

Adaptation preparedness scoreboard:

Country fiche for Ireland

Note to the Reader

Under Action 1 of the EU's Strategy on adaptation to climate change (COM(2013)216), in collaboration with the Member States, the Commission developed an 'adaptation preparedness scoreboard'. Using the scoreboard, the Commission prepared country fiches on each Member State in an iterative consultation process.¹ The country fiches assess the Member States' adaptation policy as of June 2018, including the content of NASs and plans, for the following aspects:

- Institutional structure
- Quality of national vulnerability assessments
- Knowledge creation (national observation systems in relevant sectors² and climate modelling), transfer and use
- Action plans:
 - Quality (incl. the basis used for assessment of adaptation options)
 - Actual implementation mechanisms
- Funding mechanisms
- Mainstreaming into sectoral policies, in particular:
 - Disaster risk reduction
 - Spatial planning
 - Environmental impact assessment (EIA) (how the Directive is transposed)
 - Insurance policy
- Transboundary cooperation
- Monitoring mechanisms in different sectors and governance levels

The fiches are based on internal work by the Commission and on targeted assistance from an external contractor. They also served as input to the assessment of Action 1 of the Strategy

¹ The first versions of the fiches, prepared in consultation with the Member States in 2014-15, were unpublished and used to fine-tune the scoreboard. The second drafts were published, after consulting the Member States, as background documents to the public consultation on this evaluation in December 2017.

https://ec.europa.eu/clima/consultations/evaluation-eus-strategy-adaptation-climate-change_en The final Member State consultation on the draft fiches took place in June 2018.

² These relate for example to meteorology, floods, drought, sea level, coastal erosion, biodiversity, human/animal/plant health etc.

during its evaluation. Annex IX of the Commission's SWD(2018)461 on the evaluation of the Strategy presents a horizontal assessment of the 28 country fiches, while Annex X presents the list of scoreboard indicators and the methodology used in applying them.

The assessments in the country fiches (yes/no/in progress) need to be read in conjunction with the narrative that accompanies them. They assess the state of play within each EU Member State. While all effort has been made to ensure the coherence across fiches in the assessment of the same indicator, it should not be directly compared across the Member States. Two countries with a "yes" on the same indicator could have a different national situation leading to that assessment. Not all indicators have the "in progress" status, some can only be "yes" or "no".

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List of abbreviations

ARC	Adaptive Responses to Climate impacts
ATS	Annual Transition Statement
BIC	British Irish Council
CCAC	Climate Change Advisory Council
CCRP	Climate Change Research Programme
CFRAM	Catchment Flood Risk Assessment
DCCAE	Department of Communications, Climate Action and Environment
DRR	Disaster Risk Reduction
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
GCM	Global Climate Models
NAF	National Adaptation Framework
NCCAF	National Climate Change Adaptation Framework
NDCA	National Dialogue on Climate Action
NMP	National Mitigation Plan
NSMC	North South Ministerial Council
NUIG	National University of Ireland Galway
OPW	Office of Public Works
SEA	Strategic Impact Assessment
SEM	Strategic Emergency Management

POLICY FRAMEWORK

Adaptation strategies

A1. National adaptation strategy

The former Department of Environment, Community and Local Government published a National Climate Change Adaptation Framework (NCCAF) in December 2012³. This non-statutory, but Government-approved, framework mandated the development and implementation of sectoral adaptation plans and local government adaptation strategies which, together, would form the national response to climate impacts.

The policy in relation to climate adaptation, first set out in the NCCAF, was subsequently restated in the National Policy Position on Climate Change (2014)⁴. The National Policy Position provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to pursue the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050 (known as the “national transition objective”).

The enactment on 10 December 2015 of the Climate Action and Low Carbon Development Act 2015⁵ (The Climate Act) was an important milestone in establishing the national transition objective on a statutory basis. To facilitate this ‘transition’, the Climate Act provided for the development and submission to the Government of national mitigation and adaptation plans. It also established the institutional and governance framework within which these plans can be developed and implemented on a cyclical basis. The framework identifies the key participants at sectoral level (i.e. relevant government ministers) and at local level (i.e. the local government sector) that will drive the adaptation effort.

Under Section 5 of the Climate Act, the Minister for Department of Communications Climate Action and Environment (DCCAE)⁶ published a National Adaptation Framework (NAF) in January 2018. The NAF must be reviewed not less than once in every five-year period⁷. This replaces the previous NCCAF and specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas. The aim of the NAF is to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur.

A2. Adaptation strategies adopted at subnational levels

In Ireland, regions and regional assemblies have limited competencies and a low degree of autonomy, although they are granted regional planning competences, such as the preparation

³ DCCAE, 2012, National Climate Change Adaptation Framework, URL: <http://www.dccae.gov.ie/en-ie/climate-action/publications/pages/national-climate-change-adaptation-framework.aspx>

⁴ DCCAE, 2014, National Policy Position on Climate Action and Low Carbon Development, URL: <http://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Policy-Position.aspx>

⁵ Climate Action and Low Carbon Development Act 2015, URL: <http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/html>

⁶ Department of Communications, Climate Action and Environment, home page, URL: <https://www.dccae.gov.ie/en-ie/Pages/default.aspx>

⁷ DCCAE, 2018, National Adaptation Framework, URL: <http://www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/Pages/default.aspx>

and adoption of regional spatial and economic strategies. Local-level authorities (i.e. city councils or county councils) were identified by the NCCAF as the appropriate implementation level. These authorities are responsible for integrating climate adaptation measures into their future planning decisions.

The NAF requires that local authorities develop climate adaptation strategies and integrate these strategies into their statutory plans and policies (e.g. county and city development plans). Some local authorities have already undertaken small-scale projects and participated in EU-funded projects on adaptation.

Adaptation action plans

B1. National adaptation plan

The statutory NAF, developed by the DCCAE, identifies the sectors and lead departments that will be required to prepare sectoral adaptation plans. The plans will need to be developed in line with the requirements of the Climate Action and Low Carbon Development Act and will be subject to approval at Government level. These sectoral adaptation plans should be revised and updated at least every five years. Sectoral specific guidelines were published in May 2018 to help the sectors required to prepare sectoral adaptation plans.

B2. Adaptation plans adopted at sub-national level

Local authorities are mandated under the NAF to prepare local adaptation strategies. Completed strategies should then be integrated into each local authority's existing plans, policies and services (such as city and county development plans). A network of four Climate Action Regional Offices (CAROs) has been set up in order to support this requirement and to drive climate action at local level.

The Minister for Communications, Energy and Natural Resources launched the Local Authority Climate Change Adaptation Strategy Guidelines in May 2016. The guidelines were designed to assist local authorities to develop their own adaptation strategies. While these strategies will be distinct and separate from the NAF, it is intended that they should complement sectoral adaptation plans to be prepared by government departments. The guidelines describe six steps (tasks) that a local authority needs to complete to develop, adopt and implement an adaptation strategy:

- Forming an adaptation team and preparing the ground
- Assessing the current adaptation baseline
- Assessing future climate risk
- Identifying, assessing and prioritising adaptation options
- Developing an adaptation pathway map and drafting the adaptation strategy
- Mainstreaming, monitoring and reviewing the adaptation strategy.

The guidelines are currently being updated as a key action under NAF and the updated guidelines will be published in Autumn 2018.

