



Comhairle Cathrach Chorcaí  
Cork City Council

Chief Executive's Report on Submissions Received  
to the  
Cork City Council  
Draft Climate Change Adaptation Strategy  
2019-2024

Date: 25<sup>th</sup> September 2019

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# 1. Introduction

## 1.1 Purpose of the Report

Cork City Council has prepared a draft Climate Adaptation Strategy 2019-2024. This local authority climate 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.

This Climate Change Adaptation Strategy covers the business areas that are operated by Cork City Council and is tasked with mainstreaming climate change adaptation over time into all functions, operations and services of the local authority.

This Climate Change Adaptation Strategy is the start of the process of adaptation planning in Cork City Council and is the first step in increasing knowledge and understanding of our changing climate, growing resilience, and enabling effective responses to the threats posed by climate change.

Climate Adaptation refers to efforts to manage the risks and impacts associated with existing or anticipated impacts of climate change, whereas Climate Mitigation refers to the efforts to reduce the emission of greenhouse gases and reduce the severity of future climate change impacts.

The draft strategy includes a range of actions and objections set across 7 Key Thematic Areas including:

- Local Adaptation Governance & Business Operations;
- Infrastructure & Built Environment;
- Land Use & Development;
- Drainage, Water & Flood Management;
- Nature, Natural Resources & Cultural Infrastructure;
- Citizen Safety, Health & Wellbeing; and
- Partnerships with other Sectors and Agencies.

As part of the process of making this strategy a period of public consultation was undertaken from Tuesday, 30th July 2019 to Friday, 13th September 2019. Seventy (70) submissions were received during this consultation period, and a further 3 shortly after the closing time.

This report on the 73 submissions received summarises and details the outcome of the public consultation stage and contains the following:

- List of persons or bodies who made submissions or observations on the Draft Climate Change Adaptation Strategy;
- Summary of all issues raised by the persons or bodies in the submissions or observations; and
- Consideration, response and recommendation to the issues raised.

## **1.2 Background**

Ireland's first statutory National Adaptation Framework (NAF) was published in January 2018. This sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The NAF was developed under the Climate Action and Low Carbon Development Act 2015. The NAF outlines a whole of government and society approach to climate adaptation in Ireland. Under the NAF, a number of Government Departments are required to prepare sectoral adaptation plans in relation to a priority area for which they are responsible. Each Local Authority is also required to make a local adaptation strategy with an expected timeframe for completion by 30 September 2019.

As the level of government closest to local communities and enterprise and as first responders in many emergencies, it is acknowledged that local authorities are uniquely placed to effect real positive change with respect to delivery of the national transition objective to a low carbon and a climate resilience future.

The local authority adaptation strategy takes on the role as the primary instrument at local level to:

- (i) ensure a proper understanding of the key risks and vulnerabilities of climate change;
- (ii) advance the implementation of climate resilient actions in a planned and proactive manner; and
- (iii) ensure that climate adaptation considerations are mainstreamed into all plans and policies and integrated into all operations and functions of the local authority.

## **1.3 Next Steps**

The submissions received during the timeframe specified for public consultation have been examined and considered in this report, in the context of their relevance and added value to the adaptation strategy.

Accordingly, recommended amendments have been made to the provisions of the strategy in the form of new additional information and actions, supplementation or clarification of text, deletion of text and general grammatical and formatting enhancements.

Once finalised, the strategy must undergo assessment in accordance with the provisions of SEA regulations and the provisions of the Habitats Directive.

The final strategy, SEA Screening Report and Appropriate Screening Reports will be presented to Council for approval by the Elected Members.

The timeframe for completion of the strategy and approval by the Elected Members is 30<sup>th</sup> September 2019.

## **1.4 Environmental Assessment**

### **Strategic Environmental Assessment (SEA)**

The proposed amendments to the draft adaptation strategy as recommended in this report have been screened in accordance with the EC (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI 435 of 2004 as amended by SI 200 of 2011). Based on the pre-screening check and review of the amendments against the environmental criteria as set out in Annex II of the SEA Directive, a Strategic Environmental Assessment is not required. The screening report and final determination accompany the final adaptation strategy.

### **Appropriate Assessment (AA)**

The proposed amendments to the draft adaptation strategy as recommended in this report were screened in accordance with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) to determine if they are likely to have a significant effect on any Natura 2000 sites. No significant effects were identified — the AA screening report accompanies the final adaptation strategy.

## **2. Consultation and Stakeholder Engagement**

### **2.1 Consultation – General**

Public Consultation and Stakeholder Engagement was carried out over a six week period from Tuesday 30<sup>th</sup> July 2019 to Friday 13<sup>th</sup> September 2019 inclusive.

**70** Submissions were received within the timeframe specified with three submissions received just outside of the specified timeframe. Notwithstanding their late receipt, these three submissions are included for consideration within this report.

The following documents were subject to the public consultation process:

- The draft Cork City Council Climate Change Adaptation Strategy as guided by the Local Authority Adaptation Strategy Development Guidelines (Dec, 2018);
- The Strategic Environmental Assessment (SEA) Screening Report, undertaken in accordance with the provisions of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004 as amended by S.I. 200 of 2011); and
- The Appropriate Assessment (AA) screening report undertaken in accordance with the requirements of Article 6(3) of the EU Habitats Directive (directive 92/43/EEC).

### **2.2 Public Consultation**

Public consultation on the draft Climate Change Adaptation Strategy was carried out over a six week period from 30<sup>th</sup> July 2019 to Friday, 13<sup>th</sup> September 2019.

Seventy (70) submissions were received during this consultation period, and a further three shortly after the closing time. The following documents were subject to the public consultation process:

- The Strategic Environmental Assessment (SEA) Screening Report undertaken in accordance with the provisions of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004 as amended by S.I. 200 of 2011).
- The Appropriate Assessment (AA) screening report undertaken in accordance with the requirements of Article 6(3) of the EU Habitats Directive (directive 92/43/EEC).
- Cork City Council Draft Climate Change Adaptation Strategy 2019-2024 (July 2019)

### **2.3 Details of the Consultation Process and Stakeholder engagement**

Methodology used for consultation with all stakeholders.

- Local Newspaper Notice.
- Local Newspapers Advertising.
- Radio adverts.
- Radio interview.

- Social Media channels.
- Internal Cork City Council communication channels.
- The Adaptation Strategy, along with the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) screening reports, were made available in Cork City Hall and City Council libraries.
- The Adaptation Strategy, along with the Strategic Environmental Assessment and Appropriate Assessment Screening reports were made available for online viewing on the Cork City Council Website, with opportunities to submit by post, email and a consultation portal.
- Presentation to Elected Members of Cork City Council.
- Engagement with adjoining Local Authorities including Clare County Council, Cork County Council, Limerick City and County Council and Kerry County Council. Together with Cork City Council, these are the constituent Local Authorities of the Atlantic Seaboard South Climate Action Regional Office (CARO).
- The CARO engaged with the Departments responsible for the development of sectoral adaptation plans, inviting them to review the local authority adaptation strategies and to make submissions.
- The CARO identified key high level stakeholders according to their importance and relevance to the subject matter of local authority adaptation strategies and invited them to review the local authority adaptation strategies and to make submissions.
- Two **public information days** were held at Cork City Hall on Friday September 6th and Saturday September 7th 2019 from 9.00am – 5.00pm where attendants could talk with experts on climate action and make a submission to the Cork City Council Draft Climate Change Adaptation Strategy.
- Public exhibitions included experts from the following organisations: Met Éireann, the Environmental Protection Agency (EPA), the Sustainable Energy Agency of Ireland (SEAI), the Water Communities Offices, An Taisce, the National transport Authority, Cork Environmental Forum, Cork Nature Network, CARO, Energy Cork and UCC's ERI and Climate Ireland initiatives. Cork City Council also provided experts from its Parks and Heritage Sections.
- 5 professionally-facilitated public workshops were organised by Cork City Council, and held during the public information days. Participants of the first workshop included the Environment Pillar of the local Public Participation Network (PPN), with representatives from Cork Chamber and the Cork Business Association. Two of the workshops were specifically for local secondary school pupils, with the last two workshops open to the general public, organised on a 'first-come-first-served' basis.

## 2.4 Details of Submissions

Table 1 below identifies the submissions/observations submitted within the permitted timeframe to the draft strategy. The submissions will be examined in further detail in this report.

A total of **73** submissions in total were received:

- 2 from Environmental Authorities prescribed under SEA Regulations
- 15 from the Public Information days;
- 8 from the online Consultation Portal; and
- 48 Email submissions (including 3 late submissions).

A draft report has been compiled from the public workshops, with relevant submissions/observations contributing to this Chief Executive's (CE) Report. This will be discussed further in section 5 of this report.

A significant number of submissions are supportive of the necessity to take actions in relation to climate change. Some submissions raised issues that are outside of the scope of this Climate Change Adaptation Strategy. Similarly, there are suggestions put forward relating to what is considered necessary at all levels of government - local, national, EU, industry/business, other sectors and society to tackle climate change.

**In the interests of clarity:** Issues raised in the submissions that do not sit within the scope of the strategy, that go beyond its scope but lie within the scope of the local authority and/or go beyond the functions of the local authority and/ or are not directly related to the provisions of the draft strategy or adaptation actions will be subject to general comment where appropriate.

This CE report examines issues raised in the submissions in the context of their relevance to the purpose and scope of the adaptation strategy, clarifies issues in the context of the scope of the strategy and seeks to incorporate new/additional provisions where they are relevant to the purpose of the strategy and its implementation.

**Among the issues specifically not addressed, commented on or responded to in this report include matters relating to planning applications, development sites or specific local authority projects undertaken. Such matters are best addressed under the various planning processes including development management, landuse plan reviews, etc. Matters that are considered helpful to frame future policy will be considered where such consideration does not undermine the integrity of the planning processes mentioned above.**

**Table 1: List of submissions received.**

<b>No.</b>	<b>Submission Maker</b>	<b>No.</b>	<b>Submission Maker</b>
1	Ali Bracken	37	Blake Kelly
2	Sangrawee Laksanasopin	38	Hanna Richards
3	Mark O' Hagan	39	Rachel Delaney
4	Clair McSweeney	40	Inland Fisheries Ireland (IFI)
5	Juvi Hertel	41	Darragh Wilkins
6	Kieran Murphy	42	Courtney Collins
7	Bob Lynch	43	Patrick Leader
8	Emily Coleman	44	Christie Godsmark
9	Chanelle O' Regan	45	Anna Buckley
10	Kate Holohan	46	Deutsche Borse
11	Isabel Scully	47	Cork Climate Action (coalition group)
12	Fatima Jameel	48	SHEP Earth Aware
13	Hanna D'Aughton	49	Trees Please Group
14	Katie Quinn	50	ERVIA
15	Katelyn Leahy	51	Environmental Research Institute/UCC
16	Michael McCarthy	52	Donal Dorr
17	Noel O'Regan	53	Bob Kelleher
18	Noel O'Regan	54	Mary Cunningham
19	Maria McGuinness	55	Cork Nature Network
20	Noel O'Regan	56	Robert Devoy
21	Peter Lucey	57	Cork Chamber
22	Transport & Mobility Forum Cork	58	Ina Kelly
23	Cork Environmental Forum	59	Cork Airport
24	Justin Fleming	60	Anois
25	Roisin Cuddihy	61	Cork Food Policy Council
26	Frances Gordon	62	Cork Healthy Cities
27	Irish Water	63	Green Party
28	Failte Ireland	64	Frank Dorr
29	Environmental Protection Agency (EPA)	65	Elders for Earth
30	Gas Networks Ireland	66	Green Spaces for Health South Parish
31	Gabriella Chisholm	67	SECAD
32	Gabriella Chisholm	68	John Morehead
33	Mary Casey	69	Carol Doyle/ Thorsten Ohlow
34	Kate Connolly	70	Save Cork City
35	Richard Higgins	71	Office of Public Works (OPW)
36	Blake Kelly	72	Department of Agriculture, Fisheries and the Marine (DAFM)
		73	Department of Communications, Climate Action & Environment (DCCA) / Geological Survey Ireland (GSI)

## 2.5 Structure of the Report

New text or amendments to the text of the Draft Climate Change Adaptation Strategy are identified by their location within the document and are identified through the **use of green text**.

Deletions to the text where relevant are shown in **red with strikethrough**.

Over and above suggestions/recommendations for incorporation into the final strategy the Chief Executive recommends a number of minor text changes including correction of typographical errors, formatting, clarifications, update of name changes to Departments and references etc.

All 73 submissions received by Cork City Council were read and analysed. This report takes the following format to address the issues raised in the submissions and also to update on recent changes to national policy on climate change:

- Section 3 Environmental Authority Submissions:** Addresses the submissions received from Environmental Authorities engaged with as part of the Strategic Environmental Assessment (SEA) process and as prescribed by the provisions of the SEA Regulations. The submission summaries are followed by the CE response and recommendation.
- Section 4 Targeted Stakeholders – National & Regional Submissions:** Addresses submissions received by national and regional stakeholders identified and targeted specifically to engage in the process of developing the adaptation strategy. The summaries are followed by the CE response and recommendation.
- Section 5 Local Workshops:** Describes the 5 no. professionally facilitated workshops that were organised by Cork City Council and undertaken with a range of stakeholders and the report drafted on the outcomes of the workshops. This section addresses the issues raised informing the CE recommendations arising in the context of added value to the adaptation strategy.
- Section 6 Matters raised from other stakeholders:** Addresses, in a thematic format, issues raised in submissions by all other stakeholders invited to engage with the process. The topics covered are followed by the CE response and recommendation.
- Section 7 Specific commentaries from submissions:** Addresses specific amendments, suggestions and comments in relation to the narrative, Goals, Objectives and Actions of the draft adaptation strategy. Proposed amendments to the provisions of the strategy are highlighted as CE recommendations.
- Section 8 Climate Action Plan:** Examines the recently published ‘All of Government Climate Action Plan – to tackle Climate Breakdown’, its purpose, the role of Local Authorities and its relationship with the Cork City Climate Change Adaptation Strategy.

### 3. Environmental Authority Submissions

In accordance with the provisions of the SEA Directive and pursuant to Article 9(5) & (6) of SI No. 435/2004 EC (Environmental Assessment of Certain Plans & Programmes) Regulations 2004 as amended by SI No. 200/2011, Cork City Council consulted with the prescribed environmental authorities on whether the Cork City Council Climate Change Adaptation Strategy, would or would not, be likely to have significant effects on the environment. The environmental authorities consulted included:

- Environmental Protection Agency (EPA);
- Department of Agriculture, Food and the Marine (including Inland Fisheries Ireland - IFI);
- Department of Culture, Heritage and the Gaeltacht; and
- Department of Communications, Climate Action and the Environment.

Two submissions were received in response to this engagement under the SEA Regulations from:

- Environmental Protection Agency (EPA); and
- Inland Fisheries Ireland (IFI).

These are described below.

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#### **Sub No 29: Environmental Protection Agency (EPA)**

##### **Summary of issues raised:**

- Advises of EPA report 'Ireland's Environment Our Ireland's Environment; An Assessment 2016 (EPA, 2016)', which highlights the need to accelerate mitigation actions to reduce greenhouse gas emissions and to implement adaptation measures to increase our resilience to the adverse impacts of climate change.
- Acknowledges that the Strategy has been prepared in line with the Local Authority Adaptation Strategy Development Guidelines (DCCAE, 2018).
- Suggests the strategy describe the links and relationship with Sustainability Development Goals.
- Suggests the strategy incorporates a schematic/graphic, clarifying the relationship with other key climate related plans/strategies i.e. Climate Act, the All-of-Government Climate Action Plan, National Adaptation Framework, adaptation guidelines etc. and commitments to align with adjoining local authorities and incorporate any relevant recommendations that may arise within regional climate adaptation plans/programmes/strategies prepared over the lifetime of the Strategy.
- Suggests strategy should explore opportunities to maximise co-benefits in preparing and implementing the Strategy and maximise the many potential co-benefits of climate adaptation measures for human health, biodiversity, water quality, flood risk management, land use planning (including land use zoning), and other interrelated areas.
- Recommends prioritisation of measures with the potential to yield multiple environmental and societal benefits.

- Recommends commitment that potential adverse cumulative / in-combination environmental effects are accounted for when considering, selecting and implementing specific adaptation measures.
- Reference climate data and projections/scenarios
- Reference relevant OPW flood risk management plans i.e. the second cycle of OPW flood risk management plans.
- Consider relevant actions associated with integrated coastal zone management, in collaboration with adjoining local authorities and other key stakeholders.
- Advises of SEA process and prescribed consultees.
- Sets out, in Appendix 1, specific comments on various individual aspects of the strategy for amendment.

**Response to issues raised:**

The submission from the EPA is noted and welcomed. I note the EPA is an Environmental Authority prescribed under the Strategic Environmental Assessment (SEA) Regulations EC (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI 435 of 2004 as amended by SI 200 of 2011).

The content of the EPA submission is noted. The draft strategy would benefit from being updated on key issues raised in this submission and with the specific comments highlighted in an appendix. All practical issues raised in the submission will be included in the final strategy where they are appropriate.

**Recommendation:**

Update Chapter 1, section 1.15 **International Context** with the following text:

1.15

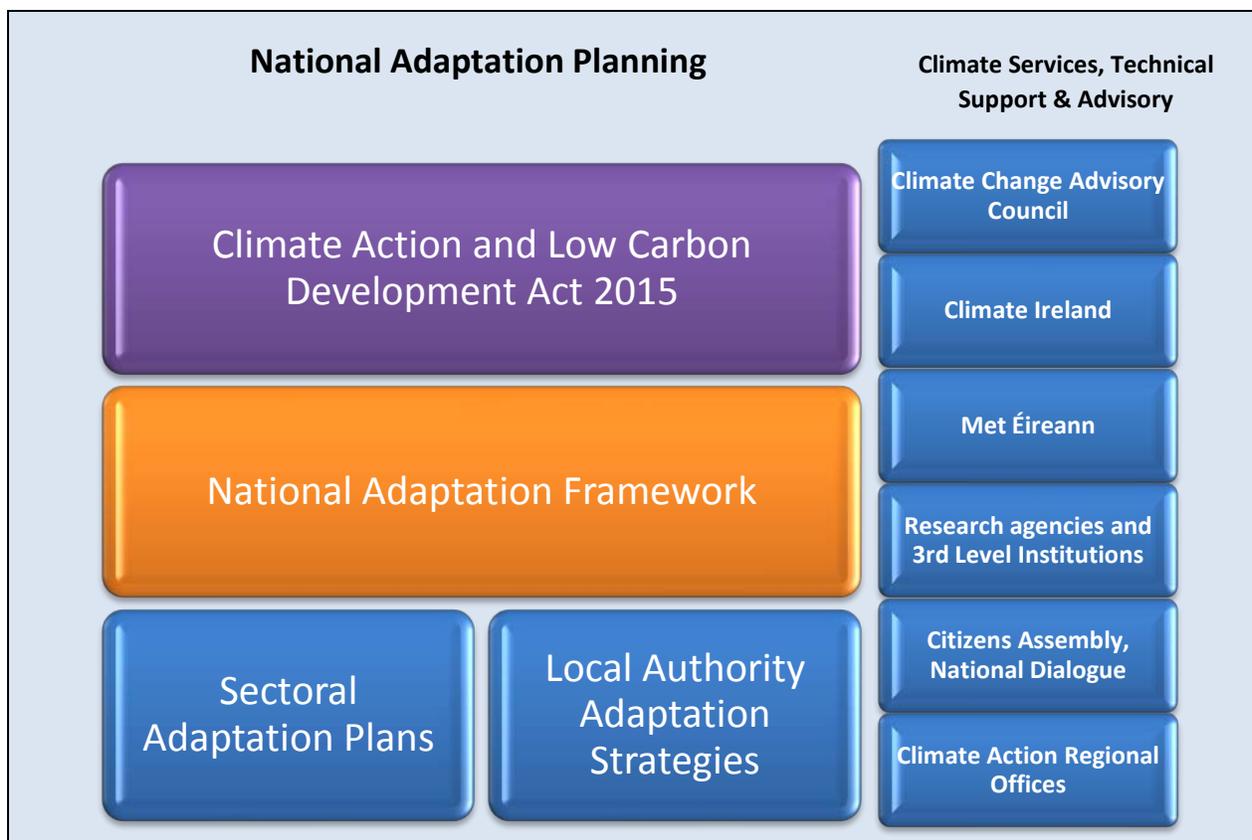
***Sustainability Development Goals:***

***In 2015, countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). The SDGs are a blueprint to achieve a better and more sustainable future. They address global challenges related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals interconnect and are interdependent. Goal No. 13 addresses Climate Action with an objective to: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy.***

***The Goal No. 13 recognises Climate Change as a global challenge that does not respect national borders and requires solutions that need to be coordinated at the international level to help developing countries move toward a low-carbon economy.***

Update Chapter 1, section 1.16 **Irish Policy Context** with the following text:

***This adaptation strategy is set within the context of a national framework for adaptation planning which is prescribed in the Climate Action and Low Carbon Development Act 2015 and elaborated upon in the National Adaptation Framework (NAF).***



This adaptation strategy commits to aligning with national commitments on climate change adaptation. It must be noted that the process of making 12 sectoral adaptation strategies (identified in the NAF) is running concurrently with the making of local authority strategies. Once published, however, any relevant recommendations or actions will be incorporated into this strategy. For both the preparation of this strategy and the implementation of actions, opportunities will be advanced to align with and collaborate with Cork County Council as the adjoining local authority.

