



Strategic Environmental Assessment Screening Report

For
**Climate Change Adaptation Strategy for Waterford City
& County Council**

*Determination of the need for a Strategic Environmental
Assessment for Waterford City & County Council Climate
Change Adaptation Strategy prepared under the National
Climate Change Adaptation Framework*

September 2019

ON BEHALF OF
Climate Action Regional Office (CARO)

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DOCUMENT CONTROL SHEET

Revision	Status	Author(s)	Reviewed	Approved	Issue Date
1.0	Draft	Mairead Foran <i>Environmental Consultant</i>	Jim Dowdall <i>Director</i>	Jim Dowdall <i>Director</i>	18/04/2019
2.0	Draft for Consultation	Mairead Foran <i>Environmental Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	28/05/2019
3.0	Final	Mairead Foran <i>Environmental Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	04/09/2019

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1 INTRODUCTION

1.1 Background

The Earth's Climate is changing. While natural fluctuations in climate are considered normal, emerging research and observational records from across the world show rates of change that are far greater than those experienced in recent history. Global temperatures have risen and are projected to rise further bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. Ireland's climate is changing in line with global patterns and these changes are bringing significant and wide ranging economic, environmental and social impacts.

Climate change is now recognised as a global challenge with policy responses required in terms of both mitigating the causes of climate change and in adapting to the now inevitable consequences of our changing climate. Action at local level is vitally important to help reduce the risks and impacts of climate change across communities.

This local authority Climate Change Adaptation Strategy forms part of Ireland's national strategy for climate adaptation as set out in the National Adaptation Framework (NAF) which was produced under the provisions of the Climate Action and Low Carbon Development Act 2015.¹

It is tasked with mainstreaming climate change adaptation over time into all functions, operations and services of the local authority. It seeks to inform or 'climate proof' existing plans and policies produced and implemented by the local authority. This ensures a considered, consistent and coherent approach, facing head-on the challenges of a changing climate. Crucially, it also helps in building resilience within the local authority organisation itself as well as across all communities.

2 LEGISLATIVE CONTEXT

2.1 Strategic Environmental Assessment

A Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or program, or variation to a plan or program, before a decision is made to adopt it. The SEA Directive² requires, inter alia, that SEA is undertaken for certain plans, programs or variations to these.

The SEA Directive has been transposed into Irish law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004) and The Planning and Development Strategic Environmental Assessment (SEA) Regulations 2004 (S.I. 436 of 2004). These Regulations have since been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (SEA) (Amendment) Regulations 2011 (SI No. 201 of 2011). The criteria as set out in Annex II of The SEA Directive (Directive 2001/42/EC) on the assessment of the effects of certain plans and programmes on the environment and as also set out in Schedule 2A of the Planning and Development (SEA) Regulations 2004 (S.I. No. 436 of 2004) need to be considered while drafting of the Climate Change Adaptation Strategies.

¹ *Climate Action and Low Carbon Development Act 2015* (S.I. No. 25/2016). Available at <http://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/htm>

² Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment

This SEA screening report is consistent with the process as recommended by The Department of Environment, Heritage and Local Government guidance document entitled *Implementation of SEA Directive 2001/42/EC Assessment of the Effects of Certain Plans and Programmes on the Environment November 2004*, specifically Chapter 3 (SEA: Screening and Scoping) and furthermore uses the criteria for SEA screening criteria set out in the SEA Directive.

An Appropriate Assessment Screening Report has also been prepared for this Climate Change Adaptation Strategy in line with Article 6(3) of the EU Habitats Directive (92/43/EEC).

2.2 Climate Change Adaptation

2.2.1 International Context

The **United Nations Framework Convention on Climate Change (UNFCCC)** is an international environmental treaty adopted in May 1992. The framework's objective is "*to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system*". The framework did not set binding limits on greenhouse gas emissions and contained no enforcement mechanisms. However, the framework outlined how specific international treaties may negotiate further action towards its key objective. **The Paris Agreement 2015** is a protocol set within the context of the UNFCCC (ratified by Ireland on 4th November 2016) and it is aimed at:

- Limiting global warming to less than 2⁰C above pre-industrial level and pursuing efforts to limit the temperature increase to 1.5⁰C.
- Building resilience and increasing the ability to mitigate the impacts of climate change.

The agreement states the need for Parties to formulate and implement National Adaptation Plans.

2.2.2 EU Context

The 2013 EU Strategy on Adaptation to Climate Change encouraged all Member states to adopt comprehensive adaptation strategies. It sought better informed decision making through the identification and addressing of gaps in knowledge about adaptation. The European Climate Adaptation Platform Climate-ADAPT, was developed as a resource mechanism to help users access and share information on adaptation.

The Global Covenant of Mayors for Climate and Energy is a voluntary, bottom up, approach for cities and local governments to combat Climate Change and move towards a low emission, resilient society. The Global Covenant of Mayors for Climate and Energy brought the Compact of Mayors and the EU Covenant of Mayors under one international body in January 2017 incorporating over 9,000 cities and local governments.

2.2.3 National Context

The 2012 National Climate Change Adaptation Framework (NCCAF) was Ireland's first step in developing a national policy on adaptation actions to combat the impacts of climate change.

The National Policy Position on Climate Action and Low Carbon Development 2014 restated the policy position of the NCCAF, 2012. Greenhouse gas mitigation and adaptation to the impacts of climate change were to be addressed in parallel national plans under an evolving climate policy to 2050.

The Climate Action and Low Carbon Development Act 2015 was a landmark national milestone in the evolution of climate change policy in Ireland. It provides the statutory basis for the national transition objective laid out in the National Policy Position (as per above). Further to this, it made provision for and gives statutory authority to both the National Mitigation Plan (NMP), published in 2017 and the

National Adaptation Framework (NAF) published in 2018. This Local Adaptation Strategy forms part of the National Adaptation Framework.

The Local Authority Adaptation Strategy Development Guidelines 2018 provides guidance to Local Authorities to develop their own Climate Action Adaptation Strategy. In developing this adaptation strategy Waterford City & County Council has been consistent with these guidelines.

2.3 Waterford's Climate Change Adaptation Objectives

The purpose of the Waterford City & County Council's Climate Change Adaptation Strategy is to achieve the national objective of becoming a more climate resilient society and economy by 2050. In order to help tackle current and future challenges that climate change can present, Waterford City & County Council have set out a number of key objectives in their strategy, under eight thematic principles. Table 1 below outlines Waterford City & County Councils Climate Change Adaptation Strategy objectives per theme.

Under each theme in the Climate Change Adaptation Strategy there are a number of actions that have been detailed to achieve each Objective. All the actions per theme can be found in Appendix 1.

TABLE 1 WATERFORD'S CLIMATE CHANGE ADAPTATION STRATEGY OBJECTIVES

Goal 1: Business Operations & Continuity	
1	To support and ensure the successful mainstreaming and practical implementation of climate change adaptation actions into all activities of WCCC.
2	Building resilience and capacity within WCCC to support service delivery and to respond effectively to extreme weather events.
3	To identify and support opportunities that may arise from pursuing climate change adaptation actions through the functions of WCCC.
Goal 2: Infrastructure and Built Environment	
1	To increase the resilience of roads and transport infrastructure resulting from extreme weather events.
2	To increase the resilience of WCCC buildings and housing stock.
3	To ensure and increase the resilience of critical infrastructure and infrastructural assets.
Goal 3: Landuse and Development Policy	
1	To consider and integrate climate change adaptation actions into land use and planning policies.
2	Implementing climate change adaptation action policies to help the transition to a climate resilient low carbon society.
Goal 4: Water Services	
1	To implement adaptation measures to limit the risk and impact of urban flooding.
2	To provide and plan for effective drainage systems.
3	To provide for adequate and high quality water supply in times of extreme drought conditions.
Goal 5: Natural Resources and Cultural Infrastructure	
1	To protect heritage and cultural infrastructure which may be affected by extreme weather events.
Goal 6: Community Health and Wellbeing	
1	To build capacity and resilience within communities to help minimise the effects of extreme weather events.
2	To collaborate with external agencies and work with communities to enhance the effectiveness of community programmes related to climate change.
3	To protect and encourage climate change resilient community infrastructure within Waterford County.

