



Adaptation preparedness scoreboard:

Draft country fiche for Ireland

Disclaimer

This draft country fiche was prepared in the context of the implementation of the EU's Strategy for Adaptation to Climate Change (EUAS). The indicators were developed and agreed with experts from the Member States (MS). This draft version of the fiche is published as background information to the public stakeholder consultation about the evaluation of the EUAS running from early December 2017 to early March 2018. It constitutes work in progress, a particular stage of information collection and dialogue between the Commission and the Member States. It presents a snapshot of the status in the country as of September or October 2017. The fiches are planned to be finalised and published as an annex to the strategy's evaluation report in the fourth quarter of 2018, before which they will be further updated and modified. Should you have any specific comments on the draft fiche, please send it to the mailbox CLIMA-CLIMATE-CHANGE-ADAPTATION@ec.europa.eu

Please note that the assessments (yes/no/in progress) need to be read in conjunction with the narrative that accompanies them. They assess the state of play *within* each country. 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 MS. 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". For a more detailed explanation of what each indicator means and how its value is determined, please refer to the description of the scoreboard, a document published alongside the country fiches.

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POLICY FRAMEWORK

Adaptation strategies

A1. National adaptation strategy

A2. Adaptation strategies adopted at subnational levels

The Department of Environment, Community and Local Government published a National Climate Change Adaptation Framework (NCCAF) in December 2012¹. This non-statutory, but Government approved framework mandates the development and implementation of sectoral adaptation plans and local government adaptation strategies which, together, would form the national response to the impacts of climate change.

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)². 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*").

¹ <http://www.dccae.gov.ie/en-ie/climate-action/publications/pages/national-climate-change-adaptation-framework.aspx>

² <http://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Policy-Position.aspx>

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The enactment on 10 December 2015 of the Climate Action and Low Carbon Development Act 2015³ was an important milestone in establishing the *national transition objective* on a statutory basis and in order to facilitate this '*transition*', the 2015 Act identified and provided for the development and submission to 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. That 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 2015 Act, the Minister for Communications, Climate Action and Environment must submit to Government for approval (not later than 10 December 2017), a National Adaptation Framework (NAF), which must be reviewed not less than once in every five year period. The NAF must specify the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur. The 2015 Act also provides that relevant Ministers will be required to develop sectoral adaptation plans which will specify the adaptation policy measures the Minister in question proposes to adopt. Work on developing the NAF is underway within the Department and it is intended to publish a draft NAF for statutory consultation by end June 2017⁴.

The non-statutory 2012 National Climate Change Adaptation Framework (NCCAF) was the first step in developing a national policy in Ireland to address the anticipated impacts of climate change through a structured programme of action on adaptation.

The introduction of the Climate Action and Low Carbon Development Act in 2015 represented a key milestone in underpinning climate mitigation policy and the adaptation planning process in Ireland.

Under Section 5 of the Climate Action and Low Carbon Development Act 2015 a statutory National Adaptation Framework will be prepared by the end of 2017. A draft National Adaptation Framework was published for statutory public consultation on 15 September 2017 and this public consultation will close on 27 October 2017. This public consultation will help further inform its development before a final Framework is submitted to Government in December.

Following approval of the NAF by Government, statutory sectoral adaptation plans will be prepared in 2018. The work undertaken by sectors to date under the 2012 NCCAF has been an important input into the adaptation planning process and also into the ongoing development of the NAF.

Adaptation action plans

B1. National adaptation plan

The statutory National Adaptation Framework (NAF), which is currently being developed by the Department of Communications, Climate Action and Environment, will identify the sectors and lead Departments that will be required, subject to Government approval, to prepare sectoral adaptation plans in line with the requirements of the Climate Action and Low Carbon Development Act. The preparation of non-statutory plans under the NCCAF is progressing and outputs from that work will form the basis of the statutory requirements that will come into force, following government approval of the NAF. The

³ <http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/html>

⁴ <http://www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/Pages/default.aspx>

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work undertaken under the NCCAF and the lessons learned from it will form an important input into the development of the NAF. This may also include a revision of some of the sectors identified in the NCCAF. These sectoral adaptation plans should be revised and updated at least every 5 years. Sectoral specific guidelines are also being prepared to help sectors required to prepare sectoral adaptation plans.

B2. Adaptation plans adopted at sub-national level

B3. Sectoral adaptation plans

In Ireland, regions and regional assemblies have limited competencies and a low degree of autonomy, though they are granted regional planning competences, such as the preparation and adoption of regional planning guidelines. Local level authorities – known as city councils or county councils – are identified by the National Climate Change Adaptation Framework as the appropriate implementation level. These authorities are responsible for integrating climate change adaptation measures into their future planning decisions.

The National Framework requires that localities incorporate climate change adaptation strategies into future reviews of their development plans. Some local authorities have undertaken small scale projects and participated in EU funded projects on adaptation.

As local authorities review their city and county development plans, they should integrate climate change adaptation (as well as mitigation) considerations into their statutory plans.

Local authorities will be mandated under the NAF to prepare local adaptation strategies. The Minister for Communications, Energy and Natural Resources launched the Local Authority Climate Change Adaptation Strategy Guidelines in May 2016, which were designed to assist local authorities to develop their own adaptation strategies. While these will be distinct and separate to the NAF, they intend to complement adaptation plans to be prepared by Government Departments on a sectoral basis. The guidelines describe six steps (tasks) that a local authority needs to complete in order 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.