Update Chapter 1 with new section 1.22 with the following heading and text:

#### 1.22 Co-benefits and Cumulative/in-combination environmental effects

In implementing the actions of this strategy Cork City Council will seek to ensure that any potential environmental impacts are minimized. Actions will be examined in the context of potential co-benefits including measures such as human health, biodiversity enhancement and protection, improvement in water quality, management of areas at risk of flooding and sustainable land use zoning and development practices. It would be important that actions yielding multiple environmental and societal benefits are prioritised.

Likewise, consideration of potential adverse cumulative and in-combination environmental effects must be accounted for in selecting and implementing specific actions. Consideration of environmental

**sensitivities under the Habitats Directive and Water Framework Directive for example are important in the context of potential adverse cumulative or in-combination effects.**

**For the purposes of monitoring and reporting on progress, mal-adaptation will be identified and approaches to counter this will be explored thoroughly and put in place.**

Amend the following:

Action 9.1: Identify, ~~and~~ integrate **and implement** climate change actions into Development Plans and Local Area Plans...

Action 9.3: **(a)** Ensure that climate change is a key consideration in selecting locations for future developments and that this is reflected in land use zoning policy.

**(b) In the development of policy and the planning and provision of green infrastructure, ensure appropriate buffer zones are maintained and protected to avoid potential impacts on designated habitats or protected species and habitats, and to protect and enhance wider biodiversity.**

Action 13.2: Review roadside hedge maintenance programmes in conjunction with landowners **with cognisance of the need to maintain ecological corridors and linkages forming part of the green infrastructure within the city.**

Action 14.2 **Given the wider environmental benefits of green infrastructure, such as microclimate benefits including providing shade to alleviate heat stress, supporting urban biodiversity, water retention, and flood alleviation etc.,** develop a green infrastructure strategy and associated action plan.

NEW ACTION under Local Adaptation Governance and Business Operations, Objective 2

**2.2 Ensure through the delivery of all services, functions and activities that there is more effective implementation of relevant regulations, policies, plans and strategies with a role in climate adaptation and environmental protection.**

Insert additional text in chapter 4 under section 4.3 as follows:

**The adaptation actions included in this strategy involve a mixture of “grey” engineered measures to reduce climate hazards, “green” ecosystem or nature-based adaption measures or “soft” adaptations that aim to alter the behaviour of the public. Actions have been identified for all functional/operational areas of the council who have a role in their implementation and delivery. These response approaches can be adopted in isolation or can be co-ordinated to complement each other depending on circumstances.**

Insert the following in Section 4.6 – Monitoring:

**The requirements of the SEA Directive and Habitats Directive will be considered in the implementation of the action of this strategy as considered relevant and appropriate.**

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**Sub No. 40: Inland Fisheries Ireland (IFI)**

**Summary of issues raised:**

- Describes the statutory remit of the Inland Fisheries Ireland for the protection, management and conservation of the inland fisheries resource.
- Describes the impact that climate change and future projections will have on aquatic habitats and species.
- Recommends a catchment approach to dealing with anticipated impacts of climate change.
- Requests that consideration be given to the inclusion of River Restoration Techniques and Floodplain Restoration Techniques aimed at improving ecological status of waterbodies.

**Response to issues raised:**

The submission from the Inland Fisheries Ireland (IFI) is welcomed. The IFI is one of the statutory environmental authorities engaged with under the SEA Regulations. IFI is the body responsible for enforcing the Inland Fisheries Acts and implementing policies regarding conservation, protection, management, marketing, development and improvement of our inland fisheries and sea angling resources.

The content of the IFI submission is noted and it is recommended that suggestions, as listed below be incorporated into the strategy.

**Recommendation:**

Insert the following NEW ACTION in Theme 4, Drainage, Water and Flood Management under Objective 12:

**12.4: Liaise, collaborate and support agencies responsible for the management of watercourses in their employment of River Restoration Techniques and Floodplain Restoration Techniques aimed at improving ecological status of water bodies.**

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## 4. Targeted Stakeholders - National & Regional Submissions

With the assistance of the Atlantic Seaboard South CARO, a range of stakeholders were engaged with as part of the public consultation (please see list of stakeholders in appendix A). The four CAROs identified and compiled a list of stakeholders according to their importance and relevance to the subject matter of local authority climate change adaptation strategies. Along with other local authorities in the region, the Atlantic Seaboard South CARO assisted Cork City Council in its engagement by way of correspondence with relevant high-level stakeholders to ensure consistency in approach across the country.

The following stakeholders (with submission no.) engaged with Cork City Council

- Sub No. 27: Irish Water
- Sub No. 28: Fáilte Ireland
- Sub No. 30: Gas Networks Ireland
- Sub No. 50: ERVIA
- Sub No. 71: Office of Public Works (OPW)
- Sub No. 72: Department of Agriculture, Food and Marine (DAFM)

See full submission summaries in appendix B.

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### **Sub No.27: Irish Water**

#### **Summary of issues raised:**

Irish Water welcomes the publication of Cork City Council's Climate Change Adaptation Strategy and looks forward to collaborating with the 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.

#### **Response to issues raised:**

I note and welcome the submission from Irish Water. I note also that Irish Water contributed to the sectoral adaptation plan for Water Quality and Water Services Infrastructure which is currently at draft stage. Close co-operation between the sectors and local authorities is required to ensure a coherent approach to building resilience. I acknowledge the need to strengthen future collaboration with Irish Water.

#### **Recommendation:**

Submission noted and no further action required.

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## **Sub No. 28: Fáilte Ireland**

### **Summary of issues raised:**

- Fáilte Ireland welcomes the opportunity to input into Cork City Council's Draft Climate Change Adaptation Strategy.
- The submission refers to a 2009 report commissioned by Heritage Council and Fáilte Ireland 'Climate Change - Heritage and Tourism, Implications for Ireland's coast and inland waterways - 2009'.
- Tourism is one of the largest and most important sectors of the economy. Important as an economic factor for regional development.
- Ireland's Natural and Cultural Heritage feature strongly among the main reasons why visitors choose Ireland for their holidays.
- Fáilte Ireland outlined potential changes to the natural heritage on foot of climatic events such as erosion of beaches. This will in turn have an effect on the vitality of popular seaside resorts, water-based activities negatively affected, navigation of craft more dangerous, less access to offshore islands.
- Higher temperatures and pollution on inland waterways may affect angling negatively.
- The submission requests the Council to beware of unintended consequences of climate mitigation and adaptation actions. Ensure that a 'one size fits all' solution is not applied to all flood defence schemes (inland and coastal).

### **Response to issues raised:**

The submission from Fáilte Ireland is welcome and noted. The Council recognises the important role that tourism plays in the national, regional and local economy and will work closely with the relevant stakeholders to ensure climate adaptation and tourism issues are addressed in a collaborative and coherent manner.

### **Recommendation:**

Submission noted and no further action required.

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## **Sub No. 30: Gas Networks Ireland**

### **Summary of issues raised:**

- The submissions makes reference to gas pipelines being one of the most efficient method of transporting energy which can be further exploited by new connections to both the transmission and distribution networks.
- The submission also outlines the potential role Compressed Natural Gas (CNG) can play in the reducing emissions associated with the HGV transportation sector. It states that CNG has the

potential to address transport (HGV and buses) emissions with significantly reduced carbon emissions relative to diesel.

- Suggests addition Action, similar to Objective 8, Action 8.4 for electrical vehicles. *‘Support the rollout of compressed natural gas (CNG) infrastructure in Cork City’*
- Asks the council to consider the role that renewable gas and CNG in transport can play in reducing carbon emissions in the region

**Response to issues raised:**

I note and welcome the submission from Gas Networks Ireland. I note that Gas Networks Ireland is a subsidiary of ERVIA. ERVIA is a commercial semi-state company with responsibility for the delivery of gas and water infrastructure and services in Ireland.

I note further that the Department of Communications, Climate Action and Environment is developing a **Climate Change Adaptation Plan for the Electricity and Gas Networks** as part of the National Adaptation Framework. The plan focuses on assessing the vulnerability to key climate variables and the likely impacts of such on electricity and gas networks, based on the current understanding of climate change and its consequences on the sector.

The submission seeks to establish policy to support new technologies for renewable gas/CNG infrastructure. The Council recognises the range of new and developing technologies that can contribute to minimising greenhouse gas emissions and in securing a greater proportion of our energy needs from renewable resources.

Policies set out in Cork City Development Plan 2015-2021 Chapter 5: Transportation explore the use of alternative fuels, fuel efficiency and electric vehicles. Policy 5.3.6 in particular states *‘Cork City is supportive of actions that improve the fuel efficiency of motorised transport, including improved fleet infrastructure, increased use of biofuels, energy efficient driving, alternative technologies and electric car initiatives’*

I am satisfied that the policies in the Cork City Development Plan facilitate renewable energy/CNG projects as set out in the submission.

**Recommendation:**

No further action required.

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## Sub No. 50: ERVIA

### Summary of issues raised:

- Submission sets out the background, remit and vision of the company to unlock a clean energy future and move the gas network to a 'carbon neutral' gas network by 2050.
- States they are progressing a range of ambitious projects and technologies to introduce renewable gases into the gas network and remove emissions from the network including carbon neutral gases such as renewable gas (biomethane) and hydrogen, Compressed Natural Gas for transport and Carbon Capture and Storage (CCS) to capture emissions from electricity generation and industrial processes.
- ERVIA is currently assessing the potential for large-scale CCS at the near-depleted Kinsale gas field off the coast of Co Cork.
- Advises that through Irish Water, ERVIA will collaborate with Cork City 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 DHPL.
- Supports Cork City Council's Adaptation Actions and Implementation Principles and seek Cork City Council to support ERVIA's own ambitions around the technologies referenced above.

### Response to issues raised:

I note and welcome the submission from ERVIA. I note ERVIA is a commercial semi-state company with responsibility for the delivery of gas and water infrastructure and services in Ireland.

I note further that the Department of Communications, Climate Action and Environment (DCCAE) is developing a **Climate Change Adaptation Plan for the Electricity and Gas Networks** as part of the National Adaptation Framework. The plan focuses on assessing the vulnerability to key climate variables and the likely impacts of such on electricity and gas networks, based on the current understanding of climate change and its consequences on the sector. Cork City Council will work closely with DCCAE & ERVIA in relation to progressing the actions in the **Climate Change Adaptation Plan for the Electricity and Gas Networks**.

It is further noted that through Irish Water, ERVIA will collaborate with Cork City Council in the implementation of the measures set out in the recently published **Climate Action Plan** and Draft **Climate Change Sectoral Adaptation Plan: Water Quality and Water Services Infrastructure**. Close co-operation between the sectors and local authorities is required to ensure a coherent approach to building resilience. Cork City Council acknowledges the need to strengthen future collaboration with ERVIA in this regard.

### Recommendation:

No further action required.

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## **Sub No.71: Office of Public Works (OPW)**

### **Summary of issues raised:**

- Acknowledge the works carried out by Cork City Council to date in the progression of flood protections schemes such as Lower Lee (Cork City) Flood Relief Scheme, Blackpool Flood Relief Scheme and the Togher & Glanmire Flood Relief Schemes.
- Maps and future scenario maps issued to the council under the National Catchment Flood Risk Assessment and Management (CFRAM) programme should assist in the planning of appropriate adaptation strategies and measures.
- Suggest referring to the Natural Water Retention Measure (NWRM) in the context of identifying floodplains and incorporating nature based solutions in future enhancement works.
- Suggests referring to flood mapping outputs from the CFRAM programme, particular in the area of climate change awareness raising amongst communities, citizens and businesses.
- Would welcome the promotion of Sustainable Urban Drainage Systems (SUDS) with due consideration for the potential increases in intense rainfall events.
- Suggest consideration of more intense rainfall on the performance of the urban storm water drainage systems.
- Suggest Natural Water Retention Measures (NWRM) to manage flood risk as a means of climate adaptation, water quality, biodiversity, sediment / soil management and the creation of amenity areas.
- Would welcome objectives and actions that require the consideration of climate change in the planning process.
- Proposes future-scenario flood maps may assist the identification of potentially vulnerable assets.
- Would welcome action on taking into account increased flood extents and depths in the planning and implementation of new infrastructure to avoid potentially flood-prone areas and ensure infrastructure is resilient to such risks.
- Suggest consideration of increases in the frequency and / or severity of flood events may necessitate more frequent and / or resource intensive emergency responses from first responders.

### **Response to issues raised:**

I welcome the submission from the OPW. I note the OPW is the lead State body for the coordination and implementation of Government policy on the management of flood risk in Ireland and is also the national authority for the implementation of the EU Directive on the Assessment and Management of Flood Risks [2007/60/EC]. I note further that the OPW is responsible for the delivery and implementation of a Climate Change Adaptation Plan for Flood Risk Management under the National Adaptation Framework also. Close co-operation between the sectors and local authorities is required to ensure a coherent approach to building resilience.

It must be acknowledged that as a result of working closely with the OPW on flood risk management and various flood alleviation schemes, Cork City Council has built a high level of expertise on flood related issues.

The draft strategy would benefit from being updated on key issues raised in this submission where not already done.

**Recommendation:**

Insert the following narrative on flood risk in Chapter 3 Climate Risk Identification: Flooding Risks in Cork City at the beginning of sub-section 3.4

**3.4 Flooding Risks in Cork City**

**Climate Change is expected to increase flood risk. It could lead to more frequent flooding and increase the depth and extent of flooding. Due to the uncertainty surrounding the potential effects of climate change, a precautionary approach is always advised with respect to landuse planning and development, building flood alleviation measures and ensuring longer term resilience of critical infrastructure. It is important to consider that the increase in the frequency and/or severity of flood events may impact negatively on the delivery of services of the council and in particular may necessitate more frequent and resource intensive emergency responses.**

**The Lee Catchment Flood Risk Assessment and Management Study (Lee CFRAMS) was carried out by the OPW between 2006 and 2013. These studies have been developed to meet the requirements of the EU Directive on the assessment and management of flood risks (the Floods Directive). The CFRAM Studies have produced Flood Risk Management Plans (FRMP) to manage flood risk within river catchments. Flood maps are one of the main outputs of the studies. The maps indicate modelled flood extents for flood events of a range of annual exceedance probabilities (AEP). The flood event maps and future scenario maps are a crucially important mechanism that will support and assist in planning appropriate adaptation strategies and measures for local authorities.**

In the case of the Lee catchment, these studies identified a preferred scheme to manage flood risk including a combination of a flood forecasting and warning system, revised ESB dam operating procedures and waterside defences. Following on from this, the Lower Lee Flood Relief Scheme (LLFRS) has been developed, which is a modified version of the measures proposed in the Lee CFRAMS together with a flow control structure on the south channel to rebalance flows between the north and south channels. This scheme is designed to protect over 2,100 properties, including 900 homes and 1,200 businesses against tidal and river flooding.

**Cork City Council will work in conjunction with the OPW to deliver flood alleviation schemes that are deemed appropriate.**

Insert additional text to Action 10.4 (b), Objective 10 as follows:

10.4 (a) Identify natural floodplains in Cork City and incorporate nature based solutions in any enhancement works where possible.

**10.4 (b) NEW ACTION: Consider and explore the use of natural water retention measures in certain suitable areas as a method of managing flood risk, improving water quality, enhancing biodiversity, managing soil and sediment and providing for the creation of new or additional amenity areas. Liaise and collaborate with the OPW and other stakeholders engaged in research and pilot projects to develop knowledge and capacity on such measures.**

Insert additional text to 10.5, Objective 10 as follows:

10.5 Identify areas susceptible to isolation as a consequence of flooding. **Use future scenario flood maps to assist in the identification of potentially vulnerable communities and assets.**

Insert new action under Action 10.9 of Objective 10 as follows:

**NEW ACTION: Continually review flood risk data and take into account increased flood extents and depths in the design, planning and build/delivery of new infrastructure by the council to avoid potential/future flood prone areas and ensure that new infrastructure is resilient to climate change risks.**

Insert additional text under Action 16.3, Objective 16 as follows:

Raise awareness of the impacts of climate change and the ways for citizens, businesses and communities to respond appropriately and to increase resilience to these impacts. This should include:

- develop and implement a behavioural change plan for citizens, businesses and communities to change behaviours, understand and better deal with climate change and extreme weather events;
- provide and promote information on extreme weather event preparedness, including property security and safety;
- highlight health issues related to extreme weather events;
- raise public safety awareness;
- raise water safety awareness for unsupervised watercourses in local areas;
- promote local resources to adapt to extreme weather events e.g. road salting; and
- **Use of flood mapping outputs, National Catchment Flood Risk Assessment and Management (CFRAM) programmes and other such climate related programmes in any public awareness campaigns**

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## **Sub No 72: Department of Agriculture, Food and the Marine (DAFM)**

### **Summary of issues raised:**

- Outlines that it is a well presented report with good analysis of climate change issues facing the local authority.
- States forestry planting/management, soil erosion, nutrient management, grazing management of sensitive soils, farming intensity within river catchments and many more issues influence adaptation/mitigation decisions at a county level.
- States the report could also take note of the role of land use in the water system. For example, well planned and managed forests can help to improve water quality and to buffer and slow flows.
- States local authorities can benefit from forest planting supports for native woodland and amenity forests (see the NeighbourWood scheme in the DAFM Forestry Programme), which could provide localised climate benefits as well as supporting climate change mitigation.
- DAFM would like to highlight the climate change related impacts on the inland aquaculture industry which depends on the freshwater resource and the impact on seafood related infrastructure such as coastal harbours and piers.
- States the following impacts are recognised as being cross-sectoral concern for both the Department of Agriculture, Food and the Marine and the Local Authority
  - Wildfires – increased risk of uncontrolled fires due to hotter drier summers causing damage to forest stands, farmland, raised bogs and peatlands, air quality, increasing pressure on fire services.
  - Slurry Storage and Land Spreading Issues – wetter winters affecting timing of slurry spreading which may lead to nutrient loss and run-off causing water quality issues for the local authority to monitor and manage.
  - Soil Quality – impacted by both wet and dry conditions due to machinery working or livestock out on land in wet conditions causing poaching. Soil sediment run-off impacting water quality in river catchments.
  - Non-native invasive species – may be an escalation on the spread of non- native invasive species which could lead to loss of biodiversity on local authority management land.

### **Response to issues raised:**

The submission from the DAFM is noted and welcomed. I note the DAFM is the lead State body for the coordination and implementation of Government policy on the management of Agriculture, Food and Marine in Ireland. The DAFM is identified as the lead department for undertaking the sectoral adaptation plan for Agriculture, Forestry and Seafood in the National Adaptation Framework, 2018.

Within the context of the National Adaptation Framework, Cork City Council recognise the role and responsibilities of all 12 identified sectors as well as local authorities in undertaking Adaptation Plans/Strategies, the challenges and opportunities that may arise and the importance of working collaboratively as the process of adaptation planning becomes more embedded.