4	To support climate change adaptation in schools & community groups.
5	To cater for an increase in immigrants displaced as a result of a changing climate.
Goal 7: Biodiversity	
1	To support biodiversity with the implementation of the All-Ireland Pollinator Plan.
2	Protect and enhance biodiversity to increase the resilience of natural systems to climate change.
3	To promote effective biodiversity management and enhance protection of natural habitats and landscapes.
Goal 8: Coastal Flooding & Erosion	
1	To adapt to and prepare for rising sea levels and higher tides.
2	To cater for increase in coastal erosion/deposition and coastal protection due to increasing sea level, maritime storms and higher tides.
3	To support the protection of coastal infrastructure.
4	To replace natural wetlands which have been lost as a result of rising sea levels.

2.4 Consultation

2.4.1 Environmental Authorities

Article 5 (4) of the SEA Directive specifies that each Member State should designate the relevant Environmental Authorities which, by reason of their specific environmental responsibility, are likely to be concerned with the potential environmental effect of any plan or programme. Article 9(5) and 9(6) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended) details the need for the competent authority (Waterford City and County Council) to consult the relevant environmental authorities regarding the development of certain plans and programmes. On an Irish context, as a minimum the following environmental authorities should be contacted when developing county plans and programmes:

- Environmental Protection Agency (EPA);
- The Minister for the Environment (Minister Communications, Climate Action and Environment) – *where the planning authority considers that a plan might have significant effects in relation to the architectural or archaeological heritage or to nature conservation; and*
- The Minister for Communications, Marine and Natural Resources (Minister for Agriculture, Food and the Marine) - *where the planning authority considers that a plan might have significant effects on fisheries or the marine environment.*

Waterford City and County Council on the 22nd June 2019 sent the Draft Climate Change Adaptation Strategy and the SEA Screening Report to the following Environmental Authorities:

- Environmental Protection Agency (EPA);
- The Department of Agriculture and the Marine;
- The Department of Communications Climate Action and Environment; and
- The Department of Culture, Heritage and the Gaeltacht.

2.4.2 Public Consultation

Post Environmental Authority consultation, Waterford City and County Council conducted a four-week period from 22nd July 2019 to 19th August 2019, where the Draft Climate Change Adaptation Strategy, with the accompanying SEA Screening Report and Appropriate Assessment (AA) Screening report were presented for public consultation. The follow outreach methods were used:

- Newspaper Notice was published in the Munster Express and Dungarvan Leader on week commencing 22nd July 2019;
- Public notice was published on the Council's website and the documents were available for download;
- Details were posted on the Council's Social Media;
- All Elected Members of Waterford City and County Council were notified of the public consultation process prior to commencement;
- Draft documents were made available for public inspection at Customer Care desks in Waterford City and Dungarvan county council offices;
- Draft documents were made available for public inspection at the following Council Branch Libraries:
 - Ardkeen Library;
 - Browns Road Library;
 - Cappoquin Library;
 - Carrickphierish Library;
 - Central Library;
 - Dungravan Library;
 - Dunmore East Library;
 - Kilmacthomas Library;
 - Lismore Library;
 - Portlaw Library;
 - Tallow Library;
 - Tramore Library; and
 - Library Headquarters, Waterford City.
- The following adjoining Local Authorities were notified:
 - Cork County Council;
 - Kilkenny County Council;
 - Tipperary County Council; and
 - Wexford County Council.

A number of submissions came in during the consultation period, and 14 submissions were received in total, from the following organisation and individuals:

- Department of Agriculture, Food and the Marine;
- Environmental Protection Agency (EPA);
- Fáilte Ireland;
- Gas Networks Ireland (GNI);
- Geological Survey Ireland;
- Irish Water;
- Office of Public Works (OPW);
- EcoMerit Environmental Business Support;
- Waterford City & County Environmental Linkage Group;
- Cllr. Marc Ó Cathasaigh;
- Cllr. Jody Power;
- Susan Gallagher;
- Maoliosa Ní Chléirigh; and
- Jane Russell-O'Connor.

2.4.3 Summary of Consultation submissions

Table 2 details the summary of each of the organisations and individuals that made a submission to the consultation periods and a summary of the response from Waterford City and County Council to each of the submissions is detailed.

TABLE 2 SUMMARY OF CONSULTATION SUBMISSIONS AND RESPONSES

Organization / individual	Summary submission	Waterford City and County Council response
<p>Department of Agriculture, Food and the Marine</p>	<ul style="list-style-type: none"> • Highlighted farmers are the largest landowners within the County and have ability to aid WCCC in its adaptation and Mitigation efforts. Adaptation measures implemented by Farmers includes forestry planting/management, soil erosion, nutrient management, grazing management of sensitive soils, farming intensity within river catchments and many more issues will all influence adaptation/mitigation decisions at a county level. • Highlight the impacts of restricted water supplies to farmers during severe weather conditions. In addition to excess rainfall events will hamper the council's ability to provide basic services. • Emphasised the impact on inland aquaculture and sea food related infrastructure such as costal harbours and piers. • Suggested farmers and agricultural contractors in general have access to machinery and equipment that during previous severe weather events was utilised by local county councils for assistance with snow removal and flooding relief. • Suggested that there will be an increased risk of uncontrolled fires that may occur as a result of hotter drier summers caused by climate change. • Highlighted issues with slurry storage and land spreading has been identified as an impact from the changing climate due to wetter winters affecting timing of slurry spreading. This may lead to nutrient loss and run off causing water quality issues for the local authority to monitor and manage. Increased ammonia emissions which will affect air pollution will be likely also due to spreading slurry when ammonia loss is at its highest. • Highlight the issue of soil sediment run off would impact water quality in river catchments. In addition to non- 	<p>Updated Action 10 under Goal 1 Business Operations & Continuity to the following:</p> <p><i>Encourage external agency and departmental collaboration to increase climate change resilience providing for:</i></p> <ul style="list-style-type: none"> ➤ <i>Emergency planning and coordination</i> ➤ <i>Coordinating and sharing expertise & experiences around adaptation actions.</i> ➤ <i>Liaison with the relevant Departments and Agencies regarding the implementation of actions set out in sectoral climate adaptation strategies.</i> ➤ <i>Development of a plan to utilize the resources of farmers, agricultural contractors and community groups to clear and keep roads open after extreme weather events.</i>

	<p>native Invasive Species and damage to biodiversity.</p> <ul style="list-style-type: none"> • Highlight the potential infrastructure damage and associated impacts including health and safety. • Food safety issues could potentially arise where irrigation interventions are required. In relation to groundwater, an action is noted to protect water sources and groundwater supply. 	
<p>Environmental Protection Agency</p>	<ul style="list-style-type: none"> • Suggested the Strategy could describe the links with the UN Agenda 2030 for Sustainable Development and the relevant Sustainable Development Goals (SDGs). This is important so that climate adaptation planning is framed within the context of the wider sustainable development agenda. In identifying measures to respond to climate change, the Strategy should seek to align with and support progress in implementing with the relevant SDGs, with reference to the National SDG Implementation Plan. • Suggested the Strategy could include a schematic or graphic, clarifying the relationship between the Strategy and the Climate Act, the All-of-Government Climate Action Plan, National Adaptation Framework, adaptation guidelines etc. • Highlighted, that in preparing and implementing the Strategy, you should ensure that any potential negative environmental impacts are minimised. Recommending that the Strategy includes a commitment that potential adverse cumulative / in-combination environmental effects are accounted for when considering, selecting and implementing specific adaptation measures. This is important to ensure that environmental sensitivities under the Habitats Directive and Water Framework Directive are protected. • The Strategy should clearly reference the climate data and projections/scenarios used in developing the Strategy. It would be beneficial to develop a common set of climate projections that can be used for adaptation, infrastructure and investment planning to 2050 and beyond. • Recommending that the Strategy should refer to the relevant OPW flood risk management plans. The second cycle of OPW flood risk management plans is currently underway and will cover areas outside the 	<p>Reference to UN Sustainable Development Goals is now included in Chapter 1</p> <p>Description of various adaptation responses is now included in strategy.</p> <p>Wording updated as appropriate – see updated actions in Appendix 1</p>