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

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The climate change functions of the former Department of Environment, Community and Local Government of Communications, Energy and Natural Resources transferred to a newly configured Department of Communications, Climate Action and Environment⁵, with effect from July 2016, reflecting the increasing priority assigned to dealing with climate change, including adaptation. The Department is now a central component of the climate change governance architecture, leading and co-ordinating 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

Twelve (12) sectors were identified in the National Climate Change Adaptation Framework (NCCAF): Water, Emergency Planning, Marine, Agriculture, Forestry, Biodiversity, Heritage, Transport, Energy, Communications, Flood Defence and Health.

The statutory National Adaptation Framework (NAF), which is currently being developed by the Department of Communications, Climate Action and Environment, will identify the sectors and lead Departments that will be required, subject to Government approval, to prepare sectoral adaptation plans in line with the requirements of the Climate Action and Low Carbon Development Act.

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 Minister for Communications, Climate Action and Environment in relation to the preparation of the NAF; the making by a relevant Minister of a sectoral adaptation plan; and the approval by the Government of a NAF. In addition, the Council has a number of reporting obligations, including with regard to 'Annual' and 'Periodic Reviews' of progress towards meeting the national transition objective; it also established an Adaptation Committee in 2016 to focus specifically on adaptation related matters.

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.

Arising from the 2012 NCCAF, a National Adaptation Steering Committee was established in 2014 and includes representation from key government sectors, EPA research,

⁵ <http://www.dccae.gov.ie/en-ie/Pages/default.aspx>

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Climate Change Advisory Council Secretariat, and local and regional government. The aim of the Committee is to provide assistance and guidance to the various sectors (including Local Authorities) in the development of their sectoral/local level adaptation plans.

A subgroup on governance issues has also been established under the Steering Committee to look at how best to co-ordinate cross cutting issues arising among the relevant sectors including how Local Government should input into the sectoral process.

The Department of Communications, Climate Action and Environment is a central component of the climate action governance architecture. It leads and co-ordinates national adaptation policy and will support the implementation of the approved statutory National Adaptation Framework at national, sectoral and local government levels working, as appropriate, through the National Adaptation Steering Committee and with due regard to the statutory functions assigned to it under the 2015 Climate Action and Low Carbon Development Act.

Local Government

Local authorities are actively working in consultation with DCCA to develop a proposal for a regional approach to climate action through the establishment of Regional Climate Action Offices. The proposed approach harnesses the potential to group certain local authorities based on similar geographical/ topographical characteristics and on the basis of existing synergies in addressing threats and impacts of severe weather events and ongoing climate change risks. It is therefore based on climate risk assessment with a focus on the predominant risk(s) in each geographical area. An objective under the draft National Adaptation Framework commits to establishing these Regional Climate Action Offices to coordinate Local Authority adaptation and mitigation responses to climate change.

The work of the Regional Offices will be overseen by a National Steering Committee which includes representatives from a wide range of regulatory authorities.

The four Dublin Local Authorities have agreed to take a collective, regional approach to the issue of developing local adaptation strategies to help address the impacts of climate change. Initial work has commenced, with the assistance of the City of Dublin Energy Management Agency (CODEMA), on developing a common Climate Change Strategy for the four Dublin Authorities supported by Mitigation & Adaptation Plans.

Covenant of Mayors

Ten Irish local authorities have signed the Covenant of Mayors and the regional structure above will provide a platform for these to further coordinate any action under the Covenant of Mayors.

Flood Risk Management Plans / River Basin Management Plan take into account the possible impacts of climate change.

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

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The 2012 NCCAF was subject to a stakeholder consultation in 2009. Prior to the preparation of the current draft National Adaptation Framework 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 Framework, and a period of public consultation on this draft has been opened. This consultation opened from 15 September 2017 and closed after six weeks on 27 October 2017.

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 relevant Government Ministers in planning for adaptation.

The Government also has a commitment to establishing a National Dialogue on Climate Action (NDCA) which will inform our national objective to transition to a low carbon and climate resilient economy and society. In terms of climate resilience (i.e. adapting to climate change impacts), the publication of the draft National Adaptation Framework (2017) for public consultation will play a key role in informing the dialogue process and how it addresses the issue of climate change impacts.

The objectives of the National Dialogue on Climate Action are 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, through the National Dialogue on Climate Action, into the prioritisation and implementation of climate and energy policy which can be reported and monitored at local, regional and national levels.

An advisory group on the National Dialogue has also been established to provide advice in relation to the overall strategy, structure and operation of the National Dialogue to the Minister. The Advisory Group held its first meeting in July 2017.

In addition to the National Dialogue on Climate Action, the Citizens' Assembly provides an avenue for stakeholder engagement. The Citizens' Assembly is an exercise in deliberative democracy, placing the citizen at the heart of important legal and policy issues facing Irish society today. The Assembly is a body comprising the Chairperson and 99 citizens, randomly selected to be broadly representative of the Irish electorate, established to consider some of the most important issues facing Ireland's future. Between September and November 2017 the assembly will be debating 'How the State can make Ireland a leader in tackling climate change'. The Assembly's conclusions on each topic will form the basis of individual reports and recommendations that will be submitted to the Houses of the Oireachtas for further debate by our elected representatives and its recommendations will also inform the National Dialogue on Climate Action process.

