



# An All-Island Research Commons Partnership to Tackle Ireland's Climate & Biodiversity Crises

November 2024



# An All-Island Research Commons Partnership to Tackle Ireland's Climate & Biodiversity Crises

Tackling the urgent and interconnected crises of climate change and biodiversity loss requires a bold, supercharged effort to reimagine the contract between universities, communities, and government agencies. A radical reconfiguration of this relationship has the potential to unlock new scientific evidence with significant economic and societal benefits including new jobs, economic sectors, enhanced technological innovation, food security, carbon sequestration, improved biodiversity, sustainable resource management, and resilience to climate change impacts.

Investment now will:

1. Create contingencies for ecosystem collapse.
2. Prevent costly maladaptation.
3. Enable Ireland to meet and exceed EU and global climate and biodiversity targets.

The restoration of the Northern Ireland Executive, a new era in Anglo-Irish relations, the establishment of Taighde Éireann, and the upcoming general election in Ireland provide a unique opportunity to radically reconfigure the academic research landscape across scales, institutions, and career stages. The All Island Climate and Biodiversity Research Network (AICBRN) proposes a radical reconfiguration to enable an acceleration of effort to address climate and biodiversity issues in a manner that realises multiple social and economic co-benefits.

## The Ask

To effectively confront the existential climate and biodiversity crises, Ireland must elevate its ambition significantly, with funding that reflects the urgency of these challenges. Substantial, sustained increases in expenditure are essential. A 10% increase in Ireland's total research and development spending - equivalent to just €15 per person annually - could establish Ireland as a global leader in addressing climate, biodiversity, and sustainability issues.

This 'Ask' is set against a context where Ireland's public investment in research and development as a percentage of economic activity is less than half the EU average. The newly created €3.15 billion Infrastructure, Climate and Nature Fund presents a timely opportunity for Ireland to make real progress towards emerging as a leader in tackling the defining crisis of our time. Approximately €100 million per year would enable the large-scale, interdisciplinary research focused on shared, all-island priorities, required for a resilient future Ireland.

## Background

Ireland occupies a distinctive position in Europe due to its unique land system characterised by a high proportion of agricultural land, significant peatlands, and a rich rural heritage and thus is uniquely placed to serve as a European model for addressing the intricate balance between ecological preservation and economic development.

AICBRN, founded in 2019, brings together over 300 researchers from both jurisdictions across the island who are undertaking research in the climate and biodiversity fields. The diversity of disciplinary and expertise of members across the physical, natural, and social sciences enables this network to cooperatively undertake the essential research required for Ireland and Northern Ireland to successfully address the climate and biodiversity emergencies. Progress has been made with achievements in key policy responses, stakeholder mapping, gap analysis and funding awards. However, many challenges remain.

## Current challenges

### **1. Ireland's Failure to Meet Climate and Biodiversity Targets**

Ireland is failing to meet its climate and biodiversity targets. Current research funding models are short term, directed, and not at scales needed for current biodiversity and climate challenges. The urgency of reducing carbon emissions, addressing biodiversity declines, and fulfilling legal requirements demands a more robust and inclusive all-island research approach.

### **2. Promotion of Competition When More Collaboration is Needed**

Existing funding models promote wasteful and sub-optimal competition between researchers, within universities, between universities, and with research entities when more collaboration is needed. We simply cannot address the complex challenges of climate change and biodiversity loss by working in siloes and interdisciplinary research is a pre-condition for effective research in this new context.

### **3. Societal and Economic Impact Only Partly Being Achieved**

Despite the low level of national investment in research and development, existing funding mechanisms such as research Co-Centres have been innovative, accommodating industry engagement and increasing the quantum of funding for research. Industry funded problem-oriented research is important, but fundamental research is also vital, and has significant social and economic impact. Scientists would not have produced the Covid-19 vaccines when they were needed without the fundamental research underpinning these developments, for example.

Tackling the climate and biodiversity crises will therefore require an inclusive research funding mechanism, with the ability to encompass the entire all-island academic community, as well as dedicated funding for engaged research with citizens and communities.

#### **4.Unbalanced Research Landscape**

In addition to significant further investment in research across the sciences, achieving the immense transitions required from all sectors and sections of society to address the climate and biodiversity emergencies will require a rebalance of research funding priorities. The establishment of Taighde Éireann presents a timely opportunity to do just that. Investing in scientific research is vital for understanding the crises we face, and technology is critical for solving the problems. However, achieving effective and just societal transitions will require a much greater support of relevant research across the arts, humanities, and social sciences.

#### **5.Public Good Duty of Universities and Research Institutes Only Partly Being Achieved**

The above mentioned challenges mean that the public good duty of universities and research institutes is only partly being achieved within the current research landscape. However, as a rapidly expanding all island community of researchers, we have immense potential to act effectively and a real desire to work collaboratively. By maximising the reach and cooperation of the AICBRN, we can ensure our research efforts have a profound and lasting positive impact on society.

### The Vision

To effectively bridge the gap between policymakers and communities and fulfil the public good duty of universities and research institutes, a comprehensive and transformative overhaul of the biodiversity and climate research landscape is essential, and a moral imperative. AICBRN's vision is to build the capacity needed across the island for the fundamental research capability and solutions that will underpin the rapid and just transformation of the economy, society and environment needed to address the climate and biodiversity crises and maximise the multiple co-benefits and opportunities of this transformation. The challenge is both urgent and long-term and requires secure multi-year investment. The accelerating pace of change emphasises the urgent need for greater agility in research and its application to policy making and implementation, as well as substantial additional investment in research and a rethinking of research cultures and established practices.