Like the Agricultural Sector and other identified sectors in the NAF, adaptation is now a fundamental consideration for local authorities. The Cork City Council Climate Change Adaptation Strategy has been developed specifically to focus on the remit and operational control of Council functions and activities. Insofar as the request by the DAFM to examine complex issues facing agricultural/forestry activities, it is considered that these are best explored and dealt with in the Sectoral Adaptation Plan for Agriculture, Forestry and Seafood.

As per Objective 17, Action 17.1 of the Climate Adaptation Plan, the Council will *liaise, collaborate and work in relevant partnerships with the sectors in the delivery of the sectoral adaptation plans*'. Cork City Council will support and interact with the DAFM in its efforts to deliver actions of the Agriculture, Forestry and Seafood Adaptation Plan where in particular the Council is identified as having a particular role and through statutory obligations where it forms an integral aspect of the functions of the Council.

I consider the adaptation strategy can be updated as per recommendation below to include agricultural details suggested by the DAFM submission where they are considered relevant to the functions performed by the council.

**Recommendation:**

Update the narrative within the strategy to recognise the impacts and consequences of climate change on agricultural activities/land uses in the context of the functions performed and the remit of council activities and services including the following:

**Chapter 3: Insert Section 3.7 Agriculture/Forestry/Soil Management and re-number existing 3.7 Regional and National Consequences of Adverse Climate Change in Cork City to 3.8**

**Tree 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 programmes within the local authority functional area, particularly having regard to the recently extended boundary. The Council is committed to working with relevant landowners in protecting natural and key cultural assets and developing a more sustainable green economy and resource management.**

**It is recognised that a well-planned and managed planting programme can help to improve water quality and to buffer and slow water flows. Cork City Council can benefit from tree planting supports for native woodland and amenity areas. The NeighbourWood scheme in the DAFM Forestry Programme is an example of a scheme which could provide localised climate benefits to Cork City.**

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**Sub No 73: Department of Communications, Climate Action & Environment (DCCA) / Geological Survey Ireland (GSI)**

**Summary of issues raised:**

- Advised to use Geological Survey Ireland’s data when creating the Environmental Impact Assessment Report (EIAR) for the Climate Adaptation Strategy.
- Referenced the importance of groundwater quality and recommends using GSI’s National Aquifer and Recharge maps to identify areas for integrated constructed wetlands with regard to Flood Risk Management.
- Referenced the environmental and economic benefits of geothermal applications and recommend using GSI’s Geothermal Suitability Maps to determine the most suitable type of ground source heat collector for use with heat pump technologies.
- Advised that the sustainable development of our natural resources should be an integral part of all development plans from a national to regional to local level to ensure that the materials that are required for our society, (materials/aggregates), are available when required and that these material assets should be recognised within the environmental assessment process.
- Advised to use GSI’s data, maps, interpretations and advice on matters related to minerals, their use and their development

**Response to issues raised:**

The submission from the Geological Survey of Ireland (GSI), a division of Department of Communications, Climate Action and Environment (DCCA) is welcomed. As stated, the DCCA is one of the statutory environmental authorities prescribed under the SEA Regulations.

The content of the GSI submission is noted. GSI is Ireland’s national earth science knowledge centre and provides free, open and accurate data and maps of Ireland’s subsurface to landowners, the public, industry and all other stakeholders, within Ireland and internationally. These datasets are available through Map Viewer on the GSI website providing multiple layers of data available including Bedrock Geology, Groundwater, Quaternary, Landslides, and Physiographic Units. The work of the GSI and the Map Viewer platform are extremely useful resources used by Cork City Council in gathering the most up-to-date evidence bases when required.

Cork City Council will continue to work with GSI and use this valuable resource in particular for the provision of localised data and information through various Council programs and schemes and to inform the making of landuse plans or individual projects as they occur.

**Recommendation:**

No action required for this strategy.

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## 5. Local Workshops

As part of the engagement with the public and stakeholders, Cork City Council held 5 local facilitated workshops. A report was developed to capture feedback from the attendees at the 5 workshops held over the two days of Friday 6<sup>th</sup> and Saturday 6<sup>th</sup> September 2019 in Cork City hall, and this feedback is summarised below.

### 5.1 Purpose of hosting the 5 public workshops and attendee details.

Due to the importance of the current climate action being undertaken by Cork City Council, and indeed by all the other Local Authorities and Government Sectors, it was decided to advertise and host a series of workshops for stakeholders within the city area during the Cork City Council Climate Change Adaptation Strategy consultation period. As outlined previous in section 2 of this report (methodology used for consultation with all stakeholders), many different methods and channels were used to advertise these workshops and to ensure high participation numbers. These included a personal invite from the Lord Mayor of Cork to all the Principals of the secondary schools in the city area, together with a targeted advertising campaign through local newspapers and radio, and social media channels.

Public information displays ran in parallel with the workshops over the two days, which allowed all workshop invitees and members of the general public to meet and engage with experts on climate action before and after the workshops themselves. Experts from the following organisations were available on the days: Met Éireann, the Environmental Protection Agency (EPA), the Sustainable Energy Agency of Ireland (SEAI), the Water Communities Offices, An Taisce, the National Transport Authority, Cork Environmental Forum, Cork Nature Network, CARO, Energy Cork and UCC's ERI and Climate Ireland initiatives. Cork City Council also provided experts from its Parks and Heritage Sections.

The public information displays and the workshops themselves also provided an opportunity for attendees to make a submission to the Cork City Council Climate Change Adaptation Strategy.

The public workshops were professionally-facilitated, with each workshop format and associated content targeted to suit the various audiences. Participants at the first workshop included the Environment Pillar of the local Cork City Public Participation Network (PPN), as Public Participation Networks are seen as a vitally important stakeholder in the holistic attempt to mainstream climate action participation among society in general. The first workshop also included representatives from Cork Chamber and the Cork Business Association. Again, this is part of the goal of making climate action (adaptation and mitigation) more inclusive to the entire Cork city community.

Workshops 2 and 3 were specifically for local secondary school students, most of whom were from Transition, 5<sup>th</sup> and 6<sup>th</sup> years. Approximately 15 schools were represented, with almost 90 students attending. Personal invitations were extended to and accepted by the 'Fridays for Future' students, who have been raising awareness of climate change outside City Hall for many months.

Workshops 4 and 5 were open to the general public, organised on a 'first-come-first-served' basis and approx 35 people attended.

Overall, the participants appreciated the face-to face nature of this consultation method and the fact that it afforded a good opportunity to actively contribute to the climate adaptation strategy. The outcomes of the workshops are set out below.

## 5.2 Workshop 1 (Public Participation Network and Business Associations).

### Priority adaptation actions identified for consideration in the final adaptation strategy:

- **Financial resources** – this relates to the generation and use of resources within the City and the need for more effective resourcing of community organisations to create vibrant and connected neighbourhoods;
- **Human Resources** – for example a City Biodiversity Officer to support actions that conserve biodiversity and increase resilience, including the development of local biodiversity plans;
- Investment in **green spaces and green infrastructure** (including actions 9.1 and 14.2);
- **Diverse representation and better coordination** –more diversity in the backgrounds of decision makers would produce more rounded policy and more coordinated local action and local groups would increase impact;
- **Promote cycling and walking** - More cycling and walking would reduce congestion and air pollution in the city making it more liveable and more resilient to climate change. Investing in cycling infrastructure is a win-win for climate change adaptation and mitigation, as well as social cohesion and health (building on action 7.1);
- **Promote remote and home working** – this would reduce congestion and the carbon pollution associated with commuting to work. It would also allow people to connect to their local communities which increases resilience to climate change; and
- Creating **connected communities** and neighbourhoods that localise food, health and energy services and promote sustainable transport and community response.

### Additional actions:

- i. Support for actions 9.1, 10.4, 13.1, 13.4, 14.1, 15.1, 15.2
- ii. Connections to the SDGs and an SDG framing for adaptation action
- iii. Addressing mitigation actions with sustainable development and adaptation co-benefits
- iv. Support for the theme on partnerships
- v. Building social resilience and understanding who is most vulnerable in our communities
- vi. Addressing the anxiety resulting from extreme events and managing mental health
- vii. A tidal barrier for the harbour to prevent tidal flooding
- viii. Natural capital accounting
- ix. Climate proofing buildings
- x. Strengthen emergency planning
- xi. Free public travel for under-16s.

### 5.3 Workshops 2 and 3 (Local secondary school students).

#### Priority adaptation actions identified for consideration in the final adaptation strategy:

- **Equality** - Protecting the elderly and the homeless. Pay front line public sector workers better. Provide adequate social protection. Provide access for all to education, health, jobs and housing. Fund emergency services so that everyone is safe;
- **Biodiversity** - Strengthen biodiversity and plant more trees especially broadleaf trees. Invest in green spaces, green the city centre and green buildings (e.g. green roofs). Protect natural habitats from destruction and encourage wildlife for example by planting habitats for bees. Ban pesticides. Redesign inner city Cork to make it greener;
- **Transport** - Free buses for under-18s or free public transport for all. More EV charging points and better quality roads. Better traffic management. Build more resilient infrastructure. Invest in snow ploughs for the airport and city centre. Make city centres more compact and easier to get around;
- **Water and flooding** – improve drainage systems, clear drains and avoid building on floodplains. Install flood barriers. Fund flood protection. Conserve and pay for water. Protect drinking water from contamination and install drinking water fountains;
- **Zero waste lifestyles** – regulate fast fashion. Eliminate food waste. Create more zero waste shops. Create community gardens and encourage people to grow their own food. Organise clean up days and zero waste festivals; and
- **Reduce fossil fuels** - Insulate houses to reduce use of fossil fuels. Provide access to cheap renewable energy. Green efficient buildings. Introduce carbon-footprint measuring and impose controls.

#### Additional actions:

- i. Better forecasting and early warnings
- ii. Provide mandatory training and education on how to cope with emergencies
- iii. Invest in climate change relief organisations
- iv. Improve farm technology
- v. Buy back up generators
- vi. Provide more support for volunteers
- vii. End animal abuse
- viii. Introduce laws to prevent pollution.

## 5.4 Workshops 4 and 5 (General public).

### Priority adaptation actions (in order of priority) identified for consideration in the final adaptation strategy:

- Action 9.3 - Ensure that climate change is a key consideration in selecting locations for future developments and reflect in **land use zoning policy** – add a focus on brown field development;
- Action 10.4 - Identify natural floodplains in Cork city and incorporate **nature-based solutions**;
- Action 15.2 - **Raise awareness** and support positive behavioural change among staff, schools, community, homeowners and developers. Actions to include: i) training and workshops; ii) information materials (brochures, educational packs, information boards); and iii) increased use of social media and attendance at events and festivals;
- Action 13.4 - Support and enhance a **pollinator plan**, paying attention to the threats from climate change e.g. seasonal disruption, increased severe weather events;
- Action 13.6 - Protect **natural resources** through waste prevention and recycling. Support national and regional initiatives e.g. the policy actions of the Regional Waste Management Plan, the EPA's Local Authority Prevention Network and Local Agenda 21. Promote behavioural change in relation to the use of natural resources through initiatives as the 'Waste prevention grant scheme'. Work with communities to enable them to develop an appreciation of natural resource protection, thus highlighting the link with climate change;
- Action 15.1 - Develop a system to document, monitor and deliver actions on reducing the impacts of climate change on Cork City Council's **natural and built heritage and cultural assets**:
  - gather baseline data to monitor change e.g. map existing green areas, habitat surveys;
  - create a risk register for the natural and built heritage and cultural assets;
  - introduce 'natural capital accounting'; and
  - Heritage, Culture and Nature should be treated as distinct priorities.
- Other priority actions selected from the 55 actions in the draft plan were: 5.3, 6.3, 7.1, 9.1, 9.2, 10.1, 10.5, 13.1, 13.7, 14.2, 16.2 and 16.4.

### Additional actions:

**Flooding** - Promote better cooperation between stakeholders, flood managers and all state bodies involved in the management of river catchments. Review all flood maps and peer review current flood management plans. Place an emphasis on natural flood management over hard engineering solutions. Construct a viable tidal flood barrier.

**Green infrastructure** -Develop a green infrastructure strategy. Support the development of green walls and green roofs on city buildings. Work with communities and schools to create a local biodiversity action plan. Invest in local and decentralised energy infrastructure which will be more resilient to climate change. Dedicate half of the land in Cork City to nature and do not develop.

**Awareness raising and local action** – Raise awareness and educate – from primary school upwards (as also reflected in action 15.2). Support all communities – not just disadvantaged communities – to be part of climate action and more sustainable living. Develop a preparedness programme for individuals and businesses in the City to prepare them to cope with emergencies / extreme weather events. Support children to grow up to be green innovators. Take urgent mitigation action at the local level and incentivise action, e.g. through lower rates for green businesses. Create active neighbourhoods, with local food production and ban single use plastics.

## **Consideration of issues raised from the 5 Public Workshops**

### **Summary of issues raised:**

The five workshops raised a large amount of issues, which have been collated and summarised on the preceding pages. As well as these submissions, the following **top priorities** emerging from all workshops (that are reflected in the current draft climate change adaptation strategy and should be retained and strengthened) are as follows:

- Flooding and water;
- Green infrastructure and biodiversity;
- Awareness raising and education; and
- Sustainable transport.

**Additional priority** themes that could/should be addressed in the revised climate change adaptation strategy are:

- Equality and fairness;
- Zero waste / sustainable consumption;
- Fossil fuel-free living / links between adaptation and mitigation;
- The future of work;
- Decision making / local governance roles and responsibilities; and
- Resources – human and financial.

### **Response to issues raised:**

I note and welcome all the commentaries and suggestions from the 5 public workshops. This consultative method has produced not alone many excellent suggestions, but has also engaged the participants in a more active way which speaks to Cork City Council's desire to encourage community participation and thus hopefully behavioural change in this climate action area. Many of the submissions/priority adaptation actions/additional actions are currently contained in the draft strategy and/or will be included in the implementation plan to be derived from the final strategy. Many of the submissions are more closely related to climate change 'mitigation' and will be a welcome resource when the process of developing a Cork City Council Climate Change Mitigation strategy begins.

**Recommendation:**

I recommend the following changes and/or additions to the current draft strategy:

Insert as additional bullet point in Thematic Area 5: Nature, Natural Resources and Cultural Infrastructure, under Objective 13, Action 13.6:

**CCC will seek Department/Government support to employ one permanent full-time biodiversity officer in each LA, with additional biodiversity staff support being provided to LAs depending on their population/jurisdictional area.**

Insert as additional bullet point in Thematic Area 2: Infrastructure and Built Environment, under Objective 7, Action 7.1:

**Home or hub or remote working should be promoted and instituted by relevant organisations and firms. This will help to reduce congestion and carbon emissions associate with using commuting to work, as well as a reduction in particulate matter impacting negatively on air quality.**

Insert a new action in Thematic Area 1: Local Adaptation Governance and Business Operations, under Objective1:

**1.6 Ensure that climate action is referenced to and aligned with the UN Sustainable Development Goals (SDGs), especially SDG 13: Climate Action.**

Insert as additional text into action 8.4:

Support the rollout of electric vehicles and electric vehicle-charging infrastructure, **and the rollout of compressed natural gas (GNG) usage and corresponding infrastructure** in Cork City, etc.

Insert as additional text the following in Thematic Area 2: Infrastructure and Built Environment, under Objective 7, Action 7.1:

**Better promotion of the 'Public Transport Tax Initiative' scheme.**

**Support the increased take-up of school children and students using public transport.**

Insert as additional text into action 7.1:

Communicate with external stakeholders on assets that would be required during an extreme weather events **e.g. snow ploughs, grit and salt, mobile emergency signage and lighting, back-up electricity generators, mobile flood barriers, pumps etc.**

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## 6. Matters raised from other stakeholders

In addition to the submissions received from the prescribed Environmental Authorities and the targeted stakeholders examined in the previous sections, over 60 other submissions were received from persons, groups, organisations invited to take part in the public consultation through a variety of consultation approaches listed in section 1 of this report. The submissions raise a wide range of issues from general and strategic issues to more specific comments on the narrative, Goals, Objectives and Actions. This section deals with a range of general and strategic issues raised, grouped as topics to cater for the duplication across submissions. Section 7 examines specific requests contained within the submissions around suggested changes to the narrative, Goals, Objectives and Actions of the draft strategy.

It should be noted that many submissions raise issues that sit outside the scope and purpose of the Climate Change Adaptation Strategy such as national policy, commercial products etc. Some issues may be dealt with in this section for the purposes of clarification. Off-point issues raised or those relating to planning matters will not be addressed as part of any response. The order in which issues are dealt with below does not in any way indicate an order of preference. Each topic covered is followed by the CE response and recommendation. See full submission summaries in appendix B.

Topics examined in this section include:

- 1. Adaptation in the context of Climate Action and Mitigation efforts;**
- 2. Timeframes for Action;**
- 3. Other Sectors;**
- 4. Local Authority Functions and Areas of Responsibility;**
- 5. Cork City Council's Climate Action Team;**
- 6. Sustainable transport, promotion of cycling, cycling infrastructure, non-fossil fuel vehicles;**
- 7. Biodiversity crisis, National Pollinator Plan, tree planting, preserve green spaces/more green spaces, re-wilding, reduce/ban pesticide and insecticide;**
- 8. Flood related issues;**
- 9. Budget/Funding; and**
- 10. Sustainable Development Goals (SDGs).**

## 1. Subject Topic: Adaptation in the context of Climate Action and Mitigation efforts.

### Sample of issues raised:

- Adaptation, mitigation and resilience should not be decoupled - they would be more effectively dealt with in a holistic approach;
- Need for a Climate Change Mitigation Strategy also;
- Strategy needs to address mitigation measures;
- Increased availability and use of public transport. Increased mitigation will lead to less adaptation requirements;
- Switch to electric car use, need for EV charging points, strategy for location of charging points, consider compressed natural gas (GNG) usage and corresponding infrastructure; and
- Lack of actions for renewable energy etc.

### Response to issues raised:

To note:

**Mitigation** refers to efforts to reduce the emission of greenhouse gases and reduce the severity of future climate change impacts.

**Adaptation** refers to efforts to manage the risks and impacts associated with existing or anticipated impacts of climate change.

The focus of the strategy is on Climate Change Adaptation. It is important to understand its context.

The National Adaptation Framework (NAF) was published in January 2018. This sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The NAF was developed under the Climate Action and Low Carbon Development Act 2015. The NAF outlines a whole-of-government and societal approach to climate adaptation in Ireland. Under the NAF, a number of Government Departments are required to prepare sectoral adaptation plans in relation to the priority area(s) for which they are responsible. In addition, each Local Authority is also required to make a local climate change adaptation strategy by 30th September 2019. This is the statutory/legislative framework for local authority Climate Change Adaptation Strategies.

Adaptation Planning provides for a clear understanding of the risks presented by climate change and the current levels of vulnerability to such risks. We are adjusting to a new climate. The most immediate risks associated with climate change to Cork City Council are those associated with extreme weather events including increased rainfall events, storms, heat/drought and other extremes. We have experienced ever-increasing extremes and their significant impacts on the service delivery of the council through events such as Storm Ophelia October 2017, Storm Emma March 2018 and the summer heat extreme of 2018.

The actions identified in the adaptation strategy as intended, are aimed at building climate resilience and integrating adaptation into effective local level decision making for Cork City Council. This is crucially important. The cost of maintaining a reactive approach to extreme weather events will continue to increase. The cost of inaction is simply too significant to dismiss.

Mitigation is not the focus of the strategy. That is not to say it is not the focus of the council. Cork City Council continues to work towards the mandatory energy efficiency target of 33% energy efficiency by 2020. This is set in the context of Ireland's EU and national commitments and wider climate change goals, whereby a target of 33% energy efficiency improvement is to be achieved by all Irish public bodies (as defined in Statutory Instrument 426 of 2014) by 2020. Section 1.10 of the adaptation strategy refers.

Cork City Council is also a signatory of the Global Covenant of Mayors for Climate and Energy. Section 1.15 of the adaptation strategy refers. The commitment of the elected members is welcome and very encouraging on this.

