



An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
National Economic & Social Council

Shared Island Consultation: Climate and Biodiversity Challenges and Opportunities

NESC Secretariat Papers

Paper No.21

February 2021



An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
National Economic & Social Council

Shared Island Consultation: Climate and Biodiversity Challenges and Opportunities

Dr Jeanne Moore

NESC Secretariat Papers

Paper No.21

February 2021

The NESC Secretariat Papers provide analysis of economic, social or environmental evidence and policy. The views are those of the authors and do not represent the collective view of the Council.

A list of the full set of NESC publications is available at www.nesc.ie

Table of Contents

Executive Summary	1
Chapter 1 Part One: Focus of Consultation	3
1.1 Introduction	4
1.1.1 NESC Shared Island Project	4
1.2 Purpose of this Paper	5
1.3 Areas for Potential Further Exploration	6
1.3.1 Climate Policy: Shared Focus on Increasing Ambition for 2030	6
1.3.2 Resilience in Cities: Sharing Good Practice	7
1.3.3 Valuing Nature: Biodiversity Accounting, Policy and Engagement	8
1.3.4 Renewable Energy: Dialogue and Practice	9
1.3.5 Local Wealth-Building, Resilience and a Just Transition in Rural Farming Communities	11
1.4 Consultation Process	14
Chapter 2 Part Two: Environmental Context	15
2.1 Environmental Policy Landscape	16
2.1.1 Overarching Frameworks	17
2.1.2 Context of Environmental Cooperation	19
2.1.3 Brexit Impact on Environmental Frameworks	21
2.2 Biodiversity Context	22
2.2.1 Marine Environment	23
2.2.2 Water and Sustainability	24
2.2.3 Biodiversity Policies and Engagement	25
2.3 Climate Context	27
2.3.1 Climate Mitigation Policies and Engagement	28
2.4 Conclusion and Next Steps	31
Bibliography	32

Abbreviations

AICBRN

All-Island Climate and Biodiversity Research Network

CABB

Cooperation Across Borders for Biodiversity

CCAC

Climate Change Advisory Council

COP 26

UN Climate Change Conference

CRU

Commission for Regulation of Utilities

DAERA

Department for Agriculture, Environment and Rural Affairs

DfE

Department for the Economy

EEl

Environmental Engagement Index

EIPs

environment improvement plans

EPA

Environmental Protection Agency

EU

European Union

ICLRD

International Centre for Local and Regional Development

JBC

Joint Business Council

MPDM

Marine Planning and Development Management

NAF

National Adaptation Framework

NI

Northern Ireland

NICS

Northern Ireland Civil Service

NIEA

Northern Ireland Environment Agency

NIEL

Northern Ireland Environment Link

NMP

National Mitigation Plan

NSMC

North South Ministerial Council

OEP

Office for Environmental Protection

ONS

the Office for National Statistics

SDGs UN Sustainable Development Goals

SEM

Single Electricity Market

UR

Utility Regulator

Executive Summary

This Consultation Paper on climate and biodiversity forms part of a larger Shared Island Project, carried out by the National Economic and Social Council (NESC) at the request of the Department of the Taoiseach. The current paper represents a synthesis of the current state of knowledge of and prevailing policy approaches to climate and biodiversity in Ireland and Northern Ireland, while also touching on the rest of the UK, EU and international policies. Through a consultation process, the work will seek to incorporate the understandings of key stakeholders. In this way, it will provide a basis for wider dialogue and engagement on the all-island dimensions of climate and biodiversity.

Both Ireland and Northern Ireland face climate and biodiversity crises. There is growing momentum to ratchet up ambition to deliver on climate and biodiversity commitments before 2030. A key characteristic of both sets of challenges is that they are problems that face both Ireland and Northern Ireland alike, but also lend themselves well to integrated and collaborative solutions. Nature and our atmosphere protect and enhance the island of Ireland, but to deliver on policy commitments to maintain and improve these assets requires societal engagement, innovative thinking and collaboration.

The paper suggests that there are many opportunities for reflection, dialogue and further analysis which could increase the effectiveness of environmental policy and, more specifically, climate and biodiversity action. It provides a profile of a number of areas in which a deeper process of research and engagement could be pursued by NESC and/or others.

The paper sets out five broad areas that are worth exploring further:

- i. Climate Policy: Shared Focus on Increasing Ambition for 2030.
- ii. Resilience in Cities: Sharing Good Practice.
- iii. Valuing Nature: Biodiversity Accounting, Policy and Engagement.
- iv. Renewable Energy, Dialogue and Practice.
- v. Local Wealth Building, Resilience and a Just Transition in Rural Farming Communities.

NESC invites contributions and submissions to help inform this work and provide insights as to which of the areas outlined should be incorporated into the next phase of this research.

Questions to be considered:

- i. Should one of the five areas identified be prioritised for more detailed consideration in a Shared Island context? If so, which one and why?
- ii. Is there another area, not listed in the five areas identified, that should be considered for further exploration on a Shared Island basis? If so, what is it and why?
- iii. Are there any points of clarification required in this paper, or new issues which should be considered in relation to climate and biodiversity in a Shared Island context?

To make a submission to NESC, please email climate&biodiversity@nesc.ie.

Please send comments and contributions to NESC before the extended date of close of business on **March 19th 2021**.

Part One:
Focus of Consultation

1.1 Introduction

This Consultation Paper on Climate and Biodiversity provides an initial synthesis of the current state of knowledge of and prevailing policy approaches to climate and biodiversity on the island of Ireland. Through a consultation process, it will seek to incorporate the understandings of key stakeholders.

This paper forms part of a larger Shared Island Project in the National Economic and Social Council (NESC) for the Department of the Taoiseach.

1.1.1 NESC Shared Island Project

The Department of the Taoiseach has asked NESC to produce a comprehensive report on the Shared Island in 2021, to inform the development of the Shared Island initiative as a whole-of-government priority. The NESC research will contribute to building a shared knowledge base and understanding about possible ways in which greater co-operation can emerge across a number of economic, social and environmental areas in Ireland, North and South, and also between these islands West and East.

NESC's work on a Shared Island will involve a mix of:

- analysis and synthesis of the existing state of knowledge, prevailing policy approaches and the understandings of key stakeholders;
- a focus on reframing problems based on an ongoing mix of analysis, problem-solving and deliberation; and
- close early and ongoing consultation with the policy system and other stakeholders, both North and South, with relevant knowledge and interests, so as to develop a shared understanding and a capacity to resolve divisions with a view to reaching positive ways forward.

All of the work by NESC on the Shared Island Initiative will be published on the NESC website at www.nesc.ie.¹

¹ 'A Scoping Paper on Projects, Progress and Policy' sets out the NESC research programme on the Shared Island Initiative; a Working Paper on the economies on the island of Ireland, North and South, and the connections

1.2 Purpose of this Paper

This Consultation Paper provides an overview of ‘shared knowledge’ in relation to climate and biodiversity. The paper is based on desk research and a number of preliminary interviews with stakeholders. It suggests that there are many opportunities for reflection, dialogue and further analysis which could increase the effectiveness of environmental policy and, more specifically, climate and biodiversity action. The paper provides some initial context and exploration of common climate and biodiversity challenges faced both North and South, and sets out some areas for further exploration.

The paper provides a basis for wider dialogue and engagement on the all-island dimensions of climate and biodiversity, and consultation. It will help to identify areas where NESC or others might carry out more in-depth work in 2021.

The paper is structured as follows:

Part One outlines the focus of this Consultation Paper, identifying five broad areas which would benefit from further research and exploration.

Part Two sets out the environmental policy landscape and the biodiversity and climate challenges.

1.3 Areas for Potential Further Exploration

Our geography and status as a small island on the edge of Europe will continue to require us to consider the “shared” nature of our environment. At the dawn of a new decade, let us not waste the opportunity to ensure that economies and communities that exist throughout it can be improved and made more prosperous through better collaboration and increased cooperation.

(Kerins *et al.*, 2020: 155)

The reality of our shared nature, highlighted in the quote from Kerins *et al.*, makes this area a natural focus for work on a Shared Island. Work on climate and biodiversity is also timely in the context of heightened ambition to deliver meaningful climate and biodiversity action, and with the focus turning to post Covid-19 recovery and the need to ‘build back better’. Sustainable development is an integrated, collaborative challenge that lends itself well to an all-island perspective. The broader framing and direction of the European Green Deal is important in this regard in shaping Ireland’s policy journey. Northern Ireland, too, faces a new chapter of reinvigorated environmental policy-making.

The Irish Programme for Government, *Our Shared Future* (June 2020), notes the potential to explore an all-island approach to environmental issues such as climate breakdown and the biodiversity crisis. These require a joined-up approach. In many cases, co-operation between Ireland and Northern Ireland on these issues is already evident. For example, both Ireland and Northern Ireland are examining ways to shift gear towards more transformative actions, given the scale of the challenge ahead. However, uncertainty remains about the implications of Brexit in relation to environmental governance and future policy alignment.

There are common and multiple environmental challenges facing the geographical island of Ireland. This paper sets out five broad areas that are worth exploring further.

1.3.1 Climate Policy: Shared Focus on Increasing Ambition for 2030

As outlined in Section 2.3.1, developing a shared understanding of climate mitigation challenges facing Ireland and Northern Ireland is timely. The legislative and policy-making scrutiny that is focusing on 2030 and beyond is in reflective and listening mode—with public engagement processes expected in early 2021. For pragmatic and effectiveness reasons, dialogue, sharing of good practice and innovative policy measures would strengthen the capacity to reduce emissions on the island of Ireland. There is potential for dialogue on the ambition and practice to meet Paris Agreement commitments.

Support for greater cooperation on climate change has been voiced by the business community in recent years. In 2019, the Ibec–CBI NI Joint Business Council outlined how a new and comprehensive all-island approach is required to meet climate

targets and take advantage of the economic opportunities that will arise (Ibec-CBI NI Joint Business Council, 2019).

Such collaboration and a cross-border working relationship is needed in climate adaptation and implementation, as noted by the Environmental Pillar in 2017 (Environmental Pillar, 2017).

1.3.2 Resilience in Cities: Sharing Good Practice

The importance of resilience for urban and rural areas in the transition to net zero economies is becoming a focus of research and practice. This is an area that NESC is currently exploring in relation to cities and communities, and a Shared Island approach to this could be beneficial.

A NESC research paper is forthcoming from a team at the Innovation Value Institute, Maynooth University, the International Centre for Local and Regional Development (ICLRD) and the All Ireland Smart Cities Forum. This explores the conditions required to enable cities across the island of Ireland to build resilience, and develop sustainably.

This work includes a mini case study of Belfast City's resilience programme. Belfast is the only city on the island that has a formal Resilient City initiative (Creamer *et al.*, 2021 forthcoming). The origins of this initiative coincided with Belfast being accepted into the 100 Resilient Cities programme, a philanthropic initiative funded by the Rockefeller Foundation, which allowed Belfast to establish a Resilience Commissioner. Belfast City Council has set up a number of governance structures to ensure that it deals with these issues urgently through partnership working and other institutions. This includes a Belfast Climate Commission (co-chaired by Belfast City Council and Queen's University), a Resilience and Sustainability Board, and an All Party Working Group on the Climate Crisis which is taking forward the development of the council's own plan. Belfast's draft Resilience Strategy proposes that the city transition to an inclusive, low-carbon, climate-resilient economy within a generation (Belfast City Council, 2020). Belfast's Climate Commission promotes leadership in the city (and city-region) on climate breakdown and provides a forum for exchanging ideas and practice.²

This case study on Belfast City's journey to developing a resilience strategy highlights the importance of collaboration, connectivity and funding. It raises some questions, the answers to which may be pertinent to any other city on the island of Ireland embarking on a resilience agenda. For example, where can strategic partners be found and resourced, and what is the right timing and process for this to suit a particular context? How can cities manage expectations and achieve buy-

² Belfast Climate Commission is one of three city-based climate commissions across the UK (Belfast, Edinburgh and Leeds), funded by the UK's Economic and Social Research Council for the Place-Based Climate Action Network (PCAN). See <https://www.belfastclimate.org.uk/about-belfast-climate-commission>, accessed 09.02.21.

in? How can resilience strategies align with other agendas in the city? (Creamer *et al.*, 2021, forthcoming).

