



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

The Department of Environment, Climate and Communications Research and Innovation Survey — Public Consultation

Fields marked with * are mandatory.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Department of the Environment, Climate and Communications Research and Innovation Strategy — Public Consultation

The Department of the Environment, Climate and Communications has set out a vision of a climate neutral, sustainable, and digitally connected Ireland. This will involve leading ambitious climate and environment action across Government and society together with a fundamental shift in sustainable resource use and a transformation of our energy system while at the same time delivering world-class connectivity and cyber security. The Department has identified research and innovation as important enablers of its goals, and is one of a group of five Government Departments which invest significantly in research and innovation. Impact 2030, the national research and innovation strategy, outlines a strong role for the Department in delivering on Strategic Objectives in Climate, Environment and Sustainability (including Energy), and in Digital Transformation (including cyber security). During 2023, the Department is now developing its inaugural Research and Innovation Strategy.

Please complete this survey by 5:30 pm on Friday 11th August.

Note 1: There are no mandatory consultation questions. Fields can be left blank if you do not wish to answer a particular question.

Note 2: Responses to each of the consultation questions is limited to 2000 characters.

Note 3: Copying and pasting text into the boxes directly from Microsoft Word may cause user experience issues. To avoid this, it is recommended to 'paste as plain text'.

Note 4: You can download a PDF copy of your completed survey after you have submitted it.

* Please enter your name

Text of 5 to 200 characters will be accepted

* Please enter your email address

* Please enter your occupation

If you are responding on behalf of an organisation, please enter the name of that organisation.

200 character(s) maximum

Job Title (if applicable)

What gaps do you see in the Department's current research and innovation activities? How should we address those gaps in the Department Research and Innovation Strategy?

2000 character(s) maximum

Funding research in the area of natural capital accounting will help towards achieving climate action targets. Natural capital research projects, such as the INCASE Project (www.incaseproject.com/) have revealed knowledge and data gaps and identified priority areas which can be addressed to enable increased accuracy and efficiency of natural capital accounting in Ireland.

Natural capital refers to our stock of natural assets such as soil, forests and rivers, and the associated flow of ecosystem services that benefit and support Irish citizens such as carbon sequestration, flood mitigation, pollination, water quality, health and wellbeing. The natural capital approach is a useful tool that provides an important lens to capture human-natural environment complexity, identifying key stakeholders, risks, and opportunities to facilitate robust and realistic climate action. If we fail at protecting nature, we will fail at mitigating the impacts of climate breakdown.

A number of international policies stipulate the implementation of the natural capital accounting at state level, i.e. EU Green Deal, EU Biodiversity Strategy 2030 and the proposed amendment to EU regulation (No. 691 /2011), which proposes mandatory reporting on ecosystem accounts, has been approved by the EU Commission and is currently with the European Parliament and Council for final approval.

The statistical standard for natural capital accounting at national level is the System of Environmental Economic Accounting (<https://seea.un.org/>). For the natural capital approach to be progressed in Ireland, public spending needs to be channeled to projects that support the protection, restoration and conservation of nature, address natural capital knowledge gaps, and establish where losses are occurring to enable further research on scaling the application of the SEEA and the SEEA-Ecosystem Accounts (<https://seea.un.org/ecosystem-accounting>).

What actions can the Department take to identify future trends in the areas under our remit?

2000 character(s) maximum



Are there specific thematic areas relevant to the Department's remit which you would like to see more research and innovation activity in? How can this be achieved?

2000 character(s) maximum

Research and innovation are important enablers in meeting climate and biodiversity goals. Natural capital is a thematic area that NCI considers to be relevant to the Department's remit and is currently absent for Research and Innovation Strategy. The extensive inclusion of the natural capital approach and stipulations to create natural capital accounts at global, EU, and national levels, shows a clear direction toward mainstreaming this approach in policy, in response to the necessity for a systems-based approach to support sustainable development.

Achieving our climate and biodiversity targets requires a multifaceted whole systems approach incorporating the key drivers and impacts of climate change. As nature continues to degrade through land-use change, pollution, introduction of invasive species, over-exploitation, and climate change, extinction levels rise, and the level of biodiversity falls, which can have dire consequences for human health and contributes to climate breakdown.