Being a signatory to the Global Covenant of Mayors for Climate & Energy, the Council voluntarily commits to a 40% reduction in the Council's greenhouse gas emissions by 2030. Across Europe, signatory cities pledge action to support implementation of the EU 40% greenhouse gas-reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. By setting such ambitious targets for the Council, it is hoped that it can become a climate leader to influence the rest of the country. This commitment initiates the beginning of a long term process, whereby the Council will be committed to reporting to the Covenant of Mayors on the progress and implementation of a Sustainable Energy and Climate Action Plan (SECAP) to fulfil participation protocols. Participation in the Covenant of Mayors will also facilitate access to best practice project and 'benchmarks-of-excellence' initiatives from across Europe. Adaptation is a fundamental aspect of the Covenant of Mayors and work set out in the strategy will contribute significantly to required efforts.

Further, the recently published (June 2019) Climate Action Plan – *To tackle Climate Breakdown*, sets out new and revised targets and calls on the all local authorities to meet the required level of emissions i.e. 30% reduction in carbon emissions by 2030 and a 50% improvement in energy efficiency within the same timeframe (Note: the Covenant of Mayors is seeking greater ambition to 2030). Refer also to Section 8 of this report for a synopsis of the Climate Action Plan.

We need to recognise climate change for the hugely complex issue that it is. Responses and efforts are required from every sector in society. There is no one strategy, no '*one size fits all*' solution to the challenges faced. Responding to climate change requires a suite of measures that will collectively represent a coherent approach to dealing with these challenges. Adaptation planning in Cork City Council is recognised as one such measure that will work cohesively and constructively with ongoing and future mitigation efforts to represent an ever increasing and collective response.

While mitigation is not the emphasis of the plan, I do acknowledge that it is important to reference mitigation and resilience in the strategy, the existing efforts being pursued to meet 2020 energy efficiency targets, obligations of the Covenant of Mayors and of the Climate Action Plan. Accordingly, I suggest a new action be incorporated into Objective 1 of the strategy.

**Recommendation:**

Insert NEW ACTION as Action 1.7 in Objective 1 as follows (please refer also to section 8 of this report):

**Action 1.7: Building on adaptation planning actions set out in this strategy, support and compliment 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.**

Insert the following narrative on the Climate Action Plan in Chapter 1 as an addition to Section 1.16:

**1.16 The Climate Action Plan 2019 - *To Tackle Climate Breakdown*, was published on 17<sup>th</sup> June 2019 and its 183 individual actions (over 12 sectors) charts an ambitious course towards decarbonisation.**

**The Public Sector is identified as having a significant role, to not only reduce their own emissions but to inspire climate action across communities and society. Local Government in particular is recognised for its pivotal role in stimulating climate action at community level. The Climate Action Plan speaks also to the role of the Climate Action Regional Offices (CARO) in assisting local authorities in building capacity to engage effectively with climate change. There are a range of actions that are specific to and/or relate to local authorities as well as the CAROs.**

**Local authorities will be required to undertake an annual programme with measurable impact particularly with actions to focus on, *inter alia*:**

- **Reducing emissions by 30% and Improve energy efficiency of local authority buildings by 50% under the guidance of a new Public Sector Decarbonisation Strategy;**
- **Setting a target to demonstrate leadership in the adoption of low emission transport options;**
- **Developing and implementing a Climate Action charter;**
- **Public buildings (all) to reach BER 'B' Rating;**
- **Building capacity through upskilling and knowledge dissemination;**
- **Supporting and delivering projects that include strong ambition on climate action through funding resources from Project Ireland 2040;**
- **Developing robust community engagement on climate action by linking to existing and new networks and clustering initiatives, using the National Dialogue on Climate Action and local authority structures;**
- **Working with communities to expand Sustainable Energy Communities; and**
- **Continue to implement Adaptation Planning, with emphasis on building Climate Resilience and delivering the objectives of the National Adaptation Framework (NAF).**

The Climate Action Plan is notably focused on mitigation measures to achieve emission targets to 2030 and local authorities will need to expand their role to take on actions and measures from the Climate Action Plan to respond to and meet the obligations set out.

The level of ambition within Cork City Council over-and-beyond adaptation measures is all- embracing of the mitigation measures prescribed by the Government of Ireland’s ‘Climate Action Plan’ and this is reflected in the Councils resolution in its commitment to the Covenant of Mayors.

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## **2. Subject Topic: Timeframes for Action.**

### **Sample of issues raised:**

- Lack of clarification on the meaning of the timeframes or deadlines of short/medium/long-term;
- Include precise timeframes within the strategy to allow for monitoring and review of each action; and
- Inclusion of committed timelines and an allocation of the required resources to Cork City Council to effectively support implementation of actions.

### **Response to issues raised:**

A number of submissions raised the issue of the lack of clarity on the timeframes specified in the strategy. The timeframes or deadlines of short/medium/long-term is recommended to be clarified in Chapter 4. There is extensive monitoring and tracking required to report on progress as outlined in the Implementation Section (Section 4.5, 4.6 and 4.7). The timeframes when elaborated upon will evaluate progress and demonstrate the successful implementation of actions.

It is also acknowledged that staffing resources will need to be strengthened to deliver on the requirements of the actions set out in this Climate Change Adaptation Strategy, in addition to the delivery of the Covenant of Mayors and recently published Climate Action Plan objectives. A new action (Action 1.8) is recommended to account for this.

### **Recommendation:**

I recommend that a narrative to clarify Timeframes is inserted into Section 4.3 of the Adaptation Strategy:

**The action framework as set out over the 7 High Level Themes provides for the implementation of actions within the timeframes of short, medium and long.**

**For clarity, these timeframes have been determined as:**

Timeframe	Categorisation
Short	1 <sup>st</sup> Half of Strategy
Medium	2 <sup>nd</sup> Half of Strategy
Long	During & After Lifetime of Strategy

Given their nature, some actions may be commenced within the lifetime of this strategy and continue beyond it.

In relation to resources, I also recommend that a NEW ACTION (Action1 .8) is inserted into Objective 1:

**Action 1.8 Explore with the relevant Government Department(s) the necessity of appointing a Climate Action Officer and strengthening other staff resources within the existing Climate Action Unit. This Officer and Unit will have responsibility for co-ordinating and delivering climate action-related activity within Cork City Council’s administrative area.**

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### 3. Subject Topic: Other Sectors.

#### Sample of issues raised:

- Suggested actions in relation to public health issues, resilience of health infrastructure and services, health and wellbeing programmes and the development of a health risk assessments;
- Suggestions for sustainable farming and urban farming practices;
- Concerns about food security;
- Suggestions around large scale afforestation; and
- Concerns around the marine environment.

#### Response to issues raised:

The focus of this strategy is on adaptation in the context of the functions and activities of Cork City Council. Many comments relating to other sectors, although relevant to the issue of climate change are outside of the scope of this strategy. Two points to note however:

1. Under the National Adaptation Framework (NAF) in addition to local authorities, 12 sectors are required to undertake adaptation plans by 30<sup>th</sup> September 2019. The work that local authorities do is a key consideration of the sectoral adaptation plans to ensure appropriate coordination

and translation of action to local level. There will be strong collaboration between Cork City Council and the sectors involved in developing adaptation strategies including for example, agriculture, health, forestry, food, biodiversity and flood risk. I refer to Action 17.1 of Objective 7 where Cork City Council commits to *liaising, collaborating and working in partnership with the sectors in the delivery of sectoral adaptation actions where they are relevant to the functions of the Local Authority*; and

2. While some areas might sit outside the direct scope of the local authority, Cork City Council can bring influences to bear on climate action issues by working at regional and national levels, contributing and helping to shape policy development, and collaborating with agencies on the delivery of projects at local level when they occur.

**Recommendation:**

No action required.

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**4. Subject Topic: Local Authority Functions and Areas of Responsibility.**

**Sample of issues raised:**

- Reduction of plastic, awareness campaigns;
- Rubbish dumping, Waste Management & Circular Economy;
- Community development planning;
- Planning and Development - suggestions for sustainable development policy/practices and standards; and
- Renewable energy policy.

**Response to issues raised:**

The adaptation strategy maintains a role to ensure that climate adaptation considerations are mainstreamed into all plans and policies and integrated into all operations and functions of the local authority. This provides that over time, climate action considerations are integrated and inform all functions and decision making processes of the local authority. Action 2.1 refers (under Objective 2 of thematic area no.1 Local Adaptation Governance and Business Operations). This will provide for a change of emphasis over time towards climate change and climate action in land use and development planning, infrastructural design, planning and construction, community enhancement and development, economic development, heritage, biodiversity and other key functions of the local authority.

**Recommendation:**

No action required.

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## **5. Subject Topic: Cork City Council's Climate Action Team.**

### **Sample of issues raised:**

A number of submissions raised the query on the makeup of the Climate Action Team referred to in action 1.1 and also requested to form part of same.

### **Response to issues raised:**

The Climate Action Team will comprise a multidisciplinary interdepartmental team from Cork City Council with expertise and experience in a variety of specialised fields (to which their qualifications attest) including engineering, planning, environmental, business and science. With their high level of skills, expertise and experience, the members of the Climate Action Team will represent all functions/services of the council to ensure the effective mainstreaming of climate change considerations into all activities of the local authority.

### **Recommendation:**

No action required.

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## **6. Subject Topic: Sustainable transport, promotion of cycling, cycling infrastructure, non-fossil fuel vehicles.**

### **Sample of issues raised:**

- More safer, integrated cycle lanes/infrastructure (secure bike parking facilities);
- Better, less-costly public transport;
- Extension of bus timetables; more dedicated bus lanes;
- Additional bus stops (especially at new developments), with appropriate shelter;
- More electric cars and charging infrastructure;
- Another bus station for the city for private buses;
- Promote the 'Public Transport Tax Initiative ' scheme;
- Safer footpaths and cycle lanes; stop car parking in cycle lanes;
- Remove car parking spaces in the city; eliminate car traffic from the city;
- Enforce 'car free' days on a weekly basis;
- Compressed Natural Gas (CNG) to displace diesel and petrol as a vehicle fuel;
- CNG infrastructure;
- Taxis, buses and trams to be electrically powered;
- Promote active transport (walking, cycling);
- Development of a light rail system for the city must be a priority;
- Develop city centre accommodation without the provision of car parking;
- Reduce car parking facilities in suburban shopping centres; replace with a network of public transport hubs;
- Car parking spaces to be replaced by safe cycle routes;

- Objection to the prioritisation of electric cars only;
- Improve road safety for walkers and cyclists;
- Create more 'Park and Ride' infrastructure, and make them 'free';
- Demand better performance from public transport providers;
- Driver training to improve safety of walkers and cyclists;
- Traffic lights should prioritise pedestrians and cyclists; and
- Free inner-city buses for everyone.

### **Response to issues raised:**

Many of the issues above relating to sustainable transport and promoting alternative modes to reduce car dependency and reduce emissions are largely based on pursuing and achieving mitigation measures, which is not the remit of this strategy. However, they will be used to inform the implementation plans that will follow from both the climate adaptation and mitigation strategies of Cork City Council.

Transport in general presents challenges in respect of decarbonisation and public health issues from poor local air quality. There is a close correlation between transport emissions and economic activity.

National policy on sustainable transport is fourfold:

1. Reducing emissions by decarbonisation measures (Climate Action Plan);
2. Successful implementation of integrated transport and landuse promoting compact growth and sustainable settlement patterns;
3. Expansion of walking, cycling and public transport to promote modal shift; and
4. Support initiatives to reduce unnecessary travel including remote work, improved broadband.

With respect to Cork city, the 'Cork Metropolitan Area Draft Transport Strategy 2040 - CMATS' was developed and published in early 2019, with the closing date of 28 June 2019 for written submissions and observations. The sponsors of this transport strategy were the National Transport Authority, Transport Infrastructure Ireland, Cork County Council and Cork City Council. Many of the issues raised as part of the Cork City Council climate change adaptation strategy have been addressed in this draft Cork Metropolitan Area transport strategy. Significant chapters in the CMATS relevant to the adaptation strategy include the following:

- Chapter 4: CMATS 2040 Land Use;
- Chapter 6: Walking;
- Chapter 7: Cycling;
- Chapter 8: BusConnects;
- Chapter 9: Suburban Rail;
- Chapter 10: Light rail;
- Chapter 11: Parking; and
- Chapter 12: Public Transport Interchange and Integration.

Cork City Council will ensure that the final versions of both strategies will complement each other, thus contributing positively towards the objective of decarbonised and sustainable transport systems.

Cork City Council will continue to engage and work with the various transport agencies, transport providers and government departments at national, regional and local levels to coordinate approaches to reducing emissions from transport and to address commuting volumes in the city. Cork City Council will also continue to promote and facilitate and influence transport providers where possible in the provision of additional and new public transport services and infrastructure where required.

#### **Recommendations:**

Insert the following NEW ACTION as 8.5 in Thematic Area 2: Infrastructure and Built Environment, under Objective 8:

**NEW ACTION: Examine ways to reduce/avoid unnecessary staff travel and promote initiatives to promote more sustainable forms of transport for all Cork City Council staff. Examine the findings of the 'Smarter Travel Workplace' 2019 Staff Travel Survey (currently on-going) to deliver positive action amongst staff.**

Insert the following NEW ACTION as 8.6 in Thematic Area 2: Infrastructure and Built Environment, under Objective 8:

**NEW ACTION: Promote cycling and walking to support a greater uptake of active travel in Cork city, thus reducing carbon emissions and improving air quality. Promote the modal shift away from private cars through land use planning policy, development management and local initiatives and promotions. Continue to support Mobility Management Initiatives and other initiatives which support greater use of walking, cycling and public transport including Bike Week, European Mobility Week and other related promotions. Use the 'Cork City Cycling Strategy' and the 'Cork Cycle Network Plan' to help deliver this action.**

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#### **7. Subject Topic: Biodiversity crisis, National Pollinator Plan, tree planting, preserve green spaces/more green spaces, re-wilding, reduce/ban pesticide and insecticide.**

##### **Sample of issues raised:**

- Night time pollinators and light pollution in cities;
- Re-wilding of green spaces to support biodiversity;
- Plant more trees and hedgerows; the right trees in the right place (especially as more land available to Cork City Council due to recent boundary extension);
- Preserve existing green spaces/develop more green spaces;
- More nature reserves and natural habitat protection and preservation;
- Bug hotels;

- Communal allotments;
- Better animal environments, including local wildlife at risk;
- Adopt a catchment approach to protect aquatic habitats and improve ecological status of water bodies;
- Biodiversity crisis;
- Climate adaptation measures may improve biodiversity;
- Promote sustainable farming methods;
- Temperature rise may harm beneficial insects and encourage the spread of harmful insects;
- Ban/reduce pesticides and insecticides, especially glyphosate (Roundup)...except perhaps on some invasive species;
- Temperature rise in oceans destroying corals;
- Plastics in the sea negatively affecting fish;
- 'The Greening of Cork';
- Restore the balance of nature through biodiversity;
- Keep waterbodies free of algae growth to reduce eutrophication;
- Carry out tree survey/audit;
- Research how climate change is affecting biodiversity;
- Establish seed banks;
- Declare a biodiversity emergency;
- Has the advent of wireless technology resulted in the decline of insects?;
- Create an inventory of City Council-owned lands to identify capacity to contribute to more green spaces and biodiversity;
- Appoint a dedicated Biodiversity Officer to inform policy and planning, cross directorate strategic policy making and to provide appropriate training and consultation services to council staff and elected members;
- Establish a 'Climate and Biodiversity Strategic Policy Committee';
- Responsible management of trees and hedgerows;
- Healthy eco-systems and biodiversity and its importance to mental health and wellbeing;
- Introduce a 'green' participatory budget to support climate change actions;
- Create a city forest comprising of multiple fruit and nut trees;
- Emphasise the greening of the city within the biodiversity crisis plan;
- All new buildings should include plans for green spaces, green roofs, green walls etc;
- An empty chair representing nature should be created at local city council meetings;
- Approve development of a 'green Infrastructure strategy' and 'nature-based solutions';
- Support and enhance the 'Pollinator Plan';
- Work with communities and schools to create and implement local Biodiversity Action Plans;
- Develop pocket-parks and greenways; and
- Spread of non-native invasive species will lead to loss of biodiversity.

### **Response to issues raised:**

**Biodiversity:** The adaptation strategy highlights the role that the natural environment, biodiversity and ecosystem services play in both adapting and mitigating climate change. This is set out in Objective 14: *To review, manage and protect biodiversity and natural heritage within the natural environment*. Cork City Council will continue to collaborate with the National Parks and Wildlife Service (NPWS) and others to implement this adaptation action. All biodiversity-related actions in the Cork City Council climate change adaptation strategy will be co-ordinated with the Biodiversity Sectoral Adaptation Plan undertaken by the Department of Culture, Heritage and the Gaeltacht, which sets out complimentary actions to increase the resilience of natural systems to climate change. Climate change is known to have highly adverse effects on biodiversity, and Cork City Council restates its commitment to help reduce the pressures on biodiversity, to protecting and restoring ecosystem services and thus to increasing climate change resilience for the biodiversity sector.

**Declaring a Climate and Biodiversity Emergency:** During June 2019, the elected members of Cork City Council declared a *'climate and biodiversity emergency'*. The members, in doing so, showed their commitment to taking action on climate change, including reducing the risks of climate change impacts on council operations and services, promoting and ensuring biodiversity throughout the county, as well as mitigating against the causes of climate change. This follows the decision by the Irish government and opposition parties to declare a climate and biodiversity emergency, becoming only the second country in the world to do so.

**Green infrastructure strategy:** This issue is contained in action 14.2 *Develop a green infrastructure strategy and associated action plan*. This will involve carrying out research to identify areas suitable for carbon-offset projects, such as tree and hedgerow planting. It will also contribute to identifying and integrating 'nature-based' solutions for not only City Council developments, but also developments by other Agencies and the private sector. Actions 13.1 and 13.2 seek to support and enhance a shrub and tree planting programme for Cork city, and to review roadside hedge maintenance programmes. Action 13.3 is concerned with monitoring and controlling the spread of alien invasive species.

**Pollinator Plan:** The All Ireland Pollinator Plan, published in 2015, set out a new approach to address the decline in pollinator species and protect pollinator services on the island of Ireland. The Plan is a cross-agency and cross-departmental strategy setting out steps to reverse pollinator losses and help restore populations to healthy levels over a five-year period. Cork City Council is a signatory to the pollinator plan local authority framework agreement. The associated sectoral guidelines produced through the pollinator plan provides a valuable resource to promote ongoing work and collaboration in Cork City Council on projects that support the All Ireland Pollinator Plan. Action 13.3 specifically states that Cork City Council will 'support and enhance a pollinator plan, paying attention to the threats from climate change.

**The ‘greening of Cork city’:** Action 13.5 addresses the issue of *ecological corridors and connectivity issues between areas*, while also identifying locations to create new habitats for native flora and fauna e.g. urban orchards, allotments and green roof and walls. The former Kinsale Road landfill site has recently been re-opened as a public park. Action 15.1 seeks to gather baseline data to monitor any impacts from climate change on existing green areas and to carry out habitat surveys.

### **Recommendations:**

Insert additional text in Chapter 1 after section 1.12 (and name as 1.13) as follows:

#### **Declaring a Climate and Biodiversity Emergency**

During June 2019, the elected members of Cork City Council declared a ‘*climate and biodiversity emergency*’. The members, in doing so, showed their commitment to taking action on climate change, including reducing the risks of climate change impacts on council operations and services, promoting and ensuring biodiversity throughout the county, as well as mitigating against the causes of climate change. This follows the decision by the Irish government and opposition parties to declare a climate and biodiversity emergency, becoming only the second country in the world to do so.

Insert additional text in Action 13.4, following on from existing text, as follows:

- Explore ways to increase the range of plant species with the aim of increasing food sources and habitats for pollinators
- Examine ways to reduce the impact of a longer growing season on lifecycles of bees and other pollinators in terms of food availability and life cycles mismatch
- In collaboration with communities, and as part of the green schools campaign and in conjunction with Lifetime Lab, identify suitable new sites for the implementation of the Pollinator Plan and to ensure continued maintenance and upkeep.