An area for further discussion would be the value of convening dialogue between cities across the island of Ireland on building resilience. A particular focus could be on maximising the positioning of cities such as Belfast and Dublin internationally to avail of investment and leadership in leading the way on transitioning to a low-carbon society and economy.

1.3.3 Valuing Nature: Biodiversity Accounting, Policy and Engagement

Cross-border cooperation and governance for biodiversity will be critical in the year ahead and beyond. Good collaboration, biodiversity engagement and sharing of knowledge has also been demonstrated through, for example, the cross-border collaborative projects being developed through the INTERREG and LIFE projects. A particular example is Cooperation Across Borders for Biodiversity (CABB) (2017–2022), a major cross-country initiative led by RSPB, with Birdwatch Ireland as a partner. (DCHG, 2019).

This need for a collaborative approach has been highlighted recently by Clerkin (2020: 116) who outlines that ‘to achieve biodiversity gains for the cross-border nature sites, agencies and communities from both sides involved in conservation of these sites must continue to co-operate and collaborate’.

Nature-based solutions, natural capital and accounting for nature are increasingly part of policy debates because of visible losses experienced due to climate impacts such as flooding, droughts and threats to pollination (Bell, 2020). Heightened focus is now on how to deepen and extend nature-based solutions and conservation action, including efforts to protect native species, rewetting peatlands, native forest restoration and rewilding. The Dasgupta Review in the UK has highlighted the economic importance of biodiversity (Dasgupta, 2021). Much work has been done to develop the All-Ireland Pollinator Plan and All-Island Climate and Biodiversity Research Network, drawing together expertise and focus on biodiversity challenges:

- The All-Ireland Pollinator Plan 2015–2020 was developed voluntarily by a 16-member steering group, and the National Biodiversity Data Centre is co-ordinating its implementation. The all-island framework is supported by over 90 governmental and non-governmental partner organisations, which share responsibility for delivering the plan’s 81 actions. Some 55 per cent of local councils from North and South had signed up as partners in July 2020 under the All-Ireland Pollinator Plan Partnership Framework (National Biodiversity Data Centre, 2015, 2019).
- The All-Island Climate and Biodiversity Research Network (AICBRN) is a new initiative that brings together researchers from a wide range of disciplines across the island of Ireland who are undertaking research in climate and biodiversity topics. Its aim is to develop a large-scale research and innovation initiative to

improve ‘public good’ policy and management decisions, underpin business and enterprise strategies, and strengthen societal capacity to address the climate and biodiversity emergencies (AIBCRN, 2020).

Natural capital and ways to fully value nature have been the focus of Natural Capital Ireland, an all-island group of organisations and individuals, with over 750 members working to develop natural-capital approaches since 2015. The UK has developed a sophisticated approach to natural capital in recent years through the work of the Natural Capital Committee. Recently, the UK Department for Environment, Food and Rural Affairs produced guidance on enabling a natural-capital approach across policy. It states: ‘Natural capital as a concept has gained traction and permanence because it offers a balanced focus on natural assets in ecological terms (their quantity, condition and sustainability) and the social and economic benefits that derive from those assets’ (DEFRA, 2020: 6).

The Carnegie UK Trust has supported work on natural capital in Derry and Strabane, conducted by Vivid Economics. Their report pointed to the potential value of natural capital to a city—highlighting that Derry City and Strabane District Council supplies more than £75m in benefits to residents each year through its 223 greenspaces. These benefits are provided at low cost, as it has been shown that it costs only £1 to deliver over £22 of benefits. The report recommends that ‘a full Natural Capital Account of publicly accessible greenspace within the District would help the Green Infrastructure Stakeholders coordinate service provision, identify areas of deprivation and identify greenspaces under excessive pressure’ (Vivid Economics, 2020: 17).

Understanding how to engage with and empower people to achieve shared biodiversity conservation goals is crucial in both urban and rural environments. Crowley *et al.* (2020) stress the importance of ‘authentic and meaningful engagement across age groups, communities, sectors, institutions and public authorities, in order to achieve the ultimate shared goal of biodiversity conservation for this and future generations’. There is potential for enhancing green infrastructure and biodiversity through collaborative projects with local communities.³

1.3.4 Renewable Energy: Dialogue and Practice

The growth of renewable energy on the island of Ireland has been a positive development over the last decade. However, greater co-operation on its development, and building societal engagement around its potential, represents a unique opportunity. Given the single all-island electricity market, there is considerable scope for further collaboration. The growth of renewable energy on

³ For example, Mapping Green Dublin, <https://mappinggreendublin.com/>; Derry and Strabane Green Infrastructure Plan, <https://www.derrystrabane.com/GI>, accessed 09.02.21.

the island of Ireland has considerable potential for job creation, alongside other key environmental and economic benefits. Social and community resilience benefits have been reported in both Ireland's Sustainable Energy Communities (SEAI) programme and Northern Ireland's Community Energy (NICE) project.⁴

In 2018, 33.3 per cent of electricity came from renewable sources in Ireland compared to 44 per cent in Northern Ireland (IWEA, 2019). The island of Ireland has 5,030 MW of installed wind-energy capacity, with 3,700 in Ireland and 1,276 in Northern Ireland (Action Renewables, 2019).⁵ Solar photovoltaic generation has seen rapid growth in Northern Ireland in recent years but has been slower to progress in Ireland (EirGrid, 2019).

The emphasis, both North and South, on the rapid and ambitious scale-up of renewable energy to meet 2030 targets provides opportunities for collaboration.

There is a necessary focus on interconnection and infrastructure development to achieve these targets. Increasing recognition is placed on the importance of societal engagement to underpin development, an area with which NESC has familiarity from its previous work (NESC, 2014).

In relation to energy, the existence of the Single Electricity Market (SEM) provides a strong basis for further collaboration on renewable energy and energy policy (EirGrid, 2016). The SEM is the wholesale electricity market for the island of Ireland, regulated jointly by the national regulatory authority in Ireland, the Commission for Regulation of Utilities (CRU), and its counterpart in Northern Ireland, the Utility Regulator (UR). By combining what were two separate jurisdictional electricity markets (for Ireland and NI), the SEM became one of the first of its kind in Europe when it went live on 1 November 2007 (DCCAIE, 2020). Strong co-operation, including that based on domestic legislation, has developed in the area of energy policy since the agreement, underpinned by EU Internal Energy Market legislation (European Commission, 2019).

The North-South 400 KV Interconnection Development was granted planning permission in both jurisdictions. This is currently under judicial review in Northern Ireland.

An area for further exploration would be how best to convene dialogue on building co-operation on renewable energy across the island, given the already good collaboration on the all-island energy market. This could help to build further connections between developer-led and community energy projects North and

⁴ SEAI Community Energy Success Stories, <https://www.seai.ie/community-energy/sustainable-energy-communities/success-stories/index.xml>, accessed 09.02.21;
Sustainable NI, Community Energy Northern Ireland, <https://www.sustainableni.org/case-study/community-energy-northern-ireland>, accessed 09.02.21.

⁵ Also see <https://www.seai.ie/data-and-insights/seai-statistics/key-statistics/renewables/>, accessed 29.01.21.

South so as to share practice, understanding and opportunities to develop local value in renewable energy (particularly offshore wind and solar PV).

Opportunities for communities and individuals to be ‘prosumers’ and more actively engage in energy production and consumption are increasing in both jurisdictions, albeit slowly. Barriers remain for communities to fully participate. These include funding access, project leadership, access to knowledge and expertise, the need for capacity-building, and concerns over routes to market and costs (Cornwall Insight, 2020; Donnelly *et al.*, 2019). Interesting models exist for broad societal engagement at a local level, such as the Dingle Peninsula 2030, a multi-partner initiative on the Dingle Peninsula, Co. Kerry, involving the Dingle Creativity and Innovation Hub, ESB Networks, North East and West Kerry Development (NEWKD), and MaREI.⁶ The MaREI centre has argued, on the basis of this and other research on renewable energy, that communities need support, capacity-building and resources to be able to fully engage (MaREI, 2020).

Previous work by NESC on community engagement and social support in wind energy highlighted the innovative practice of the Fermanagh Trust, supporting community-based projects in the county (Fermanagh Trust, 2014). Supporting a diversity of ownership and technology options can create more opportunities for engagement and support. The EU-funded Mistral project, led by Queen’s University Belfast, is an innovative research and training network of which NESC is a non-academic partner. It looks at the complexity of social acceptance issues facing the deployment of renewable energy infrastructure.

Finally, this focus on engagement is echoed in the All-Island Climate and Biodiversity Research Network (AICBRN) framework which includes societal engagement, societal capacity and infrastructure, and a just transition alongside other research areas on biodiversity and climate change (AICBRN, 2020).

1.3.5 Local Wealth-Building, Resilience and a Just Transition in Rural Farming Communities

With high reliance on EU subsidies in farming, both North and South, the future of farming and its role in biodiversity restoration is a live policy area. In Northern Ireland, 87 per cent of farm income is derived from EU subsidies, compared with 53 per cent for the UK as a whole (UK Parliament, 2017). This is among the myriad of issues affected by Brexit (Rural Community Network, 2018).

Irish agricultural economist Tom Arnold recently pointed out that:

In both ROI and NI, the agri-food sectors are already under considerable scrutiny on the issue of their contribution to national emissions targets, climate goals and a suite of wider environmental

⁶ MaREI Dingle Peninsula 2030, <https://www.marei.ie/project/dingle-peninsula-2030/>, accessed 09.02.21.

targets, such as water quality and biodiversity. They will both be under pressure to show how they are maximising their contribution to emissions reduction and increased carbon sequestration. There appears to be obvious scope for increased cooperation and joint research programmes, North and South (Arnold, 2020).

He proposes some potential areas for North-South projects that ‘require vision, political will, planning, perseverance, human and financial resources’.

In her recent article, ‘Agriculture and Environment: What Paths will Policy Take?’, Michelle Murphy points out that farm incomes in Northern Ireland have fluctuated considerably over the past eight years, representing challenges for the long-term sustainability of farming, and the economic viability of many farm businesses. She concludes that ‘there is clear common ground across the island for convergence on sustainability, the future of agriculture and the environment’ (Murphy, 2020: 13).

The bioeconomy is one area where collaboration is already happening, and it could be a significant avenue for rural business. Social Justice Ireland (SJI, 2020) outlines how ‘transition to a sustainable food and farming system, based on circular economy principles, could ensure the viable future of this industry. It would help restore freshwater resources, incentivise sustainable land and forest management and other ecosystems’. InterTrade Ireland has funded the Irish Bioeconomy Foundation to develop an All-Island Biomap, with the aim to map and then develop cross-border collaboration on the bioeconomy.⁷

A key question is how to build resilience into value chains across the island of Ireland. This question has particular resonance for local economies and farming but has resonance too as applied to regional development (Bell, 2020), and to land-use planning. Further work and discussion could explore opportunities for engagement and sharing practices to increase economic and environmental sustainability for rural agricultural communities across the island.

In a scoping paper in progress, *Economic Resilience in Sustainable Communities*, commissioned by NESC, TASC is exploring innovative approaches to supporting communities to maximise the economic, social and environmental benefits of the low-carbon transition and the shifts in energy, food and mobility systems (McCabe & Cohen, 2021, forthcoming).