	<p>scope of the first cycle, including more rural areas. These should help inform the Strategy and future reviews.</p> <ul style="list-style-type: none"> • Highlighting where coastal impacts are identified, the Strategy should consider any relevant actions associated with integrated coastal zone management, in collaboration in with adjoining local authorities and other key stakeholders. • Where changes to the Strategy are made prior to finalisation, or where modifications to the Plan are proposed following its adoption, these should be screened for potential for likely significant effects in accordance with the criteria set out in Schedule 1 of the SEA Regulations (S.I. No. 435 of 2004). • In Chapter 5 – Goals, Objectives and Actions, consider including an additional high-level goal reflecting the need for more effective implementation of relevant related regulations, policies, plans and strategies with a role in climate adaptation and environmental protection. • Section 5.2 Adaptation Actions and Framework for Waterford City & County Council • Under Goal 3: Landuse and development, consider amending the text as follows “Sustainable policies and measures are devised and implemented to influence positive behavioural changes, support climate adaptation actions ...” • Under Goal 5: Natural Resources and Cultural Infrastructure, consider amending the text as follows “Fostering and implementing meaningful approaches to protecting natural and key cultural assets...”. • Adaptation responses can take the form of: <ul style="list-style-type: none"> - “grey” engineered measures to reduce climate hazards, such as the construction of flood defences; - “green” ecosystem or nature-based adaption measures, such as catchment attenuation, up-grading and conserving of existing sea defences and harbour infrastructure, the restoration of dune systems and wetlands to buffer against sea-level rise; 	
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	<ul style="list-style-type: none">- “soft” adaptations that aim to alter the behaviour of the public through policy or economic instruments, such as reusing buildings and reducing demolition, sourcing environmentally sustainable building materials for major infrastructure, offering discounted insurance on homes that retrofit flood defences or early warning systems that communicate directly and effectively to vulnerable communities and enable appropriate local actions in response to limit exposure and damage.• Table Goal 2 – Infrastructure and Built Environment refers to incorporating green infrastructure as a mechanism for carbon offset. We recommend also referring to the wider environmental benefits of green infrastructure, such as microclimate benefits including providing shade to alleviate heat stress, supporting for urban biodiversity, water retention, and flood alleviation etc. 6• Table G7 – Biodiversity Action 9 text could be amended to: “an active native tree planting programme...”• Action 11 relating to natural borders/buffers/blueways/greenways, we recommend that you consult with NPWS to ensure appropriate buffer zones are provided, maintained and protected, to avoid potential impacts on designated habitats or protected species and habitats, and to protect and enhance wider biodiversity.• Chapter 6 – Implement, Monitor and Evaluate There is merit in establishing an ‘Implementation Plan’ to deliver the actions set out in the Strategy. This implementation plan should consider the requirements of the SEA Directive and Habitats Directive, as relevant and where appropriate.• Further information could be provided on what monitoring will be carried out, and over what frequency, to determine the effectiveness of implementing the Strategy. The relationship with the Southern Regional Assembly should also be considered in terms of aligning monitoring aspects and any relevant regional objectives, set out of the Southern Regional Spatial and Economic Strategy.	
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<p>Fáilte Ireland</p>	<ul style="list-style-type: none"> • Highlights that Ireland’s natural and cultural heritage are among the main reasons why visitors chose Ireland for their holidays. The impact of climate change on natural and cultural heritage can have negative consequences for tourism. • Recommends that from a tourism perspective it is imperative that adaptation and mitigation measures carefully consider the impact on tourism and tourism amenities and to consider any unintended consequences for heritage and tourism that might arise. • Suggests that the construction of coastal defences and inland flood relief works can have negative impacts on aspects of our natural and cultural heritage such as beaches, sand dunes and historic town centres. • Hard engineering works to protect coastal tourism assets or infrastructure must be considered in light of natural coastal processes and the potential long-term impacts on the heritage value, and indeed the tourism value of the area. It is vital that protection works do not exacerbate the problem, which may lead to the eventual undermining and possible complete loss of the tourism asset. 	<p>Waterford City and County Council acknowledge the submission. No text changes to the Strategy.</p>
<p>Gas Networks Ireland</p>	<ul style="list-style-type: none"> • GNI has considered the potential impact of climate change on the gas network and has worked with the Department of Communications, Climate Action and Environment to develop the ‘Climate Change Adaptation Plan for the Electricity and Gas Network Sector’. Ireland’s natural gas network consists of buried pipelines, which are not subject to the vulnerability of storms that can impact the delivery of oil or the transport of electricity through overhead wires. In addition, the routing of the gas network is designed to take account of flood plains, avoiding areas prone to flooding where possible. • Suggests that transportation of gas is unobtrusive and particular attention is taken to minimise the impact on local flora and fauna. GNI is committed to biodiversity and archaeology through the minimisation of the environmental impact of any construction and development activities. This involves a partnership approach with environmental and heritage groups on all 	<p>Waterford City and County Council acknowledge the submission. No text changes to the Strategy.</p>

	<p>construction projects, as well as employing engineers and environmental specialists to carry out environmental assessments at the planning and construction phases of developments. GNI returns all land to its original state following construction.</p> <ul style="list-style-type: none"> • Highlights that moving energy through gas pipelines is considered the most efficient method of transporting energy and there is potential for this efficiency to be further exploited by connecting new customers to both the transmission and distribution networks. The existing transmission and distribution networks have spare capacity to accommodate new connections. • Transportation of energy through gas pipelines is the most efficient mode to transport energy and Ireland's gas network has proven its resilience for over 40 years in particular withstanding extreme weather conditions in recent years. GNI asks that the Council considers the role that CNG and renewable gas can play in reducing carbon emissions in the region. 	
<p>Geological Survey Ireland</p>	<ul style="list-style-type: none"> • Geological Survey Ireland encourages the use of their data and maps when creating the EIAR for the Climate Adaption Strategy. • The Copper Coast is an UNESCO Geopark and Climate Change education and green tourism are one of the focus areas of UNSECO Global Geoparks. • Groundwater is important as a source of drinking water, and it supports river flows, lake levels and ecosystems. • With regards to flood risk management, there is a need to identify area for integrated constructed wetlands. • With anticipated changes in storm frequency and intensity, GSI has a number of ongoing projects looking at changes along the coastline such as erosion, sediment accumulation and flooding. We suggest that WCCC takes this into consideration and stays current with coastal models. 	<p>Updated Action 2 under Goal Water Services to the following:</p> <p><i>Ensure that potential flood information is obtained and generated through a Flood Risk Assessment (FRA) that is then used to inform suitable adaptation requirements within planning and development management in line with the guidelines on the planning System and Flood Risk Management. National aquifer and recharge maps will be reviewed as part of this process.</i></p>

