Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Five Year Assessment Report on Climate Change

Call for Academic Leaders
Technical Call Information

September 2020

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Technical Call Information

Introduction

The Environmental Protection Agency (EPA) is seeking applicants for Academic lead authors to work in a team in providing the first 5-Year Assessment Report on Climate Research. This call is open to leading academics in third level institutions or similar in the Island of Ireland. It provides a unique opportunity to deliver a comprehensive Ireland focused, state of scientific knowledge report on our understanding of climate change, the options to respond to the challenges it poses, and the opportunities that may arise from the planned transition to a climate neutral and climate resilient economy and society. This document provides a context for the provision of the first 5-Year Assessment Report, its structure, indicative contents, and delivery approach adopted by the Climate Research Coordination Group. The deadline for submission of completed applications is no later than 5pm on 12th October 2020. Applications will be assessed according to the evaluation criteria to enable the lead writing team for the 5YAR to be established and for the provision of EPA support for the production of the report. Funding may be supplemented by contribution from partner funding bodies. It does not include support for existing work which is expected to contribute to the 5YAR e.g. status of Ireland’s Climate. This support will be provided according to the standard EPA terms, conditions and processes for research support.

Background: What is the 5YAR

The EPA’s role in the co-ordination of Climate Change Research is outlined in the National Mitigation Plan (NMP) and the National Adaptation Framework (NAF) which were established under the 2015 Climate Act. The National Mitigation Plan specifically requires that the National Climate Research Coordination Group to report annually on its activities and provide “an assessment and synthesis of key findings from the research programme and wider related research activities every five years”. The report is expected to inform the NMP, NAF and subsequent processes including the 2019 Climate Action Plan.

The EPA with partner Agencies has adopted a writing process to deliver the first five-year assessment (5YAR-1) report. The report will provide an authoritative assessment of our understanding of climate change based on; scientific research and systematic observations in Ireland, linked EU and global analysis and to provide summary information which can inform decision making on climate actions. It will serve to identify research gaps to inform future research investment needs and priority research issues.

It is envisaged that this process will contribute to the development of national assessment and analysis capacity. It should also enhance engagement with similar developments at European and international levels and establish a structure and process to develop future reports.

Structure and Delivery Approach

The 5YAR-1 report will be provided in a series of four thematic volumes with an overarching synthesis report. Three of the four volumes will reflect the structures used by the IPCC in providing

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2 Action 11 of the NMP (DCCAE, 2017)
its large-scale assessment report in addressing fundamental scientific understanding, mitigation of climate change and adaptation to climate change. The fourth volume will focus on the opportunities and realising the benefits of the required transition and transformation arising from climate change.

The 5YAR-1 structure is therefore expected to be provided in four volumes:

<table>
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<tr>
<th>Volume</th>
<th>Title</th>
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<tr>
<td>1</td>
<td>Science: Ireland in a changing world</td>
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<td>2</td>
<td>Achieving climate neutrality by 2050</td>
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<td>3</td>
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<td>4</td>
<td>Realising the benefits of transition and transformation</td>
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Each volume will be published as individual components of the 5YAR. The completion of the 5YAR will be signalled by publication of a short synthesis report that integrates key messages from the material in the underlying volumes. The writing process will be led by a team of at least 8 leading academics with at least two academics leading on the production of each of the component volumes. The synthesis report will be provided by the full team.

The report will be focused on outcomes from research in Ireland and Europe and build on material provided by the IPCC during its 6th Assessment cycle. It will use data from observations systems in Ireland as identified under the Global Climate Observation System (GCOS) as well as information from the Copernicus programme.

Volume 1: Science: Ireland in a changing world
Volume 1 will build on the information contained in IPCC AR6 WGI report, and the Special Reports. It will use the information provided at UNFCCC COP Earth Information days and Copernicus. It will also highlight fundamental research carried out in Ireland which contributed to analysis of global changes. Indicative headings could include.