Rural and regional communities face challenges of high poverty rates, lower median incomes, high dependency ratios, distance from everyday services and a higher rate of part-time employment (SJI, 2020) The Northern and Western region is the most disadvantaged region, with the lowest farm income and the highest reliance on subsidies.

⁷ For further details on the Biomap and Network, see the Bioeconomy Foundation, <https://bioeconomyfoundation.com/ibf-resources/stakeholders-mapping/biomap-and-network/>, accessed 29.01.21.

All this ties into the importance of a just-transition approach to decarbonising key sectors, including energy and agriculture. For the energy sectors, North and South, this refers to a focus on employment vulnerability resulting from the shift away from burning fossil fuels, but also wider challenges to reduce energy poverty (NESC, 2020). A just transition for the sector needs to imagine an agricultural sector that can provide meaningful land-based work and safe, nutritious food through biodiverse, low-carbon farming (Mercier *et al.*, 2020).

NESC's work on just transition emphasises that it requires a focus on both a deliberative process and seeking to achieve equitable outcomes (NESC, 2020). Ireland is turning to the legislative and policy mechanisms to make just transition central to climate policy, through the delivery of the Programme for Government and recent discussions in the Oireachtas Committee on Climate Action. Northern Ireland's climate legislative journey is also progressing, with reference to including just-transition principles (Climate Coalition Northern Ireland, 2020).

Other work on just transition identifies similar issues on the island of Ireland (Nugent & Goldrick-Kelly, 2020). There is much to learn from Northern Ireland in this process, and further work could explore the synergies and areas of mutual interest. Just transition as a 'social, economic and environmental necessity moves beyond borders and thus creates the potential to act as a conflict resolution and peacebuilding mechanism' (Mercier *et al.*, 2020).

A focus on new opportunities and innovation is an important part of managing a just transition.

1.4 Consultation Process

This paper aims to provide a basis for wider consultation and engagement. NESC invites contributions and submissions to help inform this work and provide insights as to which of the areas outlined should be developed further as part of its Shared Island research.

Questions to be considered:

- i. Should one of the five areas identified be prioritised for more detailed consideration in a Shared Island context? If so, which one and why?
- ii. Is there another area, not listed in the five areas identified, that should be considered for further exploration on a Shared Island basis? If so, what is it and why?
- iii. Are there any points of clarification required in this paper, or new issues which should be considered in relation to climate and biodiversity in a Shared Island context?

To make a submission to NESC, please email climate&biodiversity@nesc.ie.

Please send comments and contributions to NESC before the extended date of close of business on **March 19th 2021**.

Part Two:
Environmental Context

2.1 Environmental Policy Landscape

The multiple environmental challenges facing the island of Ireland provide an opportunity for dialogue, knowledge-exchange and co-operation.

The focus of this paper is on issues around climate change and biodiversity loss in particular, but this is not to minimise already established collaborations in relation to water and marine quality, waste, and flood risk management. Two further caveats are that this short paper only briefly touches on the extent of these challenges and, secondly, that it is recognised that environmental impacts are deeply connected to health, economic and social impacts.

The island of Ireland is facing multiple environmental concerns, notably to reduce greenhouse-gas emissions and halt biodiversity loss. In Ireland, this has been clearly outlined in the recent ‘state of the environment’ report by the EPA, *Ireland’s Environment—An Integrated Assessment 2020*, which shows the need for urgent approaches to address climate change and biodiversity decline (Wall *et al.*, 2020). The environment in Northern Ireland, too, faces a number of threats, including biodiversity loss, water and air pollution, climate change and alien invasive species (Nature Matters NI, undated).

The EPA outlines the challenge:

The challenge facing us over the next decade is to halt any further deterioration of our natural environment while our population continues to grow; secure the improvements in our natural environment that we have made through regulation and investment; integrate radiological protection into our built environment; start restoring some of the precious habitats and water bodies that we have lost; leverage growing public engagement on environmental issues and accelerate action to decarbonise and green our economy and society; and protect ourselves against the inevitable consequences of climate disruption for our island (Wall *et al.*, 2020: 29).

The EPA argues that it is time to take a holistic approach by articulating an overarching national policy position for the environment that will drive commitment and underpin coherence (*ibid.*: 26).

In Northern Ireland, the policy landscape for environmental issues is also shifting. A more holistic approach may emerge. Environmental issues are devolved to the Northern Ireland Executive.

The (NI) Department for Agriculture, Environment and Rural Affairs (DAERA), the lead department for biodiversity conservation matters, launched the consultation for a new Environment Strategy in late 2019.⁸ In December 2020, it published a Public Discussion Document: *Environmental Plans, Principles and Governance for Northern Ireland* (DAERA, 2020a). Around 2,500 stakeholder responses were received. The vast majority of comments indicated that respondents wanted the Environment Strategy to be a top priority in Northern Ireland, with the overarching principles incorporated into all relevant NI strategies and policies (DAERA, 2020b). Many respondents felt that agriculture has the single largest detrimental impact on the Northern Ireland environment and required immediate attention, with farmers receiving direct help, advice and support through environmentally responsible farming policies that flexibly meet the individual needs of each farm and farmer's circumstances. Low-carbon farming practices, afforestation and agroforestry were all signalled as having a crucial role to play in reducing emissions (*ibid.*).

The emphasis on agriculture in Northern Ireland in the public consultation process is echoed in policy discussions in Ireland. Tom Arnold (Irish agricultural economist) has stated that 'there is a high degree of policy alignment and direction on climate policy, and on the important role of the agri-food sector to positively contribute to that policy, at international, European, ROI and NI level' (Arnold, 2020: 126).

There is potential to further explore areas of synergy and divergence between the recent State of the Environment report from the EPA and the NI Environmental Statistics Report from DAERA. Northern Ireland has never had an all-encompassing environment strategy. This resonates with the emphasis on the need for, and value of, a holistic overarching policy position on the environment for Ireland (EPA, 2020).

There is a need for evidence-based analyses of these all-island environmental challenges. It is clear, however, that physical data on environmental performance alone belies the complexity of different policy and historical landscapes. Social Science research could provide a valuable contribution. For example in relation to engagement and dialogue on the value and role of nature, and the experience of climate action among different communities. A positive development is the recent announcement of a research programme with 20 collaborations between researchers in Ireland and the UK supported by the Irish Research Council and the (UK) Economic and Social Research Council (UK Research and Innovation, 2020).

2.1.1 Overarching Frameworks

Frameworks and drivers have played and will continue to play a key role in building collaboration. As outlined in relation to climate change, the Paris Agreement represents a common framework for delivering climate action in Ireland and Northern Ireland. The UK, in convening the UN Climate Change Conference (COP 26)

⁸ An integral part of DAERA is the Northern Ireland Environment Agency, an Executive Agency which leads on environmental management and regulation.

later this year, will be a significant actor in helping to progress climate mitigation efforts around the world and will provide opportunities for collaboration. Biodiversity provides a common focus through the UN Convention on Biological Diversity (CBD) and a key meeting is scheduled for later this year (COP15).⁹

Another significant framework is the UN's 2030 Agenda, with its 17 Sustainable Development Goals (SDGs). This represents a shared focus and objective for sustainable development on the island of Ireland. The SDGs provide a 'shared blueprint for peace and prosperity for people and the planet, now and into the future' (UN, 2015). The SDGs are unique in that they provide a platform for considering public policy within the context of multiple pillars—the environment, economy, and society—together, underpinned by a partnership approach to policy implementation (Doyle, 2020).

In Ireland, the Sustainable Development Goals National Implementation Plan commits the Government to mainstreaming the SDGs across all policy areas (Government of Ireland, 2018). Considerable challenges remain to effectively embed the goals in core policy design and delivery. Despite some progress in addressing certain SDGs, to date progress in environmental sustainability has been slow; environmental goals in Ireland have been particularly poorly served (Clark *et al.*, 2020). Critically, biodiversity is not being adequately addressed (SDSN & IEEP, 2020).¹⁰ One issue raised in Ireland is the relatively low level of investment in biodiversity conservation (Morrison and Bullock, 2018).

In Northern Ireland, the Department of Agriculture, Environment and Rural Affairs (DAERA), with the collaboration of other departments across the NI Civil Service (NICS), has developed an Outcomes Delivery Plan, based on a mapping exercise of the SDGs against the Programme for Government outcomes (HM Government, 2019). It sets out how the work of the NICS will contribute to the objective of 'improving well-being for all—by tackling disadvantage and driving economic growth' (*ibid.*). The SDGs are monitored on a UK basis by the Office for National Statistics (ONS) (Office for National Statistics, 2020). While some progress towards the goals has been made, there is still much to do (NICVA, 2020; HM Government, 2019). Developing further understanding of the different data and the synergies and differences between how the two jurisdictions are progressing the goals would be of value.

In recent years, considerable progress has been made on certain issues such as river basin management under the EU Water Framework Directive and implementation of EU-funded cross-border environmental programmes (MHC, 2020). The relevant authorities in Northern Ireland and Ireland have cooperated closely in order to ensure their effective management (NI Environment Link and Environmental Pillar, 2018).

⁹ See Convention on Biological Diversity, <https://www.cbd.int/meetings/COP-15>, accessed 09.2.21.

¹⁰ See <https://irelandsdg.geohive.ie/> for SDG indicators and data.

While delivering on the SDGs provides a common framework for sustainable development, there are active debates, with varying views, on the scale of transformation required. A stronger emphasis on planetary boundaries and the mutual dependence between socio-economic activities and their biophysical grounds would prioritise environmental sustainability over economic growth (Eisenmenger *et al.*, 2020).

Recently, there has been heightened focus on the SDGs in the context of a green recovery post Covid-19, in both Ireland and Northern Ireland. A forthcoming statement from the National Economic and Social Council outlines how the task of recovery, and linking it with sustainable development, is considerable but achievable. Investing in nature and in reducing emissions will create jobs and at the same time become a means of re-imagining our economy and society, and crucially the relationship between them and our natural environment. The NESC statement sets out the ways in which the policy system frames and approaches sustainability and wellbeing, which can be important drivers of change. This work points to the importance of the ‘nuts and bolts’ of governance—including collaborative policy design and implementation. It outlines how the *doing* of sustainable development is where ambition becomes everyday practice (NESC, 2021, forthcoming).

2.1.2 Context of Environmental Cooperation

North-South cooperation and implementation on environmental protection is included in Strand 2 of the Good Friday Agreement covering ‘environmental protection, pollution, water quality and waste management’. The North South Ministerial Council (NSMC) and the implementation bodies such as Waterways Ireland and the Loughs Agency have established an all-island approach to protection and pollution (MHC, 2019).

The NSMC includes environmental issues as one of six areas of cooperation (North South Ministerial Council, 2020). The most recent Joint Communique in 2020 included an emphasis on considering opportunities for co-operation on wider environmental issues within the work programme, including in relation to the environmental impact of agricultural activities; sustainable development; the circular economy; water; and urban wastewater services areas (*ibid*). In relation to environmental protection, there was a focus on identifying strategies and activities which would contribute to a coherent all-island approach to achieving sustainable development. This remains a potential area for further collaboration.

The European Commission, in the context of Brexit, summarised the co-operation to date as working ‘very closely together on environmental protection particularly given the scientific and practical context that the island of Ireland is a single biogeographical unit’. This co-operation has focused on implementing EU policies and legislation in relation to nature and biodiversity, including the protection of habitats and species as well as invasive alien-species control and management (European Commission, 2019).

As described by Hough (2019), there are many environmental areas in which close collaboration has been achieved to date. These include the management of areas of nature conservation, invasive species, the Water Framework Directive, energy, and migratory birds, among others. For example, the EU Life Fund has supported all-island projects on birds, such as the Roseate Tern; the Loughs Agency a cross-border agency of the Foyle, Carlingford and Irish Lights Commission (FCILC); and notably, there is an effective single electricity market (SEM). The SEM has been in place since 2007 and is underpinned by the EU internal energy market legislation. However, Hough concludes that, despite the substantial cross-border co-operation that has arisen under the Good Friday Agreement, there is still room for further development of this co-operation (*ibid.*: 31).

