic wellbeing.

There is growing acknowledgement internationally that our current production and consumption behaviours as well as our governance and development choices cannot be sustained without posing a significant threat to the environment and to human health.

In line with Irish, European and international policies, Ireland needs to transition towards a resource-efficient, low-carbon and environmentally-friendly economy in which the resources and services provided by our planet are protected and enhanced, and citizens' health and wellbeing are safeguarded.

## Previous research

Between 2007 and 2013, the EPA STRIVE Programme funded 149 Sustainable Environment Research Projects with a budget over €10,000, with a total commitment from the EPA of approximately €27m. The range of projects funded includes desk-studies, scholarships, fellowships and large-scale multi-annual and multi-partner awards. The research led to increased capacity, improved knowledge and awareness. Outputs included theses, reports, peer reviewed papers, contributions to policy, workshops and seminars.

## Research Programme 2014-2020

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

- Resource Efficiency
- Health & Wellbeing
- Natural Capital and Ecosystem Services including soils and biodiversity
- Socio-Economic Aspects of a Sustainable Environment

Some research topics may be cross-cutting over different research pillars/themes/sub-themes and will be assigned to one specific area by the EPA's research programme. EPA Research will work with other research funders in Ireland to coordinate sustainability research, and enhance synergies and collaboration.



## 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 sub-themes:

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

## Theme 2: Health & 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.

### Health & Wellbeing research will have four sub-themes:

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



# Strategy 2014-2020 : Sustainability



## 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.

### Natural Capital and Ecosystem Services research will have three sub-themes:

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

## 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.

### Socio-Economic Aspects of Sustainable Environment research will have three sub-themes:

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

## Linkages

Synergies and enhanced collaboration with other national funders is a key objective of the EPA Research Programme. This is facilitated by the Sustainability Research Coordination Group whose members include the Department of the Environment, Community & Local Government; Department of Agriculture, Food & the Marine; Department of Communications, Energy & Natural Resources; Health Research Board; Irish Research Council; National Parks & Wildlife Service; and the National Economic & Social Council.

## National

A number of other linkages will contribute to the research programme:

- Health Advisory Committee.
- National Biodiversity Action Plan working group.
- National Platform for Biodiversity Research.

## International

A number of international linkages have been established to promote Irish environmental research in the European Research Area. By ensuring that Ireland is represented in significant European initiatives such as Horizon 2020, Joint Programming Initiatives, and the European Innovation Partnership (EIP) on Raw Materials, the EPA will aim to increase the critical mass, reach and impact of Irish environmental research.