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

Yes / No

The draft NAF identifies the British and Irish Council (BIC) and North South Ministerial Council (NSMC) as potential avenues for transboundary cooperation on climate change adaptation. The North-South Ministerial Council was established under the Belfast Agreement. The objective of the NSMC is to facilitate co-operation between the governments of Ireland and Northern Ireland. The British-Irish Council was also established under the Belfast Agreement. The objective of the BIC is to facilitate dialogue between the Irish and UK Government.

Climate adaptation is due to be discussed as part of the next BIC meeting taking place in April 2018 in Dublin. Informal cooperation arrangements and information sharing are also ongoing between the Governments of Ireland and Northern Ireland in relation to adaptation matters.

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 NUIG (National University of Ireland Galway) and other bodies also providing support; responsibility of oceanic and terrestrial observations lies with the Marine Institute, Met Éireann, EPA, universities and other institutions.

Met Éireann is currently collaborating with OPW in developing a National Flood Forecasting Service which will have a critical role to play in disseminating climate related information at both the regional and local level.

In the Status of Ireland's Climate report (Dwyer, 2013) 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.

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. Every effort must be made to ensure the sustainability of the observation systems while providing on-going support of data analysis.

The EPA Research Programme is also funding a number of other 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

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critical infrastructure to climate change. The overall aim is to inform critical asset management decisions in the context of climate change.

In order to support decision makers in meeting the requirements of the NCCAF and the EU Adaptation Strategy (2013) a centralised information resource, "Climate Ireland", has been developed by researchers in UCC through support from the EPA and DCCAE.

Ireland's Climate Information Platform (ICIP), "Climate Ireland" (www.climateireland.ie), provides support to decision makers in the development of their adaptation plans. This is achieved through the provision of:

- Tailored information to support awareness and understanding of climate adaptation;
- Essential climate information (observed and projected) to support impact and risk assessment;
- Decision-making frameworks and tools to support Local Authority and Sectoral plans.

It is an objective of the draft National Adaptation Framework to develop Climate Ireland further on an operational basis.

Two further research projects are of note:

- C-RISK (National Risk Assessment of Impacts of Climate Change) is a project run by UCC and funded by the EPA which seeks to develop an initial National Risk Assessment with the aim of contributing to the delivery of a Climate Resilient Ireland through sectoral and illustrative case study linkages.
- The Adaptive Responses to Climate Impacts (ARC) project aims is to develop a framework for costing the impacts of climate change on the Irish economy and assessing the options for adaptation, with a specific focus on the role of key stakeholders.

Ireland is also interested in how Copernicus can be of value to climate related services and linkages between researchers, technologists, service providers and end-users are currently being explored to investigate the potential for more effective exploitation of relevant data and information across Ireland. Emergency Management Services, Land Monitoring, Marine Monitoring, Urban Planning are all relevant in this respect and have obvious linkages to climate change monitoring.

Information on the impact of severe weather events is being compiled at 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. The Department is the Lead Government Department in Ireland for the response to severe weather events and flooding and coordinated the report across Government.

The report describes the meteorological and hydrological conditions that led to the flooding. It details the various impacts and effects of severe flooding and sets out the responses made by the relevant state agencies as well as community and voluntary bodies. The report examines the preparedness measures in place for such extreme events and the coordination and effectiveness of those responses. The intention of the report was to draw together the learning points from the response activities and set out a series of recommendations to improve the preparedness and response to future emergencies. Many of these recommendations have been implemented.

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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

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 in the Earth's climate over the 21st Century. Regional Climate Models were run at high spatial resolution, maximum of 4 km, thus allowing for a better evaluation of the potential local effects of climate change (Nolan, 2015⁶).

The Department of the Environment, Community and Local Government continue to support Met Éireann in its development of climate prediction systems and provision of climate services for Ireland.

Analysis of potential climate change impacts for Ireland is summarised in the State of Knowledge Report⁷ and in Climate Ireland⁸. Research on specific impacts are included the Hydrodetect project⁹, which identified a reference river flow network for monitoring and detecting climate driven changes in Irish river flows. A Phenology study (Donnelly et al., 2012¹⁰) showed that the warmer Irish climate has led to a change in the seasonal cycle of a range of plant and animal species.

Research on climate change impacts and adaptation is co-ordinated by the Environmental Protection Agency, through its Climate Change Research Programme. The programme supports and develops research to inform decision making and planning on adaptation and identify options to reduce the adverse impacts of climate change and their associated costs. This is achieved by improving future climate projections, identifying vulnerabilities and by informing adaptation responses.

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

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

Yes / In progress / No

Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making. The selection of vulnerable sectors may be based on a lighter pre-screening vulnerability assessment.