Others have pointed to the considerable cross-border cooperation on challenges of illegal waste as well as on managing river basins and shared inshore waters (NI Environment Link and Environmental Pillar, 2018). Programmes operating across the island of Ireland also strengthen relationships such as the Leave No Trace programme, which since 2008 has raised awareness of responsible outdoor recreation while tackling issues affecting the environment.¹¹

There are opportunities to maintain and strengthen these collaborative partnerships. A number of active voluntary and business networks engage on environmental issues on a all-island basis. For example, the recent Ibec-CBI NI Joint Business Council (JBC) 'Business on a Connected Island' Conference included a focus on environmental collaboration. Also, Business in the Community is active on the island of Ireland.¹² Another collaboration exists between Northern Ireland Environment Link (NIEL), with more than 60 full members representing 190,000 individuals (Northern Ireland Environment Link, 2020), and the Irish Environmental Network, an organisation representing close to 35,000 members.¹³

There are active networks that are less visible; for instance, in relation to environmental regulation, such as the EPA-led Network of Environmental Compliance and Enforcement, and within civil society, such as Mountaineering Ireland, recognised as the National Governing Body for mountaineering, hillwalking, rambling and climbing by both Sport Ireland and Sport Northern Ireland. There would be value in mapping and increasing the visibility of existing all-island networks and collaborative partnerships on environmental, climate and biodiversity issues.

¹¹ <https://www.leavenotraceireland.org/>, accessed 29.01.21

¹² Business in the Community NI, <https://www.bitcni.org.uk/>; Business in the Community Ireland <https://www.bitc.ie/>, accessed 29.01.21

¹³ Irish Environment Network, <https://ien.ie/>, accessed 29.01.21

2.1.3 Brexit Impact on Environmental Frameworks

With much of Northern Ireland's environmental legislation to date underpinned by EU legislation, Brexit has brought some uncertainty as to future regulatory and governance developments. However, under the Protocol on Ireland/Northern Ireland ('IE/NI Protocol') a number of key environmental product/technical standards will continue to apply (Cave & Allen, 2020).

Energy generation in Northern Ireland will also continue to operate under the European Emissions Trading Scheme and comply with obligations concerning the emission of greenhouse gases (Abnett, 2020).

The UK Environment Bill 2019-20 (still under parliamentary scrutiny) extends to Northern Ireland in respect of principles, governance, environmental improvement plans, extended producer responsibility, resource efficiency standards and labelling, recycling, waste crime (including waste tracking), chemicals, and water environment regulatory change. It will establish an Office for Environmental Protection, set out a policy statement on environmental principles, and introduce environment improvement plans (EIPs). The Bill which is due to be enacted in 2021, will be applicable to Northern Ireland, and a range of provisions could be commenced upon request from the Assembly, reflecting the devolved nature of environmental policy (MHC, 2020). The Bill is not expected to be in place until later in 2021, so there are concerns that there will be a gap in governance from 1 January (Burns *et al.*, 2019), post-Brexit.

Concern has been raised over the potential lack of oversight on environmental issues before the UK Environment Bill becomes law, in particular that environmental regulation and governance issues that fall outside of trade concerns may not have been given sufficient scrutiny (MHC, 2020).

Northern Ireland does not at present have an independent environmental protection agency or climate action legislation (MHC, 2020). There are some developments on both fronts, however. A public consultation is underway on climate legislation (discussed further in Section 2.3.1).

As part of a consultation exercise on Environmental Plans, Principles and Governance for Northern Ireland, Minister for Agriculture, Environment and Rural Affairs, Edwin Poots MLA, confirmed in December that the Northern Ireland Environment Agency (NIEA), an executive agency within DAERA, will remain responsible for environmental regulation post-Brexit. However, the Office for Environmental Protection (OEP), which is to be established under the UK Environment Bill, could (subject to the Assembly's approval) extend to Northern Ireland. The OEP would provide an overall oversight function (in place of the European Commission), and distinct from the NIEA's continuing regulatory role (DAERA, 2020c).

In a report commissioned by the Environmental Pillar in Ireland, in conjunction with Northern Ireland Environment Link, Hough (2019) examines some of the key environmental issues arising from Brexit. In particular, the strong co-operation that has been enhanced and made possible by the shared context of EU membership

covers approximately 150 areas, of which around 30 are directly under the heading of the environment (such as river basin management, environmental funding, and radiation management) (Department for Exiting the European Union, 2018; Hough, 2019).

Further issues concern the review and revision clauses of EU environmental regulations which are a feature of modern environmental policy (Jordan & Moore, 2020). There is also potential risk of regulatory divergence on environmental policy that would have significant implications for Ireland through, for example, different carbon and environmental taxes, waste legislation or nature protection laws (MHC, 2020).

It is the case that ‘in the coming years the Republic of Ireland will continue to set national environmental targets as determined by European Union ambitions and targets, and will have access to resources and supports from the Green New Deal’ (Murphy, 2020: 138). It is not yet clear how Brexit will affect environmental policy in Northern Ireland, but the current development of strategies and prospect of a new oversight body in 2021 should bring an energised focus to climate and biodiversity policy.

A new project to be undertaken by Dr Viviane Gravey and Dr Finbarr Brereton, funded by the IRC and ESRC, will be helpful as it examines ‘All-Island environmental governance post Brexit? Mobilising key actors in Ireland and Northern Ireland’ (Irish Research Council, 2020).

2.2 Biodiversity Context

On this shared island, interconnected ecosystems, webs of living creatures and the mediums they inhabit (the air, water, soil and physical landscape), exist regardless of political boundaries or borders (Hough, 2019). The island of Ireland is home to a variety of different species of land and sea mammals, birds, plants and insects. In Ireland, there are approximately 50 species of land mammals, 400 species of birds and more than 4,000 plant species. Over 31,000 species have been recorded in Ireland and its surrounding seas, and many more have yet to be discovered (DCHG, 2017).

As is the case the world over, biodiversity on the island of Ireland is affected by habitat loss, changes in land use, pollution and climate change. The island faces considerable challenges in shifting from the decline in biodiversity to its restoration.

Ireland’s 6th National Report to the Convention on Biological Diversity (DCHG, 2019) reviewed our progress in relation to the five Strategic Goals and 20 Aichi Biodiversity Targets set out in 2011 for implementation by 2020. The report found that progress towards many national biodiversity targets is partially effective but too slow. Most habitats assessed in Ireland have an unfavourable status; almost half show ongoing decline, including marine, peatland, grassland and woodland habitats. Overall, 57 per cent of species assessed have a favourable conservation status. A fifth of Ireland’s breeding-bird species are in long-term decline (EPA, 2020:

133). The all-island Birds of Conservation Concern in Ireland 2014–2019 points to species at risk: of the 185 species assessed in an all-island context, 37 (20 per cent) were placed on the Red List, 90 (49 per cent) on the Amber List and 58 (31 per cent) on the Green List (State of Nature Partnership, 2019).

Northern Ireland and its surrounding waters are home to over 20,000 different species and support nationally important populations of some species, including pine marten, red squirrel and the cryptic wood white butterfly. Northern Ireland's landscape, similar to Ireland's, is dominated by agricultural land, which makes up around 75 per cent of the total area. In recent decades, pressure on diverse landscapes has resulted in worrying losses for biodiversity, albeit with some gains also (Nature Matters NI, undated; Irish Wildlife Trust, undated).

In May 2020, DAERA produced the Northern Ireland Environmental Statistics Report. It reports a positive change in the favourable management of terrestrial and marine protected sites in recent years after a previous decline (DAERA, 2020d).

A State of Nature report by the UK Natural History Museum, in collaboration with the RSPB, reported that Northern Ireland and Ireland were close in their ranking for biodiversity loss out of 240 countries surveyed; they were listed as 12th and 13th worst-performing, respectively. This underlines the commonality of the biodiversity crisis across the island. Drawing from the Biodiversity Intactness Index, the RSPB reports that 11 per cent of all wildlife is threatened with extinction in Northern Ireland (Natural History Museum, 2020; RSPB, 2020a).

A similar challenge is faced in Ireland. The Irish National Parks and Wildlife Service and Northern Ireland Environment Agency (NIEA) coordinate Red Lists of species at risk that need to be actively protected and conserved. Just over 14 per cent of species assessed in Ireland are under threat of extinction (DCHG, 2017; EPA, 2020).

2.2.1 Marine Environment

The EPA outlines how Ireland's marine environment is one of the largest in the European Union (EU), with hundreds of species of invertebrates and fish, 24 species of whales and dolphins, breeding colonies of both the common and grey seal and some of the largest breeding populations of seabirds in Western Europe. It has remained relatively unpolluted until recent years, during which the pressures from development and pollution have had negative impacts (EPA, 2020). Northern Ireland also has a rich marine biodiversity due to its position at a junction of cold northern and warm southern waters (DAERA, 2021a).

As is the case in Northern Ireland, the percentage of Marine Protected Areas for conservation in Ireland is low relative to the globally agreed target (Horan, 2020). Both jurisdictions are seeking to expand these areas, while balancing the potential for economic and energy opportunities (DHLGH, 2019).

A challenge facing Ireland and Northern Ireland is to increase offshore wind energy capacity. This presents regulatory, planning, societal and policy challenges, including in the development of appropriate marine regulations and environmental

protections. Both jurisdictions are considering marine planning regulations: Ireland is currently progressing the Marine Planning and Development Management (MPDM) (DECC, 2020a) regulation, while Northern Ireland is considering a Draft Marine Plan (DAERA, 2018a; Ritchie & McElduff, 2020).

2.2.2 Water and Sustainability

While there isn't scope in this paper to examine water in detail, it is worth noting that both jurisdictions face common challenges in relation to water quality, conservation and sustainability.

The EPA states that, in assessing water quality in Ireland (2013-2018), there has been a continuing decline in high-status water bodies, the cleanest water category, and an increase in the number of water bodies in poor ecological health (EPA, 2020).

Despite variations in measurement, a broad comparison is possible. In 2018, Ireland's lakes and estuaries were in the least favourable ecological status as compared with other water body types. This is also the case in Northern Ireland, though to varying degrees. In Ireland, coastal waters had the most favourable assessments out of all water bodies, whereas rivers were reported to be in the most favourable ecological category in the Northern Irish assessment (DAERA, 2018b; EPA, 2020). This suggests there is scope to further understand these particular challenges and how to improve water quality across water body types.

In responding to the challenges in water quality and conservation, key agencies are seeking to bring sustainability to the fore, and there is potential for peer-to-peer learning. Ireland's Water Services Policy Statement 2018–2025 sets out high-level objectives under the key themes of quality, conservation and future proofing. The statutory agency responsible for water, Irish Water, has published its first draft National Water Resources Framework Plan for consultation. This will set out how Ireland will move towards a sustainable, secure and reliable drinking-water supply over the next 25 years (Irish Water, 2020).

In Northern Ireland, Sustainable Water—A Long Term Water Strategy for Northern Ireland (2015–2040) sets out a framework for delivering a sustainable water sector in NI. Northern Irish Water won the Queen's Award for Enterprise for Sustainable Development 2020, which recognises best practice in sustainable development using innovative approaches (NI Water, 2020).

2.2.3 Biodiversity Policies and Engagement

Recent debates on Brexit and implications for the environment have highlighted that there is already substantial North/South dialogue and co-operation on biodiversity issues (Hough, 2019). Biodiversity does not recognise borders; many species move between the two territories. Since environmental problems cross borders, governance systems need to be able to effectively address this (Brennan *et al.*, 2018). Effective environmental protection requires a co-operative and co-ordinated approach between Ireland and Northern Ireland, as well as between Ireland and the UK (Gravey *et al.*, 2018).