Natural capital research projects have revealed knowledge and data gaps and identified priority areas which can be addressed in the short, medium, and long-term to enable increased accuracy and efficiency of natural capital accounting in Ireland. Research projects in Ireland relating to natural capital accounting using the System of Environmental Economic Accounting (SEEA) frameworks include the INCASE Project (www.incaseproject.com) which trialed the SEEA-EA at catchment scale; the ForES Project (www.for-es.ie) which is developing natural capital accounts for forest site scale; Farm Zero C Project (www.carbery.com/sustainability/farm-zero-c/) which is a collaboration with TCD, BiOrbic Centre, Carbery Group and others addressing carbon neutral farming; and Nature+ Energy (www.marei.ie/project/natureenergy/) which is working at the wind farm scale. There is a need to build capacity nationally via such research projects as those listed above.

Have you views on the impact of disruptive technologies such as AI, Quantum and 6G as part of the digital transformation agenda and the implications of these technologies for the Department?

2000 character(s) maximum

How can the Department better communicate its research and innovation needs?

2000 character(s) maximum

How can the Department work more effectively to source evidence from the national research and innovation community to support its work in policy development, policy implementation, and the uptake of new technologies?

2000 character(s) maximum

Funding research in the area of natural capital and natural capital accounting is critical to achieving climate action targets. Natural capital is an economic metaphor for nature,

How can the Department engage more effectively with all stakeholders in the national research and innovation system? If you are responding on behalf of an organisation, please state how the Department could more effectively engage with your organisation.

2000 character(s) maximum

Should the Department seek to grow its capacity to carry out in-house research? If yes, how can this be achieved?

2000 character(s) maximum



Are there examples internationally of Government strategies on research and innovation in climate, communications / digital, circular economy, cyber security, energy or environment that we should examine? If so, can you provide details?

2000 character(s) maximum

We need to build capacity to deliver on Ireland's obligations to compile national natural capital accounts, including upskilling, training, and building natural capital into the education system. The Central Statistics Office (CSO) Ecosystem Accounts Division, set up in 2020, has begun to compile extent and condition accounts as part of its SEEA-EA implementation and will require further resourcing to develop this work. There are a number of international examples of development and implementation of national natural capital accounts (NCA):

The government of the Netherlands developed an open-access online Natural Capital Atlas (www.atlasnatuurlijkkapitaal.nl/en) for the exchange of spatial data and other information on ecosystem services and natural capital. This would be useful in an Irish context.

They also developed tools and guidance to integrate natural capital accounting in policy related issues and produced national NCA. A technical report on NCA in the Netherlands was published in 2022 (Statistics Netherlands & WUR (2022), Natural Capital Accounting in the Netherlands – Technical report. Statistics Netherlands (CBS) and Wageningen University and Research (WUR) online at: [www.cbs.nl/-/media/natuurlijk-kapitaal/nca-nl-technical-report-2022-\(32\).pdf](http://www.cbs.nl/-/media/natuurlijk-kapitaal/nca-nl-technical-report-2022-(32).pdf)),

Further details of the national natural capital accounts developed for the Netherlands can be found at www.cbs.nl/en-gb/society/nature-and-environment/natural-capital.

The UK has developed NCA and provides a detailed report on these accounts which includes accounts for provisioning, regulating and cultural services. The Office of National Statistics presents the UK NCA for 2022 at: www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalaccounts/2022

NCI asks that the Department supports development and implementation of a national assessment of our natural capital stocks and flows to identify priority ecosystems and threats to natural capital using appropriate tools, such as NCA.

Are there any other matters you wish to raise in relation to the development of the research and innovation strategy?

2000 character(s) maximum

Natural Capital Ireland is a not-for-profit organisation leading the national conversation on natural capital. We are a group of organisations and individuals from academia and the public, private and NGO sectors, committed to the development and application of the natural capital approach to policy and decision-making. Our mission is to value, protect and restore Ireland's natural capital and ecosystem services, by supporting the adoption of the natural capital approach in public policy and corporate strategy, promoting informed public and private sector decision-making, and assisting in the establishment of a national natural capital accounting standard.

Natural capital is an economic metaphor for nature, which includes all biotic and abiotic entities and processes that constitute the planet earth including plants, rocks, animals, insects, water, gases etc. and their interactions with each other. Natural capital accounting involves recognising, measuring and valuing these entities and processes and can show changes in the extent and ecological condition of our natural assets and ecosystem services over time, and is supported by an internationally recognised methodology of natural capital accounting. The extensive inclusion of the natural capital approach and stipulations to create natural capital accounts at global, EU, and national levels, shows a clear direction toward the mainstreaming of this approach in policy, in response to the necessity for a systems-based approach to support sustainable development.

Natural capital provides goods and critical ecosystem services essential for a functioning economy and society including services that are important to climate action and human health, including carbon sequestration, water quality, flood and heat mitigation, biodiversity and pollinators for crops, clean air, and amenities for recreation, important for tourism, and our physical and mental health.

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