The report by the Irish Academy of Engineering, Ireland at Risk Critical Infrastructure – Adaptation for Climate Change (The Irish Academy of Engineering, 2009)¹¹ and the

⁶ <http://www.epa.ie/pubs/reports/research/climate/research159ensembleofregionalclimatemodelprojectionsforireland.html>

⁷ Desmond et al., 2009: <http://www.epa.ie/pubs/reports/research/climate/ccrpreport1.html>

⁸ <http://www.climateireland.ie/#/about>

⁹ https://www.epa.ie/pubs/reports/research/climate/CCRP_27_HydroDetect.pdf

¹⁰ http://www.int-res.com/articles/cr_oa/c053p245.pdf

¹¹ http://www.iae.ie/site_media/pressroom/documents/2009/Nov/17/Ireland_at_Risk_2.pdf

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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 Waterways (ed. Kelly and Stack, 2009)¹² are early examples of initiatives of this kind.

Other research work on adaptation in specific sectors has been carried out or commissioned by other Government Departments/bodies such as the OPW, CoFoRD (programme of competitive forest research for development research programme)¹³.

A National Climate Change Vulnerability Scoping study¹⁴ 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. The assessment methodology used was an impacts-first, science-first classical approach. The priority sectors identified are: 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 preliminary work has been undertaken on costing the impacts of climate change in Ireland¹⁵. 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-Adapt¹⁶ which aims to identify the impact of climate change 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 2 key strands, water and heat.

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

Yes / **In progress** / No

Transboundary co-operation 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. There is no explicit mention of transboundary risks being taken into account across sectors. As explained in 2b, the current draft National Adaptation Framework identifies potential mechanisms for transboundary cooperation, such as the North South Ministerial Council and the British-Irish Council.

4. Knowledge gaps

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

Yes / In progress / No

¹² http://www.heritagecouncil.ie/content/files/climate_change_heritage_tourism_summary_2009_1mb.pdf

¹³ <https://www.agriculture.gov.ie/research/competitivenationalprogrammes/programmeofcompetitiveforestryresearchfordevelopmentcoford/>

¹⁴ https://www.epa.ie/pubs/reports/research/climate/CCRP_29.pdf

¹⁵ <https://www.ucc.ie/en/eri/projects/cosclimchange/>

¹⁶ <https://urbadapt.com/>

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The Department of Communications, Climate Action and Environment prioritises climate research needs and ensures that accessible information is provided to support the adaptation decision-making process.

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 Strategy. The CCRP research outputs are aimed at strengthening data and the information base, and filling gaps in knowledge; a significant number of research projects have been funded to date with a focus on the policies and measures needed to adapt to the impacts of climate change.

Other research work on adaptation in specific sectors is often carried out or commissioned by other Government Departments/bodies such as the OPW, Teagasc, CoFoRD.

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

The final phase of Ireland's Climate Information Platform Project (ICIP), or Climate Ireland¹⁷ has now been developed by University College Cork, under the EPA's Research programme. The objective of the platform is to support adaptation decision making at all levels, including the general public. 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.

A science-policy interface was set up for drawing up the NCCAF. Various research institutes and the national meteorological administration ensured valuable feedback in that process. Further workshops have been held since, such as for the preparation of the report *Current and Future Vulnerabilities to Climate Change in Ireland* (Coll and Sweeney, 2013)¹⁸.

Knowledge transfer activities (e.g. science/policy interfaces) between scientific-technical knowledge and decision and policymakers occurs when research reports are published and disseminated¹⁹. Key findings are accompanied by press releases and also research dissemination seminars. Science/policy interface also occurs through research and the sectoral adaptation steering group.

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

¹⁷ www.climateireland.ie

¹⁸ https://www.epa.ie/pubs/reports/research/climate/CCRP_29.pdf

¹⁹ E.g. State of Knowledge Report 2009. <http://www.epa.ie/pubs/reports/research/climate/ccrpreport1.html>

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Yes / In progress / No

There is an ongoing programme of capacity building and training measures aimed at decision makers and adaptation practitioners within the local authority and includes training seminars and workshops.²⁰

Climate change features in the education curriculum at 2nd and 3rd level. A number of Universities include climate change adaptation at MSc. level.

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

As part of the development of the NAP and in line with the requirements of the Climate Act, relevant sectors identified in the final NAF will be required to prepare sectoral adaptation plans.

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 has informed the on-going drafting of the statutory NAF:

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

Under the statutory NAF each sectoral plan must be approved by Government and should be based primarily on the results of sectoral risk assessments undertaken as part of the sectoral adaptation planning process.

As a minimum, these plans will present evidence of a clear understanding and description of the risks presented by climate change to the sector, their vulnerability to such risks and actions both to address the risks and ensure the climate resilience of the sectors.

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

- clear understanding of the consequences of a changing climate for each sector;
- actions to equip decision-makers with skills and tools; and
- integration of adaptation into policy and administration at sectoral level in Ireland

²⁰ <https://www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/Pages/Localadaptation.aspx>

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The development of the sectoral adaptation plans will be informed by the sectoral adaptation guidelines (Sectoral Guidelines for Planning for Climate Change Adaptation, O'Dwyer, Alexander and Gault, 2017, in review). The guidelines aim to ensure that a coherent and consistent approach to adaptation planning is adopted at national and local scales and drawing on existing sources of climate and adaptation information (e.g. the web-based tool Climate Ireland, www.climateireland.ie).