The European Commission has adopted the new EU Biodiversity Strategy for 2030 and an associated Action Plan. This long-term plan sets an ambitious path for protecting nature and reversing the degradation of ecosystems in the European Union. It outlines how ‘investing in nature protection and restoration will also be critical for Europe’s economic recovery from the COVID-19 crisis’ (European Commission, 2020).

Ireland and the UK are party to the Convention for Biological Diversity and thus agreed to meet the 20 Aichi Biodiversity Targets organised under five Strategic Goals, with the overall aim of halting biodiversity loss by 2020 (EPA, 2020). However, these targets were not reached in 2020.

Ireland

In Ireland, the National Biodiversity Action Plan (2017–2021) provides a framework to track and assess progress towards Ireland’s Vision for Biodiversity over a five-year timeframe from 2017 to 2021 (DCHG, 2017). The vision is ‘that biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally’ (*ibid.*: 11). It sets out seven objectives, including to mainstream biodiversity into the decision-making process across all sectors. A recent report of the oversight group monitoring the plan’s implementation has concluded that most are ongoing, with only eight implemented so far (Biodiversity Working Group, 2020; EPA, 2020).

Our Shared Future, the Programme for Government, includes a commitment to the EU Green Deal and to deliver on other key environmental strategies that will affect climate and biodiversity. It includes a commitment to establish a Citizens’ Assembly to address biodiversity loss (Government of Ireland, 2020b).

Ireland also faces legal action over its levels of designation of protected areas. In July 2020, Ireland was referred to the Court of Justice by the European Commission in relation to the designation of Special Areas of Conservation under the Habitats Directive (Directive 92/43/ EEC) (EPA, 2020).

Northern Ireland

The policy in Northern Ireland: *Valuing Nature—A Biodiversity Strategy for Northern Ireland to 2020*, sets out ‘to make progress towards halting overall biodiversity loss, establish an ecosystem approach and help business and society in general have a greater understanding of the benefits that nature can bring to everyday life in Northern Ireland’ (DAERA, 2015: 6). Difficulties have been reported in progressing on the policy commitments (RSPB, 2020a). More broadly, there has been criticism of environmental governance, compliance and accountability standards in Northern Ireland (Murphy, 2020: 143).

There are particular challenges in conservation policy and practice facing both jurisdictions. Northern Ireland has 58 Special Areas of Conservation (SACs) covering terrestrial, freshwater and marine habitats, some of which are cross-border sites. Many of these are not in good health (DAERA, 2021), a similar challenge for Ireland.

In terms of wider engagement and all-island co-operation on biodiversity issues, there is an active voluntary and community sector in this space. For example, the Northern Ireland Environment Agency works with the Irish Environment Network on joint actions such as species record collection and invasive species management, among many areas. Northern Ireland also shares species records via the Invasive Species Ireland website, from where records are disseminated to the Centre for Environmental Data Recording in Northern Ireland and the National Biodiversity Data Centre in Ireland (JNCC, 2019).

Northern Ireland has a heightened focus on engagement on environmental issues. The Environmental Engagement Index (EEI) web app aims to increase the level of engagement in pro-environmental behaviours by the general public across Northern Ireland (DAERA, 2021b).

The reference in the New Decade New Approach agreement to a ‘Green New Deal’ in Northern Ireland has been supported by the RSPB (RSPB, 2020b). This echoes similar initiatives and debates in Ireland, detailed in the NESC (2021, forthcoming) report on grounding the recovery in sustainable development.

2.3 Climate Context

Both parts of the island face a challenging climate context. Continuing high emissions result in a ‘very poor’ current assessment in Ireland, despite progress on renewable energy, ambitious climate action and adaptation plans and strategies, and new governance structures (e.g. the Climate Action Regional Offices). Ireland’s 2020 emissions reductions targets will not be met without relying on purchasing credits or allowances (EPA, 2020).

Despite reducing emissions by 20 per cent since 1990, Northern Ireland has not reduced emissions to the extent of England and Scotland (CCC, 2019). Northern Ireland currently accounts for approximately 4 per cent of the UK’s GHG emissions (Ní Lochlainn, 2020). Emissions have fallen much more slowly in Northern Ireland since the UK Climate Change Act 2008, compared to the UK as a whole. The UK Climate Change Committee (CCC) assessed that Northern Ireland’s contribution to the fifth UK carbon budget would require at least a 35% reduction in emissions against 1990 levels by 2030. However, additional measures could deliver a reduction of 40% against the 1990 baseline by 2030 (CCC, 2019).

Emissions in agriculture and transport were higher in 2018 than in previous years, and analysis shows that no progress has been made towards the baseline that was set out in the Programme for Government in 2014 (Murphy, 2020: 142). Yet, projections by DAERA estimate a further 23 per cent decrease from 2017 to 2030. Over the period 1990 to 2030, this would represent a total reduction in GHG emissions of 37 per cent (DAERA, 2020e).

There has been a divergence in climate mitigation practice to date between North and South. Ireland increased its emissions by 10.1 per cent from 1990 to 2019 (in comparison with a 20 per cent reduction for NI to 2018, as outlined above) (NISRA, 2018).¹⁴ Ireland produced 13.3 tonnes of carbon dioxide per capita in 2018 as compared to 10.3 per capita in Northern Ireland (EPA, 2020; DAERA, 2020f). Agriculture produces the largest share of emissions North and South, but the figures are 35.3 per cent in Ireland and 27 per cent in Northern Ireland (2019 and 2018 respectively).

While Northern Ireland is a better performer than Ireland in overall emissions per capita terms, agricultural emissions remain a key challenge in both jurisdictions (Nugent, 2020). Practices in home heating and agriculture, in particular, remain common challenges both North and South.

Overall, the island of Ireland faces similar challenges in relation to the impacts of climate change; e.g. wetter winters, warmer summers, sea-level rise, water-quality

¹⁴ Also see <https://datavis.nisra.gov.uk/daera/northern-ireland-greenhouse-gas-emissions.html>, accessed 29.01.21.

challenges, and further impacts through biodiversity loss without action, such as land degradation, and species decline.¹⁵

2.3.1 Climate Mitigation Policies and Engagement

Both jurisdictions are reviewing climate legislation and increasing ambition for 2030 in the context of heightened international pressure to decarbonise more rapidly. Both Northern Ireland and Ireland have declared climate and biodiversity emergencies. Climate mitigation policies in Ireland and Northern Ireland are presented in the following subsections. Ireland and the UK have both ratified the Paris Agreement, which provides the framework for global actions to prevent dangerous and irreversible climate change (EPA, 2020; House of Commons Library, 2020).

Ireland

The current legal basis for climate policy in Ireland is the Climate Action and Low Carbon Development Act 2015 (Government of Ireland, 2015). This established the National Mitigation Plan (NMP) and National Adaptation Framework (NAF) processes, which are designed to address the causes and consequences of climate change in Ireland and are to be updated every five years. The Act also established the Climate Change Advisory Council (CCAC), to advise government on climate policy and review progress on the achievement of targets annually (EPA, 2020).

Other key developments have been the inclusion of climate action as part of the Citizens' Assembly discussions in 2018. Their report was considered and reported on by the Joint Oireachtas Committee on Climate Action (JOCCA, 2019). The Climate Action Plan, published by the Government in 2019, sets out actions to meet EU emissions reduction targets for Ireland to 2030 (Government of Ireland, 2019).

Climate policy and legislation is the focus of increased ambition and attention in Ireland currently, with the Climate Action and Low Carbon Development (Amendment) Bill and the 7 per cent annual emissions reduction target in the Programme for Government (Government of Ireland, 2020b, 2020a). The Programme for Government includes a Green New Deal Mission and commits to a 51 per cent reduction in GHG emissions by 2030. It has a strong focus in the form of a central mission to achieve 'A Green New Deal', with particular actions on emissions reductions, climate governance, renewable energy, retrofitting, a just transition, natural heritage and biodiversity, and water. Notably, the Government is committed to an average 7 per cent reduction each year in overall GHG emissions from 2021 to 2030 (a 51 per cent reduction over the decade) and to achieving net

¹⁵ See EPA, What Impact Will Climate Change Have for Ireland? <https://www.epa.ie/climate/communicatingclimatescience/whatisclimatechange/whatimpactwillclimatechangehaveforireland/>, accessed 09.02.21.

zero emissions by 2050. An Amendment to the Climate Action and Low Carbon Development Act 2015 is being considered by the Oireachtas. This will both give a legislative basis to the Climate Action Plan and legislate for the 2050 climate target (EPA, 2020: 42).

There is also a commitment to work to achieve a broad political and societal consensus on a just transition to a sustainable future for all communities. Ireland has established a number of structures for public engagement, such as citizen assemblies, Public Participation Networks and the National Climate Dialogue, but there has been recognition that more can be done.¹⁶ The Programme for Government commits to developing a new model of engagement with citizens, sectors and regions as an early priority for government, building on the learning of recent years.

The National Adaptation Framework (NAF) (2018) is focused on practical steps to build resilience, given that Ireland's climate is changing at a scale and rate consistent with regional and global trends, with predicted changes in extremes such as floods, precipitation and storms (DECC, 2020b). Local authorities are also taking forward the preparation of local adaptation strategies. Four Climate Action Regional Offices have been established to drive climate action at regional and local levels (DCCA, 2018).

Northern Ireland

Northern Ireland's climate policy is underpinned by the UK Climate Change Act 2008 (2050 Target Amendment) Order 2019. The legally binding target towards net zero emissions covers all sectors of the economy and was increased to be in line with the requirements of the Paris Agreement. It also creates five-yearly 'carbon budgets' as a pathway to meet the long-term target (EirGrid, 2019).

Currently, Northern Ireland is the only devolved administration in the UK that does not have its own climate-change legislation and emissions targets (Macauley, 2019). A draft Climate Bill was submitted to the Northern Ireland Assembly in October 2020, led by Green Party NI leader Claire Bailey MLA, and received cross-party support. Ambition is broadly in line with Irish law, but currently with a more ambitious target to achieve net zero carbon by 2045 and a focus on just transition and biodiversity. Environment Minister Edwin Poots has launched a public consultation on new climate laws (DAERA, 2020g).

Recently, the UK Committee on Climate Change has advised Northern Ireland to cut its carbon emissions by at least 82 per cent by 2050 to contribute to the overall UK net zero ambition. In a separate process, the (NI) Department for the Economy (DfE) is currently working with stakeholders to develop the next Strategic Energy Framework by the end of 2021.

¹⁶ For further information on these and other forms of public engagement, see <https://www.gov.ie/en/policy-information/b59ee9-community-network-groups/>, accessed 09.02.21.

In relation to climate adaptation, the work of Climate Northern Ireland, a network funded by DAERA, is focused on understanding climate-change impacts and risks, and on promoting necessary adaptation actions.¹⁷ Several Climate Northern Ireland projects have included Ireland as one of a number of partners, so there is a positive relationship in place. It has recently focused on climate adaptation and the importance of resilience. Similar examples of local government planning and focused action can be found North and South, for example, in Derry and Strabane (DCSDC, 2020).

Greater synergy between the North and South on mitigation action would be required to deliver effective emissions reductions through similar approaches to carbon pricing, and to smoky fuels. John Fitzgerald, then Chair of the Irish Climate Change Advisory Council, has argued that ‘co-ordinated cross-border climate action can deliver significant climate wins’ (FitzGerald, 2020). For example, cohesion in carbon tax policy is one area where North-South co-operation can benefit the environment and economies in both jurisdictions as it encourages alternative energy by making it cost-competitive with cheaper fuels (Kerins *et al.*, 2020).

¹⁷ Climate Northern Ireland, <https://www.climatenorthernireland.org/aboutus/>, accessed 29.01.21.