B3. Sectoral adaptation plans

In March 2017, a subgroup of the National Adaptation Steering Committee was established to consider how adaptation planning can be effectively progressed in sectors where roles and responsibilities are fragmented.

Under the 2012 Framework and with the input of the National Adaptation Steering Committee, four sectoral plans covering five sectors were developed, including:

- Sectoral Adaptation Plan for Flood Risk Management⁸
- Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector⁹
- Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector¹⁰
- Adaptation Plan for the Electricity and Gas Networks Sector¹¹.

These plans are non-statutory and will be re-developed in line with current legislation and in line with the NAF.

Under the newly published NAF, government departments (or agencies, where appropriate) with responsibility for priority sectors are required to prepare sectoral adaptation plans in line with the requirements of Sections 5, 6 and 7 of the Climate Act. The NAF identifies twelve key sectors where sectoral adaptation plans are to be prepared: seafood, agriculture, forestry, biodiversity, built and archaeological heritage, transport infrastructure, electricity and gas networks, flood risk management, water quality, water services infrastructure, and health.

In March 2018, the Government requested, in line with its obligations under Section 6(1) of the Climate Act, that relevant ministers begin the preparation of their respective plans. The statutory deadline for the submission of completed sectoral adaptation plans to the Government for approval is no later than 30 September 2019.¹²

⁸ OPW, 2015, Climate Change Sectoral Adaptation Plan: Flood Risk Management (2015-2019), URL: <https://opw.ie/en/media/FRM%20CC%20Sectoral%20Adaptation%20Plan%20-%20Dec%202015%20-%20Finalb.pdf>

⁹ DAFM, 2017, Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector, URL: <https://www.agriculture.gov.ie/media/migration/ruralenvironment/climatechange/ApprovedAdaptationPlanning040817.pdf>

¹⁰ DTTAS, 2017, Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector, URL: <https://www.agriculture.gov.ie/media/migration/ruralenvironment/climatechange/ApprovedAdaptationPlanning040817.pdf>

¹¹ DCCAE, 2017, Climate Change Adaptation Plan for the Electricity and Gas Networks sector, URL: <https://www.dccae.gov.ie/en-ie/news-and-media/publications/Pages/Climate-Change-Adaptation-Plan-for-the-Electricity-and-Gas-Networks-sector-0221-5002.aspx>

¹² Personal communication with MS contact

SCOREBOARD

Step A: Preparing the ground for adaptation

1. Coordination structure

1a. A central administration body officially in charge of adaptation policy making

Yes / No

The DCCAE is a central component of the climate change governance architecture, leading and coordinating national adaptation policy and supporting the implementation of the adaptation effort at national, sectoral and local government levels.

1b. Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities

Yes / In progress / No

The Climate Change Advisory Council (CCAC) was established by Ministerial Order on 18 January 2016 under Section 8 of the Climate Action and Low Carbon Development Act 2015. The Council, which is independent in the performance of its functions, provides advice and recommendations to, *inter alia*, the DCCAE Minister in relation to the preparation of the NAF; the development by a relevant minister of a sectoral adaptation plan; and the approval by the Government of a NAF.

Sectoral coordination has taken place under the auspices of the National Adaptation Steering Committee which is chaired by DCCAE. As a key action under the NAF, the National Adaptation Steering Committee has been restructured to ensure that a coordinated, comprehensive and coherent approach continues to operate in implementing actions under the NAF. The need for appropriate cross sectoral coordination and consultation is identified as critical to the effective implementation of the NAF.

The National Adaptation Steering Committee's membership now includes representatives of those preparing plans under the NAF, as well as other key departments and agencies. These include the Departments of Finance and Public Expenditure and Reform, representatives of local government and the Climate Action Regional Offices, the Environmental Protection Agency, Met Éireann and the National Standards Authority of Ireland. This Steering Committee now reports to a National Climate Action High-Level Steering Group, chaired by the Minister for Communications, Climate Action and Environment. This group addresses climate mitigation and adaptation. In terms of adaptation, the High-Level Steering Group will:

- Monitor progress by sectors and agencies in delivering on climate adaptation actions for which they are responsible; and
- Ensure that a coordinated and coherent approach is adopted and maintained towards achieving a climate resilient Ireland¹³

¹³ Personal communication with MS contact

In order to support key national sectors in planning for climate adaptation and departments and agencies in the preparation of sectoral adaptation plans required under the NAF and the Climate Act, “Sectoral Guidelines for Planning for Climate Change Adaptation” were published in May 2018. These guidelines aim to ensure that a coherent and consistent approach to adaptation planning is adopted at national and local scales and draw on existing sources of climate and adaptation information relevant for Ireland (e.g. Climate Ireland). DCCAE is also considering the ongoing development of the Climate Information Platform for Ireland (Climate Ireland), which can act as a long-term operational support for climate action at local and sectoral level in Ireland.¹⁴

1c. Vertical (i.e. across levels of administration) coordination mechanisms exist within the governance system, enabling lower levels of administration to influence policy making

Yes / In progress / No

Mechanisms are in place to coordinate adaptation planning and implementation across national, regional and local levels. As indicated in Indicator 1b, sub-national level governments are part of the National Adaptation Steering Committee and have been involved in the preparation of adaptation policies and are also part of the implementation phase.

In order to further support climate action at local level and to advance key actions identified under both the NAF and the NMP, in January 2018 the Minister for Communications, Climate Action and Environment announced €10 million in funding over five years to set up four Regional Local Authority Climate Action Offices.¹⁵

The regional offices are located in four lead authorities (Cork County Council, Dublin City Council on a rotating basis, Kildare County Council and Mayo County Council) and are based on four geographical areas with the associated grouping of local authorities in each region based upon shared climate change risks.

Local authorities have been contacted through the regional lead authorities outlining the obligations and governance arrangements for the sector in relation to climate action, including the preparation of local adaptation strategies by each local authority. It is intended that these strategies will be in place by 30 September 2019. The regional offices will contribute to the implementation of national climate adaptation, mitigation and awareness (e.g. the National Dialogue on Climate Action) policy. The regional offices will provide expertise and capacity at local and regional level to contribute effectively to the national transition to a low carbon and climate resilient economy. The regional offices will also provide a more focused approach for how local government liaises centrally with relevant government departments, regional assemblies and agencies on climate-related matters and in the preparation of sectoral adaptation plans and local adaptation strategies.¹⁶ Twelve¹⁷ Irish local authorities have signed the Covenant of Mayors for Climate & Energy and the regional structure above will provide them with a platform to further coordinate any action under the Covenant of Mayors.

¹⁴ Personal communication with MS contact

¹⁵ Personal communication with MS contact

¹⁶ Personal communication with MS contact

¹⁷ Seven have made commitments in relation to adaptation.

2. Stakeholders' involvement in policy development

2a. A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies

Yes / No

The 2012 NCCAF was subject to a stakeholder consultation in 2009. Prior to the preparation of the current NAF, an initial public consultation took place from 21 March 2016 to 20 May 2016, in which members of the public and stakeholders were invited to comment on the contents and development of such a framework. This feedback was incorporated into the draft NAF, and a period of public consultation opened on 15 September 2017 and closed after six weeks on 27 October 2017.

The Government also has a commitment to establishing a National Dialogue on Climate Action (NDCA) which will inform the national objective to transition to a low carbon and climate resilient economy and society. In terms of climate resilience, the publication of the draft NAF was a key landmark in informing the NDCA and how it addresses the issue of climate impacts.