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 draft National Adaptation Framework also discusses the potential synergies of a themed approach to considering these sectoral plans as part of four thematic areas namely; Natural Capital, Critical Infrastructure, River and Coastal Flood Risk Management and Public Health. Such a thematic approach can further co-ordinate sectors responses to cross cutting issues and to enhance collaboration in the preparation of sectoral adaptation plans. Under the draft NAF it is proposed that the following sectors will produce individual adaptation plans using the NAF and tools such as Climate Ireland for guidance: Marine, Agriculture, Forestry, Biodiversity, Cultural Heritage, Transport Infrastructure, Energy and Gas Networks, Communication Networks, Water Service Infrastructure, Flood Risk Management, Health and Water Quality. These plans will be reviewed and updated at 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 Guidelines (Gray, 2016). The guidelines, which were research commissioned by the EPA and prepared by University College Cork, are designed to assist local authorities to develop their own adaptation strategies and to ensure that they will complement adaptation plans to be prepared on a sectoral basis.

Local authorities are actively working in consultation with DCCAE to develop a proposal for a regional approach to climate action through the establishment of Regional Climate Action Offices. The proposed approach harnesses the potential to group certain local authorities based on similar geographical/ topographical characteristics and on the basis of existing synergies in addressing threats and impacts of severe weather events and ongoing climate change risks. It is therefore based on climate risk assessment with a focus on the predominant risk(s) in each geographical area.

The above demonstrates that adaptation options are being developed and the identification and prioritisation of adaptation options will be the responsibility of the individual sectors identified in the statutory NAF. The NAF lays out the principles overall strategy for the identification of adaptation options in Ireland. The forthcoming sectoral guidelines provide a detailed step by step guide on how sectors should develop and prioritise their adaptation actions.

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 identification and prioritisation of adaptation options will be the responsibility of the individual sectors identified in the statutory NAF. The NAF lays out the principles overall strategy for the identification of adaptation options in Ireland. The forthcoming sectoral

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guidelines provide a detailed step by step guide on how sectors should develop and prioritise their adaptation actions.

Once actions are prioritised, Sectors, Departments and Government will move forward with a process to implement relevant measures, for example the Irish Government's medium term capital investment plan "*Building on Recovery: Infrastructure and Capital Investment 2016 - 2021*" includes a total allocation of €430m for flood risk management. This demonstrates the priority placed by the Government to responding to Ireland's and prioritising flood risk. This commitment is also evident from the flooding policy priorities set out by Government in "*A Programme for a Partnership Government*".

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

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 will shortly publish a National Framework on Emergency Planning. This will include a guideline on climate change adaptation. The National Adaptation Framework recognises that the local government sector plays a pivotal role in planning for, and responding to, emergency situations. Given their close relationship with the community, local authorities can react faster and more effectively to local climate events than other government agencies. They have essential local knowledge of the natural and manmade 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 Co-ordination Group to support the Office of Public Works (OPW) National Catchment-based Flood Risk Assessment and Management (CFRAM) Programme. Through this group the OPW is co-ordinating Ireland's whole of Government approach to flood risk management across three strategic and policy areas including prevention, protection and preparedness. The purpose of the Co-ordination 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 this 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 change adaptation (CCA) and emergency planning (DRR related) can be coordinated particularly at the sectoral/local level. In this regard Ireland is aware of the challenges that exist at European level in terms of integrating these areas and further refers to the PLACARD CCA and DRR workshop in Brussels on 24 October 2017 as a way of looking at integration, cooperation and collaboration between actors and organisations working on CCA and DRR.

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7. Funding resources identified and allocated

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

Yes / In Progress / No

The NCCAF is not backed by a specific funding allocation and commitment, though climate services, the ongoing work on a website, etc. do receive allocations.

The public expenditure implications of climate adaptation in Ireland will become clearer when local and sectoral plans on adaptation are finalised. Such expenditure will fall to be met through appropriate prioritisation by Department and Agencies within the overall public expenditure envelope agreed by Government. In this regard, it is worth noting that the Climate Action and Low Carbon Development Bill 2015 states that the Government, when preparing a national adaptation framework or sectoral adaptation plans, shall take into account "the need to achieve the objectives of a national adaptation framework at the least cost to the national economy and adopt measures that are cost-effective and do not impose an unreasonable burden on the Exchequer".

It is important to note that progress on Ireland's transition to a low carbon and climate resilient economy by 2050 is overseen by Government through a hierarchy of committees and sub-groups, with independent advice from the Climate Change Advisory Council, as appropriate. One such group is the Domestic Finance Group.

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

Ireland has transposed the requirements of the revised Environmental Impact Assessment (EIA) Directive, thus including climate change adaptation considerations.

National guidance on EIA and Strategic Environmental Assessments (SEA) also gives due consideration to climate change in preparation and implementation of assessments²¹.

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

Yes / No

The draft 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 will be

²¹ <http://www.epa.ie/pubs/advice/ea/drafteiarguidelines.html>

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coordinated across relevant sectors, and managed by local authorities to take advantage of their local knowledge. It is not clear how future climate extremes are factored in the disaster risk management plans and associated risk analyses in Ireland.

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 done a significant effort integrating adaptation in the land use and resource planning policies, though this is work in process.