2.4 Conclusion and Next Steps

There is growing momentum to ratchet up ambition and legal commitments to deliver on climate and biodiversity action before 2030. A key characteristic of both sets of challenges is that they are problems that face Ireland and Northern Ireland alike, but also lend well to integrated and collaborative solutions. Nature and our atmosphere protect and enhance the island of Ireland and require societal engagement, innovative thinking and collaboration.

It is timely to reflect and compare the ways in which climate legislation and policy ambition are shifting, both North and South, providing opportunities for exchange and support. Similar opportunities arise in restoring nature.

This paper has set out some of the main challenges both jurisdictions face in reducing emissions and addressing biodiversity loss, particularly in the coming decade. It provides an initial assessment of the common ground and practice, and where there is opportunity for innovation and further co-operation. In addition, it outlines a number of areas where further research and engagement may help deliver shared problem-solving. There are other areas which will be explored by the NESC Secretariat including wellbeing, poverty, the economy and regional development, which will help build a broader view.

Finally, the concentrated focus on sustainability in the economic and societal recovery from Covid-19 provides a context for thinking creatively and collectively about the challenges and solutions. The EPA, NESC, RSPB and others have pointed to the need to identify any opportunities that arise through post-Covid-19 national economic stimulus packages to leverage enduring environmental and public health benefits that address environmental concerns (EPA, 2020: 29; NESC, 2021 forthcoming; RSPB, 2020c).

Following this consultation process, the next steps for this work will be to identify a small number of areas for further enquiry. In line with the methodological approach of the Shared Island project, engagement and dialogue will be prioritised.

Bibliography

Bibliography

- Abnett, K. (2020), *Europe delays launch of next year's carbon market auctions*. <https://uk.reuters.com/article/us-eu-carbontrading/europe-delays-launch-of-next-years-carbon-market-auctions-idUKKBN27X2OP>, 09/12/20.
- Action Renewables (2019), *How Close is Northern Ireland in Meeting its Energy Targets?* <https://actionrenewables.co.uk/news-events/post.php?s=how-close-is-northern-ireland-to-meeting-its-energy-targets>, 29/01/21.
- AIBCRN (2020), *Leveraging Ireland's R&D for Successfully Tackling the Climate and Biodiversity Emergency*, Dublin: All Island Climate and Biodiversity Research Network.
- Arnold, T. (2020), 'Policies for Agriculture and the environment on the island of Ireland in the post-Brexit World', *Journal of Cross Border Studies*, 15
- Belfast City Council (2020), *Belfast's Draft Resilience Strategy*. <https://www.belfastcity.gov.uk/news/belfast-puts-climate-change-on-the-agenda>, 29/01/21.
- Bell, J. (2020), 'Healthy Planet', Presentation to the IIEA, Dublin, 04 December.
- Biodiversity Working Group (2020), *Interim Review of the Implementation of the National Biodiversity Action Plan 2017-2021*, Dublin: Department of Culture, Heritage and the Gaeltacht.
- Brennan, C., Dobbs, M., Gravey, V. & Uí Bhroin, A. (2018), *Policy Paper: The Future of Environmental Governance in Northern Ireland*. <https://www.brexitenvironment.co.uk/download/4083/>, 29/01/21.
- Burns, C., Gravey, V. & Dobbs, M. (2019), *Evidence on the UK Environment Bill*, Committee on Environment, Agriculture and Rural Affairs of the Northern Ireland Assembly, Brexit and Environment Group, Belfast: Northern Ireland Assembly.
- Cave, S. & Allen, M. (2020), *The Ireland/Northern Ireland Protocol: overview and potential issues* Research and Information Service Briefing Paper 33/20, June, Belfast: Northern Ireland Assembly.
- CCC (2019), *Reducing Emissions in Northern Ireland* London: Committee on Climate Change.
- Clark, C.M.A., Kavanagh, C. & Lenihan, N. (2020), *Measuring Progress: The Sustainable Progress Index 2020*, Dublin: Social Justice Ireland.
- Clerkin, S. (2020), 'Working cross-border in nature conservation with regard to different designations, structures and management', *The Journal of Cross Border Studies*, 15.
- Climate Coalition Northern Ireland (2020), *Climate Change Bill (Northern Ireland) 2020 Q&A Briefing*. <https://www.nienvironmentlink.org/cmsfiles/QA-briefing-for-Climate-Bill-2020-12Oct.pdf>, 29/01/21.
- Cornwall Insight (2020), *Future of Renewables in Northern Ireland*. <http://www.ionicconsulting.ie/wp-content/uploads/2020/08/Future-renewables-Northern-Ireland.pdf>, 29/01/21.
- Creamer, C., Connolly, N. & Rivera Fernandez, Z. (2021 forthcoming), *Building Long-Term Resilient and Sustainable Cities*, Research Series, Dublin: National Economic and Social Council.
- Crowley, C., Flood, K., Caffrey, B., Dunford, B., FitzPatrick, U., Hamilton, J. & O'Gorman, M. (2020), *Engaging and empowering people in biodiversity conservation: lessons from practice*, Dublin: Royal Irish Academy.
- DAERA (2015), *Valuing Nature: A Biodiversity Strategy for Northern Ireland to 2020*, Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2018a), *Draft Marine Plan for Northern Ireland* Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2018b), *Northern Ireland Water Framework Directive Statistics Report*, Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2020a), *Environmental Plans, Principles and Governance for Northern Ireland*, Department of Agriculture, Environment and Rural Affairs, Public Discussion Document, Belfast: HM Publications.

- DAERA (2020b), *An Environment Strategy for Northern Ireland: Responses to the 2019/20 Public Discussion Document--Summary Report*, Department of Agriculture, Environment and Rural Affairs, Belfast: HM Publications.
- DAERA (2020c), *Poots Lauches Discussion on Environmental Plans Principles and Governance*, Department of Agriculture, Environment and Rural Affairs, Belfast: HM Government.
- DAERA (2020d), *Environmental Statistics Report Supplementary Publication* Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2020e), *Northern Ireland Greenhouse Gas Projections based on 2017 GHG inventory*, Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2020f), *Northern Ireland Carbon Intensity Indicators*, Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2020g), *Poots Lauches Public Consultation on Climate Change Legislation*, Department of Agriculture, Environment and Rural Affairs, Belfast: HM Government.
- DAERA (2021a), *Protecting Marine Biodiversity*, Belfast: Department of Agriculture, Environment and Rural Affairs.
- DAERA (2021b), *Minister launches Environmental Engagement Index for Northern Ireland*. <https://www.daera-ni.gov.uk/news/minister-launches-environmental-engagement-index-northern-ireland>, 29/01/21.
- Dasgupta, P. (2021), *The Economics of Biodiversity: The Dasgupta Review*, London: HM Treasury.
- DCCAE (2018), *National Adaptation Framework: Planning for a Climate Resilient Ireland*. <https://www.dccae.gov.ie/documents/National%20Adaptation%20Framework.pdf>, 04/12/19.
- DCCAE (2020), *National Energy and Climate Plan 2021-2030* Dublin: Department of the Environment, Climate and Communications
- DCHG (2017), *National Biodiversity Action Plan 2017-2021*, Department of Culture, Heritage and Gaeltacht, Dublin: Government Publications.
- DCHG (2019), *Ireland: 6th National Report to the Convention on Biological Diversity*, Dublin: Department of Culture, Heritage and the Gaeltacht.
- DCSDC (2020), *Climate Change Adaptation Plan 2020-2025* Derry: Derry City and Strabane District Council.
- DECC (2020a), *Marine and Planning Development*, Dublin: Department of the Environment, Climate and Communications.
- DECC (2020b), *Adapting to Climate Breakdown*, Department of Environment, Climate and Communications Dublin: Department of Environment, Climate and Communications.
- DEFRA (2020), *Enabling a Natural Capital Approach: Guidance*, Department for Environment, Food & Rural Affairs, London: HM Government.
- DAERA (2021), *Conservation Management Plans for Northern Ireland's Special Areas of Conservation*, Department of Agriculture, Environment and Rural Affairs. <https://www.daera-ni.gov.uk/articles/conservation-management-plans-northern-irelands-special-areas-conservation>, 12/07/21.
- Department for Exiting the European Union (2018), *Technical explanatory note: North-South cooperation mapping exercise*, Policy Paper, London: HM Government.
- DHLGH (2019), *Marine Protected Areas*, Dublin: Department of Housing, Local Government and Heritage.
- Donnelly, M., Tuohy, B. & Coghlan, O. (2019), *Transitioning to a Low Carbon Climate Resilient Society: Proposal for Community Engagement*, Friends of the Earth. https://www.foe.ie/assets/files/pdf/transitioning_to_a_low_carbon_climate_resilient_society.pdf, 03/12/19.

- Doyle, J. (2020), *Recovering from COVID-19 through a Green Lens*, Houses of the Oireachtas.
https://data.oireachtas.ie/ie/oireachtas/libraryResearch/2020/2020-10-12_spotlight-recovering-from-covid-19-through-a-green-lens_en.pdf, 29/01/21.
- EirGrid (2016), *Quick Guide to the Integrated Single Electricity Market: The iSEM Project*.
http://www.eirgridgroup.com/_uuid/f110639e-9e21-4d28-b193-ed56ee372362/EirGrid-Group-I-SEM-Quick-Guide.pdf, 29/01/21.
- EirGrid (2019), *All-Island Generation Capacity Statement 2019-2028*, Dublin: EirGrid Group.
- Eisenmenger, N., Pichler, M., Krenmayr, N., Noll, D., Plank, B., Schalmann, E., Wandl, M.T. & Gingrich, S. (2020), 'The Sustainable Development Goals prioritize economic growth over sustainable resource use: a critical reflection on the SDGs from a socio-ecological perspective', *Sustainability Science*, 15: 1101-10.
- Environmental Pillar (2017), *Post-Brexit cross-border cooperation crucial to protect the environment and tackle climate change*.
<https://environmentalpillar.ie/press-release-post-brexit-cross-border-cooperation-crucial-to-protect-the-environment-and-tackle-climate-change/>, 29/01/21.
- EPA (2020), *Ireland's Environment: An Integrated Assessment*, State of the Environment 2020, Wexford: Environmental Protection Agency.
- European Commission (2019), *Negotiations on Ireland/Northern Ireland. Mapping of North-South cooperation & Implementation Bodies: Report and key findings of the exercise*.
https://ec.europa.eu/commission/sites/beta-political/files/mapping_of_north-south_cooperation_0.pdf, 22/01/21.
- European Commission (2020), *EU Biodiversity Strategy for 2030: Bringing nature back into our lives*, COM(2020) 380 final, Brussels: European Commission.
- Fermanagh Trust (2014), *Fermanagh Trust welcomes NESC's 'Wind Energy in Ireland Report'*.
<http://www.fermanaghtrust.org/fermanagh-trust-welcomes-wind-energy-in-ireland-report>, 29/01/21.
- FitzGerald, J. (2020), 'Climate apathy in Northern Ireland could impact on the Republic', *Irish Times*, 17 January.
- Government of Ireland (2015), *Climate Action and Low Carbon Development Act 2015*.
<http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/html>, 29/01/21.
- Government of Ireland (2018), *The Sustainable Development Goals: National Implementation Plan 2018-2020*, Department of Communication, Climate Action & Environment, Dublin: Government Publications.
- Government of Ireland (2019), *Climate Action Plan 2019: To Tackle Climate Breakdown*, Department of Communications, Climate Action & Environment.
<https://assets.gov.ie/25419/c97cdecdf8c49ab976e773d4e11e515.pdf>, 29/01/21.
- Government of Ireland (2020a), *Climate Action and Low Carbon Development (Amendment Bill) 2020*
<https://www.gov.ie/en/publication/984d2-climate-action-and-low-carbon-development-amendment-bill-2020/>, 29/01/21.
- Government of Ireland (2020b), *Programme for Government: Our Shared Future*, Department of the Taoiseach, Dublin: Government Publications.
- Gravey, V., Burns, C., Carter, N., Cowell, N., Eckersley, P., Farstad, F. & Reid, C. (2018), *Northern Ireland: Challenges and opportunities for post-Brexit environmental governance*, UK: Brexit & Environment.
- HM Government (2019), *Voluntary National Review of progress towards the Sustainable Development Goals*, London: HM Government