An advisory group on the NDCA has also been established to provide advice in relation to the overall strategy, structure and operation of the national dialogue to the DCCAE Minister. The Advisory Group held its first meeting in July 2017. A regional gathering of the NDCA will take place in Athlone on 23 June 2018. This is the first in a series of regional and local meetings to be held across Ireland.¹⁸

In addition to the NDCA, the Citizens' Assembly provided an avenue for stakeholder engagement. The Citizens' Assembly was an exercise in deliberative democracy, placing the citizen at the heart of important legal and policy issues facing Irish society today. The Assembly was a body comprising the Chairperson and 99 citizens, randomly selected to be broadly representative of the Irish electorate. The Assembly considered the topic "How the State can make Ireland a Leader in tackling Climate Change" over two weekends 30 September-1 October 2017 and 4-5 November 2017. The Citizens' Assembly's final report on the topic was published on 18 April 2018.¹⁹

2b. Transboundary cooperation is planned to address common challenges with relevant countries

Yes / No

The British and Irish Council (BIC) and North South Ministerial Council (NSMC) are identified as potential avenues for transboundary cooperation on climate adaptation.

Both initiatives were established under the Belfast Agreement and their membership comprises representatives from the Irish Government; UK Government; Scottish

¹⁸ <https://dcae.gov.ie/en-ie/news-and-media/press-releases/Pages/Minister-publishes-National-Adaptation-Framework.aspx>

¹⁹ Personal communication with MS contact; See the report at: <https://www.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Final-Report-on-how-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Climate-Change-Report-Final.pdf>

Government; Northern Ireland Executive; Welsh Government; Isle of Man Government; Government of Jersey and Government of Guernsey.

The objective of the NSMC is to facilitate cooperation between the governments of Ireland and Northern Ireland, while the objective of the BIC is to facilitate dialogue between the Irish and UK Government.

The British-Irish Council's Environment Working Group held its fifteenth ministerial meeting, hosted by the Government of Ireland, on 23 March 2018. Ministers discussed the observed and projected climate impacts, including increases in average temperature, changes in precipitation patterns, sea-level rise and changes in the frequency and character of weather extremes, such as storms.

Ministers recognised that, given Ireland's shared geographic location and climatic influences, some impacts, such as extreme weather events, are likely to affect member administrations simultaneously. It was agreed by ministers that these shared challenges offer significant potential for cooperation in terms of sharing information and best practice across the administrations and that the possibilities for better coordinated and co-funded research should be examined.

There was agreement that the private sector, local government, communities and civil society all have a key role to play in increasing climate resilience and all administrations are committed to sharing their experiences on supporting and engaging these sectors.²⁰

Step B: Assessing risks and vulnerabilities to climate change

3. Current and projected climate change

3a. Observation systems are in place to monitor climate change, extreme climate events and their impacts

Yes / In progress / No

The Irish Meteorological Office Met Éireann has primary responsibility for atmospheric observations, with the National University of Ireland Galway (NUIG) and other bodies also providing support. Responsibility for oceanic and terrestrial observations lies with the Marine Institute, Met Éireann, EPA, universities and other institutions.

Met Éireann is currently collaborating with the Office of Public Works (OPW) in developing a National Flood Forecasting Service, which will have a critical role to play in disseminating climate-related information at regional and local levels.

In the Status of Ireland's Climate report²¹, it was concluded that many elements of a climate observation, analysis and reporting system are in place. Nonetheless, there are a number of outstanding issues that need to be addressed to make the system more robust and capable of addressing Ireland's long-term climate change needs and reporting requirements.

²⁰ British Irish Council, 2018, paper prepared on the topic of adaptation to climate change, URL: <https://www.britishirishcouncil.org/sites/default/files/Climate%20Adaptation%20Paper.pdf>

²¹ Environmental Protection Agency, 2013, The Status of Ireland's Climate, URL: <http://www.epa.ie/pubs/reports/research/climate/ccrreport26.html>

Research on analysis and re-analysis of climate information and data is ongoing through a number of research projects. These include work on temperature, precipitation, extreme events, flooding and droughts. The continued systematic observation of key climate parameters and data analysis is central to research in this area. The aim is to ensure the sustainability of the observation systems while providing on-going support of data analysis.

The EPA Research Programme is funding a number of research projects collecting observation data in areas other than meteorology. The CIViC (Critical Infrastructure Vulnerability to Climate Change) study at NUIG will assess the vulnerability of elements (water, energy, transport and communications) of Ireland's critical infrastructure to climate change. The overall aim is to inform critical asset management decisions in the context of climate change.

The Adaptive Responses to Climate Impacts (ARC) project developed a framework for costing climate impacts on the Irish economy and assessing the options for adaptation, with a specific focus on the role of key stakeholders.

Information on the impact of severe weather events is being compiled at the Government level. An example of this is the report compiled by the National Directorate on Fire and Emergency Management in the Department of Housing, Planning, Community and Local Government following severe flooding at the end of 2015 and the beginning of 2016. This Department is the lead government department in Ireland for the response to severe weather events and flooding and coordinated the report across government.

The 2017 "Strategic Emergency Management: National Structures and Framework" notes the potential to include climate impacts in the national risk assessment process. This document will be complemented by a series of "Strategic Emergency Management (SEM) Guidelines" dealing with specific aspects of strategic emergency management. It is likely this will lead to more impact monitoring.

3b. Scenarios and projections are used to assess the economic, social and environmental impacts of climate change, taking into account geographical specificities and best available science (e.g. in response to revised IPCC assessments)

Yes / In progress / No

The 2015 projections of climate change in Ireland for 2050 and 2100 utilise outputs from global climate models (GCMs). These are downscaled using both dynamic and statistical approaches. New global model simulations carried out in Ireland by Met Éireann (2013) provide an update on the expected changes climate over the 21st Century. Regional climate models were run at high spatial resolution, maximum of 4 km, allowing for a better evaluation of the potential local effects of climate change (Nolan, 2015²²).

The Department of Housing, Planning and Local Government continues to support Met Éireann in its development of climate projection systems and provision of climate services for Ireland.

²² EPA, 2015, Research 159: Ensemble of regional climate model projections for Ireland, URL: <http://www.epa.ie/pubs/reports/research/climate/research159ensembleofregionalclimatemodelprojectionsforireland.html>

Analyses of potential climate impacts for Ireland are summarised in the State of Knowledge Report²³ and in Climate Ireland²⁴.

Potential negative sectoral impacts arising from climate projections are summarised in the NAF. This includes impacts on agriculture, forestry, biodiversity, coastal areas, critical infrastructure, marine and fisheries, water management, and human health and wellbeing.

3c. Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making

Yes / **In progress** / No

Research on climate impacts and adaptation is coordinated by the Environmental Protection Agency, through its Climate Change Research Programme (CCRP). The programme supports and develops research to inform decision making and planning on adaptation and identify options to reduce the adverse climate impacts and their associated costs.

The report by the Irish Academy of Engineering, Ireland at Risk Critical Infrastructure – Adaptation for Climate Change²⁵ and the report by the Heritage Council and Fáilte Ireland (the National Tourism Development Authority), Climate Change, Heritage and Tourism, Implications for Ireland's Coast and Inland Waterways²⁶ are early examples of initiatives of this kind.