The new National Planning Framework (NPF) is currently being developed. It will provide a framework for national spatial planning, pulling together relevant government policies and investment on national and regional development. It will have a focus on economic development and investment in housing, water services, transport, communications, energy, health and education infrastructure. The NPF will set out to address climate change issues in the context of physical planning at a national scale including greenhouse gas emissions, adaptation and resilience.

The Government's non-statutory Planning Policy Statement (DECLG, 2015) notes that the planning process plays a very significant role in promoting patterns of development which help Ireland meet its international obligations by:

- tackling the sources of climate change by reducing Ireland's carbon footprint;
- securing less energy and travel intensive development patterns;
- facilitating the generation of energy from low carbon sources; and
- adapting to the effects of climate change.

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 the promotion of measures to reduce anthropogenic greenhouse gas emissions and address the necessity of adaptation to climate change. 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;
- Local Area Plans Guidelines, 2013.

Notwithstanding all of the above, it is important to note Ireland is currently leading out on the preparation of a National Planning Framework (NPF). The National Planning Framework – Ireland 2040 – Our Plan is a new strategic planning and development framework for Ireland and all its regions for the period between now and 2040, setting a high-level strategy for the co-ordination of a range of national, regional and local policies and activities, planning and investment, for delivery through both the public and private sectors.

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The NPF will provide a framework for national spatial planning, pulling together relevant government policies and investment on national and regional development. It will have a focus on economic development and investment in housing, water services, transport, communications, energy, health and education infrastructure. The NPF will set out to address climate change issues in the context of physical planning at a national scale including greenhouse gas emissions, adaptation and resilience.

Such a framework will be hugely influential in directing climate change adaptation actions at national, regional and local levels.

The draft National Planning Framework includes an objective to support national targets for emissions reduction and objectives for climate change mitigation and adaptation by ensuring that climate change considerations are further integrated into the planning system, and that they continue to be taken into account as a matter of course in planning-related decision making processes. Finalisation of the NPF later this year alongside the forthcoming 10-year National Investment Plan, will further coordinate our strategic development and infrastructure investment at national level.

The NPF with the National Investment Plan will also set the context for each of Ireland's three regional assemblies to develop their Regional Spatial and Economic Strategies taking account of and co-ordinating local authority County and City Development Plans in a manner that will ensure national, regional and local plans align in respect of climate change matters.

Current guidelines on flood risk management require local authorities to be vigilant in ensuring that risks of flooding into the future are identified and integrated into the planning process. These guidelines are particularly important in reviewing development plans, especially in zoning land for development. As local authorities review their development plans, they will now be required to integrate climate change adaptation and mitigation considerations into their plans. For the purposes of the NCCAF, local authorities should make an assessment of the extent to which existing development plans adequately address adaptation to climate change and, where appropriate, aim to have a review process of their development plan underway by mid-2014 (if necessary, through amendment and variation procedures) if climate adaptation is not already adequately addressed.

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

12 sectors were identified in the National Climate Change Adaptation Framework (NCCAF): Water, Emergency Planning, Marine, Agriculture, Forestry, Biodiversity, Heritage, Transport, Energy, Communications, Flood Defence and Health.

The statutory National Adaptation Framework (NAF), which is currently being developed by the Department of Communications, Climate Action and Environment, will identify the sectors and lead Departments that will be required, subject to Government approval, to prepare sectoral adaptation plans in line with the requirements of the Climate Action and Low Carbon Development Act. The preparation of non-statutory plans under the NCCAF is progressing and outputs from that work will form the basis of the statutory requirements that will come into force, following government approval of the NAF. The work undertaken under the NCCAF and the lessons learned from it will form an important

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input into the development of the NAF. This may also include a revision of some of the sectors identified in the NCCAF.

Sectoral adaptation plans covering the Agriculture, Forestry, Transport and Energy sectors are now at an advanced stage of development under the NCCAF.

For example, the Office of Public Works has completed its flood defence sectoral adaptation plan²². The plan;

- 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 the understanding of the potential impacts of climate change on flooding and flood risk and to embed adaptation into flood risk management practice;
- identifies how changing flood risk should be taken into account in spatial planning and other sectors; and
- sets out what is required for the monitoring, review and evaluation of the plan.

The current Catchment Flood Risk Assessment and Management (CFRAM) Programme²³ is the mechanism through which many of the actions will be implemented, including embedding adaptation into the development of capital projects and the long-term of flood risk management 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**

The draft NAF (2017) 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, it can therefore 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 which aims examine climate impacts on the insurance industry is the Adaptive Responses to Climate impacts (ARC) project. The aim of the ARC project, which is funded by the EPA, is to develop a framework for costing the impacts of climate change on the Irish economy and assessing the options for adaptation, with a specific focus on the role of key stakeholders. The study applies a framework to the specific case of flood risk in the Cork/South West region of Ireland.

The project includes a stakeholder forum, to include policy makers, local authorities, business groups and the insurance industry, to assess information needs and concerns of

²² <http://www.opw.ie/en/climatechange/>

²³ www.cfram.ie

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those exposed to current and future climate risks. It then proceeds to examine two parallel but interlinked research strands;

- 1) Empirical estimates of the costs of climate impacts without adaptation – with a particular focus on flooding and
- 2) Investigating the range of adaptation options available, including the appropriate role for insurance.