<p>Irish Water</p>	<ul style="list-style-type: none"> Irish Water looks forward to collaborating with Waterford County Council in implementing the measures set out in the recently published Government Climate Action Plan and in the Draft Climate Change Sectoral Adaptation Plan: Water Quality and Water Services Infrastructure published in May by the DHPLG, in particular as regards using Integrated Catchment Management [ICM] to provide a cost-effective, sustainable means to reduce the sources of pollutants, and to slow, limit or restrict pathways of pollutants to water bodies 	<p>Updated Action 9 under Goal Water Services to the following:</p> <p><i>Protection of water sources servicing treatment plants and protection of ground water supply through the implementation of Integrated Catchment Management</i></p>
<p>Office of Public Works</p>	<ul style="list-style-type: none"> Highlights the term 'CFRAM' is noted a number of times as Lead & Partner (Goal 3, 4 and 8). Please note that CFRAM was a study that is now completed. The outputs are the Flood Risk Management Plans including a number of flood maps but it is not a body (Lead or Partner). We would suggest to remove the term from Lead & Partner. Suggests that most of the actions under Goal 8 refer to coastal flooding and we would suggest to rename this goal to 'Coastal Flooding and Erosion'. OPW could then be a partner under Goal 8 Objective 1.1, 1.2, 1.3, 1.4 and 1.5 but not 1.6 or 1.7. Highlights the towns of Aglish and Ballyduff are identified as "tranche 1" flood protection schemes and Dunganvan & Environs in the second phase as "tranche 2" flood protection schemes; all of these schemes will consider climate change adaptation. The OPW would welcome their promotion and support within the Strategy. Suggests that the OPW is noted under Goal 6 Objective 1 'To build capacity and resilience within communities to help minimise the effects of extreme weather events.' This has been noted in other LA strategies but OPW is not aware of this role 	<p>Replace CFRAM with OPW as Lead/Partner as appropriate.</p> <p>Goal 8 renamed to <i>Coastal Flooding and Erosion</i></p>

<p>EcoMerit Environmental Business Support</p>	<ul style="list-style-type: none"> • Welcomes the publication of WCCC's draft Climate Change Adaptation Strategy. • Adaptation is one of two main strands in addressing climate change, the other being mitigation or reducing the emission of greenhouse gases • Offer of help to organisations to reduce their emissions, save water, reduce waste and cut costs. 	<p>Waterford City and County Council acknowledge the submission. No text changes to the Strategy.</p>
<p>Waterford City & County Environmental Linkage Group</p>	<ul style="list-style-type: none"> • Recommend that all SPCs will include in their work plan (agendas, etc), a consideration of how climate change might impact on their respective areas of responsibility and accordingly to recommend actions where appropriate. • It is recommended that a climate action task force is formed and should include participation of the ELG and the PPN. 	<p>Waterford City and County Council acknowledge the submission. No text changes to the Strategy.</p>
<p>Cllr. Marc Ó Cathasaigh</p>	<ul style="list-style-type: none"> • Highlights that Waterford City Council have signed up to the "EU Covenant of Mayors" on the 9/5/2011. Reaffirming our commitment to the Covenant of Mayors programme would be an important step along the road in our climate mitigation measures, but not if we are only paying lip-service to the goals and ideals contained therein. • Suggests that the size of the Climate Action Regional Office (CARO) region is too large and a Midlands and South East region would better meet the challenges of Climate Change Adaptation and Mitigation. • On page 31 of the Risk Statement, the impact of sea-level rise biodiversity is rated as a low priority. I cannot agree that the risk presented by sea-level rise is a low risk factor. • Detail on the structure and composition of the Climate Action Steering Group, which will be formed to implement the strategy, is required. • Further in Goal 1, Objective 1, I believe there is a need to strengthen the language used. Under No. 3, 'Explore the potential of appointing a Climate Action Officer' should be changed to 'Appoint a Climate Officer'. Likewise in No. 5, consider changing the title' should be altered to read 'change the title'. • Under Goal 2, Objective 1, No. 2 reference is made to green infrastructure. The Green Infrastructure Plan is, 	<p>The structure of the CARO Offices is outside the scope of this adaptation strategy and was implemented by the DCCAE.</p> <p>The appointment of a Climate Action Officer would be subject to budget and Department approval. Changing of the title of the SPC is a matter for the SPC and the Elected Council in accordance with the SPC Scheme.</p> <p>A Green Infrastructure strategy will be included as part of the next Development Plan</p> <p>A Land Use Characterisation Study forms part of the Development Plan, any actions arising from the strategy will have regard to the study.</p> <p>The installation / development of micro grids and the development of Sustainable Energy Communities are mitigation measures and not covered under this Adaptation strategy.</p> <p>WCCC currently support community gardens in Dungarvan and Tramore and also support food festivals and food markets throughout the county.</p> <p>Updated Action 3 under Goal Landuse and Development to the following:</p>

	<p>as I understand it, unfinished. Finishing and implementing this plan should be a goal explicitly included in this section of our Climate Adaptation Plan.</p> <ul style="list-style-type: none"> • In Goal 3 - Land Use and Development Policy: It is disappointing that no specific landscape features in the county are referenced or any specific outcomes listed. • Under Goal 3, Objective 1: There is very little specific consideration here of how we plan to hold and retain stormwater. There is huge scope here to consider the use of rain gardens to harvest and retain water in our cities, to plan for the restoration of our upland bogs and wetlands to absorb and retain water and to consider upstream soft engineering options that could alleviate flooding along our rivers. There is similarly no discussion of the 'Room for the River' approach which has been successfully adopted in many areas in the Netherlands. • Goal 4: There is no mention at any point here of initiatives aimed either at the reuse of grey water within our water services system or rain water harvesting measures. Considering that climate modelling points to increased and more prolonged periods of drought in the Southeast, I would expect these methods of water conservation to be given due consideration in the final draft of this adaptation plan. • Goal 6, Objective 3: In considering climate change resilient communities, our climate adaptation plan should investigate possibilities around planning for micro-grids in both new and existing housing developments as well as fostering the development of Sustainable Energy Communities. • There is a role for the council in encouraging food resilience through Community Supported Agriculture (CSA) models and local food initiatives such as community gardens and allotments associations. 	<p><i>A Green Infrastructure strategy will be included as part of the next Development Plan</i></p>
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<p>Cllr. Jody Power</p>	<ul style="list-style-type: none"> Proposed update to Goal 1 Business Operation & Community, Action 3, as follows: WCCC to provide leadership and consultation to local businesses in the planning and implementation of climate change mitigation and adaptation strategies (CCMAS) Suggests that WCCC to instruct all WCCC members of external boards to promote and vote for WCCC policies regarding CCMAS. WCCC to ultimately eliminate all actions that currently contribute to climate change and desist from all future actions that augment the problem. Proposed update to Goal 2 Infrastructure and Built Environment, Action 10 to include the Civil Defence and Garda. Proposed update to Goal 3 Landuse and Development Policy, Action 6- Include the words "...Sustainable transport networks, MACHINERY and INFRASTRUCTURE across" and Remove the word "encourage" and Insert "Promote and Adopt". Proposed update to Goal 6 Community Health and Wellbeing Action 3 suggesting WCCC should identify and provide emergency homeless shelters and provisions for mass evacuation potentialities. Proposed update to Goal 6 Community Health and Wellbeing Action 9. Risk Assessments of Trees on Roads.....please add " 30 days public notice given before any and all destruction of habitat in the public realm". 	<p>An Garda Síochána and the Civil Defence are represented on the Severe Weather Assessment Team (S.W.A.T.).</p> <p>A number of submissions referred to the use of trees as a climate adaptation measure. Goal 7 Biodiversity – Objective 1 Action 2 will be amended to allow for the preparation of a tree management strategy that will deal with the use of trees for climate adaptation.</p> <p>Updated Action 6 under Goal 3 Landuse and Development to the following:</p> <p><i>Implement a plan to promote Sustainable Transport Networks including road infrastructure and modes of transport across Waterford as an alternative way of travelling.</i></p> <p><i>Encourage the use of Greenway / Blue way routes and other amenity trails.</i></p> <p>Updated Action 3 under Goal 6 Community Health & Wellbeing to the following:</p> <p><i>Develop a programme for vulnerable communities to enhance their capacity to respond to and recover from extreme weather events with aims such as:</i></p> <ul style="list-style-type: none"> ➤ <i>Providing advice on the risk of extreme events affecting their locality.</i> ➤ <i>Providing support to develop appropriate resilience arrangements to enable response and recovery.</i> ➤ <i>identify and provide emergency homeless shelters and provisions for mass evacuation potentialities.</i> <p>Updated Action 2 under Goal 7 Biodiversity to the following:</p> <p><i>Review the Waterford Biodiversity Action Plan and provide for actions that ensure:</i></p> <ul style="list-style-type: none"> ➤ <i>Risks from adverse climate change have been identified.</i> ➤ <i>Carbon capture within habitats is considered.</i> ➤ <i>Invasive species are examined.</i> ➤ <i>Identify areas considered beneficial for use as local carbon offset through carbon sequestration .</i>
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		<p>➤ <i>Development of Tree Management Strategy</i></p>
<p>Susan Gal-lagher</p>	<ul style="list-style-type: none"> • Suggests when cleaning up after an extreme weather event, concentrate first on providing access to emergency services, and then on clearing footpaths, as the most vulnerable in our society are more likely to be walking rather than driving. In the aftermath of Storm Emma, snow was cleared from roads and piled up on footpaths, making some of them inaccessible. • Recommends the use of swales, filter strips, or other suitable SUDS components to attenuate and treat runoff from roads. • Suggests considering the using bioretention, raingardens or similar when designing footpaths in urban areas. • Recommends when planting trees, choose species that will not grow too big and choose native species and/or pollinator friendly species where possible. • Recommends the use of natural water retention measures to meet flood management and biodiversity objectives. Prevent development on flood plains, and increase the available flood plain for rivers if necessary. • Suggest the Including urban greening as part of a SUDS train, where appropriate. When planting vegetation, choose native species where possible. • Recommends including rainwater harvesting and/or green roofs as a planning requirement for new buildings. • Suggests including cycling and walking as part of this plan. Provide suitable cycle lanes, and widen footpaths to allow for wheelchair access. Prevent parking on footpaths, as this makes them inaccessible to users of buggies and wheelchairs. When new housing developments are being designed, incorporate walking routes to allow for easy access from one estate 	<p>Storm Emma, was a rare extreme weather event. It was necessary to clear snow to keep all major and minor roads open to allow emergency services to operate and public services, businesses to reopen. The primary task after an extreme weather event is to get the transport network operational as soon as possible.</p> <p>WCCC applies the standards as set out in the National Guidelines on Sustainable Urban Drainage Solutions to new developments as part of the flood risk mitigation of these developments</p> <p>A number of submissions referred to the use of trees as a climate adaptation measure. Goal 7 Biodiversity – Objective 1 Action 2 will be amended to allow for the preparation of a tree management strategy that will deal with the use of trees for climate adaptation.</p> <p>WCCC currently reference CFRAM maps as a means of eliminating developments on flood plains.</p> <p>A Green Infrastructure policy will be included as part of the next Development Plan and this combined with the National Guidelines on SUDS will address this issue.</p> <p>WCCC implement the Building Regulation Standards, subsequent changes to these standards which includes rainwater harvesting and green roofs will be included as planning requirements for new buildings.</p> <p>In new developments runoff water from hard paving goes into the drainage network and not into the sewerage network.</p> <p>These items are climate change mitigation items and planning matters and</p>