Research on specific impacts is included in the Hydrodetect project²⁷, which identified a reference river flow network for monitoring and detecting climate driven changes in Irish river flows. A phenological study (Donnelly et al., 2012²⁸) showed that the warmer Irish climate has led to a change in the seasonal cycle of a range of plant and animal species.

A National Climate Change Vulnerability Scoping Study²⁹ was undertaken to identify first generation vulnerabilities for Ireland based on a sensitivity analysis across key sectors. The analysis identified a clustering of impacts and their importance in relation to an assessment of likely resilience by sector. By comparing sensitivity versus impacts, an estimate of first-generation vulnerability was made. A deliberative risk-ranking methodology was applied using multiple stakeholder perspectives. The priority sectors identified were: biodiversity and fisheries; water resources and the built coastal environment; forestry and agriculture. As each sector develops its sectoral adaptation plan (under the Climate Action and Low Carbon Development Act 2015), detailed vulnerability and risk analysis will be required. Some

²³ Desmond et al., 2017, A Summary of the State of Knowledge on Climate Change Impacts for Ireland, URL : https://www.epa.ie/pubs/reports/research/climate/EPA%20RR%20223_web.pdf

²⁴ Climate Ireland, 2018, Website, URL : <http://www.climateireland.ie/#/about>

²⁵ http://www.iae.ie/site_media/pressroom/documents/2009/Nov/17/Ireland_at_Risk_2.pdf

²⁶ Heritage Council and Fáilte Ireland, 2009, Climate Change, Heritage and Tourism : Implications for Ireland's Coast and Inland Waterways, URL : https://www.heritagecouncil.ie/content/files/climate_change_heritage_tourism_main_report_2009.pdf

²⁷ EPA, 2013, Climate Change Research Programme 2007-2013 Report Series No.27, URL : https://www.epa.ie/pubs/reports/research/climate/CCRP_27_HydroDetect.pdf

²⁸ Donnelly et al., 2012, Surviving in a warmer world : environmental and genetic responses, URL : http://www.int-res.com/articles/cr_oa/c053p245.pdf

²⁹ EPA, 2013, Current and future vulnerabilities to climate change in Ireland, URL: https://www.epa.ie/pubs/reports/research/climate/CCRP_29.pdf

preliminary work has been undertaken on costing climate impacts in Ireland³⁰. This is now being supported by more detailed analysis of the current and future costs of flood risk management.

The EPA is currently funding a research project called Urb-Adapt, which aims to identify climate impacts on Dublin city and surrounding towns within the greater Dublin region. The project aims to identify possible risks to the population living in that area and future risks posed to it by the changing climate. The project is divided into two key strands, water and heat.

The DCCAE is providing funding for two EPA funded research projects, which aim to establish a national risk and impacts assessment of the effect on Ireland of current and future climate warming pattern while also assessing the vulnerability of elements of Ireland's critical infrastructure (water, energy, transport and communications) to climate change.

“Ongoing development of Ireland's first dedicated national climate change risk assessment and assessing the vulnerability of critical infrastructure to climate change” is included as a supporting objective in the NAF.

The National Risk Assessment of Impacts of Climate Change (C-RISK) has commenced. The aim of this EPA-funded project is to establish a national assessment of the risks and impacts on Ireland of current and future climate warming patterns in the 21st century. The EPA-funded Critical Infrastructure Vulnerability to Climate Change (CIViC) study, will assess the vulnerability of elements (water, energy, transport and communications) of Ireland's critical infrastructure to climate change.

3d. Climate risks/vulnerability assessments take transboundary risks into account, when relevant

Yes / In progress / **No**

Transboundary cooperation with the Northern Ireland Devolved Government and 'Climate Northern Ireland' is on-going with a view to understanding areas of commonality, sharing of experiences and best practices. The NAF states that Ireland will “continue to avail of opportunities to collaborate with other jurisdictions to tackle common challenges on adaptation and resilience and to consider transboundary impacts and synergies when they arise.” Vulnerability assessments to date such as the National Climate Change Vulnerability Scoping Study have not considered transboundary risk.

4. Knowledge gaps

4a. Work is being carried out to identify, prioritise and address the knowledge gaps

Yes / In progress / No

The DCCAE prioritises climate research needs and ensures that accessible information is provided to support the NAF. Climate research is also funded by a number of state bodies

³⁰ UCC, Costing Climate Change Impacts & Adaptation in Ireland, URL : <https://www.ucc.ie/en/eri/projects/cosclimchange/>

including Teagasc, the Sustainable Energy Authority of Ireland and the Economic and Social Research Institute (ESRI) (NAF). €38.2 million was spent on research funding for climate change related research in Ireland from 2010-2015 by the EPA, SEAI and the Department of Agriculture, Food and the Marine.³¹

The Climate Change Research Programme (CCRP), established and administered by the EPA, supports research addressing specific knowledge gaps of direct relevance to the National Climate Change Strategy³². The CCRP research outputs are aimed at strengthening data and the information base, and filling gaps in knowledge. A significant number of research projects has been funded to date with a focus on the policies and measures needed to adapt to climate impacts^{33,34}.

5. Knowledge transfer

5a. Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means)

Yes / In progress / No

Ireland's Climate Information Platform "Climate Ireland"³⁵ provides support to decision makers in the development of their adaptation plans. The objective of the platform is to support adaptation decision making at all levels, including the public. This is achieved through the provision of essential climate information (observed and projected) to support impact and risk assessment.

It is an objective of the NAF to develop Climate Ireland further on an operational basis. Climate Ireland delivered training on climate adaptation to the regional offices in May 2018. The final phase of Climate Ireland³⁶ has now been developed by University College Cork, under the EPA's research programme. As part of the project's third and final phase of development the functionality of the platform was enhanced through the provision of greater data analysis and additional decision-support tools.

The DCCAE is considering the ongoing development of the Climate Information Platform for Ireland (Climate Ireland), which can act as a long-term operational support for climate action at local and sectoral level in Ireland.³⁷

5b. Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated

Yes / In progress / No

³¹ Irish Government Economic and Evaluation Service, 2017, Spending Review 2017 – Climate Change Related-Research & Funding in Ireland. URL: <file:///C:/Users/js77/Downloads/Climate-Change-Related-Research-and-Funding-in-Ireland.pdf>

³² EPA, 2018, Climate Change Research Programme, URL: <http://www.epa.ie/climate/climatechangeresearch/>

³³ EPA, 2018, Climate Change Research Programme, URL: <http://www.epa.ie/climate/climatechangeresearch/>

³⁴ CoFoRD Programme of Competitive Forestry Research for Development: Publication Irish Forests and Climate Change <http://www.coford.ie/publications/forestry2030/irishforestsandclimatechange/>

³⁵ Climate Ireland platform: www.climateireland.ie

³⁷ Personal communication with MS contact

A science-policy interface was set up to assist in developing the NCCAF. Various research institutes and the national meteorological administration ensured feedback in that process. Further workshops have been held since, such as for the preparation of the report on Current and Future Vulnerabilities to Climate Change in Ireland (Coll and Sweeney, 2013)³⁸.

Knowledge transfer activities (e.g. science/policy interfaces) between researchers and decision and policymakers occur when research reports are published and disseminated³⁹. Key findings are accompanied by press releases and research dissemination seminars.