- Horan, D. (2020), *Enabling Integrated Policymaking with the Sustainable Development Goals: An Application to Ireland*, *Sustainability* (12) 18 <https://www.mdpi.com/2071-1050/12/18/7800>, 29/01/21.
- Hough, A. (2019), *Brexit, the Good Friday/Belfast Agreement and the Environment: Issues Arising and Possible Solutions*, Athlone: Environmental Pillar and Northern Ireland Environment Link.
- House of Commons Library (2020), *EU Policy and Action on Climate Change*. <https://commonslibrary.parliament.uk/eu-policy-and-action-on-climate-change/>, 29/01/21.
- Ibec-CBI Northern Ireland Joint Business Council (2019), *All-island Economy must be Protected*. <https://www.ibec.ie/connect-and-learn/media/2019/10/03/ibec-cbi-jbc-event-press-release> 29/01/21.
- Irish Research Council (2020), *ESRC-IRC UK-Ireland Social Science Networking Awards* <http://research.ie/assets/uploads/2020/12/IRC-ESRC-funded-projects.pdf>, 29/01/21.
- Irish Water (2020), *National Water Resources Plan (Draft)*. <https://www.water.ie/projects-plans/our-plans/nwrp/>, 26/01/21.
- Irish Wildlife Trust (undated), *Species List*. <https://iwt.ie/species-list/#:~:text=Ireland%20is%20home%20to%20a,more%20than%204%2C000%20plant%20species>, 26/01/21.
- IWEA (2019), *Northern Ireland Smashes 40% Renewable Electricity Target*. <https://www.iwea.com/latest-news/2549-northern-ireland-smashes-40-percent-renewable-electricity-target>, 29/01/21.
- JNCC (2019), *Sixth National Report to the United Nations Convention on Biological Diversity: United Kingdom of Great Britain and Northern Ireland*, Peterborough: JNCC.
- JOCCA (2019), *Climate Change: A Cross-Party Consensus for Action*, Joint Oireachtas Committee on Climate Action, Dublin: Houses of the Oireachtas.
- Jordan, A. & Moore, B. (2020), *Regression by Default? An Analysis of Review and Revision Clauses in Retained EU Environmental Law*, UK: Brexit & Environment.
- Kerins, E., Conneely, S. & Reilly, M. (2020), 'The Case for enhanced Cross Border Co-operation', *Journal for Cross Border Studies*, 15.
- Macauley, C. (2019), *NI 'needs new approach to climate change'*—Lord Deben, BBC News. <https://www.bbc.com/news/uk-northern-ireland-48125798>, 29/01/21.
- McCabe, S. & Cohen, S. (2021 forthcoming), *Economic Resilience in Sustainable Communities*, Research Series, Dublin: National Economic and Social Council.
- MarEI (2020), *Citizen Engagement and Dialogue*, Presentation to the Oireachtas Committee on Climate Action, <https://www.marei.ie/wp-content/uploads/2020/10/MaREI-Submission-on-Citizen-Engagement-and-Dialgue-to-Oireachtas-Committee-on-Climate-Action.pdf>, 09/02/21.
- Mercier, S., Bresnihan, P., McIlroy, D. & Barry, J. (2020), 'Climate Action via Just Transitions Across the Island of Ireland: Labour, Land and the Low-Carbon Transition' in Robbins, D., Torney, D. & Brereton, P (Eds.), *Ireland and the Climate Crisis*, London: Palgrave.
- MHC (2020), *Brexit and Environmental Cooperation on the Island of Ireland*, Mason, Hayes & Curran.
- MHC (2019), *Potential Implications of Brexit on Environmental Law*, Dublin: Mason Hayes and Curran.
- Morrison, R. & Bullock, C. (2018), *A National Biodiversity Expenditure Review for Ireland*, Dublin: University College Dublin.
- Murphy, M. (2020), 'Agriculture and Environment: What Paths will Policy Take? ', *Journal of the Centre for Cross Border Studies*, 15

- National Biodiversity Data Centre (2015), *All-Ireland Pollinator Plan 2015-2020*. <https://pollinators.ie/wordpress/wp-content/uploads/2018/05/Pollinator-Plan-2018-WEB.pdf>, 29/01/21.
- National Biodiversity Data Centre (2019), *Council Partnership with the All-Ireland Pollinator Plan*. https://www.pollinators.ie/wordpress/wp-content/uploads/2019/03/Council-Framework_AIPP_19.3.19.pdf#, 29/01/21.
- Natural History Museum (2020), *UK in the relegation zone for nature, reveals Natural History Museum and RSPB* <https://www.nhm.ac.uk/press-office/press-releases/uk-in-the-relegation-zone-for-nature-reveals-natural-history-mu.html>, 29/01/21.
- Nature Matters NI (undated), *Brexit Position Statements*. <https://www.nienviromentlink.org/cmsfiles/NMNI-Brexit-Position-Statements.pdf>, 09/12/20.
- NESC (2014), *Wind Energy in Ireland: Building Community Engagement and Social Support*, Dublin: National Economic and Social Council.
- NESC (2020), *Addressing Employment Vulnerability as Part of a Just Transition in Ireland*, No.149, Dublin: National Economic and Social Council.
- NESC (2021 forthcoming), *Grounding the Recovery in Sustainable Development: A Statement from the Council*, No.152, Dublin: The National Economic and Social Council.
- NI Environment Link and Environmental Pillar (2018), *Joint Briefing: Brexit and cross-border environmental cooperation on the island of Ireland*. <https://www.europarl.europa.eu/cmsdata/133703/patrick-casement-joint-briefing.pdf>, 29/01/21.
- Ní Lochlainn, A. (2020), *The Sixth Carbon Budget—establishing a pathway for climate action Northern Ireland*. https://www.nerinstitute.net/blog/sixth-carbon-budget-establishing-pathway-climate-action-northern-ireland?mc_cid=dc02700dd1&mc_eid=4e05a33226, 09/12/20.
- NI Water (2020), *NI Water Wins Queen's Award for Sustainable Development 2020*. <https://www.niwater.com/news-detail/11811/ni-water-wins-queens-award-for-sustainable-development-2020/>, 29/01/21.
- NICVA (2020), *Sustainable Development Goals: What are our Key Asks? Northern Ireland Council for Voluntary Action*, Belfast: Northern Ireland Council for Voluntary Action.
- NISRA (2018), *Northern Ireland Greenhouse Gas Emissions*, Northern Ireland Statistics and Research Agency, Belfast: Department of Agriculture, Environment & Rural Affairs.
- North South Ministerial Council (2020), 'Joint Communiqué', Presentation to the North South Ministerial Council, "Environment Meeting", NSMC Joint Secretariat Offices, by Videoconference, 21 October.
- Northern Ireland Environment Link (2020), *Annual Report 2019* <https://www.nienviromentlink.org/cmsfiles/NIEL-Annual-Report-2019-20.pdf>, 26/01/21.
- Nugent, C. (2020), 'Matching skills needs with skills reserves: Protecting workers and communities for a Just Transition', Presentation to the Nevin Economic Research Institute, "NERI Seminar Series", Belfast, 23 January.
- Nugent, C. & Goldrick-Kelly, P. (2020), *Investing in a Just Transition*, Dublin: Nevin Economic Research Institute.
- Office for National Statistics (2020), *Sustainable Development Goals data update*. <https://sdgdata.gov.uk/>, 29/01/21.

- Ritchie, H. & McElduff, L. (2020), 'The whence and whither of marine spatial planning: revisiting the social reconstruction of the marine environment in the UK', *Maritime Studies*, 19: 229-40. <https://link.springer.com/article/10.1007/s40152-020-00170-6>.
- RSPB (2020a), *Northern Ireland Biodiversity Strategy Failing after Years of Inaction*. <https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/rspb-ni-northern-ireland-biodiversity-strategy-failing-after-years-of-inaction/>, 29/01/21.
- RSPB (2020b), *Five Point Plan for a Green Recovery*. <https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/rspb-ni-green-recovery-plan/>, 29/01/21.
- RSPB (2020c), *A Green Recovery for Northern Ireland* <https://www.nienviromentlink.org/cmsfiles/RSPB-NI-FIVE-POINT-PLAN-FOR-A-GREEN-RECOVERY-.pdf>, 29/01/21.
- Rural Community Network (2018), *Evidence presented to the Joint Committee on Rural and Community Development*, Dublin: Houses of the Oireachtas.
- SDSN & IEEP (2020), *Europe Sustainable Development Report*, Sustainable Development Solutions Network and Institute for European Environmental Policy. https://s3.amazonaws.com/sustainabledevelopment.report/2020/europe_sustainable_development_report_2020.pdf, 29.01.21.
- SJI (2020), *A Just Transition for Farmers*, Dublin: Social Justice Ireland.
- State of Nature Partnership (2019), *State of Nature: a summary for Northern Ireland*. https://bsbi.org/wp-content/uploads/dlm_uploads/55654_RSPB_Summary-Report_Northern-Ireland_ONLINE_AW2_v2.pdf, 09/12/20.
- UK Parliament (2017), *Brexit: Agriculture, 20th Report of Session 2016-17*, Committee, European Union Lords Select, London: House of Lords.
- UK Research and Innovation (2020), *Twenty UK-Ireland research collaborations in social science announced*. <https://www.ukri.org/news/twenty-uk-ireland-research-collaborations-in-social-science-announced/>, 27/01/21.
- UN (2015), *Sustainable Development Goals* <https://sdgs.un.org/goals>, 29/01/21.
- Vivid Economics (2020), *Derry City and Strabane District Council's Owned Green and Blue Spaces Natural Capital Account*, The Carnegie UK Trust. https://d1ssu070pg2v9i.cloudfront.net/pex/carnegie_uk_trust/2020/02/25084102/NCA-Final-Report-CUKT.pdf, 29/01/21.
- Wall, B., Cahalane, A. & Derham, J. (Eds.) (2020), *Ireland's Environment—An Integrated Assessment 2020*, Co Wexford: Environmental Protection Agency.