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## 8. Subject Topic: Flood related issues.

### Sample of issues raised:

- References to particular flood relief schemes in the city;
- Recommends using natural solution instead of hard engineering solutions;
- Use of trees and green areas for water attenuation;
- Promote green roofs & water harvesting;
- No building in flood plains; and
- Support communities in water conservation, tree planting, installation of green infrastructure etc.

### Response to issues raised:

Please also refer to the response to the OPW submission above in section 4. The OPW is the lead State body for the coordination and implementation of Government policy on the management of flood risk in Ireland and is also the national authority for the implementation of the EU Directive on the Assessment and Management of Flood Risks [2007/60/EC]. I also note that the OPW is responsible for the delivery and implementation of a **Climate Change Adaptation Plan for Flood Risk Management** under the National Adaptation Framework also. Close co-operation between the sectors and Cork City Council is required to ensure a coherent approach to building resilience.

Action 10.2 outlines the Council's proposal to work with the OPW and other organisations in the area of flood risk management. Furthermore Actions 10.1 and 10.3 demonstrate the Council's commitment to undertake a Flood Risk Management System for Council assets in addition to the preparation of a Flood Emergency Response Plan. These are areas that will require constant evaluation.

Green roofs and water harvesting can be examined on a case by case basis through the planning process. Action 9.1 of Objective 9 references the promotion of nature based solutions e.g. green infrastructure, water conservation measures in new developments etc. Green roofs should be endorsed for their important functions they perform i.e. absorbing rainwater, providing insulation, creating a habitat for wildlife and helping to lower urban air temperatures and mitigate the heat island effect.

Cork City Council will continue to work with and support the work of the Local Authority Waters Programme (LAWPRO) and in particular their Communities Team. Their work supports communities and stakeholders in the delivery of local water quality projects and initiatives. The team activates local communities to engage with river catchments in line with the integrated catchment management approach. In relation to this and the other points outlined above, it is recommended that a new action is inserted into Objective 12 to account for the Council's collaboration with various stakeholders in relation to the management of water courses.

**Recommendation:**

Amend Table 1.1.

~~The OPW are progressing many flood defence schemes with Cork City Council, including the Lower Lee Flood Relief Scheme (LLFRS) and the Blackpool Flood Relief Scheme. Other schemes began in the Cork County Council area prior to the boundary extension will be either completed by the County Council or transferred to Cork City Council, including schemes in Togher and Glanmire.~~

**Cork City Council continues to work with the OPW in relation to the flood defence throughout the City.**

Insert NEW ACTION: Action 12.5

**Further develop collaboration with State bodies, and other relevant Bodies responsible for the management of water courses including (but not limited to):**

- **OPW;**
- **River Basin Management LAWPRO;**
- **Waterways Ireland;**
- **Irish Water;**
- **Irish Farmers Association;**
- **Inland Fisheries Ireland;**
- **ESB; and**
- **Others as appropriate.**

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## 9. Subject Topic: Budget/Funding

### Sample of issues raised:

- City Council Budget 2020 must be shaped by climate adaptation - all expenditure must be justified in how climate adaptation is being supported;
- Clarity required around level of funding and funding sources given rates received by council; and
- Council need to be transparent on how actions from the strategy will be funded.

### Response to issues raised:

On the topic of budget and funding allocation to pursue adaptation actions listed in the strategy, please note that a great number of adaptation actions, particularly those with the aim of 'mainstreaming' climate adaptation into all functions and activities of the council, are already in use in some form and require little more than a change in scale or focus, improved efficiencies or different approaches.

### Recommendations:

It is proposed that a €150,000 commitment be given by Council in the 2020 Budget, thus reflecting climate action expenditure requirements as part of the budgetary process. In terms of funding available, the Climate Action Fund set out under Project 2040 (Capital Investment Plan) earmarks 20% (€500M) of the total funding for the plan towards Climate Action. This is to support the range of adaptation and mitigation measures stemming from the National Adaptation Framework, National Mitigation Plan and Climate Action Plan that will deliver a step-change in the transition to a low carbon and climate resilient society. Private sector investment is required alongside substantial public sector investment. The strategic investment priorities on Climate Action are set out in the Government publication, *Investment in the Transition to a Low Carbon and Climate Resilient Society, 2018-2027*.

Other funding streams that can be leveraged for adaptation projects include EU funding i.e. European Structural and Investment funds, Horizon 2020 and the LIFE programme. The LIFE Programme for example funds pilot, demonstration, best practice and governance projects to support adaptation action. In addition, under LIFE, innovative financial instruments are available for Natural Capital financing i.e. biodiversity objectives. Funding for research on climate adaptation is also provided by Horizon 2020. The CARO, in conjunction with the Southern Regional Assembly, will work with local authorities in the region to identify funding opportunities, progress climate adaptation projects and leverage EU funding where appropriate.

Projects pursuing climate adaptation measures can also be presented to other competitive funding streams available, including Town & Village Renewal, Urban Regeneration and Disruptive Technologies fund and funding under the LEADER programme etc. Where both EU and competitive national funds are involved, it is important that the council works to a high level of preparedness on projects.

**Recommendation:** No change required to strategy.

**10: Subject Topic: Sustainable Development Goals (SDGs)**

**Sample of issues raised:**

- SDGs should be a central reference point; and
- SDGs are not provided for in the strategy.

**Response to issues raised:**

Response to the EPA submission from section 3 of this report has suggested additional recommended wording for inclusion in Chapter 1 of the climate change adaptation strategy, which addresses SDG no. 13 '*Climate Action*', together with a new proposed action 1.6.

**Recommendation:**

No additional change required to strategy, in relation to earlier proposed amendments on SDGs.

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## 7. Specific Commentaries from submissions

Many submissions put forward suggested changes to the text of the draft strategy. This section sets out the specific amendments and suggestions proposed to be integrated into the strategy. Such additions and amendments were considered for inclusion where they prove to add value, are relevant and appropriate and are consistent with the remit of the strategy.

### Recommendation:

Having regard to submissions proposing appropriate and relevant changes to the narrative of the draft strategy, the following is recommended for inclusion (in sequential order):

### All of strategy:

Change all text in document referring to climate mitigation (existing) to **climate change mitigation** (proposed).

### Executive Summary:

Update first paragraph as follows:

This Cork City Climate Change Adaptation Strategy 2019-2024 is a response to the impact that climate change is already causing and will continue to cause into the foreseeable future on the citizens and infrastructure of Cork City, **should no mitigation efforts be undertaken.** ...

Update text on second bullet point as follows:

- To pro-actively engage with all citizens on the subject of climate action, such as climate change, climate **change** adaptation and climate **change** mitigation.

Amend last sentence on page 6 as follows:

Cork City Council will use all available communication platforms to build awareness of the challenges faced from climate disruption, and involve all relevant stakeholders in encouraging greater participation and behavioural change to tackle what has been described as **one of the greatest environmental threat societal challenges** to our current way of life on planet Earth.

### Chapter 1 Introduction

1.5 Impacts from this warming have already been observed and include increases in global average air and ocean temperatures, accelerated melting of snow and sea ice, widespread retreat of glaciers, rising global average sea level, and extensive changes in weather patterns, including changes in precipitation levels and increased storm intensity. Climate change is the greatest environmental **and societal** threats confronting the world and is impacting on the lives of hundreds of millions of people globally as illustrated in Figure 1.2

1.6 Observations show that Ireland’s climate is also changing and projected physical climate changes include:

- Increase in average temperature (surface air temperature, sea surface temperature);
- **Increased frequency of heatwaves;**
- Changes in precipitation patterns;
- Ongoing mean sea level rise; and
- Changes in the character of weather extremes such as storms, flooding, sea surges and flash floods.

1.15 Climate change has been on the international political and policy agenda for a number of decades. In 1992 the United Nations agreed a framework on climate change. The Kyoto Protocol, which was agreed in 1997, is based on the principle of common responsibilities to address climate change. By 2013 the EU published a white paper on a climate change adaptation strategy which seeks to contribute to a more climate resilient Europe. Specific targets were set in the 2015 Paris Agreement to limit global **temperature rise to well below 2 degrees Celsius** ~~warming to 2%~~ above pre-industrial levels and **strives to limit the temperature increase to below 1.5 degrees Celsius.** ~~to build resilience and mitigate climate change.~~ In addition, 9000 cities and local governments, including Cork City Council, are signatories to the Global Covenant of Mayors for Climate Change.

## Chapter 2 Climate Change in Cork

No changes proposed.

## Chapter 3 Climate Risk Identification

	<b>Surface Air Temperature</b>
<b>Observed</b>	Observations indicate an increase in the surface temperature for Ireland of 0.8°C since 1900. In addition, the number of warm days has increased while the number of frost days has decreased.
<b>Summary of Change</b>	Surface air temperatures are expected to increase everywhere compared to the present.  An increase in the <b>frequency</b> , intensity and duration of heat waves is expected.
<b>Climate risk for Cork City</b>	Heat waves may lead to <b>the urban heat island affect</b> , severe drought and violent thunderstorms which impact upon human health, physical infrastructure, river water levels and fires.  Fewer frost days and milder night-time temperatures are expected.

## Chapter 4 Adaptation and Implementation

4.6 This adaptation strategy will be monitored by the elected members and senior management of Cork City Council to keep a record of progress made in implementing specific adaptation actions. Monitoring will be undertaken using key performance indicators (KPIs), which may evolve over time as the adaptation process matures and is mainstreamed. These indicators will be used to:

- Monitor the implementation of adaptation policies, measures and actions;
- Target, justify and monitor funding for adaptation programmes;
- Mainstream adaptation through links between sectors and related indicators;
- Communicate adaptation to policy and decision-makers and other stakeholders;
- **Update climate change legislation, policy and research information;**
- Compare adaptation achievements across sectors, regions and countries; and
- Inform and report climate change adaptation progress to Government.

### Thematic Area 1: Local Adaptation Governance and Business Operations

List UCC (ERI) as an external Partner in Actions 3.1 and 3.2

Update action 5.2 as follows:

5.2(a) Assist in building resilience and capacity within local businesses and communities to enhance the overall response to extreme weather events **taking into consideration climate equality and justice.**

**(b) Develop an education/awareness programme for business and community organisations to equip them with understanding of risks and how to build longer term resilience.**

List Cork Healthy Cities as an external Partner in Action 6.3.

Update action 16.2 with additional bullet point as follows:

- **Integrate key considerations around climate equality and justice**

### Thematic Area 2: Infrastructure and Built Environment

List UCC (ERI) as an external Partner in Action 7.1

List UCC (ERI) as an external Partner in Action 8 .1

### **Thematic Area 3: Landuse and Development**

Insert additional text on last bullet point of action 9.1 as follows:

- promoting energy efficiency and renewable energy solutions and water conservation measures in new developments **and promote green roofs, walls and courtyards.**

### **Thematic Area 4: Drainage, Water and Flood Management**

Insert new additional action as 11.3 under objective 11 as follows:

**Pilot a public drinking water fountain at an appropriate location in a public park area and/or public realm area to provide quality water supply and contribute to a reduction in plastic waste. Explore the feasibility of expanding to a network if successful and liaise and collaborate with Irish Water as appropriate.**

List UCC (ERI) as an external Partner in Actions under objective 12

Remove Healthy Cities from Council Team column under Objective 12, actions 12.1-12.3 incl.

### **Thematic Area 5: Nature, Natural Resources and Cultural Infrastructure**

Insert additional text in objective 13 as follows:

**Objective 13: To protect ~~and~~ enhance and restore the natural environment and promote biodiversity.**

Update Action 13.1 as follows:

13.1 Support and enhance a **native** shrub and tree planting programme for Cork City in conjunction with an awareness campaign in the context of climate adaptation. The tree planting programme will include the protection of existing trees, increasing tree cover, identifying new sites for additional tree planting **for the enhancement of the natural environment and Biodiversity** and the protection of trees on private land. Support the planting of native species.

Amend Action 13.3 as follows:

13.3 Support and enhance a programme for monitoring and controlling the spread of alien invasive species. Alien invasives ~~will~~ **may** become more of a problem due to climate change, thus increasing threats to native species, in addition to causing structural damage to infrastructure.

Update Action 13.4 as follows:

13.4 Support and **promote areas that contribute positively towards ~~enhance-a~~ enhanced biodiversity and implement the national pollinator plan**, paying attention to the threats from climate change e.g. seasonal disruption, increased severe weather events

Update action 13.5 as follows with additional bullet point as follows:

- **With the inventory of City Council owned lands identify the capacity to contribute to quality green infrastructure and enhance biodiversity.**

List Cork Healthy Cities as an external Partner in Action 13.6.

Update Action 13.6 as follows:

13.6 ...

Work with communities to enable them to develop an appreciation of natural resource protection, thus highlighting the link with climate change **for example, Green Spaces for Health and Community Gardens**

List Cork Food Policy Council as an external Partner in Action 14.2.

#### **Thematic Area 6: Citizen Safety, Health and Wellbeing**

Add the following bullet point to Action 16.3:

- **Work to provide for climate change adaptation co-benefits (opportunities) that provide benefits for the environment through decreasing greenhouse gas emissions or reducing pressures on resources, and promote benefits for communities**

List Cork Chamber as an external Partner in Actions 16.3 and 16.5

#### **Thematic Area 7: Partnerships with other Sectors and Agencies**

Insert new action as 17.2 under objective 17 as follows:

**17.2 Liaise, collaborate and support local organisations and agencies in the pursuit of initiatives and efforts to reduce carbon emissions, build social cohesion and community resilience against the local impacts of climate change and in working towards climate justice.**

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## 8. Climate Action Plan - To Tackle Climate Breakdown

### All of Government Climate Action Plan – To Tackle Climate Breakdown

The all of government Climate Action Plan 2019 - *To Tackle Climate Breakdown* was published on Monday 17<sup>th</sup> June 2019. The plan sets out 183 individual actions over 12 sectors and charts an ambitious course towards decarbonisation. It acknowledges the failure to meet emissions targets to 2020, failure to address efforts to decarbonise particularly during the period of the economic downturn and failure in breaking the link between emissions and economic growth. In light of this, the ambition is clearly set out to deliver a step-change in emission performance over the coming decade to meet 2030 targets and to set a trajectory to meet 2050 objectives. There is strong commitment under new governance arrangements to update the plan annually, to track performance of targets and revise or update the actions as necessary. To drive the successful and practical implementation of Climate Action towards achieving 2030 and 2050 targets, the Minister for Communications, Climate Action and Environment will bring forward a legislative framework through a new Climate Action Act.



#### 13.2 Targets

To meet the required level of emissions, by 2030 we will:

- Reduce CO<sub>2</sub> eq. from the sector by 30%
- Improve the energy efficiency of public sector buildings by 50%
- Set a target to demonstrate leadership in the adoption of low emission transport options
- In 2019, have a Climate Mandate adopted by every Public Body, making the sector a catalyst for climate action
- In 2019, agree a Climate Action Charter with Local Authorities
- All Public Buildings to reach BER 'B' Rating

Within the 12 Sectors described in the Plan, the Public Sector is identified as having a significant role in '*Leading by Example*' (see chapter 13) to not only just reduce their own emissions but to inspire climate action across communities and society. Local Government in particular is recognised for its pivotal role in stimulating climate action at community level. The Plan speaks also to the role of the Climate Action Regional Offices (CARO) in assisting local authorities in building capacity to engage effectively with climate change. There are a range of actions that are specific to and/or relate to local authorities as well as the CAROs.

While it is well understood that local authorities need to rise to this challenge it cannot be understated the impact to the sector of practically implementing the actions of this national plan.

Local authorities will be required to undertake an annual programme with measurable impact particularly with actions to focus on, inter alia;

- Reducing emissions by 30% and Improve energy efficiency of local authority buildings by 50% under the guidance of a new Public Sector Decarbonisation Strategy.
- Setting a target to demonstrate leadership in the adoption of low emission transport options
- Developing and implementing a Climate Action charter
- Public buildings (all) to reach BER 'B' Rating
- Building capacity through upskilling and knowledge dissemination
- Supporting and delivering projects that include strong ambition on climate action through funding resources from Project Ireland 2040
- Developing robust community engagement on climate action by linking to existing and new networks and clustering initiatives using the National Dialogue on Climate Action and local authority structures.
- Working with communities to expand Sustainable Energy Communities.
- Continue to implement Adaptation Planning with emphasis on building Climate Resilience and delivering the objectives of the National Adaptation Framework.

It should be noted and acknowledged that work continues in Cork City Council in meeting emission targets set out under the National Energy Efficiency Action Programme with projects including. Any further action on emission reduction will compliment and be an expansion on efforts to reduce emissions within the council already undertaken to date.

On Climate Change Adaptation, the Plan is very strong on the need *to address the current and future risks posed by a changing climate...* Adaptation is *both urgent and essential to successfully transition to a climate resilient economy and society by 2050* (see chapter 16). It cites examples of extreme weather events to explain that the cost of inaction to the effects of climate change are simply too significant to discount.

It is acknowledged that much of the focus for the local authority sector to date, has been on Adaptation Planning. Local authorities are now prescribed to widen their scope and act as a catalyst for much wider change. Since 2018 Climate Action Regional Offices (CAROs) have been co-ordinating the Local Authority response to Climate Change. The structures deployed have proved highly effective and can be utilised to direct local authority actions within the Climate Action Plan. The CAROs will lead a step up in climate action within local authorities to pursue mitigation measures to reduce emissions, activate meaningful citizen engagement, encourage community leadership and capacity building using the National Dialogue on Climate Action linking in with existing and new local authority structures.

**The Climate Action Plan is notably focused on mitigation measures to achieve emission targets to 2030. However, there is full commitment to provide clear leadership in promoting Adaptation. Recognising that Climate Change is a hugely complex issue that requires a range of responses from every sector in society all measures collectively represent a coherent approach to dealing with the challenges ahead.**

Local Authorities, through the process of Adaptation Planning are gaining a clear understanding of the risks presented by climate change and the current levels of vulnerability to such risks. Actions identified in the adaptation strategies are aimed at building climate resilience and integrating adaptation into effective local level decision making. This is crucially important. Building on this work, local authorities will undoubtedly need to expand their role to take on actions and measures from the Climate Action Plan to respond to and meet obligations set out.

It is important that the Cork City Council Climate Change Adaptation Strategy recognises the purpose of the Climate Action Plan and the role intended for Local Authorities to meet targets and contribute to the national climate ambition.

It is recommended to include an action to reflect same in the adaptation strategy.

**Recommendation:**

Include NEW ACTION in Objective 1 of Goal No 1 Local Adaptation Governance and Business Operations as follows:

**1.7 NEW ACTION: Building on adaptation planning actions set out in this strategy, support and compliment 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.**

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# Appendices

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**Appendix A: List of targeted and identified high level stakeholders for the purposes of consultation.**

**Table A1: List of identified and targeted high level stakeholders for the purposes of consultation**

<b>Regional Waste Management Office</b>
<b>Southern Regional Assembly</b>
<b>Southern Enterprise offices</b>
<b>An Taisce</b>
<b>Arts Council</b>
<b>Birdwatch Ireland</b>
<b>Chambers Ireland</b>
<b>Climate Ireland</b>
<b>Commission for Regulation of Utilities</b>
<b>Enterprise Ireland</b>
<b>Environmental Protection Agency (EPA)</b>
<b>Fáilte Ireland</b>
<b>Geological Survey Ireland (GSI)</b>
<b>Heritage Council</b>
<b>Inland Fisheries Ireland (IFI)</b>
<b>Irish Rail</b>
<b>Irish Water</b>
<b>LA Waters LAWPRO</b>
<b>National Transport Authority (NTA)</b>
<b>National Parks and Wildlife Service (NPWS)</b>
<b>Office of Public Works (OPW)</b>
<b>Sustainable Energy Authority of Ireland (SEAI)</b>
<b>Teagasc</b>
<b>Tourism Ireland</b>
<b>Transport Infrastructure Ireland (TII)</b>
<b>Waterways Ireland</b>

## Appendix B: List of submission makers and summaries of issues raised

Table B1: List of submission makers.