There is an ongoing programme of capacity building, outreach and training measures aimed at decision makers and adaptation practitioners within local authorities, which includes training seminars and workshops.⁴⁰ Most recently, in May 2018 a series of seminars were held by the Climate Ireland research team in order to build the capacity of local authority staff, which have been particularly timely in the context of the ongoing development of the CAROs project.

Climate change features in the education curriculum at the 2nd and 3rd level of secondary school. A number of universities includes climate adaptation education at Masters level⁴¹.

Step C: Identifying adaptation options

6. Adaptation options' identification

6a. Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts

Yes / No

Twelve sectors are required to prepare sectoral adaptation plans not later than 30 September 2019 in line with NAF and the Climate Act. These plans will contain the adaptation measures that the minister responsible for that sector intends to introduce over the lifetime of the plan. A key step in the development of each sectoral plan will be the preparation of sector-specific risk and vulnerability assessments using up-to-date research in the area, as well the prioritisation of actions based upon the risks identified in those assessments.

Work has been completed in a number of sectors under the NCCAF (2012) that will provide a strong foundation for statutory sectoral adaptation plans. The following sectoral plans have been prepared under the NCCAF and the experience of preparing these informed drafting of the statutory NAF:

- Sectoral Adaptation Plan for Flood Risk Management (OPW, 2015)

³⁹ For example, the State of Knowledge Report 2009.

⁴⁰ DCCAE, 2018, Local level adaptation, URL: <https://www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/Pages/Localadaptation.aspx>

⁴¹ Maynooth University MSc Climate Change <https://www.maynoothuniversity.ie/study-maynooth/postgraduate-studies/courses/msc-climate-change>, University College Dublin: [https://sisweb.ucd.ie/isis/!W_HU_MENU.P_PUBLISH?p_tag=PROG&MAJR=F112](https://sisweb.ucd.ie/isis/!W_HU_MENU.P_PUBLISH?p_tag=PROG&MAJR=F112;); NUI Galway <http://www.nuigalway.ie/ccafs/>

- Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector (DAFM, 2017)
- Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector (DTTAS, 2017)
- Draft Adaptation Plan for the Electricity and Gas Networks Sector (DCCAE, 2017).

These four existing plans identify adaptation options for these sectors.

Under the statutory NAF each sectoral plan must be approved by the Government. Plans should be based primarily on the results of a sectoral risk assessment. As a minimum, each plan should present: clear evidence of climate risks to the sector, its vulnerabilities to such risks, and actions to address the risks and ensure the sector's climate resilience.

In drawing up the sectoral plans, three basic steps must be reflected:

- Clear understanding of the consequences of a changing climate
- Actions to equip decision-makers with skills and tools; and
- Integration of adaptation into policy and administration at sectoral level in Ireland.

Sectoral adaptation plans will be developed in line with sectoral adaptation guidelines, which were approved in May 2018. The guidelines aim to ensure that a coherent and consistent approach to adaptation planning is adopted at national and local scales and draws on existing sources of climate and adaptation information (e.g. Climate Ireland⁴²). The guidelines were published in May 2018 having been originally developed as part of an Environmental Protection Agency (EPA) research project ('A Climate Information Platform for Ireland') with funding provided by the DCCAE. The guidelines are structured around six steps: 1) Preparing the Ground; 2) Climate Impact Screening; 3) Prioritisation; 4) Priority Impact Assessment; 5) Develop your Plan; 6) Implement, Monitor and Review.

The NAF also discusses the potential synergies of a themed approach to considering the sectoral plans as part of four thematic areas: Natural Capital, Critical Infrastructure, River and Coastal Flood Risk Management, and Public Health. Such a thematic approach is intended to further coordinate sectors' responses to cross-cutting issues and enhance collaboration in the preparation of sectoral adaptation plans. The NAF identifies the following sectors will produce individual adaptation plans using the NAF and tools such as Climate Ireland for guidance: seafood, agriculture, forestry, biodiversity, built and archaeological heritage, transport infrastructure, electricity and gas networks, communications networks, flood risk management, water quality, water services infrastructure, and health. These plans will be reviewed and updated as a minimum once every five years.

A number of technical supports have been produced to assist in the development of local level adaptation strategies, such as Climate Ireland and the Local Authority Adaptation Strategy Development Guidelines⁴³. The Guidelines, originated as research commissioned by the EPA and prepared by University College Cork, are designed to assist local authorities to

⁴² Climate Ireland. URL: www.climateireland.ie

⁴³ Gray, S. 2016. Local Authority Adaptation Strategy Development Guideline. Environmental Protection Agency Research Report 164. Available at: <http://www.epa.ie/pubs/reports/research/climate/researchreport164.html>

develop their own adaptation strategies and to ensure that they will complement sectoral adaptation plans. The Guidelines are currently under review with a view to publication before end 2018.

In January 2018, the Minister for Communications, Climate Action and Environment announced €10 million in funding over five years to set up four Regional Local Authority Climate Action Offices.⁴⁴ The regional offices are located in four lead authorities (Cork County Council, Dublin City Council on a rotating basis, Kildare County Council and Mayo County Council) and are based on four geographical areas with the associated grouping of local authorities in each region based upon shared climate change risks.

The approach taken harnesses the potential to group certain local authorities based on similar geographical and topographical characteristics and on the basis of existing synergies in addressing threats and impacts of severe weather events and ongoing climate change risks. The approach is, therefore, based on climate risk assessment with a focus on the predominant risk(s) in each geographical area.

6b. The selection of priority adaptation options is based on robust methods (e.g. multi-criteria analyses, stakeholders' consultation, etc.) and consistent with existing decision-making frameworks

Yes / No

The NAF lays out the principles for the identification of adaptation options in Ireland. The sectoral guidelines provide a detailed step by step guide on how sectors should develop and prioritise their adaptation actions.

6c. Mechanisms are in place to coordinate disaster risk management and climate change adaptation and to ensure coherence between the two policies

Yes / **In Progress** / No

The NAF includes as a supporting objective: “Ensure continued alignment with emergency planning for extreme weather events including where plans related to emergencies assigned to a sectoral department as Lead Government department under the ‘Strategic Emergency Management National Structures and Framework’ are climate proofed”. The NAF notes the emerging acknowledgement of the need to enhance coherence and complementarity between the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, as well as the UN Sustainable Development Goals.

A subgroup of the Government Task Force on Emergency Planning, jointly chaired by the Department of Foreign Affairs and Trade and the Office of Emergency Planning, is in place regarding Ireland’s engagement with the Sendai Framework on Disaster Risk Reduction. The DCCAE is represented on this subgroup.

⁴⁴ Personal communication with MS contact

Ireland's "Sustainable Development Goals National Implementation Plan 2018 – 2020" was published in May 2018. It sets out how Ireland will work to achieve the Goals, including those related to climate adaptation, both domestically and internationally.⁴⁵

Statutory responsibility for emergency planning in various sectors lies across a number of government departments. Departments must engage with key players in their respective sectors, championing adaptation policies and instruments, and encouraging the private sector and civil society to partake in the collective adaptation effort.

Ireland published a National Framework on Emergency Planning⁴⁶ in October 2017. This will be complemented by a series of strategic emergency guidelines dealing with specific aspects of strategic emergency management, including climate adaptation. The NAF recognises that the local government sector plays a pivotal role in planning for, and responding to, emergency situations. Local authorities can react faster and more effectively to local climate events than other government agencies, as they have closer relationship with communities. Local authorities also have essential local knowledge of the natural and man-made environment and have a critical role to play in managing climate risks and vulnerabilities and identifying adaptation actions.