The outputs from this project will include recommendations on the use of tools and methods for costing climate impacts; findings from the empirical study on costs of flooding; policy recommendations on the design of adaptation strategies; and implications for 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 impacts and vulnerability, and a significant mainstreaming effort. Adaptation has not yet moved from the integration to the effective definition or implementation of actions to meet specific objectives, at least at the national level.

Sectoral adaptation plans covering the Agriculture, Forestry, Transport and Energy sectors are now at an advanced stage of development under the NCCAF so are yet to be implemented.

There are no specific projects or programmes to implement adaptation measures per se, at least with a deliberate attribution to the topic of adaptation, despite many activities to manage resources (water, biodiversity, etc.) have a high potential for adaptation.

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

Yes / No

The Department of Communications, Climate Action and Environment leads and co-ordinates national adaptation policy and will support the implementation of the National Adaptation Framework at national, sectoral and local government levels when it is approved by Government following its submission to Government for approval by 10 December 2015.

Arising from the 2012 NCCAF, a National Adaptation Steering Committee was established in 2014 - representation and includes representation from key government sectors, EPA research, Climate Change Advisory Council Secretariat and local and regional government. A subgroup on governance issues has also been established to look at how best to co-ordinate cross cutting issues arising among the relevant sectors. This includes issues related to coordination at local and regional level and particularly between national level structures and local government

Under the draft NAF provision has been made to strengthen this group and to improve oversight and coordination at national level by having it report to a high level steering group on Climate Action.

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Local authorities are also actively working in consultation with DCCAE to develop a proposal for a regional approach to climate action. The proposed approach harnesses the potential to group certain local authorities based on similar geographical/ topographical characteristics and on the basis of existing synergies in addressing threats and impacts of severe weather events and ongoing climate change risks. It is therefore based on climate risk assessment with a focus on the predominant risk(s) in each geographical area.

It is envisaged that the regional teams would develop an expertise on the predominant climate risks in its particular region becoming Centres of Excellence and develop regional strategies on that basis. These regional strategies would then inform the Local Authority strategies. The expectation is that there would be shared learning between the regional teams thus providing a coordinated transfer of knowledge which brings with it significant benefits from a local, regional and national perspective. These structures would also provide an opportunity for the local government sector to play a key role in coordinating relevant activities related to the National Dialogue on Climate Action.

The Local Authority Adaptation Strategy Development Guideline (2016) supports local authorities in the development of a local climate change adaptation strategy. The guidelines do this by: outlining the steps required to launch a strategy development process, identifying future climate risks; describing the risk assessment process and finally describing the types of adaptation options that are available to address the risks identified.

The Department of Communications, Climate Action and Environment has been engaging closely with the sector, in collaboration with the EPA, the Centre for Marine and Renewable Energy (MaREI) and UCC to ensure appropriate guidance is provided and capacity is strengthened. In addition to the EPA published guidelines, follow-up training sessions and regional workshops for relevant staff were held in July and September/October 2016 designed to introduce participants to key adaptation principles and provide hands-on experience of adaptation strategy development.

In order to further support key national sectors in planning for climate change adaptation, sectoral adaptation guidelines (Sectoral Guidelines for Planning for Climate Change Adaptation, O'Dwyer, Alexander and Gault, 2017, in review) have been developed. The guidelines have been developed by drawing on international best practice and in close consultation with the Department of Transport, Tourism and Sport (DTTAS) and the Department of Agriculture, Food and the Marine (DAFM) based on their experience of preparing adaptation plans for their sectors under the 2012 NCCAF. The guidelines aim to ensure that a coherent and consistent approach to adaptation planning is adopted at national and local scales and drawing on existing sources of climate and adaptation information (e.g. Climate Ireland). It is also hoped that these guidelines will have application beyond the sectors that have been identified to prepare sectoral plans.

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

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The EPA have published guidelines on integrating climate change considerations into Sustainable Environmental Assessment (SEA) in Ireland²⁴. In addition to this 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 Co-ordination 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 Government has established a National Dialogue on Climate Action (NDCA) which will inform our national objective to transition to a low carbon and climate resilient economy and society. In terms of climate resilience (i.e. adapting to climate change impacts), the publication of the draft National Adaptation Framework (2017) for public consultation will play a key role in informing the dialogue process and how it addresses the issue of climate change impacts.

The objectives of the National Dialogue on Climate Action are 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, through the National Dialogue on Climate Action, into the prioritisation and implementation of climate and energy policy which can be reported and monitored at local, regional and national levels.

An advisory group on the National Dialogue 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.

The draft NAF was subject to a 6 week public consultation in line with the Climate Action and Low Carbon Development Act 2015, finalizing end 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 8 weeks.

It may also be relevant to note that the work undertaken at sectoral level to date has also involved substantial stakeholder consultation.

²⁴ <http://www.epa.ie/pubs/advice/ea/Climate-Change-SEA-Ireland-Guide-Note.pdf>

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

Monitoring implementation will be key aspects of the National Adaptation Framework. Implementation will include oversight by the Oireachtas, independent review by the Climate Change Advisory Council and strengthening of co-ordination mechanisms across Government.

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 ATS²⁵ was published in 2016. Following approval of NAF and the development of statutory sectoral adaptation plans this reporting obligation will extend to sectoral Ministers.