No.	Submission Maker	No.	Submission Maker
1	Ali Bracken	37	Blake Kelly
2	Sangrawee Laksanasopin	38	Hanna Richards
3	Mark O' Hagan	39	Rachel Delaney
4	Clair McSweeney	40	Inland Fisheries Ireland (IFI)
5	Juvi Hertel	41	Darragh Wilkins
6	Kieran Murphy	42	Courtney Collins
7	Bob Lynch	43	Patrick Leader
8	Emily Coleman	44	Christie Godsmark
9	Chanelle O' Regan	45	Anna Buckley
10	Kate Holohan	46	Deutsche Borse
11	Isabel Scully	47	Cork Climate Action (coalition group)
12	Fatima Jameel	48	SHEP Earth Aware
13	Hanna D'Aughton	49	Trees Please Group
14	Katie Quinn	50	ERVIA
15	Katelyn Leahy	51	Environmental Research Institute/UCC
16	Michael McCarthy	52	Donal Dorr
17	Noel O'Regan	53	Bob Kelleher
18	Noel O'Regan	54	Mary Cunningham
19	Maria McGuinness	55	Cork Nature Network
20	Noel O'Regan	56	Robert Devoy
21	Peter Lucey	57	Cork Chamber
22	Transport & Mobility Forum Cork	58	Ina Kelly
23	Cork Environmental Forum	59	Cork Airport
24	Justin Fleming	60	Anois
25	Roisin Cuddihy	61	Cork Food Policy Council
26	Frances Gordon	62	Cork Healthy Cities
27	Irish Water	63	Green Party
28	Failte Ireland	64	Frank Dorr
29	Environmental Protection Agency (EPA)	65	Elders for Earth
30	Gas Networks Ireland	66	Green Spaces for Health South Parish
31	Gabriella Chisholm	67	SECAD
32	Gabriella Chisholm	68	John Morehead
33	Mary Casey	69	Carol Doyle/ Thorsten Ohlow
34	Kate Connolly	70	Save Cork City
35	Richard Higgins	71	Office of Public Works (OPW)
36	Blake Kelly	72	Department of Agriculture, Fisheries and the Marine (DAFM)
		73	Department of Communications, Climate Action & Environment (DCCA) / Geological Survey Ireland (GSI)

**Table B2: Summaries of issues raised in submissions**

Submission Maker	Summary of Submission
1 <b>Ali Bracken</b>	<ul style="list-style-type: none"> <li>• More cycle lanes.</li> </ul>
2 <b>Sangrawee Laksanasopin</b>	<ul style="list-style-type: none"> <li>• Less plastic use.</li> </ul>
3 <b>Mark O' Hagan</b>	<ul style="list-style-type: none"> <li>• LED public lighting, better waste treatment?</li> </ul>
4 <b>Clair McSweeney</b>	<ul style="list-style-type: none"> <li>• Better public lighting, more cycle lanes, better public transport, more e-charging points, night-time pollinators, re-wilding of green spaces to support biodiversity, more tree planting, no 'OPW Scheme', no building on flood plains.</li> </ul>
5 <b>Juvi Hertel</b>	<ul style="list-style-type: none"> <li>• Evacuation plans to deal with sea level rise not included. Why?</li> </ul>
6 <b>Kieran Murphy</b>	<ul style="list-style-type: none"> <li>• Involve the Dept of Agriculture, Forestry and the Marine (Forest Services). Plant the right trees in the right place.</li> </ul>
7 <b>Bob Lynch</b>	<ul style="list-style-type: none"> <li>• Nothing applicable.</li> </ul>
8 <b>Emily Coleman</b>	<ul style="list-style-type: none"> <li>• Build 'raised' buildings in at-risk areas, do not allow planning permission in at-risk areas, more green spaces.</li> </ul>
9 <b>Chanelle O' Regan</b>	<ul style="list-style-type: none"> <li>• More green eco-friendly buildings, more green spaces, more effective flood defence systems, (more) nature reserves and natural habitat protection &amp; preservation, free and more effective public transport, more cycle lanes.</li> </ul>
10 <b>Kate Holohan</b>	<ul style="list-style-type: none"> <li>• No election posters, flood resistant buildings, more green (parks?) for the public, flood drills, have access by foot, public transport, less plastic.</li> </ul>
11 <b>Isabel Scully</b>	<ul style="list-style-type: none"> <li>• Less plastics, no palm oil, barriers to buildings prone to flood damage, revamp old empty houses for homeless people, no more homelessness, organisations should donate food before it's out-of-date, more hospitals, more bike lanes.</li> </ul>
12 <b>Fatima Jameel</b>	<ul style="list-style-type: none"> <li>• All roofs should either have vegetation on them or solar panels, renewable resources, raised buildings, organisations to donate all leftovers to food cloud, (more?) bicycle lanes.</li> </ul>
13 <b>Hanna D'Aughton</b>	<ul style="list-style-type: none"> <li>• Green? In the city, bug hotels, no building on nature reserves, communal allotments (grow own food), ensure most drains are clear and clean so that rain water can be drained, more vegetation up-stream and at the mouth of the river, need access to TVP by bike/walking from Togher/Turners Cross, educational classes on the environment in secondary school.</li> </ul>
14 <b>Katie Quinn</b>	<ul style="list-style-type: none"> <li>• Ban single-use plastic, create a better environment for animals, raised buildings, plant more trees, more bike lanes, cheaper and more regular public transport.</li> </ul>
15 <b>Katelyn Leahy</b>	<ul style="list-style-type: none"> <li>• Ban single-use plastic, more green bus stops?, don't build in high risk areas, high rise buildings, better animal environments, expand on healthcare, more hospitals/staff, youth clubs and school well-being programmes.</li> </ul>
16 <b>Michael McCarthy</b>	<ul style="list-style-type: none"> <li>• No attempt to foresee what the climate and sea level effects will be in 10,20 or 100 years time; favours tidal barrier to current OPW flood defence proposals.</li> </ul>
17 <b>Noel O'Regan</b>	<ul style="list-style-type: none"> <li>• An extra bus station in the city; more bus shelters; extend and make safer bike lanes; bus parking facilities for future developments; more 'bring centres' for bulky items; preserve public green areas; more tree planting; improve footpaths.</li> </ul>

18	Noel O'Regan	<ul style="list-style-type: none"> <li>Better promotion of the 'Public Transport Tax Initiative' scheme.</li> </ul>
19	Maria McGuinness	<ul style="list-style-type: none"> <li>Increased availability and use of public transport. Increased mitigation will lead to less adaptation requirements.</li> </ul>
20	Noel O'Regan	<ul style="list-style-type: none"> <li>Planting more trees to reduce greenhouse gasses.</li> </ul>
21	Peter Lucey	<ul style="list-style-type: none"> <li>OPW/CCC to step back from current plans, take more experts views on flood defence on board and form better consensus. Extremely fundamental, radical government measures, and system change are required to mitigate it.</li> </ul>
22	Transport & Mobility Forum Cork	<ul style="list-style-type: none"> <li>How can the infrastructure be made more resilient against the effects of severe weather events. Suggested actions to deal with: heavy rainfall, high winds/storms, unusual heat, flood prevention, road blockages, traffic. The strategy lacks in defining preventative actions.</li> </ul>
23	Cork Environmental Forum	<ul style="list-style-type: none"> <li>CCC to renew its focus on the EU Green Capital and the Resilient Cities programmes. It is impossible and unwise to decouple adaptation, mitigation and resilience as they would be more effective through a holistic approach. Should be a greater emphasis on mitigation to ease the pressure on more expensive and difficult adaptation measures. The 'plan' requires a lot more concrete actions with targets, more specific timelines and associated costs upon which better informed decisions can be made more rapidly. Sustainable Development Goals (SDG) are not included or referenced at all. <u>Recommendations:</u> 1. SDGs should be a central reference point as they recognise the need for actions to be implemented at the lowest possible level to better impact on people and local communities. 2. needs to include mitigation measures as adaptation and mitigation are complementary, not competing or stand alone and both help to strengthen resilience. 3. Nature based solutions should be at the core of this plan, no more disastrous flood works such as Bandon. 4. Dark Sky Ireland policy on lighting to be adopted in the roll out of retrofitting of lighting in the City. 5. Any adaptation measure does not contribute to any further climate change and should if possible have a net negative effect, via emissions or land use change. 6. That the real cost of adaptation on and any damage which cannot be mitigated by adaptation is calculated as part of the plan. 7. That targeted adaptations against a particular individual impact of climate change takes account of the general crisis in biodiversity and also the other effects of climate change which will be occurring simultaneously. 8. Broaden the context of the Plan by greater inclusion and emphasis on social and biological aspects. 9. Reconsider the need for SEA and AA Screening. 10. The Council should oversee a study of Food Security of Cork City highlighting how Cork is dependent on food imports and the potential risk to food security due to climate change events. 11. The Council should identify areas within the expanded city boundary for permanent afforestation and sequestration.</li> </ul>
24	Justin Fleming	<ul style="list-style-type: none"> <li>Footpaths must be top quality and respected.</li> <li>Cyclists must have their own joined-up and exclusive space to protect them from injury and death.</li> <li>The state should play a greater role paying for public-transport services and making exclusive road space for them so they can be reliable and frequent.</li> <li>The state should dismantle space provided for car parking in every way imaginable and divert spending from new roads to prioritise every other mode.</li> <li>Footpaths and cycle lanes are unacceptably obstructed by parked cars.</li> </ul>
25	Roisin Cuddihy	<ul style="list-style-type: none"> <li>Agreeing with Sub No. 24 above (Justin Fleming submission).</li> </ul>
26	Frances Gordon	<ul style="list-style-type: none"> <li>Provide more green spaces in the city, have a programme to deep retrofit existing buildings and pedestrianise some streets so that people will live again in the city, better transport in and out of the city, better design and planning for new buildings, so that buildings are designed to be eco-friendly and passive along with plenty of green spaces.</li> </ul>

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- 27 **Irish Water**
- Irish Water looks forward to collaborating with Cork City Council in implementing the measures set out in the recently published Government Climate Action Plan and in the Draft Climate Change Sectoral Services Infrastructure published in May by DHPLG, in particular as regards using Adaptation Plan: Water Quality and Water Services Infrastructure published in May by 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 waterbodies.
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- 28 **Faillte Ireland**
- Review 'Climate Change - Heritage and Tourism, Implications for Ireland's coast and inland waterways - 2009'. Tourism is one of the largest and most important sectors of the economy. Important as an economic factor for regional development. Ireland's Natural and Cultural Heritage feature strongly among the main reasons why visitors choose Ireland for their holidays. Problems may be erosion of beaches, vitality of popular seaside resorts, water-based activities negatively affected, navigation of craft more dangerous, less access to offshore islands. Higher temperatures and pollution on inland waterways. Angling negatively affected. Beware of unintended consequences of climate mitigation and adaptation actions. Ensure that a 'one size fits all' solution is not applied to all flood defence schemes (inland and coastal).
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- 29 **Environmental Protection Agency (EPA)**
- Advises of the Strategy Ireland's Environment Our Ireland's Environment; An Assessment 2016 (EPA, 2016) report which highlights the need to accelerate mitigation actions to reduce greenhouse gas emissions and to implement adaptation measures to increase our resilience to the adverse impacts of climate change.
  - Acknowledges that the Strategy has been prepared in line with the Local Authority Adaptation Strategy Development Guidelines (DCCAE, 2018).
  - Suggests the strategy describe the links and Relationship with Sustainability Development Goals.
  - Suggests the strategy incorporates a schematic/graphic, clarifying the relationship with other key climate related plans/strategies i.e. Climate Act, the All-of-Government Climate Action Plan, National Adaptation Framework, adaptation guidelines etc. and commits to align with adjoining local authorities and incorporate any relevant recommendations that may arise within regional climate adaptation plans/programmes/strategies prepared over the lifetime of the Strategy.
  - Suggests strategy should explore opportunities to maximise co-benefits in preparing and implementing the Strategy and maximise the many potential co-benefits of climate adaptation measures for human health, biodiversity, water quality, flood risk management, land use planning (including land use zoning), and other interrelated areas.
  - Recommends prioritisation of measures with the potential to yield multiple environmental and societal benefits.
  - Recommends commitment that potential adverse cumulative / in-combination environmental effects are accounted for when considering, selecting and implementing specific adaptation measures.
  - Reference climate data and projections/scenarios
  - Reference relevant OPW flood risk management plans i.e. The second cycle of OPW flood risk management plans.
  - Consider relevant actions associated with integrated coastal zone management, in collaboration in with adjoining local authorities and other key stakeholders.
  - Advises of SEA process and prescribed consultees.
  - Sets out, in Appendix 1, specific comments on various individual aspects of the strategy for amendment.
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- 30 **Gas Networks Ireland**
- The submissions makes reference to gas pipelines being one of the most efficient method of transporting energy which can be further exploited by new connections to both the transmission and distribution networks.
  - The submission also outlines the potential role Compressed Natural Gas (CNG) can play in the reducing emissions associated with the HGV transportation sector. It states that CNG has the potential to address transport (HGV and buses) emissions with significantly reduced carbon
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		emissions relative to diesel.
		<ul style="list-style-type: none"> <li>• Suggests addition Action, similar to Objective 8, Action 8.4 for electrical vehicles. <i>'Support the rollout of compressed natural gas (CNG) infrastructure in Cork City'</i></li> <li>• Asks the council to consider the role that renewable gas and CNG in transport can play in reducing carbon emissions in the region.</li> </ul>
31	<b>Gabriella Chisholm</b>	<ul style="list-style-type: none"> <li>• Under 'Nature, Natural Resources and Cultural Infrastructure', highlight that the natural surroundings including parks, green space and beaches need to be protected to maintain biodiversity and, that how waste is managed effects nature. Further suggesting Cork actively fines for littering.</li> </ul>
32	<b>Gabriella Chisholm</b>	<ul style="list-style-type: none"> <li>• Under Nature, Natural Resources and Cultural Infrastructure, suggests that Cork city needs to encourage renewable energy, as Cork is located along the coast and there is a huge potential for wind energy. Cork City Council should encourage and invest greener energy.</li> </ul>
33	<b>Mary Casey</b>	<ul style="list-style-type: none"> <li>• Suggesting Cork city needs to encourage sustainable farming methods, for example using compost instead of fertilizers. Highlighting that compost is being sent to landfill, can be used by farmers to improve soil structure and enhance soil quality and nutrients. Fertilizers contain nitrogen oxide which is the biggest greenhouse gas on the atmosphere. While more carbon dioxide in the atmosphere is in a molecule nitrogen oxide form, it is heavier and having only a small amount of it can seriously damage the ozone layer.</li> </ul>
34	<b>Kate Connolly</b>	<ul style="list-style-type: none"> <li>• Land Use and Development theme needs to encourage Cork City to grow its green space. For example, the abandoned fields should be used to grow trees to combat the excess carbon dioxide in the atmosphere, while also giving local wildlife a sheltered safe city habitat.</li> </ul>
35	<b>Richard Higgins</b>	<ul style="list-style-type: none"> <li>• Under the Partnership with other Sectors and Agencies theme, it is suggested that Cork City Council should create a by-law whereby consumers are charged for buying plastic bags in supermarkets in Cork, encouraging people to buy reusable cotton shopping bags for fruit and veg as well as fresh bread or force supermarkets to sell reusable cotton bags.</li> </ul>
36	<b>Blake Kelly, via</b>	<ul style="list-style-type: none"> <li>• With regards to the heading Partnership with other Sectors and Agencies, highlighting that Climate Change has been classified as an emergency in Ireland. However, there is little posters or national ads highlighting the emergency. Suggesting Cork City Council should work with local media to highlight the urgency of climate change. There should be daily radio and newspaper adverts, for example in the Examiner and on Redfm/96 fm. Suggesting this type of campaign should be done nationally but Cork can start this initiative. Perhaps highlight the negative consequences of climate change to the public. Including spread of diseases and damage to public health and safety.</li> </ul>
37	<b>2 subs</b>	
38	<b>Hannah Richards</b>	<ul style="list-style-type: none"> <li>• Under Infrastructure and Built Environment, Cork city needs to invest in its public transport. For instance, the 220 bus route going 24 hours has stopped many people from getting taxis or driving, Cork City Council should convert some of the car lanes into bus lanes. The city should make other buses 24 hours or more regular, this would ease traffic and would make cork greener, reducing emissions and help reduce the effects of climate change.</li> </ul>
39	<b>Rachel Delaney</b>	<ul style="list-style-type: none"> <li>• Suggesting that there has been little consultation with environmental experts and proposes there should be at least 3 experts who are members on the strategy council.</li> </ul>
40	<b>Inland Fisheries Ireland (IFI)</b>	<ul style="list-style-type: none"> <li>• Describes the statutory remit of the Inland Fisheries Ireland for the protection, management and conservation of the inland fisheries resource.</li> <li>• Describes the impact that climate change and future projections will have on aquatic habitats and species.</li> <li>• Recommends a catchment approach to dealing with anticipated impacts of climate change.</li> <li>• Requests that consideration be given to the inclusion of River Restoration Techniques and Floodplain Restoration Techniques aimed at improving ecological status of waterbodies</li> </ul>

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41 **Darragh Wilkins**

- Welcoming all steps taken towards solving climate action issues and highlighting that not all steps are equal and or appropriate, the sea levels are rising and extreme storms causing flooding are inevitable, suggesting even the agreements laid out by the Paris agreement are met (which they are not) the overwhelming likelihood is that this extreme weather will continue.
- Suggesting the options for protecting Cork City and neighbouring towns from flooding, in particular the flood defence wall, is short sighted. Apart from disrupting the daily lives of thousands of people and permanently destroying the riverbanks of this ancient city it is destined to fail, costing untold amounts of tax payers money for a solution that will not work. Highlight that in the UK, Demark and Holland have invested in tidal barriers. Highlighting that It Cork planners have come to the conclusion that the know more about flood defence than the Dutch.
- Highlighting that a large number of Corks community are becoming frustrated with the lack of consideration being given to alternatives to the suggested flood wall and call for the matter to be given seriously consideration and open the debate to public scrutiny.

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42 **Courtney Collins**

- Suggesting while Cork City Council finalises the Climate Change Adaptation Strategy, to bear in mind the importance of protecting trees and the benefits trees offer to protecting the environment, for example
  - Trees absorb carbon dioxide, which is one of the leading causes of the greenhouse effect and thus climate change.
  - Trees help to reduce the risk and minimise the severity of flooding by absorbing water through their root systems.
- Highlight that the unnecessary felling of trees throughout County Cork (and Ireland as a whole) and the destructive topping of trees, which will eventually cause them to die, is contrary to promoting biodiversity and detrimental to reducing CO2 levels, protecting trees will benefit local environment and ultimately help stop climate change.

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43 **Patrick Leader**

- Highlighting the increase in the earth's temperature is to a large extent a result of the actions of the civilised world. "Deforestation and pollution have put us in the position that we find ourselves in today". Suggesting that the forests around the globe have taken hundreds of years to create, that they have being felled in days meaning that CO2 absorption rates have decreased and the amount of O2 creation diminished.
- Suggesting the use of CFC producing products continues and as a result the protective ozone layer continues to be eroded. Due to the rise in temperatures some of the insects that would normally have a significant proportion of their numbers killed by proper winters are now surviving for longer and damaging trees, for example in Yellowstone National Park and also various crops are more prone to damage from insects.
- The increased use of pesticides is damaging those insects that help with the growth of plants and the world bee population is under threat. Farmers in Japan are trying to do the work of bees by using small brushes to transfer pollen. The damage to nature coupled with the rise in temperatures and more radical pendulum swings with weather conditions allows for more fungal growth to damage crops and more drought and flooding to damage crops which in turn negatively effects the world food supply and creates upward pressure on food prices, reduction in income in places most affected by weather conditions, increased health crises and famine and refugee crises by people choosing to migrate out of badly affected areas.
- The rise in temperature in the world's oceans are destroying marine life such as coral and the careless disregard for marine life by dumping plastics into the sea is affecting fish and various other aquatic species. Calling for the need to be less plastic dependent and look towards more produce using environmentally sustainable methods and organic food produce.
- If Israel can turn desert into forest and if Ethiopia can plant a huge number of trees, then if the will is present international collective action can halt the destruction. On a national level, Irish Wildlife Trust through individual and corporate donations and Coillte through government funding can plant

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more forestry, with a combination of softwoods and hardwoods, the species for planting being determined by the soil Ph readings for the different locations. On an individual basis, people can contribute, e.g. Birr Castle in County Offaly has a Giant Sequoia program and Kylemore Abbey in County Galway have an option to fund the planting of broadleaf trees. Suggesting County Cork should have similar options. In Cork City there could be 'the greening of Cork', where native species of trees and plants could be placed at various points in the city centre creating a pleasant ambience, a reduction in our carbon footprint and the restoration of the balance of nature through biodiversity. In County Kildare, through Crann.ie children are given as part of their education an appreciation of nature through participation and a series of projects, this should be replicated throughout the city and county of Cork.