It is also important to note the establishment of an Interdepartmental Flood Policy Coordination Group to support OPW⁴⁷ National Catchment-based Flood Risk Assessment and Management (CFRAM) Programme⁴⁸. Through this group the OPW is coordinating Ireland's whole of government approach to flood risk management across three strategic policy areas: prevention, protection and preparedness. The purpose of the Coordination Group is to help inform the ten-year implementation strategy of the flood risk management plans (FRMP) and to ensure that policies that can benefit communities and individuals directly are carefully considered. It will be critical that the work of the Coordination Group also aligns with the on-going development of climate resilience being carried out by the relevant sectors under the NCCAF and NAF.

Ireland is currently looking at how best climate adaptation and emergency planning can be coordinated particularly at the sectoral and local level. In this regard Ireland is aware of the challenges that exist at the European level in terms of integrating these areas.

7. Funding resources identified and allocated

7a. Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action

Yes / **In progress** / No

In the ongoing development of Ireland's National Development Plan (2018-2027), the role of public capital investment in achieving national climate action goals is recognised. The plan identifies flood defences, resilient infrastructure and agriculture as priority actions.

⁴⁵ Personal communication with MS contact

⁴⁶ URL: <https://www.emergencyplanning.ie/system/files/media/file-uploads/2017-11/SEM.pdf>

⁴⁷ The Office of Public Works (OPW) is the lead State body for the coordination and implementation of Government policy on the management of flood risk in Ireland. The OPW is also the national authority for the implementation of the EU Directive on the Assessment and Management of Flood Risks [2007/60/EC]

⁴⁸ <https://www.cfram.ie/>

Climate change research is carried out funded by FP7 and Horizon 2020, with €33 million target income under Horizon 2020 and €18.2 million FP7 drawdown allocated to climate action, environment, resource efficiency and raw materials.⁴⁹

Step D: Implementing adaptation action

8. Mainstreaming adaptation in planning processes

8a. Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments

Yes / No

The provisions of EIA Directive 2014/52/EU (hereafter called the 2014 EIA Directive) came into effect in Ireland in May 2017. The provisions are detailed in Circular Letter PL 1/ 2017 and the accompanying Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems, Key Issues Consultation Paper issued from the Department of Housing, Planning, Community and Local Government in May 2017 to relevant competent authorities.

The EPA has published specific guidelines on integrating consideration of climate change into Strategic Environmental Assessments (SEA)⁵⁰. More recent national guidance from the EPA on EIA and SEA also gives due consideration to climate change in preparation and implementation of assessments⁵¹.

8b. Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections

Yes / No

The NAF recognises the need to develop early-warning systems, as part of its response to extreme events, such as flooding. The response to these events is coordinated across relevant sectors, and managed by local authorities to take advantage of their local knowledge. The NAF states the importance of maintaining coherence between long-term adaptation planning and short-term emergency management of extreme weather events.

8c. Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change

Yes / No

The national administration has made significant effort to integrate adaptation in land use and resource planning policies, though this is work in progress.

⁴⁹ D/JEI, 2016, Evaluation of Ireland's Participation in FP7 and Horizon 2020, URL: <https://dbei.gov.ie/en/Publications/Publication-files/Evaluation-of-Participation-in-FP7-and-Horizon-2020-DJEI-Summary-Report.pdf>

⁵⁰ EPA, 2015, Integrating Climate Change into Strategic Environmental Assessment in Ireland, URL: <http://www.epa.ie/pubs/advice/ea/Climate-Change-SEA-Ireland-Guide-Note.pdf>

⁵¹ EPA, 2017, Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports, URL: <http://www.epa.ie/pubs/advice/ea/drafteiarguidelines.html>

The Planning and Development Act 2000, as amended, requires that local authority development plans and the forthcoming Regional Spatial and Economic Strategies address the promotion of sustainable settlement and transportation strategies in urban and rural areas, including promotion of measures to address the need for climate adaptation. In addition, current statutory planning guidance for local authorities and An Bord Pleanála makes reference to climate change (e.g. Development Plan Guidelines, 2007; The Planning System and Flood Risk Management Guidelines, 2009; and Local Area Plans Guidelines, 2013). Current guidelines on flood risk management require local authorities to be vigilant in ensuring that future risks of flooding are identified and integrated into the planning process.

The NAF identifies the importance of spatial planning, as a means of integrating climate adaptation into national policies. It identifies the importance of considering the heat-island effect, biodiversity and green spaces, development layouts and building materials within existing planning decision-making processes.

The National Planning Framework (NPF)⁵² is Ireland's overarching planning and development framework for the period up to 2040. It sets a high-level strategy for the coordination of a range of national, regional and local policies and activities, planning and investment, for delivery through both the public and private sectors. The NPF seeks to ensure that climate change considerations are further integrated into the planning system, and continue to be addressed as a matter of course in planning-related decision-making processes. The NPF contains a number of national policy objectives to achieve this aim.

The NPF provides a framework for national spatial planning, pulling together relevant government policies and investment on national and regional development. It focuses on economic development and investment in housing, water services, transport, communications, energy, health and education infrastructure focusing on greenhouse gas emissions, adaptation and resilience.

The NPF, together with the National Investment Plan (2018-27), sets the context for each of Ireland's three regional assemblies to develop their Regional Spatial and Economic Strategies. The NPF will also be considered during the preparation of local authority development plans. The approach is intended to ensure coherence of national, regional and local plans with regard to climate adaptation.

8d. National policy instruments promote adaptation at sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies

Yes / **In progress** / No

The NAF identifies the sectors and lead departments that will be required to prepare sectoral adaptation plans in line with the requirements of the Climate Action and Low Carbon Development Act. Twelve sectors are identified in the NAF: seafood, agriculture, forestry, biodiversity, built and archaeological heritage, transport infrastructure, electricity and gas networks, communications networks, flood risk management, water quality, water services infrastructure, and health. Guidelines for sectoral adaptation plans were published in May 2018.

⁵² URL: <http://npf.ie/wp-content/uploads/Project-Ireland-2040-NPF.pdf>

Under the 2012 Framework and with the input of the National Adaptation Steering Committee, four sectoral plans covering five sectors have been developed:

- Sectoral Adaptation Plan for Flood Risk Management⁵³
- Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector⁵⁴
- Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector⁵⁵
- Adaptation Plan for the Electricity and Gas Networks Sector⁵⁶.

These plans are non-statutory and will be the basis for statutory plans required under NAF.

The Sectoral Adaptation Plan for Flood Risk Management:

- Outlines existing flood risk and flood-risk management practice in Ireland
- Summarises existing science on climate change and the current state of knowledge for impacts on flooding and flood risk in Ireland
- Defines the policy for adaptation in the flood risk management sector
- Sets out a series of actions to enhance understanding of the potential climate impacts on flooding and flood risk and to embed adaptation into flood-risk management practice
- Identifies how changing flood risk should be considered in spatial planning and other sectors; and
- Sets out what is required for the monitoring, review and evaluation of the plan.