	<p>to another. In existing estates, create new walkways where possible.</p> <ul style="list-style-type: none"> • Suggests that some of ideas from other countries of retrofitting SUDS systems should be incorporated in urban areas in Waterford. In addition, other development in Waterford has not incorporated SUDS. The redevelopment of Apple Market could have been an opportunity to include SUDS, but no such systems were used. During heavy rainfall, water flows down New Street and across the Apple Market paving, towards Spring Garden Alley. Some form of SUDS, such as bioretention, permeable paving or SUDS tree pits in the area would have been welcome. Likewise, the work to develop Grattan Square in Dungarvan would have benefitted from some SUDS systems. I would like to see requirement to include appropriate SUDS included when development such as this is being undertaken. 	<p>not covered for within the adaptation strategy.</p>
<p>Maoliosa Ní Chléirigh</p>	<ul style="list-style-type: none"> • Suggests edits to Goal 1 Business operations and continuity: Objective 2. No 6: Aim to convert all Council's vehicles to clean energy vehicles (electric or hydrogen). • Suggested edit to Goal 2: Infrastructure and Built Environment: Objective 1: No 1. That any road infrastructure programme should include the addition of an off-road bicycle lane and pedestrian path. Explore the possibility of these lanes being separated from the road by greenery if possible in the countryside. • Recommends an edit to Goal 3: Land Use and Development: Objective 1, No. 2: Add 'encourage urban renewal by assisting the renovation and insulation of inner city buildings'. • Suggests an edit to Goal 4: Water Services. Objective 1, No.6. Explore the possibility of using water-absorbing trees (willow and alder) to absorb river/lake flooding and avoid overruns by planting ten metres of trees on riverbanks where possible, and encouraging this practice on private lands. 	<p>Updated Action 2 under Goal 7 Biodiversity to the following:</p> <p><i>Review the Waterford Biodiversity Action Plan and provide for actions that ensure:</i></p> <ul style="list-style-type: none"> ➤ <i>Risks from adverse climate change have been identified.</i> ➤ <i>Carbon capture within habitats is considered.</i> ➤ <i>Invasive species are examined.</i> ➤ <i>Identify areas considered beneficial for use as local carbon offset through carbon sequestration.</i> ➤ <i>Development of Tree Management Strategy</i>

<p>Jane Russell-O'Connor</p>	<ul style="list-style-type: none"> • Goal 3 - Land-use and development: Within point 3) to include that sustainable use of land should include that brown field sites should be given priority for development and retrofitting or redevelopment of derelict sites as opposed to development on green-field sites. • Suggests the promotion of the use of green roofs in urban development's • Recommends increasing street tree planting, promote the use of vertical planting in urban and semi-urban/rural areas. • Suggests that Goal 4 Drainage and Flood Management, point 2 edits: To include the use of SUDS, in particular the use of bio-retention (i.e.planting of native tree species to assist with soakage of excess water) • Recommends edits to Goal 7 Biodiversity, point 5: Protection of biodiversity, planting of pollinator species in habitats to include reduction in fragmentation and the promotion of habitat corridors in rural and semi-rural areas. 	<p>Some of the suggested edits and change are more suited and will be covered within the next version of the County Development Plan and would not be considered a climate adaptation measure.</p> <p>Changes to planning standards which include standards for green roofs will be included as planning requirements for new buildings.</p> <p>Updated Action 2 under Goal 7 Biodiversity to the following:</p> <p><i>Review the Waterford Biodiversity Action Plan and provide for actions that ensure:</i></p> <ul style="list-style-type: none"> ➤ <i>Risks from adverse climate change have been identified.</i> ➤ <i>Carbon capture within habitats is considered.</i> ➤ <i>Invasive species are examined.</i> ➤ <i>Identify areas considered beneficial for use as local carbon offset through carbon sequestration.</i> ➤ <i>Development of Tree Management Strategy</i> <p>WCCC applies the standards as set out in the National Guidelines on Sustainable Urban Drainage Solutions to new developments as part of the flood risk mitigation of these developments</p>
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The Chief Executive Report attached with Waterford City and County Council's Climate Change Adaptation Strategy provides a detailed response to each of the submissions.

2.5 Appropriate Assessment

An Appropriate Assessment Screening Report has also been prepared for this Climate Change Adaptation Strategy in line with Article 6(3) of the EU Habitats Directive (92/43/EEC). The Report concludes:

In conclusion, further to a screening of Waterford City & County Council's Climate Change Adaptation Strategy for possible significant effects on Natura 2000 sites no significant effects were identified.

The screening outlined in this report included an assessment of possible in-combination effects. Based on the objective information contained in this report and applying the precautionary principle, it is concluded that the Climate Change Adaptation Strategy will not have a significant effect on Natura 2000 sites.