National Economic and Social Council Publications

No.	Title	Date	No.	Title	Date
1.	Report on the Economy in 1973 and the Prospects for 1974	1974	14.	Population Projects 1971-86: The Implications for Social Planning – Dwelling Needs	1976
2.	Comments on Capital Taxation Proposals	1974	15.	The Taxation of Farming Profits	1976
3.	The Economy in 1974 and Outlook for 1975	1974	16.	Some Aspects of Finance for Owner-Occupied Housing	1976
4.	Regional Policy in Ireland: A Review	1975	17.	Statistics for Social Policy	1976
5.	Population and Employment Projections: 1971-86	1975	18.	Population Projections 1973-86: The Implications for Education	1976
6.	Comments on the OECD Report on Manpower Policy in Ireland	1975	19.	Rural Areas: Social Planning Problems	1976
7.	Jobs and Living Standards: Projects and Implications	1975	20.	The Future of Public Expenditure	1976
8.	An Approach to Social Policy	1975	21.	Report on Public Expenditure	1976
9.	Report on Inflation	1975	22.	Institutional Arrangements for Regional Economic Development	1976
10.	Causes and Effects of Inflation in Ireland	1975	23.	Report on Housing Subsidies	1976
11.	Income Distribution: A Preliminary Report	1975	24.	A Comparative Study of Output, Value-Added and Growth in Irish and Dutch Agriculture	1976
12.	Education Expenditure in Ireland	1976	25.	Towards a Social Report	1977
13.	Economy in 1975 and Prospects for 1976	1975	26.	Prelude to Planning	1976

27. New Farms Operators, 1973 to 1975	1977	42. Report on Policies for Agricultural and Rural Development	1978
28. Service-type Employment and Regional Development	1977	43. Productivity and Management	1978
29. Some Major Issues in Health Policy	1977	44. Comments on Development: Full Employment	1978
30. Personal Incomes by County in 1973	1977	45. Urbanisation and Regional Development in Ireland	1979
31. The Potential for Growth in Irish Tax Revenues	1977	46. Irish Forestry Policy	1979
32. The Work of NESC: 1974-1976	1977	47. Alternative Strategies for Family Support Income	1980
33. Comments on Economic and Social Development; 1976-1980	1977	48. Transport Policy	1980
34. Alternative Growth Rates in Irish Agriculture	1977	49. Enterprises in the Public Sector	1980
35. Population and Employment Projections 1986: A Reassessment	1977	50. Major Issues in Planning Services for Mentally and Physically Handicapped Persons	1980
36. University and Selectivity: Strategies in Social Policy	1978	51. Personal Incomes by Regions: 1977	1980
37. Integrated Approaches to Personal Income Taxes and Transfers	1978	52. Tourism Policy	1980
38. University and Selectivity: Social Services in Ireland	1978	53. Economic and Social Policy 1980-83: Aims and Recommendations	1980
39. The Work of NESC: 1977	1978	54. The Future of the National Economic and Social Council	1981
40. Policies to Accelerate Agricultural Development	1978	55. Urbanisation: Problems of Growth and Decay in Dublin	1981
41. Rural Areas: Change and Development	1978	56. Industrial Policy and Development: A Survey of	

Literature for the Early 1960s to the Present	1981	69. Housing Requirements and Population Change: 1981-1991	1983
57. Industrial Employment and the Regions 1960-82	1981	70. Economic and Social Policy 1982: Aims and Recommendations	1983
58. The Socio-Economic Position of Ireland within the European Economic Community	1981	71. Education: The Implications of Demographic Change	1984
59. The Importance of Infrastructure to Industrial Development in Ireland: Roads, Telecommunications and Water Supply	1981	72. Social Welfare: The Implications of Demographic Change	1984
60. Minerals Policy	1981	73. Health Services: The Implications of Demographic Change	1984
61. Irish Social Policy: Priorities for Future Development	1981	74. Irish Energy Policy	1984
62. Economic and Social Policy 1981: Aims and Recommendations	1981	75. Economic and Social Policy 1983: Aims and Recommendations A Review of the Implications of recent Demographic Changes for Education, Social Welfare and the Health Services	1984
63. Population and Labour Force Projections by County and Region, 1979-1991	1981	76. The Role of Financing the Traded Sectors	1984
64. A Review of Industrial Policy	1982	77. The Criminal Justice System: Policy and Performance	1985
65. Farm Incomes	1982	78. Information for Policy	1985
66. Policies for Industrial Development: Conclusions and Recommendation	1982	79. Economic and Social Policy Assessment	1985
67. An Analysis of Job and Losses in Irish Manufacturing Industry	1982	80. The Financing of Local Authorities	1985
68. Social Planning in Ireland: Its Purposes and Organisational Requirements	1983	81. Designation of Areas for Industrial Assessment	1985

82. Manpower Policy in Ireland	1986	95. Education and Training Policies for Economic and Social Development	1993
83. A Strategy for Development 1986-1990	1986	96. A Strategy for Competitiveness, Growth and Employment	1993
84. Community Care Service: An Overview	1987	97. New Approaches to Rural Development	1995
85. Redistribution Through State Social Expenditure in the Republic of Ireland: 1973-1980	1988	98. Strategy into the 21 st Century: Conclusions and Recommendations	1996
86. The Nature and Functioning of Labour Markets	1988	99. Strategy into the Century	1996
87. A Review of Housing Policy	1989	100. Networking for Competitive Advantage	1996
88. Ireland in the European Community: Performance, Prospects and Strategy	1989	101. European Union: Integration and Enlargement	1997
89. A Strategy for the Nineties: Economic Stability and Structural Change	1990	102. Population Distribution and Economic Development: Trends and Policy Implications	1997
90. The Economic and Social Implications of Emigration	1991	103. Private Sector Investment in Ireland	1998
91. Women's Participation in the Irish Labour Market	1992	104. Opportunities, Challenges and Capacities for Choice, Overview, Conclusions and Recommendations	1999
92. The Impact of reform of the Common Agricultural Policy	1992	105. Opportunities, Challenges and Capacities for Choice	1999
93. The Irish Economy in a Comparative Institutional Perspective	1993	106. Review of the Poverty Proofing Process	2001
94. The Association between Economic Growth and Employment	1993	107. Benchmarking the Programme for Prosperity and Fairness	2002

108. National Progress Indicators	2002	121. The Euro: An Irish Perspective	2010
109. Achieving Quality Outcomes: The Management of Public Expenditure	2002	122. Re-finding Success in Europe: the Challenge for Irish Institutions and Policy	2010
110. An Investment in Quality: Services, Inclusion and Enterprise, Overview, Conclusions and Recommendations	2002	123. Supports and Services for Unemployed Jobseekers: Challenges and Opportunities in a Time of Recession	2011
111. An Investment of Quality: Services, Inclusion and Enterprise	2003	124. Quality and Standards in Human Services in Ireland: Overview of Concepts and Practice	2011
112. Housing in Ireland: Performance and Policy	2004	125. Promoting Economic Recovery and Employment in Ireland	2012
113. The Developmental Welfare State	2005	126. Draft Framework for Sustainable Development for Ireland: NESC Response	2012
114. NESC Strategy 2006: People, Productivity and Purpose	2005	127. Quality and Standards in Human Services in Ireland: Policing and the Search for Continuous Improvement	2012
115. Migration Policy	2006	128. Quality and Standards in Human Services in Ireland: Residential Care for Older People	2012
116. Managing Migration in Ireland: A Social and Economic Analysis	2006	129. Quality and Standards in Human Services in Ireland: The School System	2012
117. The Irish Economy in the Early 21 st Century	2008	130. Quality and Standards in Human Services in Ireland: Home Care for Older People	2012
118. Ireland's Five-Part Crisis: An Integrated National Response	2009	131. Quality and Standards in Human Services in Ireland: End-of-Life Care in Hospitals	2012
119. Well-being Matters: A Social Report for Ireland	2009		
120. Next Steps in Addressing Ireland's Five-Part Crisis: Combining Retrenchment with Reform	2009		

- | | | | |
|--|-------------|--|-------------|
| 132. Quality and Standards in Human Services in Ireland: Disability Services | 2012 | 143. The Dynamics of Environmental Sustainability and Local Development: Aquaculture | 2016 |
| 133. Quality and Standards in Human Services in Ireland: A Synthesis Report | 2012 | 144. Moving Towards the Circular Economy in Ireland | 2017 |
| 134. The Social Dimensions of the Crisis: The Evidence and its Implications | 2012 | 145. Urban Development Land, Housing and Infrastructure: Fixing Ireland's Broken System | 2018 |
| 135. Five Part Crisis, Five Years On: Deepening Reform and Institutional Innovation | 2013 | 146. Moving from Welfare to Work: Low Work Intensity Households and the Quality of Supportive Services | 2018 |
| 136. Ireland's Environmental Data: Inventory, Assessment and Next Steps | 2014 | 147. Climate-Change Policy: Getting the Process Right | 2019 |
| 137. Jobless Households: An Exploration of the Issues | 2014 | 148. Transport-Orientated Development: Assessing the Opportunity for Ireland | 2019 |
| 138. Social Housing at the Crossroads: Possibilities for Investment, Provision and Cost Rental | 2014 | 149. Addressing Employment Vulnerability as Part of a Just Transition in Ireland | 2020 |
| 139. Wind Energy in Ireland: Building Community Engagement and Social Support | 2014 | 150. Housing Policy: Actions to Deliver Change | 2020 |
| 140. Homeownership and Rental: What Road is Ireland On? | 2014 | 151. The Future of the Irish Social Welfare System: Participation and Protection | 2020 |
| 141. Ireland's Rental Sector: Pathways to Secure Occupancy and Affordable Supply | 2015 | | |
| 142. Housing Supply and Land: Driving Public Action for the Common Good | 2015 | | |

NESC Research Series

- | | | | |
|--|------|--|------|
| 1. Cluster in Ireland: The Irish Dairy Processing Industry: An Application of Porter's Cluster Analysis | 1997 | 11. Valuing Nature: Perspectives and Issues | 2017 |
| 2. Cluster in Ireland: The Irish Popular Music Industry; An Application of Porter's Cluster Analysis | 1997 | 12. Low Work Intensity Households and the Quality of Supportive Services: Detailed Research Report | 2018 |
| 3. Cluster in Ireland: The Irish Indigenous Software Industry; An Application of Porter's Cluster Analysis | 1997 | 13. Advancing the Low-Carbon Transition in Irish Transport | 2019 |
| 4. Profit Sharing Employee Share, Ownership and Gainsharing; What can they Achieve? | 2000 | 14. Transport-Orientated Development: Assessing Opportunity for Ireland: Background Case Studies | 2019 |
| 5. Sustaining Competitive Advantage: Proceedings of NESC Seminar | 1998 | 15. Four Case Studies on Just Transition: Lessons for Ireland's Transition Teams | 2020 |
| 6. Ireland's Child Income Supports: The Case for a New Form of Targeting | 2008 | 16. Modelling the Zero-Carbon Transition: International Approaches and Lessons for Ireland | 2020 |
| 7. State of Play Review of Environmental Policy Integration Literature | 2015 | 17. Energy Transition Pathways and the COVID-19 Pandemic: An analysis of the 'green recovery' responses in Denmark and Ireland | 2020 |
| 8. Socially Integrated Housing and Sustainable Urban Communities: Case Studies from Dublin | 2015 | | |
| 9. The Burren Life Programme: An Overview | 2016 | | |
| 10. Nature's Values: From Intrinsic to Instrumental | 2017 | | |

NESC Secretariat Papers

- | | |
|---|------|
| 1. Ireland's Economic Recovery: An Analysis and Exploration | 2011 |
| 2. Understanding PISA and What it Tells us About Educational Standards in Ireland | 2012 |
| 3. Towards a New Climate Change Policy | 2012 |

- | | | | |
|--|-------------|--|-------------|
| 4. Ireland and the Climate Change Challenge: Connecting 'How Much' with 'How To'. Final Report of the NESC Secretariat | 2012 | 16. Multistakeholder Agreements in Climate Governance and Energy Transition: The Dutch Energy Agreement | 2018 |
| 5. Review of Developments in Banking and Finance | 2013 | 17. The Framing of Climate Action in Ireland: Strategic Considerations | 2019 |
| 6. Employment and Enterprise Policy | 2013 | 18. Urban Structure, Spatial Planning and Climate Emissions | 2019 |
| 7. Greening the Economy: Challenges and Possibilities for Integrating Sustainability into Core Government Policy | 2013 | 19. The Transition to a Low-Carbon and More Digital Future: Supporting the Needs of Vulnerable Workers and Enterprises | 2020 |
| 8. Activation Policy | 2012 | 20. Approaches to Transition | 2020 |
| 9. Consumer Prices | 2012 | 21. Shared Island Consultation: Climate and Biodiversity Challenges and Opportunities | 2020 |
| 10. Review of Irish Social and Affordable Housing | 2014 | | |
| 11. Financing of Social Housing in Selected European Countries | 2014 | | |
| 12. Reflections on Infrastructure Policy and Institutional Developments in the UK | 2017 | | |
| 13. Land Value Capture and Urban Public Transport | 2018 | | |
| 14. International Approaches to Land Use, Housing and Urban Development | 2018 | | |
| 15. Cost-Benefit Analysis, Environment and Climate Change | 2018 | | |