The Catchment Flood Risk Assessment and Management (CFRAM) Programme⁵⁷ is the mechanism through which many of the actions will be implemented. It will embed adaptation in long-term flood-risk management and the development of capital projects in Ireland. The future scenario flood maps produced under the CFRAM Programme will facilitate this approach, inform other sectors, and provide a valuable resource for local adaptation planning and sustainable land use management and planning.

8e. Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention

Yes / **No**

⁵³ OPW, 2015, Climate Change Sectoral Adaptation Plan: Flood Risk Management (2015-2019), URL: <https://opw.ie/en/media/FRM%20CC%20Sectoral%20Adaptation%20Plan%20-%20Dec%202015%20-%20Finalb.pdf>

⁵⁴ DAFM, 2017, Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector, URL: <https://www.agriculture.gov.ie/media/migration/ruralenvironment/climatechange/ApprovedAdaptationPlanning040817.pdf>

⁵⁵ DTTAS, 2017, Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector, URL: <https://www.agriculture.gov.ie/media/migration/ruralenvironment/climatechange/ApprovedAdaptationPlanning040817.pdf>

⁵⁶ DCCAE, 2017, Climate Change Adaptation Plan for the Electricity and Gas Networks sector, URL: <https://www.dccae.gov.ie/en-ie/news-and-media/publications/Pages/Climate-Change-Adaptation-Plan-for-the-Electricity-and-Gas-Networks-sector-0221-5002.aspx>

⁵⁸ EPA, 2017, Adaptive Responses to Climate Impacts (ARC), URL: <http://erc.epa.ie/droplet/modalFull.php?cid=18136>

The NAF recognises that the private sector has significant experience in quantifying, pricing, reducing risk and managing weather-related risks across the relevant sectors. In partnership with Government, therefore, it can play an important role in collecting and disseminating data on weather and catastrophe risk, financing risk assessments, and supporting the design and provision of insurance schemes.

One project that sought to examine climate impacts on the insurance industry was the Adaptive Responses to Climate impacts (ARC) project.⁵⁸ The aim of the ARC project, funded by the EPA, was to develop a framework for costing climate impacts on the Irish economy and assessing the options for adaptation, with a specific focus on the role of key stakeholders. The study applied a framework to the specific case of flood risk in Cork and the South West region of Ireland.

The ARC project included a stakeholder forum, comprised of policy makers, local authorities, business groups and the insurance industry, to assess information needs and concerns of those exposed to current and future climate risks. It proceeded to examine two parallel but interlinked strands of research:

- 1) Empirical estimates of the costs of climate impacts without adaptation, particularly focused on flooding; and
- 2) The range of adaptation options available, including the appropriate role for insurance.

The outputs from this project included: costs of flooding; recommendations on the use of tools and methods for costing climate impacts; policy recommendations on the design of adaptation strategies; and implications for the private sector, including insurance.

9. Implementing adaptation

9a. Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents

Yes / **In progress** / No

Most adaptation activities in Ireland are currently linked to assessing climate impacts and vulnerabilities, and significant effort is being put into mainstreaming. Adaptation has not yet moved from integration to the effective definition or implementation of actions to meet specific objectives, at least at the national level. The NAF states that following its publication, ministers will be requested to prepare sectoral plans assigned to them and that these plans will specify adaptation policies. This has taken place and the statutory deadline for the submission of completed sectoral adaptation plans to the Government for approval is 30 September 2019. Development and implementation of the sectoral plans will be an iterative process, and they will be revised every five years. Sectoral adaptation plans covering the agriculture, forestry, transport and energy sectors have been written, however, are non-statutory and based upon the requirements of the draft NAF, so may be amended.

⁵⁸ EPA, 2017, Adaptive Responses to Climate Impacts (ARC), URL: <http://erc.epa.ie/droplet/modalFull.php?cid=18136>

There are no specific programmes or projects focused on implementing adaptation measures, although many activities to manage natural resources (water, biodiversity, etc.) have a high potential to contribute to adaptation.

9b. Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)

Yes / No

DCCAIE leads and coordinates national adaptation policy and supports the implementation of the NAF at national, sectoral and local government levels.

Arising from the 2012 NCCAF, a National Adaptation Steering Committee was established in 2014 and includes representation from key government sectors, EPA research, the Climate Change Advisory Council Secretariat, and local and regional government. The Steering Group's role is to provide advice and guidance to sectors, identified in the NAF, on the development of sectoral adaptation plans. This includes issues related to coordination at local and regional level and particularly between national level structures and local government. Membership of the Steering Committee has recently been reviewed and now reports into a National Climate Action High-Level Steering Group, chaired by the Minister for Communications, Climate Action and Environment. This group addresses climate mitigation and adaptation. In terms of adaptation, the High-Level Steering Group will:

- Monitor progress by sectors and agencies in delivering on climate adaptation actions for which they are responsible; and
- Ensure that a coordinated and coherent approach is adopted and maintained towards achieving a climate resilient Ireland⁵⁹.

In January 2018 the Minister for Communications, Climate Action and Environment announced €10 million in funding over five years to set up four Regional Local Authority Climate Action Offices.⁶⁰ The regional offices are located in four lead authorities (Cork County Council, Dublin City Council on a rotating basis, Kildare County Council and Mayo County Council) and are based on four geographical areas with the associated grouping of local authorities in each region based upon shared climate risks.

It is envisaged that the regional teams will develop expertise on the predominant climate risks in its particular region and develop regional strategies on that basis. These regional strategies will then inform the local authority strategies. These structures will also provide an opportunity for the local government sector to play a key role in coordinating relevant activities related to the NDCA.

9c. Procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure

Yes / No

⁵⁹ Personal communication with MS contact

⁶⁰ Personal communication with MS contact

Progress has been made in mainstreaming climate change considerations into Ireland's planning system. Ongoing work in developing climate resources such as the CIViC and C-RISK projects, Climate Ireland, the Sectoral and Local Authority Adaptation Guidelines and the outputs of the Flood Policy Coordination Group may also be seen as relevant.

9d. There are processes for stakeholders' involvement in the implementation of adaptation policies and measures

Yes / No

The draft NAF was subject to a six-week public consultation in line with the Climate Action and Low Carbon Development Act 2015, closing at the end of October 2017. The NAF is also subject to review every five years. Prior to the preparation of the draft NAF an initial public consultation was also held in 2016 for a period of eight weeks.

The Government has established the NDCA to:

- Create awareness, engagement and motivation to act (locally, regionally and nationally) in relation to the challenges presented by climate change
- Create structures and information flows to facilitate people gathering to discuss, deliberate and maximise consensus on appropriate responses to these challenges, and to enable and empower appropriate action
- Establish, on a long-term basis, appropriate networks for people to meet periodically to consider evidence-based inputs on the economic, social, behavioural, environmental and public aspects of climate and energy policy; and
- Provide regular input into the prioritisation and implementation of climate and energy policy, which can be reported and monitored at local, regional and national levels.

An NDCA Advisory Group has been established to provide advice in relation to the overall strategy, structure and operation of the national dialogue. The Advisory Group held its first meeting in July 2017. A regional gathering of the NDCA took place in Athlone on 23 June 2018 in the presence of the Minister for Communications, Climate Action and Environment. This is the first in a series of regional and local meetings to be held across Ireland.

Work undertaken at the sectoral level to date has also involved substantial stakeholder consultation.