The AA Screening Report accompanies Waterford City and County Council's Climate Change Adaptation Strategy.

3 DETERMINING WHETHER AN SEA IS REQUIRED

The objective of the SEA Directive for the assessment of the effects of certain plans and programmes on the Environment is to

“provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.”³

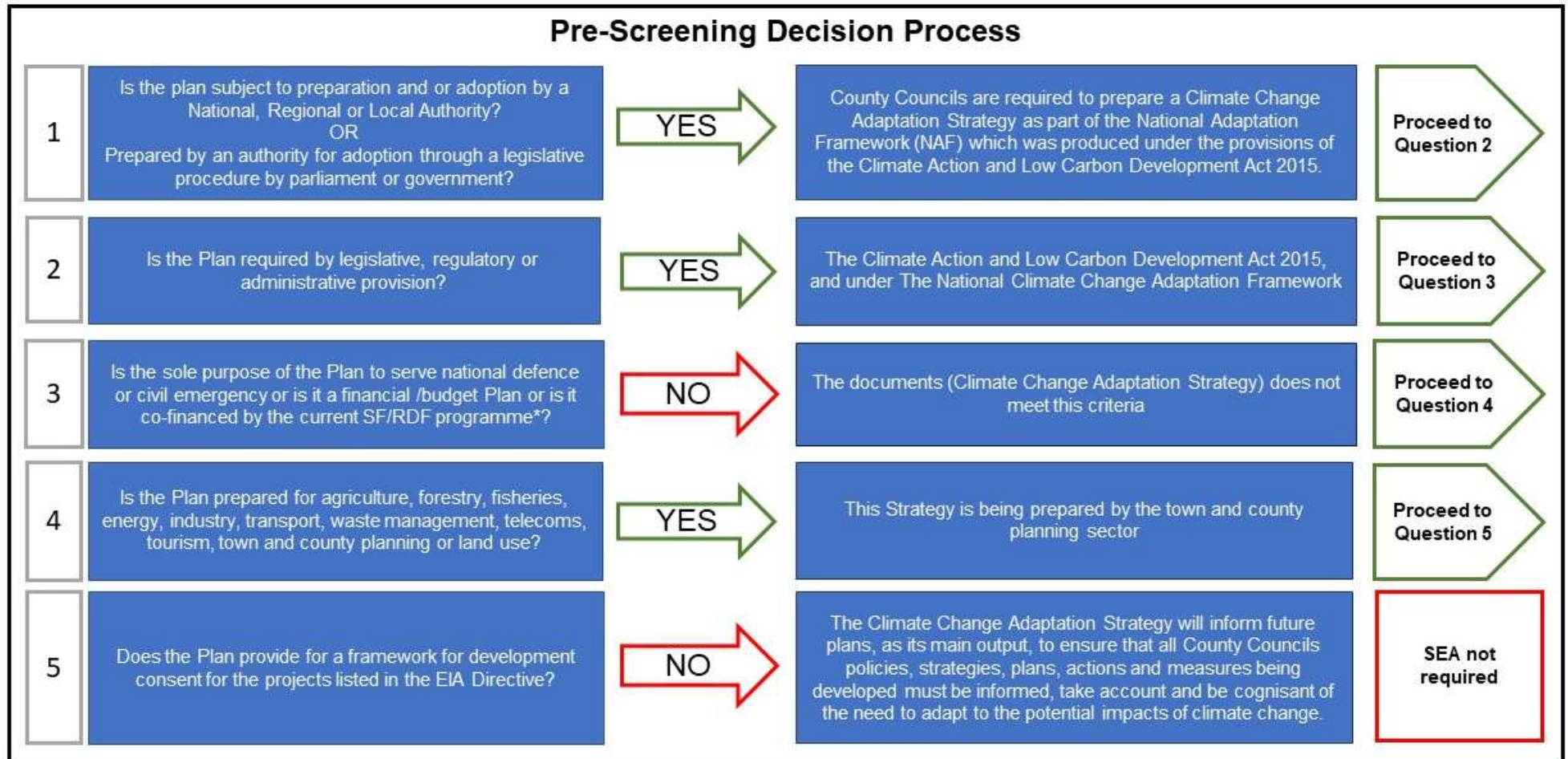
Post the Environmental Authority and Public Consultation, the updated Climate Change Adaptation Strategy was screened for SEA requirements. The below details the SEA screening process carried out

3.1 Requirement to carry out SEA – Pre-Screening Checklist

In order to determine if this Strategy is considered a plan/programme under Article 3 of the SEA Directive, a pre-screening check is necessary. Figure 1 below provides details of the pre-screening checklist; this checklist is based on the decision tree published by the EPA in the *Development of SEA methodologies for plans and programmes in Ireland*.⁴

³ Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment

⁴ P. Scott & P. Marsden., 2001-EEP/DS-2/5 *Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland* Synthesis Report © Environmental Protection Agency 2003



*SF/RDF: Structural Funds and Regional Development Funds under Council Regulation (EC) Nos. 1260/99 and 1257/99 which operate programming periods of 2000–2006 and 2000–2007, respectively.

FIGURE 1 PRE-SCREENING DECISION PROCESS

4 SEA SCREENING DETERMINATION

The Climate Change Adaptation Strategy was screened using the criteria contained in Annex II of the SEA Directive. Table 3 and Table 4 below, details the screening assessment using the *criteria for determining the likely significance of effects* as set out in the SEA Directive, Annex II.

TABLE 3 SCREENING DETERMINATION FOR ANNEX II (1.), CRITERIA FOR DETERMINING THE LIKELY SIGNIFICANCE OF EFFECTS

The Characteristics of the Plan and Programmes having regard, in particular, to, the following criteria	
Criteria	Screening Determination
The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.	<p>The purpose of this Climate Adaptation Strategy is to identify the risks to Waterford County associated with climate change, and to set strategic goals, objectives and actions to adapt to these changes.</p> <p>Waterford City & County Council's Climate Change Adaptation Strategy forms part of Ireland's national strategy for climate adaptation as set out in the National Adaptation Framework (NAF) which was produced under the provisions of the Climate Action and Low Carbon Development Act 2015.</p> <p>Waterford City & County Council's Climate Change Adaptation Strategy, if adopted, will not set a framework for future development consent of projects, i.e. projects listed in both Annex I and Annex II of the Environmental Impact Assessment Directive.</p>
The degree to which the plan or programme influences other plans and programmes including those in a hierarchy;	<p>This Climate Change Adaptation Strategy will inform other future plans, as its main output, to ensure that Waterford City & County Councils policies, strategies, plans, actions and measures being developed must be informed, take account and be aware of the need to adapt to the impacts of climate change.</p> <p>Future individual county development policies, strategies, plans and projects must be considered under the SEA, EIA and/or AA processes.</p>
The relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development;	<p>As the Climate Change Adaptation Strategy is aimed at integrating climate change adaptation into Waterford City & County Councils plans, strategies and management team's agendas, the climate change adaptation measures will be implemented via future plans.</p>

	<p>This Climate Change Adaptation Strategy's main output is to ensure that all policies, strategies and plans for Waterford City & County Council must be informed of the need to adapt to the potential impacts of climate change.</p> <p>Individual county development policies, strategies, plans and projects must be considered individually under the SEA, EIA and/or AA process.</p>
<p>Environmental problems relevant to the plan or programme;</p>	<p>The Climate Change Adaptation Strategy looks to integrate climate change adaptation into Waterford City & County Council as a management function and/or an important criterion to be considering in developing Local Authority Plans or Actions. The climate change adaptation actions taken will be implemented via future plans as its main output is to ensure that all policies, strategies, plans and measures for Waterford City & County Council must be informed of the need to adapt to the potential impacts of climate change.</p> <p>Individual county development policies, strategies, plans and projects must be considered individually under the SEA, EIA and/or AA process.</p>
<p>The relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste-management or water protection).</p>	<p>As the Climate Change Adaptation Strategy is aimed at integrating climate change adaptation into identified Waterford City & County Councils Plans and Strategies and future Plans and Strategies, with some specific actions to help raise awareness of climate change both within management team and the wider public in Waterford County, these actions can support plans and programmes that are related to waste generation, management, flood resilience and protection.</p> <p>However, these climate change adaptation actions will be implemented via future plans as its main output is to ensure that all policies, strategies, plans and measures for Waterford City & County Council must be informed of the need to adapt to the potential impacts of climate change.</p>