- Highlighting the need to educate children as regards to the harm being done by leaving plastic bottles and wrappings on the beaches or in forests or thrown into our lakes and rivers. The beaches, parks and forests need to have adequate bins for refuse disposal, and regularly collected. Suggesting that State and community-based clean-ups of beaches, lakes and forests needs to take place.
- Calling for the local authorities to actively keep waterways, ponds and lakes free of algae overgrowth that results in eutrophication i.e., the depletion of oxygen and the destruction of the existing ecosystem.
- Suggesting that the use of pesticides could be replaced by natural micro-organisms and natural predators to control harmful insects or bacteria.
- Questioning the need to move away from CFC producing aerosol cans on supermarket shelves? And the use of more glass bottles and less plastic bottles? Is there a need to see all that packaging in supermarkets?
- Suggesting the need to learn how to deal with natural disasters be it from strong winds, snowfalls or flooding. At a local level, having more frequent building inspections to pick up on any potential falling debris causing harm from a resulting storm. Drains need to be monitored and kept free of all impediments to the outflow of water. Water treatment facilities may need some additional modifications to insulate the plant from the effects of fluvial and tidal flooding or heavy concentrations of rainfall. A flood defence system needs to be built for Cork City that will be functional, adequately maintained, will not cause subsidence and will lower the risk profile for flooding to an extent that insurance companies will see fit to insure Cork residential and commercial properties against flooding.
- Suggesting that new build housing or commercial constructions may have to consider laying pipes deep enough below ground to prevent leakages and burst pipes from freak freezing temperature effects and because of more frequent and stronger winds perhaps the conventional rooftop needs to be redesigned into something more stable when it comes to withstanding strong gale force winds.
- Highlighting that a main challenge is the creation of energy and fuel for transport, that putting in charging points for electric vehicles is acceptable but questioning where the extra energy would come from for the extra power points to function in a proper way. Suggesting that a viable alternative to replace the burning of fossil fuels and to the petroleum industry needs to be examined and that wind and wave energy plus solar panels may not give the quantity of energy required on a national basis. Nuclear fission produces too much radioactive waste and nuclear fusion is not fully advanced. While it may not be in interest of OPEC or the petrochemical industry to see an alternative to oil and petrol-powered machinery to be found, continued research for new energy alternatives needs to continue.
- Suggesting that in the main cities, like Cork, Dublin, Limerick and Galway electric cars should be used for taxis and electric powered buses/trams instead of the recently purchased diesel powered buses.
- Highlighting the need to find balance through studying nature, widening scientific knowledge, monitoring change, communicating findings, changing attitudes and reacting in a positive and productive way both on an individual and collective basis to enact production of stabilising and counter-damaging changes to the environment on a micro and on a macro scale.

- Welcomes the strategy and the establishment of the Climate Action Team. Recommends this steering group should invite members from academic background for the provision of expert opinion.
- States that the strategy does not have enough focus on specific vulnerabilities for the city or vulnerable populations with detailed explanation of the specific risks' cities face such as migrating populations and the urban heat island (link to report included in submission).
- Suggests that adaptation solutions offer co-benefits for the environment and health.
- Specific and detailed recommendations and comments included in submission for inclusion in the strategy in various parts as follows (Page no. and comment):

**6:** Suggest that the following in italics is added: This Cork City Climate Change Adaptation Strategy 2019-2024 is a response to the impact that climate change is already causing and will continue to cause into the foreseeable future on the citizens and infrastructure of Cork city, *should no mitigation efforts be undertaken.*

**6:** Suggest that the following in italics is added: To pro-actively engage with all citizens on the subject of climate action, such as climate change, climate *change* adaptation and climate *change* mitigation.

**Throughout:** Climate mitigation should be changed to climate change mitigation. [e.g. one would not aim to mitigate the climate, but rather to mitigate climate change].

**6&8:** Climate change is not only an environmental threat but also presents one of the greatest societal challenges of our time as described by the European Commission.

**8:** Suggest that the following in italics is added: Climate change is the greatest environmental *and societal* threat confronting the world and is impacting on the lives and health of hundreds of millions of people globally as illustrated in Figure 1.2. A figure illustrating the impact of climate change on health can be found at this link:  
<https://www.ncbi.nlm.nih.gov/books/NBK525226/figure/ch8.sec2.fig1/>

**9:** Section 1.6: projections also indicate an increased frequency of heatwaves that should be added to the extreme weather event bullet (A Summary of the State of Knowledge on Climate Change Impacts for Ireland Report 11 (2010–2016) (2014-CCRP-FS.19) EPA Research Report).

**13:** Section 1.15: Paris Agreement aims to limit global temperature rise to well below 2 degrees Celsius (**not 2%**) above pre-industrial levels and strives to limit the temperature increase to below 1.5 degrees Celsius.

**13:** Section 1.15: The Sustainable Development Goals also frame the international policy context of which Goal 13 specifically strives to take urgent action to combat climate change and its impacts. It might also be briefly mentioned that the goals are interconnected and failing to address Goal 13 would likely hamper progress and development of other goals for example Goal 3 of Good Health and Wellbeing.

**20-23:** The distinction between climate risk and vulnerabilities have not been established. According to IPCC (2014) vulnerability can be defined as: the propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. Whereas risk can be defined as: the potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often

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represented as probability of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Therefore, risk results from the interaction of vulnerability, exposure, and hazard. It would be beneficial for the strategy to report on Cork city climate vulnerabilities as well as risks.

**22:** Projections also indicate an increased **frequency** of heatwaves (A Summary of the State of Knowledge on Climate Change Impacts for Ireland Report 11 (2010–2016) (2014-CCRP-FS.19) EPA Research Report).

In addition to droughts and thunderstorms, heatwaves itself can impact on human health, particularly for those living in cities due to the urban heat island effect, directly through increased heat-related illnesses and fatalities as well as indirectly through exacerbating chronic conditions, triggering health episodes or affecting other systems such as food (reference: IPCC, 2014 accessed here: <https://www.ipcc.ch/assessment-report/ar5/>). A recommendation for the City to develop a heat-health action plan.

**24:** Section 3 also should include the recommendation for a detailed vulnerability assessment due to climate change of the public health infrastructure and services in Cork City (reference: Watts et al. (2015) accessed here: <https://www.sciencedirect.com/science/article/pii/S0140673615608546>

**26:** The concept of "Mainstream Adaptation" is similar to the approach myself and colleagues have suggested of a "health and climate change in all policies" approach which draws reference to, and further expands, the World Health Organization's "Health in all Policies". For further information on a "health and climate change in all policies" approach please see our work which we will continue to advocate for: Godsmark et al. (2018) accessed here: <https://www.sciencedirect.com/science/article/pii/S016041201831208X>

**27:** Increasing the resilience of public health infrastructure and services should also be included within Section 4.2 Point 2

**30:** Monitoring: it is also suggested that a monitoring action should be to follow novel and updated climate change research information. This can be accomplished by establishing a network of local (Cork city) climate change researchers that may be experts in certain areas e.g. Dr Christie Godsmark, UCC (climate change and health)

**32:** Objective 1: a key step to business action is providing opportunities and evidence of the business case for adaptation with the understanding that it is economically advantageous to engage in early adaptation, particularly regarding healthcare costs

**32:** Objective 1.1: I would advocate for the need to include academia in this steering group to provide expert opinion of current developments.

**33:** Objective 2.1 part e: Climate change adaptation could also be included within Healthy Ireland if feasible

**34:** Objective 3.2: the impact of extreme weather events should also consider disruptions to public health services and capacity needs of healthcare professionals

**38:** Objective 6.3: collaborations should also be sought with Universities and Higher Education Institutions in seeking new ideas to reduce the impacts of climate change on Cork city.

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**39:** Objective 7: consideration and support should be provided for the increased development and maintenance of active transport infrastructure such as bicycle lanes and pedestrian sidewalks which have a co-benefit for the environment (decreased greenhouse gas emissions associated with other transport modes) and health (increased physical activity, reducing obesity and cardiovascular disease incidence)

**40:** Objective 8.1: consideration should also be given to public health infrastructure and design of future healthcare infrastructure

**45:** Objective 13: support the undertaking of a tree surveillance and audit for existing trees (with species identified)

**49 & 50:** Objective 16: an action should be created on the development of climate change adaptation co-benefits (opportunities) that provide benefits for the environment through decreasing greenhouse gas emissions or reducing pressures on resources, and promote benefit for health (see The BMJ accessed here: <https://www.bmj.com/content/352/bmj.i1781/infographic>). Examples of this include active transport; eating a diet rich in plant-based proteins, fruits, vegetable, nuts and legumes (see Willett et al. (2019) accessed here: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext?utm\\_campaign=tleat19&utm\\_source=hub\\_page](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext?utm_campaign=tleat19&utm_source=hub_page)); encourage lower emission transportation; reduce solid fuels used for cooking; encourage the public to buy locally produced products; improve insulation in homes; a greater expanse of green and blue space (with improved access) and produce more renewable energy. If further details are required on climate change adaptation co-benefits, I can provide these for inclusion into the adaptation strategy.

**49 & 50:** Objective 16: there should also be the development of a climate-health risk management system for an assessment of the vulnerabilities and risks faced by the health sector; including an analysis of how climate change has impacted public health and health services historically as well as increased health sector capacity demands resulting from extreme weather events. An assessment of readiness to respond should be made. There has been much research on climate change impacts on health (see: <https://www.thelancet.com/climate-and-health>) and understanding the attribution pathways would allow for determining more specific and detailed adaptation actions. Case studies of groups vulnerable (e.g. elderly, outdoor workers, pregnant women, children, chronically ill etc.) to climate change and extreme weather events should be undertaken to identify their needs and disruptions.

**49&50:** Objective 16.5: third level institutions should also assist Cork city with a vulnerability and risk assessment of climate change impacts on health at the local level including the thorough identification of vulnerable groups (more than just older adults and isolated communities) for targeting specific health promotion messages and activities.

**49& 50:** Objective 16: there needs to be greater collaboration and data sharing between health facilities and research institutions to allow for comprehensive climate-health research for evidence-based decision-making at the local level. Coupled with this, there needs to be a greater support for climate-health surveillance at the city level. Data sharing processes and infrastructure need to be established.

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**51:** Objective 17: a first action should be to identify cross-cutting department climate change risks and opportunities

**32-51:** There is no indication of actual timeframes. For example, what is a "short-medium" timeframe? Action deadlines should be provided

**General:** As a city climate change adaptation plan, there needs to be a detailed explanation of the specific risks' cities face such as migrating populations and the urban heat island (see our report:

<https://www.climatecentre.org/downloads/files/IFRCGeneva/RCCC%20Heatwave%20Guide%202019%20A4%20RR%20ONLINE%20copy.pdf>).

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45 **Anna Buckley**

- Welcome the preparation of a Climate Adaption Strategy 2019-2024 and suggesting that Climate change is an existential threat to the future of our City that can no longer be ignore.
- Proposing that a series of actions to address the problems faced, while also remember that tackling climate change successfully will also make Cork a much more attractive place to live and visit. Highlighting the importance of embedding climate action in all aspects of policy making by the City Council
- The preparation of the 2020 City Council Budget must be shaped in all aspects by climate adaption and all expenditure must be justified by reference to how climate adaption is being supported.
- With regards to Transport, suggesting the need to remove the car from the City. That transport expenditure is currently utterly car focused and that this must change. Choices must be made to prioritize cycling, walking and public transport over cars as a mode of transport. Suggesting the following steps must be taken:
  - Enforce a ban on diesel cars entering the City Centre by 2025;
  - Enforce 'car free' days on a weekly basis for the City Centre;
  - Prioritise the development of walking routes and cycle lanes in all parts of the City;
  - The development of a light rail system for the City must be one of the top strategic priorities for the City Council;
  - Develop accommodation in City Centre without the provision of car spaces;
  - Work to ensure that all parts of the City are served by a network of buses (including small buses for estates). All buses must be accessible in so far as possible these should be powered by sustainable energy;
  - Car parking in suburban shopping centres must be reduced, to be replaced by a network of public transport hubs. This will require the City Council in calling for private property rights to be restricted in the interests of the common good.
- The Strategy must contain actions to convince citizens that a car free city is good city to live. It will need to sell the proven benefits such as clean air, less noise and a calmer and more peaceful place to live.
- With regard to energy consumption, the City Council must take a lead in reducing energy consumption and pioneering the use of sustainable energy. All public buildings must be energy neutral. This can be achieved the incorporation of cutting-edge design and the use of sustainable energy sources. Large glass multi story buildings should not be the way forward. Instead, planning must prioritize sustainable principles. All housing developed in the City must be energy neutral
- The reduction of plastic use and use of local food sources. Suggesting the volume of plastic can be radically reduced by the promotion and the imposition of legal requirements to use alternatives to plastic. The waste collection system should once more become the responsibility of Cork City Council. This would provide opportunities to tackle the huge amount of illegal dumping taking place within the City. Waste collection should be free of charge. It is essential to good health as water provision. It could be funded from a local household charge and other local taxes.
- Highlight the need for the promotion of local food must become a key priority by the supporting of

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allotments and local markets.

- With regard to Biodiversity, preservation is essential, that green and wild areas must be protected, and the use of pesticides minimised.
- Research should be incentivised, and Cork City Council must continue to invest in research on the changes affecting the City from climate change (e.g. air quality, water quality and biodiversity).
- With regards to Flooding, the tidal barrier at Blackrock Castle should be built, that it is the only long-term protection for the City from sea level rises and stronger storms.

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46 **Deutsche Börse**

- Submission sets out the description, background and remit of Deutsche Börse and their presence in Cork City with over 500 employees.
- Deutsche Börse's set out how they have developed a climate strategy in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB) of the G20 in December 2015.
- Describes how they are engaged in continuous exchange with internal and external stakeholders on sustainability, climate action and sustainable finance and how the Group is also an active member of a range of climate-related business initiatives.
- Welcomes and supports the development of the Cork City Council Climate Change Adaptation Strategy 2019-2024.
- Supports the council in developing a separate Mitigation Strategy and encourage that this is developed immediately to reflect the urgency and pace of action required to address climate change.
- Sets out specific observations/suggestions to amend the strategy as follows:

**Timeframes:** Include precise timeframes within the strategy to allow for monitoring and review of each action

- **Action 5.1:** include an action regarding the development of an education programme which would be available not only internally within Cork City Council but adaptable for business and community organisations across Cork
- **Action 5.2:** Action welcomed.
- **Action 6.3:** Action welcomed.
- **Action 7.1:** Action welcomed.
- **Objective 10:** Objective welcomed.
- **Objective 16:** Objective welcomed.
- **Action 16.2, 16.3:** Actions welcomed.

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47 **Cork Climate Action (coalition group)**

- Welcomes the breadth of the draft Climate Adaptation Strategy and the efforts by the City Council to engage the public through information days, workshops and the public consultation process.
- Welcome that the strategy will be followed by a Climate Mitigation Strategy.
- Considers and suggests that the strategy should express the urgency of the crisis of climate change and that the Climate Action Plan gives a strong mandate for action that must be taken.
- On Actions 5.2 and 16.2 suggests that there be a strong emphasis on social justice in all climate action and support and protection for the most vulnerable.
- Suggests the council will need to support the development of local sources of food and be prepared for the economic and social disruption that severe weather events will bring.
- Action 8.4: Suggests that car parking places should be replaced by safe cycle routes and extensive and easily affordable public transport.
- Action 11.1: Suggests free access to drinking water fountains throughout the city will be essential and will also help reduce plastic waste.
- Action 13.1: Suggests even more emphasis should be placed on greening of the city to preserve

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biodiversity.

- Actions 15.2, 16.1 – 16.4: Suggests that local councils have to provide real leadership, working with local educational initiatives to provide truthful information about climate change.
- Welcome more engagement and public information days and facilitated workshops.

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48 **SHEP Earth  
Aware**

- Outlines background and remit of SHEP.
- Welcomes the adaptation strategy and that a mitigation strategy will follow.
- Suggests the strategy needs wider focus addressing the impact of *global* climate catastrophe which will have a far greater, devastating impact than local weather events for e.g. food security, Health and wellbeing, developing resilience at community level.
- Advises the Climate Action Team should comprise various experts in appropriate fields.
- Suggest that some objectives and actions lack urgency.
- Suggests adding a third goal of Building resilient communities by encouraging circular economy, by training and preparing society to become more resilient in the face of climate change, adverse weather events and global climate impacts.
- Suggests the following for theme Land Use and Development Planning:
  - Promotion of Ecotowns/villages with great accessibility.
  - Integrate green component architecturally i.e. green rooftops, green walls or green courtyards
  - Empower local communities to support themselves by growing food sustainably in their own areas. Council to identify and make available land within the city boundary for the purposes of growing food community gardens with key stakeholders.
  - Identify and designate market places like the Coal Quay for farmers to sell their produce.
  - Establish a seed bank to store seeds of varieties of native food capable of sustaining a city.
- Suggests the following considerations for **Nature, natural resources and cultural infrastructure**
- *Suggests Biodiversity needs to be mentioned more often in the strategy.*
  - Declare a regional biodiversity emergency.
  - Develop a biodiversity crisis plan to inform parks department activities, public lighting installations etc to reduce impact on species.
  - Stop spraying glyphosate and other chemicals in public parks, playgrounds, and recreational areas.
- Suggests the following considerations for **Citizen Health and Safety and Well Being**
  - Support health and wellbeing initiatives by actively encouraging targeted support training in communities with professional partners such as SHEP, Green Spaces for Health, Healthy Cities, the HSE, etc
  - Develop community leadership to empower and prepare the population for a crisis and to safeguard against the collapse of law and order, provide training, financial assistance and professional expertise.
- Specific commentary on Objectives:
  - OBJ 1: Have climate scientists and social scientists onboard.
  - OBJ 8: Housing building – name the need for deep retrofit.
    - 8.4 – Support electric vehicles by incentives.
  - OBJ 9: Plant native trees
  - Give incentives for efficiency, conservation of water, water harvesting etc
  - OBJ 10: Flood – work upstream with Cork Co Council.
  - OBJ 13: Mention native biodiversity.
  - OBJ 9 & 16: The creation/support for eco towns/villages

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- 49 **Trees Please Group**
- Outlines background and remit and of the newly established group.
  - Describes why planting native trees in important in the context of mitigating climate change and enhancing biodiversity.
  - Describes suitable location within the city to plant trees.
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- 50 **ERVIA**
- Submission sets out the background, remit and vision of the company to unlock a clean energy future and move the gas network to a 'carbon neutral' gas network by 2050.
  - States they are progressing a range of ambitious projects and technologies to introduce renewable gases into the gas network and remove emissions from the network including carbon neutral gases such as renewable gas (biomethane) and hydrogen, Compressed Natural Gas for transport and Carbon Capture and Storage (CCS) to capture emissions from electricity generation and industrial processes.
  - ERVIA is currently assessing the potential for large-scale CCS at the near depleted Kinsale gas field off the coast of Co Cork.
  - Advises that through Irish Water, ERVIA will collaborate with Cork City 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 DHPL.
  - Supports Cork City's Adaptation Actions and Implementation Principles and seek Cork City Council to support ERVIA's own ambitions around the technologies referenced above.
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- 51 **Environmental Research Institute / UCC**
- Sets out background to the ERI
  - Submission seeks to offer research and knowledge base to support transitions outlined in strategy.
  - Welcomes engagement between ERI and Cork City Council in the implementation of adaptation actions.
  - Objective 14, Action 14.1: Advises of the expertise in ERI that would be relevant to this action.
  - Objective 16, Action 16.5: Advises of the expertise in ERI that would be relevant to this action and a willingness to liaise and collaborate.
  - Suggests actions to which UCC can be listed as an external partner including:
    - Objective 3, Action 3.1
    - Objective 3, Action 3.2
    - Objective 7, Action 7.1
    - Objective 8, Action 8.1
    - Objective 12
    - Objective 16
  - States that research experience could be of benefit in the planning and execution of the adaptation strategy.
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- 52 **Donal Dorr**
- Calling for the Council to come up with a truly effective climate action plan to save Cork city and the Earth.
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- 53 **Bob Kelleher**
- Highlighting technological development in the region and countrywide that could have devastating effects on the health of the population, the environment and implications for individual privacy. Suggesting the rollout of the 'fifth generation' 5G frequency spectrum across the country, require a dense network of 'small cell' antennae, resulting in the culling of trees.
  - Suggesting there has been a steep decline in insect numbers since the advent of wireless technology and that policy should advocate for a safe wired alternative to internet.
  - Suggesting that any or all copies of any legal opinion and or opinions carried out by the Cork City
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Council Management team or by agents of the Cork City Council Management team or by external legal firms acting for and on behalf of the Cork City Council Management team on whether the Cork City Council Management team would be in contravention of human rights and environmental law to establish a 5G system in Cork City.