This is essential for responding to the crises and enabling Ireland to meet its legally binding climate and biodiversity targets.

The climate and biodiversity crises we face know no borders. Therefore, to achieve this vision, we need to reconfigure the research landscape in a strategic and sustainable manner across the entire island, generating autonomous, flexible, and meaningful structures and mechanisms that integrate research efforts within and across institutions, strengthening every researcher's role in tackling complex climate and biodiversity problems and contributing to the public good.

## Proposed Structure

AICBRN proposes a self-directed research commons structure similar to aspects of other European models such as the self-governing, autonomous Bjerknes and Helmholtz Centres etc. These models are partnerships of funding organisations, international science councils, and regional consortia that are committed to the advancement of interdisciplinary approaches, and investigations that encompass the major components of global climate and biodiversity systems and their linkages across spatial and temporal scales.

This proposed research commons model would:

1. Operate as a larger than typical research centre, inclusive of all universities and research institutions across the island.
2. Operate as a dynamic model, enabling agility to respond to evolving demands and ensuring adaptive strategies to meet challenges effectively.
3. Establish new interdisciplinary, engaged, applied and more agile modes of research delivery.
4. Straddle institutional barriers and encourage more collaboration in a structure that supports a unified stance and shared mission.
5. Bridge the gaps (i.e. scale of funding and collaboration ethos) between the AICBRN vision and current research Centre/Co-Centre models.
6. Provide a structure that could encompass all researchers including early career academics.
7. Provide new and maximise use of shared infrastructure for all-island researchers, avoiding duplication of efforts and resources.

## Summary & Conclusion

Successfully achieving Ireland's climate and biodiversity targets requires significant additional investment in research through a reconfiguration of the research landscape into an all-island autonomous research commons model, supported by sustained long-term funding. With this all-island investment, a cohesive, collaborative, and sustainable research environment could be created that would drive innovation, support public good, and ensure that every researcher has the resources and infrastructure they need to effectively address potentially irreversible environmental damage.

This initiative is not just an investment in research; it is an investment in the future of our island, its people, places, and future generations.

## Authors

### **Prof John Barry**

Co-Director, Centre for Sustainability, Equality and Climate Action (SECA)  
Queen's University Belfast

### **Prof Yvonne Buckley**

Co-Director, Co-Centre for Climate + Biodiversity + Water  
Trinity College Dublin

### **Dr Catherine Dalton**

Associate Professor  
Mary Immaculate College – University of Limerick

### **Dr Tara Dirilgen**

Assistant Professor  
Maynooth University

### **Prof Mark Emmerson**

Co-Director, Co-Centre for Climate + Biodiversity + Water  
Queen's University Belfast

### **Prof Murray Hitzman**

Director, Irish Centre for Research in Applied Geosciences (iCRAG)  
University College Dublin

### **Prof Phil Jordan**

Professor of Catchment Science  
Ulster University

### **Prof Jennifer McKinley**

Professor of Mathematical Geoscience Geography, Queen's University Belfast

### **Prof Marguerite Nyhan**

Professor of Engineering for Sustainability  
University College Cork

### **Prof Brian Ó Gallachóir**

Director, MaREI  
University College Cork

### **Prof Charles Spillane**

Director, The Ryan Institute  
University of Galway

### **Dr Dara Stanley**

Assistant Professor  
University College Dublin

### **Amy Taggart**

AICBRN Manager  
All Island Climate & Biodiversity Research Network (AICBRN)

### **Dr Taro Takahashi**

Principal Scientific Officer  
Agri-Food and Biosciences Institute (AFBI)

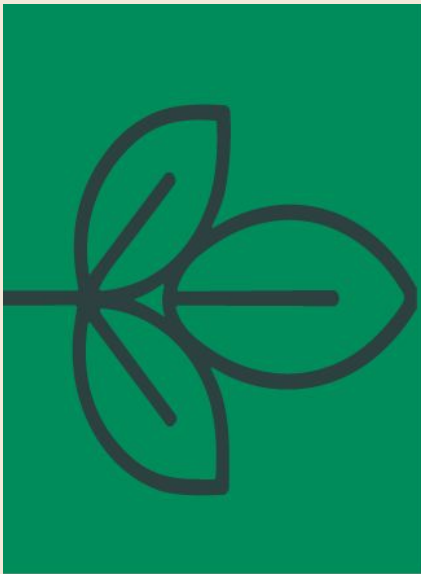
### **Prof Peter Thorne**

Director, Irish Climate Analysis and Research Units Group (ICARUS)  
Maynooth University

### **Dr Diarmuid Torney**

Director, DCU Centre for Climate and Society  
Dublin City University

For enquiries, please contact Amy Taggart (AICBRN Manager): [ataggart@tcd.ie](mailto:ataggart@tcd.ie), [www.aicbrn.net](http://www.aicbrn.net) | [LinkedIn](#) | [X](#) | [Bluesky](#)



# All-Island Climate and Biodiversity Research Network