TABLE 4 SCREENING DETERMINATION FOR ANNEX II (2.), CRITERIA FOR DETERMINING THE LIKELY SIGNIFICANCE OF EFFECTS

Characteristics of the Effects and of the Area Likely to be Affected, taking account of the following criteria	
Criteria	Screening Determination
The probability, duration, frequency and reversibility of the effects	Waterford City & County Council Climate Change Adaptation Strategy is aimed at integrating climate change adaptation into the Local Authorities plans, strategies and management agendas, this in itself will help develop climate resilience. The climate change adaptation actions will be implemented via future plans as its main output is to ensure that all policies, strategies, plans and measures developed by Waterford City & County Council must be informed of the need to adapt to the potential impacts of climate change. Individual policies, strategies, plans and measures must be considered individually under the SEA, EIA and/or AA process. Any and all effects uncovered as part of this process will be considered in relation to the characteristics of the effects and of the area likely to be affected and the process will have regard, in particular, to the criteria as listed, according to the legislation.
The cumulative nature of the effects	
The transboundary nature of the effects	
The risks to human health or the environment (e.g. due to accidents)	
The magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)	
<ul style="list-style-type: none"> - <i>special natural characteristics or cultural heritage;</i> - <i>exceeded environmental quality standards or limit values; and</i> - <i>intensive land-use.</i> 	
The effects on areas or landscapes which have a recognised national, community or international protection status.	

5 CONCLUSION

This SEA Screening Report was carried out in order to determine the need for a Strategic Environmental Assessment for Waterford City & County Council Climate Change Adaptation Strategy prepared under the National Climate Change Adaptation Framework. It has been concluded, based on the pre-screening check, and review against the environmental significance criteria as set out in Annex II of the SEA Directive, that a Strategic Environmental Assessment is not required. This is due to the fact that this Strategy does not provide a framework for development consent for projects listed in the EIA Directive. Furthermore, the purpose of this Climate Change Adaptation Strategy is to inform Local Authority policies, procedures and further plans on the need to incorporate climate change adaptation measures and it does not set out projects, plans or specific programmes.

APPENDIX 1 CLIMATE CHANGE ADAPTATION STRATEGY – ACTIONS

Business Operations & Continuity	Actions
1	Establish a C.A.S.G which will be tasked with managing and overseeing the effective mainstreaming of adaptation measures into all WCCC plans, programmes, strategies and policies.
2	Integrate Climate Action into the Corporate Plan and provide for its translation to Team Development Plans and Personal Development Plans to enable actions to be directly pursued per operational area.
3	Explore the potential of appointing a Climate Action Officer with responsibility for climate related activity within Waterford City & County Council's administrative area.
4	Take on a more robust role in using green products in implementing adaptation measures.
5	Consider changing the title of the Environment Department, and the Environmental Services SPC to include Climate Action (to be reviewed bi-annually).
5a	Building on adaptation planning actions set out in this strategy, support and complement the practical implementation of actions arising from the National Climate Action Plan – to Tackle Climate Breakdown (as revised and updated annually), across the broad range of functions of the local authority to achieve the national climate ambition i.e. decarbonisation targets to 2030 and objectives to 2050.
6	Assess Waterford City & County Council's vehicle policy and undertake vehicle suitability assessments regularly to ensure timely and necessary maintenance for effective operation in challenging conditions.
7	<p>In context of Health and Safety (for staff and customers):</p> <ul style="list-style-type: none"> -Update WCCC's Health and Safety Statement to reflect extreme weather event related risks including for staff involved in clean-up activities after extreme events. -Ensure risk statements are completed and operation plans are reviewed in each operational area taking into consideration the potential risks to workers from extreme weather events. -Review the Lone Working policy to consider extreme weather events.
8	Develop an internal communication protocol for extreme weather events to ensure WCCC staff travel only in safe conditions.
9	Develop a database, to be evaluated periodically, for extreme weather events including incident reports (photographic, cartographic, documented evidence etc), costs and impact on services, deployed resources, impact on service delivery and external agencies.
10	<p>Encourage external agency and departmental collaboration to increase climate change resilience providing for:</p> <ul style="list-style-type: none"> -Emergency planning and coordination -Coordinating and sharing expertise & experiences around adaptation actions. -Liaison with the relevant Departments and Agencies regarding the implementation of actions set out in sectoral climate adaptation strategies. -Development of a plan to utilize the resources of farmers, agricultural contractors and community groups to clear and keep roads open after extreme weather events.
11	Build expertise, capacity and increase knowledge base through relevant training programmes on climate change awareness and its implications on the operations/functions of WCCC.
12	Identify and source funding streams for the implementation of adaptation actions and measures across Waterford with an emphasis on capitalizing on opportunities that may arise.
13	Through the work of the LEO, support, encourage and nurture new business ideas seeking to capture opportunities associated with environmental and technological advances that support low carbon transition.

Infrastructure and Built Environment	Actions
1	Undertake a Risk Assessment of all major roads county wide to identify vulnerabilities for an understanding of risks posed by climatic hazards described within this strategy. The findings should be integrated into road infrastructure programmes, design & planning for new roads, project budgets and investment. .
2	Integrate climate change considerations into the design, planning and construction of all roads, footpaths, bridges, public realm and other construction projects. Make provision to incorporate green infrastructure to provide for carbon offset, and provide wider environmental benefits including providing shade to alleviate heat stress, supporting urban biodiversity, water retention and flood alleviation.
3	Apply a risk assessment to LA owned buildings and properties to identify and protect against the key vulnerabilities due to the impacts of climate change and mitigate against service disruption.
4	Increase the resilience of WCCC buildings, housing stock and infrastructure through: -Identifying and assessing the integrity of old and derelict buildings and any likely threat to public safety via the Derelict Building Register. -Explore the need to regularly assess buildings owned or occupied by WCCC after extreme events, including buildings subjected to soil instability, to ensure structural integrity. -Consider a one off survey of all building stock to assess vulnerabilities to current and projected extreme weather events.
5	Increase awareness of LA tenants to potential impact on housing from extreme weather events, addressing fuel/energy consumption issues and how best to look after homes to reduce impacts resulting from extreme weather events. This includes updating the tenant's handbook and the online communication and social media plan to provide the necessary climate change resilience information.
6	Annually assess the ICT Strategy 2019 - 2024 which considers the range of potential extreme weather risks in this strategy, and their impacts on works to be carried out on IS infrastructure.
7	Enhance cooperation and communication between WCCC and external agencies on a national level to ensure that energy infrastructure and services are resilient to the impacts of climate change.
8	Undertake a monitoring & inspection programme for vulnerable coastal areas and existing coastal defences, including major harbours piers etc, following extreme weather events.

Landuse and Development Policy	Actions
1	Integrate climate change adaptation as a critical consideration guiding principle and strategic objective within the WCCC County Development Plan to reduce the vulnerability of Co. Waterford to the impacts of climate change while ensuring that CFRAM maps are integrated into relevant aspects of WCCC County Development Plan.
2	Continue to promote the integrated planning, design and delivery of green infrastructure (including urban greening) through appropriate provisions in: -planning policies of development plans, -development standards and conditions on planning permissions and -infrastructural, public realm and community projects.
3	Develop a Green Infrastructure strategy will be included as part of the next Development Plan.
4	The requirements for urban storm water drainage systems for new developments should take into account the potential future impacts of climate change.
5	The planning and design of future WCCC assets should take into account and be adaptable to the potential future impacts of climate change.
6	Implement a plan to promote Sustainable Transport Networks including road infrastructure and modes of transport across County Waterford as an alternative way of travelling. Encourage the use of Greenway / Blue way routes and other amenity trails.
7	Ensure sea level change is incorporated into all flood risk mapping in association with the Irish Coastal Protection strategy Study and CFRAM maps.