Step E: Monitoring and evaluation of adaptation activities

10. Monitoring and reporting

10a. NAS/NAP implementation is monitored and the results of the monitoring are disseminated

Yes / No

Under the Climate Action and Low Carbon Development Act 2015 an annual transition statement (ATS) must be made to each House of the Oireachtas by the Minister for Communications, Climate Action and Environment with regard to a number of mitigation and adaptation-related matters, including adaptation policy measures adopted in the preceding year to enable the achievement of the national transition objective (Section 14 of

the 2015 Act). The first ATS⁶¹ was published in 2016. Annual sectoral adaptation statements to each House of the Oireachtas are also required.

As described in relation to in Indicator 1b, the CCAC has a number of reporting obligations, including with regard to 'Annual' and 'Periodic Reviews' of progress towards meeting the National Transition Objective. The CCAC published its first periodic report in July 2017, which is a key aspect of the NAF. The Minister for Communications, Climate Action and Environment is required to review the NAF at least once in every 5 years period.

10b. The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated

Yes / No

Twelve sectors are identified in the NAF, which will be required to submit sectoral adaptation plans. Annual sectoral adaptation statements need to be submitted to each House of the Oireachtas.

The CCAC has a number of reporting obligations, including with regard to annual and periodic reviews of progress towards meeting the National Transition Objective. The NAF specifies that the CCCAC must liaise with key sectors to assess and monitor progress in achieving climate resilience.

The National Adaptation Steering Committee reports to the National Climate Action High-Level Steering Group, which is tasked with monitoring progress by sectors in delivering adaptation actions.

10c. Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated

Yes / **No**

No sub-national level reporting on the implementation of adaptation actions has yet taken place.

In January 2018, the Minister for Communications, Climate Action and Environment announced EUR 10 million in funding over five years to set up four Regional Local Authority Climate Action Offices.⁶² The regional offices are located in four lead authorities (Cork, Dublin, Kildare and Mayo) and are based on four geographical areas with the associated grouping of local authorities in each region based upon shared climate change risks. The Offices are overseen by a National Steering Committee, which will approve annual work programmes for each office and monitor the delivery of the actions. The DCCAE is represented on the steering committee.

The Regional Offices are also represented in national adaptation oversight structures on the National Adaptation Steering Committee. National priorities for climate change action will be

⁶¹ DCCAE, 2018, Annual Transition Statements, URL: <http://www.dccae.gov.ie/en-ie/climate-action/topics/climate-action-at-a-national-level/climate-action-and-low-carbon-development-act-/Pages/Annual-transition-statement.aspx>

⁶² Personal communication with MS contact.

set by the committee and drive consistency at a central level. The Steering Committee monitors progress by sectors and agencies, including local government in delivering on climate adaptation actions for which they are responsible and ensure a coordinated approach.

11. Evaluation

11a. A periodic review of the national adaptation strategy and action plans is planned

Yes / No

A periodic review of adaptation action is mandated by the Climate Action and Low Carbon Development Bill 2015, whereby the relevant minister shall review the NAF not less than once every 5 years. The NAF was published in January 2018 and, as such, is to be expected to be reviewed by early 2023.

11b. Stakeholders are involved in the assessment, evaluation and review of national adaptation policy

Yes / No

As noted in relation to Indicator 2a, stakeholders and members of the public were extensively consulted during development of the NCCAF and NAF. As indicated in relation to Indicator 10a, the CCAC, which is mainly comprised of researchers and scientists, will contribute to the monitoring of the NAF.

The NDCA will inform the national objective to transition to a low carbon and climate resilient economy and society. The NDCA Advisory Group has been established to provide advice in relation to the overall strategy, structure and operation of the national dialogue. A regional gathering of the NDCA took place in Athlone on 23 June 2018. This is the first in a series of regional and local meetings to be held across Ireland.⁶³

Also, as noted in relation to Indicator 2a, in addition to the NDCA, the Citizens' Assembly places the public at the heart of important legal and policy issues facing Ireland and has considered the topic "How the State can make Ireland a Leader in tackling Climate Change" with a final report on the topic published on 18 April 2018.⁶⁴

⁶³ Personal communication with MS contact.

⁶⁴ Personal communication with MS contact.

SUMMARY TABLE

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
Step A: Preparing the ground for adaptation		
1	<i>Coordination structure</i>	
1a	A central administration body officially in charge of adaptation policy making	<u>Yes</u> / No
1b	Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities	<u>Yes</u> / In progress / No
1c	Vertical (i.e. across levels of administration) coordination mechanisms exist within the governance system, enabling lower levels of administration to influence policy making.	<u>Yes</u> / In progress / No
2	<i>Stakeholders' involvement in policy development</i>	
2a	A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies	<u>Yes</u> / No
2b	Transboundary cooperation is planned to address common challenges with relevant countries	<u>Yes</u> / No
Step B: Assessing risks and vulnerabilities to climate change		
3	<i>Current and projected climate change</i>	
3a	Observation systems are in place to monitor climate change, extreme climate events and their impacts	<u>Yes</u> / In progress / No
3b	Scenarios and projections are used to assess the economic, social and environmental impacts of climate change, taking into account geographical specificities and best available science (e.g. in response to revised IPCC assessments)	<u>Yes</u> / In progress / No
3c	Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making.	Yes / <u>In progress</u> / No
3d	Climate risks/vulnerability assessments take transboundary risks into account, when relevant	Yes / In progress / <u>No</u>
4	<i>Knowledge gaps</i>	
4a	Work is being carried out to identify, prioritise and address the knowledge gaps	<u>Yes</u> / In progress / No

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
5	<i>Knowledge transfer</i>	
5a	Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means).	<u>Yes</u> / In progress / No
5b	Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated	<u>Yes</u> / In progress / No
Step C: Identifying adaptation options		
6	<i>Identification of adaptation options</i>	
6a	Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts	<u>Yes</u> / No
6b	The selection of priority adaptation options is based on robust methods (e.g. multi-criteria analyses, stakeholders' consultation, etc.) and consistent with existing decision-making frameworks	<u>Yes</u> / No
6c	Mechanisms are in place to coordinate disaster risk management and climate change adaptation and to ensure coherence between the two policies	Yes / <u>In progress</u> / No
7	<i>Funding resources identified and allocated</i>	
7a	Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action	Yes / <u>In Progress</u> / No
Step D: Implementing adaptation action		
8	<i>Mainstreaming adaptation in planning processes</i>	
8a	Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments	<u>Yes</u> / No
8b	Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections	Yes / <u>No</u>
8c	Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change	<u>Yes</u> / No
8d	National policy instruments promote adaptation at	Yes / <u>In</u>

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
	sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies	<u>progress</u> / No
8e	Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention	Yes / <u>No</u>
9 <i>Implementing adaptation</i>		
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / <u>In progress</u> / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	<u>Yes</u> / No
9c	Procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure	<u>Yes</u> / No
9d	There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.	<u>Yes</u> / No
Step E: Monitoring and evaluation of adaptation activities		
10 <i>Monitoring and reporting</i>		
10a	NAS/NAP implementation is monitored and the results of the monitoring are disseminated	<u>Yes</u> / No
10b	The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated	<u>Yes</u> / No
10c	Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
11 <i>Evaluation</i>		
11a	A periodic review of the national adaptation strategy and action plans is planned	<u>Yes</u> / No
11b	Stakeholders are involved in the assessment, evaluation and review of national adaptation policy	<u>Yes</u> / No