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 relevant Government Ministers in planning for adaptation. In addition, the Council has a number of reporting obligations, including with regard to 'Annual' and 'Periodic Reviews' of progress towards meeting the national transition objective. The Climate Change Advisory Council published its first periodic report in July 2017 which makes specific recommendations in respect of the development of the National Adaptation Framework. It also established an Adaptation Sub-Committee in 2016 to focus specifically on adaptation related matters.

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

Yes / No

The non-statutory 2012 National Climate Change Adaptation Framework (NCCAF) was the first step in developing a national policy in Ireland to address the anticipated impacts of climate change through a structured programme of action on adaptation. This included the preparation of adaptation plans in a number of key sectors.

²⁵ <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>

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

- Sectoral Adaptation Plan for Flood Risk Management (OPW, 2015).
- Adaptation Planning - Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector (DAFM, 2017) 24.
- Adaptation Planning - Developing Resilience to Climate Change in the Irish Transport Sector (DTTAS,2017)
- Adaptation Plan for the Electricity and Gas Networks Sector (DCCAE, 2017).

Section 6 of the Climate Action and Low Carbon Development Act 2015 requires for the preparation of sectoral adaptation plans covering key national sectors. These sectors will be identified in the NAF and the development of statutory sectoral adaptation plans will begin following Government approval of NAF.

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

Yes / No

Arising from 2012 NCCAF, a National Adaptation Steering Committee was established in 2014 which meets regularly and includes representatives from government sectors, EPA research, Climate Change Advisory Council Secretariat and County and City Management Association (CCMA) and regional assemblies to represent the local and regional Government sectors. A subgroup on governance issues has also been established to look at how best to co-ordinate cross cutting issues arising among the relevant sectors. This includes issues related to coordination at local and regional level and particularly between national level structures and local government.

Local authorities are actively working in consultation with DCCAE to develop a proposal for a regional approach to climate action through the establishment of Regional Climate Action Offices. The proposed approach harnesses the potential to group certain local authorities based on similar geographical/ topographical characteristics and on the basis of existing synergies in addressing threats and impacts of severe weather events and ongoing climate change risks. An objective under the draft Adaptation Framework commits to establish Regional Climate Action Offices to coordinate Local Authority response to climate change in parallel with the National Mitigation Plan to help coordinate adaptation action across Local Authorities.

The work of the Regional Offices will be overseen by a National Steering Committee which includes representatives from a wide range of regulatory authorities. National priorities for climate change action will be set by the committee and drive consistency at a central level.

11. Evaluation

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

Yes / No

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A periodic review of adaptation action is planned. In fact, it is mandated by the Climate Action and Low Carbon Development Bill 2015, whereby the relevant minister shall review a national adaptation framework approved by the Government not less than once in every period of 5 years.

Sectoral and local adaptation plans will be updated and refined over time as more data on impacts becomes available and as experience with dealing with adaptation issues increases.

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

Yes / No

The Government has established a National Dialogue on Climate Action (NDCA) which will inform our national objective to transition to a low carbon and climate resilient economy and society. In terms of climate resilience (i.e. adapting to climate change impacts), the publication of the draft National Adaptation Framework for public consultation will play a key role in informing the dialogue process and how it addresses the issue of climate change impacts.

The objectives of the National Dialogue on Climate Action are 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, through the National Dialogue on Climate Action, into the prioritisation and implementation of climate and energy policy which can be reported and monitored at local, regional and national levels.

An advisory group on the National Dialogue 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.

In addition to the National Dialogue on Climate Action, the Citizens' Assembly provides an avenue for stakeholder engagement. The Citizens' Assembly is an exercise in deliberative democracy, placing the citizen at the heart of important legal and policy issues facing Irish society today. The Assembly is a body comprising the Chairperson and 99 citizens, randomly selected to be broadly representative of the Irish electorate, established to consider some of the most important issues facing Ireland's future. Between September and November 2017 the assembly will be debating 'How the State can make Ireland a leader in tackling climate change'. The Assembly's conclusions on each topic will form the basis of individual reports and recommendations that will be submitted to the Houses of the Oireachtas for further debate by our elected representatives and its recommendations will also inform the National Dialogue on Climate Action process.

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The development of the National Adaptation Framework is currently²⁶ undergoing a six week public consultation period where the draft NAF will be reviewed by the relevant stakeholders, and their input will be incorporated into the final Framework. Sectoral plans will also be subject to a public consultation during their development. The final NAF and sectoral plans will be subject to review once every 5 years in accordance with the Climate Action and Low Carbon Development Act 2015.

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	Yes / <u>In progress</u> / 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) Yes / In progress / No	<u>Yes</u> / In progress / No

²⁶ At the time of publication of this Country Fiche

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
	(e.g. in response to revised IPCC assessments)	
3c	Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making.	Yes / In progress / No
3d	Climate risks/vulnerability assessments take transboundary risks into account, when relevant	Yes / In progress / No
4 Knowledge gaps		
4	Work is being carried out to identify, prioritise and address the knowledge gaps	Yes / In progress / No
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
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
Step C: Identifying adaptation options		
6 Identification of adaptation options		
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
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
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
7 Funding resources identified and allocated		
7	Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action	Yes / In Progress / No
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

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
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 sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies	Yes / <u>In 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