Water Services	Actions
1	Proposals submitted under any "Minor Works" programmes or schemes should take account of the potential impacts of climate change to ensure that any measures proposed are adaptable to possible future changes.
2	Ensure that potential flood information is obtained and generated through a Flood Risk Assessment (FRA) that is then used to inform suitable adaptation requirements within planning and development management in line with the guidelines on the planning System and Flood Risk Management. National aquifer and recharge maps will be reviewed as part of this process.
3	Ensure that emergency response plans for flood defence activation and CFRAM maps are reviewed periodically to reflect the degree of flood risk.
4	Identify areas susceptible to isolation as a consequence of flooding. Establish measures to reduce the risk and preparedness for significant events to build awareness and resilience in these areas to minimize impact.
5	Review & update current operations around (natural) drainage channels to take into account increased siltation and continued plant growth.
6	Reference CFRAM and develop a surface water management plan for the management of flood risks with the aim of: -Development of projects to reduce surface water flood risk. -Provide for detailed mapping of areas prone to surface water and groundwater flood risk.
7	Specify/limit the design requirements of urban storm water drainage systems for new development to take account the potential future impact of climate change and the requirement for Sustainable Urban Drainage Systems.
8	Ensure Emergency Services have access to water during times of drought while also considering identification of access points.
9	Protection of water sources servicing treatment plants and protection of ground water supply through the implementation of Integrated Catchment Management
10	Implement Irish Water adaptation actions where applicable and agreed upon with WCCC

Natural Resources and Cultural Infrastructure	Actions
1	Undertake a risk assessment of the heritage and cultural assets in the county to assess the vulnerability and the risk to the historical environment from the impacts of severe weather events and to help build resilience of these
2	Explore ways to capitalize on new archaeological finds which have resulted from extended periods of drought and other climate change impacts.
3	Integrate climate change considerations and future risks into the maintenance of heritage structures/sites in the

Community Health and Wellbeing	Actions
1	<p>Raise awareness of the impacts of climate change and ways for communities and the elderly/vulnerable/isolated to increase resilience to these impacts. This should include:</p> <ul style="list-style-type: none"> -Information on Severe Weather Event preparation. -Property security and safety. -Health related illnesses -Public safety awareness. -Water safety awareness for unsupervised watercourses in local areas. -Air pollution in residential areas from increased frequency of fires -Housing maintenance awareness to combat deterioration of property from changing conditions. -Road safety awareness when driving during extreme conditions. -Water conservation best practice during extreme heat events. -Dangers of swimming in quarries, canals and rivers unsupervised. -Elderly vulnerable and isolated people/communities
2	<p>Identify and assess vulnerable communities across the county in the context of their vulnerability and associated risks to the impacts of climate change.</p>
3	<p>Develop a programme for vulnerable communities to enhance their capacity to respond to and recover from extreme weather events with aims such as:</p> <ul style="list-style-type: none"> -Providing advice on the risk of extreme events affecting their locality. -Providing support to develop appropriate resilience arrangements to enable response and recovery. -Identify and provide emergency homeless shelters and provisions for mass evacuation potentialities.
4	<p>Work with Waterford LEADER to:</p> <ul style="list-style-type: none"> -Identify funding streams available to communities to enable local climate adaptation action projects -Support and develop adaptation actions and climate resilience .
5	<p>Scope the potential of working with external agencies to provide training/awareness programmes for smaller/isolated communities around climate change adaptation efforts.</p>
6	<p>Explore the potential of incorporating climate change adaptation into local area plans which will enhance the opportunity for structured community coordination and drive climate change adaptation actions at local levels.</p>
7	<p>Encourage Tidy Towns Programs to integrate and take into consideration of the impacts of climate change and proactively plan to reduce risks and vulnerabilities in the local areas.</p>
8	<p>Integrate climate change considerations in the planning and development stage for festivals and community events.</p>
9	<p>Explore the need for funding for heating/cooling systems for community facilities with aim of ensuring any funding is put towards more energy efficient/environmentally systems.</p>
10	<p>To implement and support climate change adaptation measures as covered by the WCCC environment education officer under the Green Schools program</p>
11	<p>To cater for climate change immigrants/refugees that have been displaced due to severe climatic weather events as decided by the relevant govt dept.</p>

Biodiversity	Actions
1	Implementation, monitoring and evaluation of the “All-Ireland Pollinator Plan”
2	Review the Waterford Biodiversity Action Plan and provide for actions that ensure: -Risks from adverse climate change have been identified. -Carbon capture within habitats is considered. -Invasive species are examined. -Identify areas considered beneficial for use as local carbon offset through carbon sequestration . -Development of Tree Management Strategy.
3	Maintain existing, and identify new ecological networks to increase habitats through sympathetic management of terrestrial, freshwater ecosystems while implementing appropriate spatial and land use planning.
4	Review and assess the choice of planting in parks with aim of limiting vulnerability to harsher conditions and maintaining and increasing biodiversity.
5	Co-design green spaces and wildlife refuges in urban environments and peri-urban areas with local communities to provide habitats for connecting people to biodiversity.
6	To promote the Junior Pollinator Plan and Tidy Towns Pollinator Plan.
7	To reduce the use of pesticides.
8	Enhance and restore natural systems to help increase resilience – starting with hydrological processes (freshwater and marine), carbon processes (for bogs) and pollination.
9	Develop a tree planting strategy to undertake and implement an active native tree planting programme in the context of climate change adaptation in conjunction with biodiversity awareness campaigns. Undertake risk assessment of trees located along travel routes and near critical infrastructure.
10	Protect and enhance green infrastructure and make provision for the integration of appropriate landscapes and planting schemes into all relevant projects undertaken by WCCC.
11	Integrate natural borders/buffers as an integral component of the design of greenways/blue ways, tracks, trails and amenity areas.
12	Encourage the use of information boards at public amenities, tourism sites, wilderness areas, natural landscape’s, cultural heritage sites and other appropriate locations to bring awareness of the benefits of the natural environment and its role in climate change.
13	Examine methods or new technologies for use during extreme heat events for the watering of plants/trees.
14	Develop an integrated coastal management strategy which includes ecosystem based adaptation actions to manage climate impact risks and build resilience to climate change.
15	Promote the “Leave no Trace” scheme for beaches / woodlands / parks etc to increase awareness and promote responsible outdoor recreational activities through education, research and partnerships.

Coastal Flooding & Erosion	Actions
1	Review CFRAM maps and plan for affects of increasing tidal levels on flood plains, flood barriers etc.
2	Prepare a map of County Waterford that projects increasing tidal level and sea level heights predictions for the years 2050 and 2100
3	To work with relevant external agencies in order to help affected coastal communities implement relevant works that cater for rising sea levels and increasing tide heights.
4	To maintain "Blue Flag Beaches" status and high water quality while planning for projected sea levels rises.
5	Identify and review areas of Waterford's coastline that are vulnerable to increased levels of coastal erosion due to increasing sea levels.
6	Develop a robust plan to ensure that all flood barriers are in place prior to the onset of maritime storms.
7	Update plans and resources of WCCC emergency services and emergency response crews to cater for localized effects of maritime storms.
8	Review the current sea levels at WCCC's coastal infrastructure and explore measures to raise roads levels and protect coastal assets in order to reduce risk of flooding due higher sea level rises.
9	Include consideration for higher sea levels within future development plans for coastal communities.
10	Identify regions of wetlands and implement protection measures with the aid of CFRAM maps taking into account that current protection measures may be insufficient.