- Global changes and trends
- The Earth's energy balance and carbon budgets
- Earth systems and key cycles
- Projections and future Ireland
- Thresholds and tipping points
- Areas of interest/concern for Ireland

It is anticipated that Volume 1 will be published in Quarter 3/4 2021 (this is an indicative timeline and subject to change according to the publication of IPCC AR6).

Volume 2: Achieving climate neutrality by 2050
This volume will build on the information contained in IPCC AR6 WGIII report, and material in the special reports on 1.5°C and Land. It will aim to highlight the information contained in the National
Inventory Report (NIR) and work on projections as well as research done to develop the NIR (particularly in Agriculture, Forestry and Other Land Use). Indicative headings could include

- Meeting the Paris Agreement temperature goal
- Pathways to Net-zero and balancing GHG emissions and removals
- Ireland specific analysis, emissions trends and projections
- Emissions verification systems and tools
- Carbon pricing, markets, supports and ambition
- Sectoral emissions
- Benefits and opportunities in achievement of climate neutrality
- Areas of interest/concern for Ireland

It is anticipated that Volume 2 will be published in Quarter 1/2 2022 (this is an indicative timeline and subject to change according to the publication of IPCC AR6)

Volume 3: Being prepared for Ireland’s future climate
This volume will build on the information contained in IPCC AR6 WGII report, and material in the Special Reports. It will update and extend the analysis provided in the State of Knowledge Reports (2012, 2017). It will aim to identify robust information that can be included in Climate Ireland portal to advance the National Adaptation Framework process. Indicative headings could include

- Impacts of global climate change
- Global sectoral and geographical impacts
- Extremes and slow onset changes
- Vulnerability, exposure and risk assessment
- Adaptation options and building resilience
- Benefits and opportunities from planned adaptation
- Areas of interest/concern for Ireland

It is anticipated that Volume 3 will be published in Quarter 3 2022 (this is an indicative timeline and subject to change according to the publication of IPCC AR6).

Volume 4: Realising the benefits of transition and transformation
This volume will link to the sections in Volume 2 and 3 that address opportunities. It would be expanded to address wider issues of national development and sustainable development, finance and financial flows. It would aim to identify opportunities and benefits for Ireland in the contact of global climate change. Indicative heading could include

- Envisioning Ireland economy and society in 2050
• Cities, towns and conurbations (economy, society and environment
• Energy Transport, Communication and food systems
• Business and commerce and rural sustainability
• Benefits and opportunities in achievement of climate neutrality and resilience
• Supports for action including financial and decision support systems
• Education, engagement, just transition

It is anticipated that Volume 4 will be published in Quarter 4 2022 (this is an indicative timeline and subject to change according to the publication of IPCC AR6)

Synthesis Report
The content of the synthesis report will be based on the underlying reports. It will be provided by the full academic team and developed in parallel with the underlying reports. It is anticipated the synthesis report will be published in Quarter 4 2022 (this is an indicative timeline and subject to change according to the publication of IPCC AR6).

The full scope of these volumes will be determined via a series of workshops which will take place once the Academic Leads have been identified.

Approach
The provision of the first 5YAR is envisaged to take place over a 24 to 27month period, starting in December 2020 and being completed in 2022. The 5YAR will be subject to an initial scoping process and the writing process will reviewed by experts and officials. The synthesis report will be provided approximately 3 months following the completion of the underlying volumes. This will complete the 5YAR.

The overall process will be co-ordinated by a 5YAR Steering Group established by the membership bodies of the Climate Research Coordination Committee (CRCC) and chaired by the EPA. In summary the process will establish:

• Four thematic steering groups to provide expert steering for the production of each of the component volumes
• Authorship of each volume will be led by at least two leading academics.
• Experts based in State Agencies and bodies and department officials will oversee the writing and review process.
• A number of awards will be provided to support the writing process for each of the volumes.
• The EPA will provide management and secretariat support for this process.