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54 **Mary  
Cunningham**

- Would like to emphasize that the Government has declared a climate emergency and the strategy should be named as a climate and biodiversity emergency/crisis. Highlight the complexity of the situation and that a simple language should be used for ease of use for everyone.
- Suggesting external expertise should be part of teams, such as the Climate Action Committee, Senior Management team, in addition to Social Scientist with specialist experience in climate change behaviors and community mobilization.
- Calling for allocation of a budget for biodiversity and to have the protection and preservation of biodiversity as a priority throughout all Themes/Goals.
- Call for Cork City Council to stop spraying glyphosate and other chemicals in public parks.
- Suggesting that carbon capture by planting trees and other green components in all communities and new buildings and to support communities to do this.
- Under Citizen Safety, Health and Wellbeing, suggestion to give people and communities incentives for efficiency, conservation of water etc. Suggesting that community resilience needs to be prioritized as a serious and urgent mitigation measure.
- Suggest helping to create suburban eco towns and villages into the future as more people migrate to cities but highlighting the issue that Cork city is prone to flooding.
- Highlights the need for engagement to ensure 'proper comprehension' and recommending alerts/information distribution/ awareness-raising / forums / advice/ etc.
- Raised concern regarding the budgeting of Strategy.

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55 **Cork Nature  
Network**

- Sets out the background and remit of the volunteer run organisation
  - Welcomes the consultation efforts undertaken to engage with the public.
  - Submission is informed by the recently published Global Commission on Adaptation document Adapt Now: A Global call for Leadership on Climate Resilience.
  - Lack of commitment in strategy to working with nature and utilising nature based solutions to adapt to climate change.
  - Preparation of Climate Mitigation Strategy is noted but suggests there is no logic in the separation of these two strategy documents, Climate mitigation and adaptation go hand-in-hand and cannot be viewed separately from each other.
  - Improved coordination suggested between Cork City Council and Cork County Council Climate Adaptation Strategy documents – joined up thinking required particularly on flood risk management actions.
  - Suggests the climate language used within the strategy does not adequately reflect the serious nature of the climate risks we face – Recommend the use terms "Climate Emergency" or "Climate Crises".
  - Recommend the Importance of Biodiversity to Climate Change Adaptation Actions is recognised under section 3 Climate Risk Identification.
  - Natural Assets/Capital:
    - Identify, Assess and Value Natural Assets as Natural Capital.
    - Create an inventory of Cork City Council-owned lands, identifying capacity to contribute to green spaces, infrastructure and biodiversity.
    - Create an Inventory of existing trees - and their value for promotion and protection of biodiversity and for climate adaptation in terms of cooling and water drainage.
    - Appoint a dedicated Biodiversity Officer to inform policy and planning cross directorate strategic policy making and to provide appropriate training and consultation services to council staff and elected members Action 5.1.
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- Local Adaptation Governance:
    - Recommend the establishment of a Climate and Biodiversity Strategic Policy Committee (SPC)
  - Council Activities:
    - Limited the use of Glyphosate I council activities.
    - Action 13.1 – Tree Planting is welcomed
    - Action 13.3: Identify the risks associated with and the effects of invasive species on our aquatic biodiversity and that best practice internationally be researched in dealing with these impacts.
    - Recommend biodiversity replacement where loss is incurred from council activities
    - Recommend soil regeneration measures be taken in planned developments.
    - Recommend rewilding of designated areas within the city.
    - Action 13.2: Recommend guidelines of best practise in relation to hedge cutting and the timing thereof be put in place
    - Action 13.7: Welcome Green Procurement - but would like to see the addition of sustainable and responsible management of trees and hedgerows with commitment to employing qualified tree surgeons to carry out maintenance of trees on public land.
  - Drainage, Water and Flood Management:
    - Look to international case studies to capitalise on the environmental opportunities and ecological properties provided by the River and best practices initiatives (beyond the OPW) for flood management.
  - Recommend the importance of healthy eco-systems and biodiversity to mental health and wellbeing be given attention in strategy.

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**56 Robert Devoy**

- Recommend that a focused summary of the main points and recommendations is added, which goes beyond the level of the Executive Summary suggests that much of the language used and the style of writing makes it difficult for the general reader to understand readily.
- Suggests that a greater level of detail/ specific information is needed - the strategies proposed, for the different elements of City operations and planning covered, are left at too generalised a level.
- Highlights that the Strategy needs to pay much greater attention to the different ways the general public can be drawn into the work of the Strategic Plan for the City and can receive accurate information on the themes of Climate Change, both from national - international and local levels. Much greater work is needed in the document on the approaches to "vision building for citizens on climate change adaptation" and public participation in the process.

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**57 Cork Chamber**

- Outlines the background and remit of Cork Chamber.
- Welcomes and supports all efforts to mitigate effects of climate change and welcome the commitment to develop a dedicated climate change mitigation strategy to work in parallel with adaptation.
- Highlights the importance of adaptation in building resilience to the impacts of climate change.
- Query and suggests the inclusion of a concise timeframe matrix within this strategy to better assist monitoring and review, and clearly delineate each action with the set period of implementation corresponding.
- Supports the initiation of a Climate Action Team as set out in Action 1 and the focus on prudent and resilience building actions and planning described within Action 2.1.
- Action 3.2 is welcomed, but stresses the need for the consideration of accelerated and unpredictable effects of climate change.
- Action 5.2 is welcomed and supported
- Action 5.3 is welcomed and supported.
- Action 6.3 is welcomed. Highlights the importance of engagement with business and broader

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community representatives in addressing climate change impacts and in identifying new ideas and innovation.

- Action 7.1 is welcomed. Support the undertaking of this action without delay.
- Action 8.3: is welcomed and note the value of engaging across all communities and advocate for the inclusion of business community representation where appropriate
- Action 8.4: Supports the immediate rollout of electric vehicle charging infrastructure to support electric vehicle.
- Action 9.1 noted and supported.
- Action 9.3 is considered necessary
- Objective 10, efforts to increase preparedness to potential flood risk events are essential.
- Objectives 13, 14 and 15 support tree planting and the promotion of biodiversity
- Action 15.2 supports the need to raise awareness and request the inclusion of business representation as external stakeholders within this.
- Action 16.3 highlights the potential of introducing a 'green' participatory budget to support climate change mitigation and adaptation projects selected by local citizens. Highlight the potential to include citizen representation and business community representation with the external partners to this action.
- Action 16.5 Advocate for the inclusion of business representation as part of the external partners to this action. Innovation and new thinking will be crucial in securing the equitable move to a low carbon society. External stakeholders to this action must include private sector business representation amongst others.
- Action 17.1 Requests the inclusion of business representation on external partners.
- Cork Chamber recognises the high priority of funding in the overall context of climate adaptation and future economic, environmental and social resilience.

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58 Ina Kelly

- States that she is making a submission on her own behalf. Dr Kelly is part of a group of medical professionals **who make up the Public Health Medicine Environment and Health Group (PHMEHG)**.
- A 2017 Position Paper on Climate Change Mitigation in Ireland was attached as part of the submission outlining various impacts of health from climate change. It also included a list of proposed mitigation recommendations in the areas of agriculture, transport, energy and health.
- **Requests that a comprehensive health risk assessment regarding climate change is undertaken and part of the Adaptation Strategy or as an action item within the Strategy.**
- **Recommends that integrated planning across all sectors is undertaken in the future to ensure a coherent approach to climate adaptation and to build resilience.**

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59 Cork Airport

- Advises that Cork Airport is taking steps that is consistent with the draft strategy and is keen to play its part working with key stakeholders
- Suggests a cooperative approach would increase efficiency and effectiveness of outcomes and reduce risk of duplication.
- Requests the strategy provide clarity on the level of funding available to implement change noting that Cork Airport provides substantial funding annually in rates to Cork City Council.
- Recognises its own role in reducing emissions and safeguarding the environment and outlines key areas in which they are progressing.

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60 Anois

- Omission in strategy of significant global impacts of Climate Change that will adversely affect Cork in the coming years including economic recession, food shortages, fuel shortages, resource depletion amongst others leading to an acceleration of trade wars with significant local and global consequences.
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- Suggests immediately investment is required in future economic resilience actions
  - Suggests Urgent Action in the following areas:
    - Implement a localised Circular Economy to ensure Cork has the key resources required to maintain a high quality of life.
    - Develop a Foundational Economy where the core needs of the citizens of Corks are met within the wider Cork city region, thus creating economic resilience.
    - Apply a localised Sharing and Collaborative Economy driven internally in the Council, across the private sector and by the citizens in Cork.
    - Enact a new approach to Property Management to ensure that all individuals have access to a home, and all businesses have access to a premise.
    - Develop localised Urban Farms in Cork to ensure food security for all.
    - Turn Cork into an Energy Farm through placing solar panels on every council building, especially on social housing.
    - Develop Cork into a Liveable Human Scale City embracing the principles of liveable cities as put forward by Gehl. This includes prioritising walking routes, cycling routes, parks, play areas, recreation sites, seating, pocket parks, etc.
    - Ensure Cork has a Fit-For-Purpose Built Environment.
  - Impact Assessment: Carry out a climate change impact study including an assessment on the how local and global climate change will affect Cork's Economic, Social and Environmental performance
  - Poverty reduction should form a central part of any Climate Change adaptation strategy.
  - Cost Benefit Analysis and Future Proofing Assessment: Recommend the council undertakes an assessment on the effectiveness of the infrastructural adaptation measures being proposed.
  - Commitment of Funding: Recommends the council provides transparency on how the adaptation strategy will be funded and implemented
  - Joined up Approach: Ensure alignment with Goals of Project Ireland 2040 and Climate Action Plan
  - Timeframes: Recommends inclusion of committed timelines and an allocation of the required resources to Cork City Council to effectively support implementation of actions.
  - Suggested Adaptation actions/measures:

**7.1 & 8.4:** Object to the prioritising of electric cars only and propose the prioritisation of dedicated high-quality sustainable transport infrastructure including cycling, pedestrian and public transport.

**8** Recommend Cork develops a Circular Economy for construction materials.

**8:** Recommend Cork City Council adopts its planning process to ensure all new builds are Climate Change resilient, thus are CO2 neutral, a net energy producer, conserve water (through rainwater harvesting and grey water recycling).

**8:** Recommend the council brings in capped rental scheme for all tenants.

**8.3:** Ensure all its tenants and all tenants in private accommodation are in fit-for purpose housing.

**9:** Recommends Cork City Council ends the practice of suburban spiralling through Development Plan processes. All new developments should ensure they are accessible to all necessary amenities (schools, shops, medical centres, parks etc.) through dedicated high-quality sustainable transport infrastructure.

**9:** Recommends Cork City Council develops a strategy on effective land use in the city to ensure no empty sites are underdeveloped.

**9:** Recommends Cork does not sell any remaining public land but instead retains public ownership. Through a land rental model Cork City Council can facilitate the development of these public lands in a responsible, resilient and future proofing manor.

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**10:** Opposes any maladaptation that can result in serious negative climate change effects; strongly oppose the OPW proposed flood defence scheme on both the river Lee and the river Bride.

**13:** Recommends Cork City Council cease the use of all pesticides and herbicides (except on invasive plants such as Japanese Knotweed) in all areas.

**13:** Recommends Cork City Council proactively retain the unique cultural built environment of Cork city. Any buildings dating from pre-independence (regardless of their protection statues) should be retained, maintained and refurbished as appropriate. If retention is not possible due to structural problems they should be rebuilt in the same style.

**13.1:** Recommends Cork sets the ambitious goal of creating a city forest comprising of multiply fruit and nut trees throughout the city and suburbs assisting in reducing storm water drainage needs, providing free local healthy food, providing cooling and shading in extreme heat etc.

**16:** Recommends the council develop resilient communities through the maintenance of existing liveable infrastructure of sufficient densities and qualitative standards.

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**61 Cork Food Policy Council**

- Outlines background, remit and 5 values of Cork Food Policy including 1. Health and wellbeing for all, 2. A thriving local economy 3. Resilient, food-friendly communities 4. Lifelong learning & skills and 5. A reduced environmental footprint
- Describes that the increasing global climate change crises and Ireland’s responsibility and commitment to reducing Greenhouse Gas Emissions by 20% by 2020 and 30% by 2030 requires an urgency for Government action to address the current unsustainable food practices driven by policy in Ireland.
- Calls for engagement with Cork City Food Policy Council to identify the food-related challenges in the city, develop a roadmap to address challenges and provide for the inclusion of a food policy approach to the Climate Adaptation Strategy.
- Seeks a commitment from Cork City Council for the development of a Cork City Food Strategy in the Cork City Council Climate Adaptation Strategy by 2021 with named partners include: • Cork Food Policy Council • Cork City Council • University College Cork • Cork Healthy Cities • Cork Environmental Forum • Representatives of the Restaurant industry • Health Service Executive • NICHE Community Health Project • The Clean Technology Centre • Bia Food Initiative.

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**62 Cork Healthy Cities**

- Outlines the background to the ‘Healthy City’ designation applied to Cork City in 2012 like to take this opportunity to commend you on the development of the Cork City Climate Adaptation Policy. I am pleased on behalf of Cork Healthy Cities Steering Group to make the following submission.
  - Explains how Climate change is impacting human lives and health in a variety of ways, threatening good health - clean air, safe drinking water, nutritious food supply, and safe shelter - and the potential to undermine decades of progress in global health.
  - **Sustainable Food Actions:** Recommends the inclusion of the development of a sustainable and healthy food strategy for Cork City (and county) as an adaptation action and the inclusion of the inter-agency group Cork Food Policy Council as a key partner to deliver this.
  - **Sustainable Transport Actions:** Recommends Sustainable transport, cycling and walking as a key theme in this Strategy with planning or regeneration of roads giving precedence to active means of transport (walking, cycling; etc.), Improve road safety for walkers and cyclists, Incentives towards the use of public transport/cycling/walking should be prioritised and Health and Environmental Impact Assessment should be carried out on all new transport developments in the city.
  - **Air Quality Actions:** Recommends monitoring air quality on an ongoing basis throughout the city
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within the recommended health parameters, responding to reduce poor air quality measures that are harmful to public health in Cork City, Link health to carbon reduction plans. Conduct a baseline health and emissions inventory, adopt an emissions reduction target, develop and implement local action plans.

- **Weather Related Actions:** Recommends Climate protection for outdoor workers and vulnerable groups that Cork City Council employs and supports, the inclusion of actions on meteorological early warning systems, timely public and medical advice, improvements to housing and urban planning and ensuring that InterAgency Emergency Response teams are ready to act. The WHO recommends the development of a defined Heat–Health Action Plan, Future climate forecasts should be taken into account in the construction of new buildings and planning of new parts of cities in order to provide as much thermal comfort and protection against extreme events as possible.
- **Social Cohesion & Community Resilience Actions:** Recommends an assessment of those who are most vulnerable to climate change should be completed, Community participation to incorporate local and traditional knowledge to be harnessed in emergency planning and response situations to build community resilience and inequitable outcomes, Community engagement actions in the Strategy should seek to prioritise groups that are deemed to be most vulnerable and susceptible to the impacts of climate change.
- Specific Recommendations related to the Draft Strategy
  - Objective 12 outlines Healthy Cities as the lead team for this objective in error. Please delete.
  - Objective 15 – in addition to monitoring impacts on the natural environment it is recommended that actions to support biodiversity across the city should be included
  - Objective 16 – Citizen Safety, Health & Wellbeing the inclusion of “maximising green spaces for health and wellbeing in the city’ connecting wellbeing and safety to the green environment of the city.
- Actions for which Cork Healthy Cities seeks to be a named and supportive partner include:
  - Action 6.3 and Action 13.6
  - Action 13.6 include the examples of ‘Green Spaces for Health and Community Gardens’ in this action
  - Action 14.2 Include Cork Food Policy Council as a partner

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63 **Green Party**

- Commends efforts undertaken for consultation process.
- Suggests more of an emphasis on collective actors outside of Cork City Council, particularly businesses.
- Suggests putting in timelines against actions.
- Suggests strategy should address air quality
- Suggests strategy should address circular economy
- Suggests integrating the SDGs into the strategy.
- Suggests placing strong emphasis on upland planting in the goal on Drainage, Water and Flood Management.
- Remove OPW flood defence schemes in Table 1.1. That has not yet been agreed.
- Citizen safety, health and wellbeing – identify vulnerable groups by category.

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64 **Frank Dorr**

- Concerned that the draft Strategy lacks a sense that this is a real emergency, which threatens our very existence.
  - Suggests an emphasis on building resilience. Suggesting, to adapt there is a need to build up local sources of food. This can be achieved by the local growth of food, by encouraging local markets and by encouraging and supporting farmers in the surrounding area, and by fostering and
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supporting urban farming within the city bounds. This could include allotments, and community gardens, but it could also include a planning regulation that the roofs of all large new building within the city should either be covered in solar panels or be used as rooftop gardens supplying not only a healthy place to be but also growing food.

- Recommends that a focus on greening, will help preserve biodiversity, it would also contribute to resilience and physical and mental health, as well as helping to deal with the “heat island” effect.
- Suggested the need for drinking water fountains throughout the city and would help reduce plastic waste.
- Emphasising that a strong sense of local community is the best way in which people can be supported through difficulties and any adaptation plan should encourage this.
- Highlight that retrofitting is getting a lot of attention but planning for all new buildings should insist on the highest level of insulation, and solar heating systems.
- Climate adaption should work towards a car-free city and have this at the core of all planning.
- City of cyclists and pedestrians will be more resilient and healthier, with less air pollution. This cannot be created overnight but needs to be the focus of present planning decisions for the future.
- Call for leadership and supporting local educational initiatives which would not only give information, but help people face the realisation of climate change.

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**65 Elders for Earth**

- Expresses concern that the strategy does not read as though there is a climate emergency that is ‘the greatest environmental threat to our current way of life on planet Earth.’
- Actions 5.2&16.2 Suggests a strong emphasis on social justice in all climate action and support and protection for the most vulnerable and that the building of resilient communities ought to be a major goal
- Action 8.4 Planning in relation to transport should be more radical, envisioning a serious reduction and elimination of car traffic in the city. Car parking places should be replaced by safe cycle routes and extensive and affordable non polluting public transport. The creation of more Park and Ride facilities especially on the western side of the city is required
- Action 11.1 Free access to drinking water throughout the city will be essential and will also help people reduce their plastic waste.
- Action 13.1 Even more emphasis should be placed on greening of the city within the biodiversity crisis plan. This will help preserve biodiversity which is essential for our survival.
- Welcomes the urgently needed Climate Mitigation Strategy.

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**66 Green Spaces for Health South Parish**

- Recommend that space be made available by the Council for communities to grow food in the city.
  - Suggest that a tree audit of all the trees in Cork City be undertaken to provide a means to examine how much carbon is being sequestered in the city.
  - Consideration given to the provision of a seed bank by Cork City Council or by an organisation supported by Cork City Council. This seed bank would aspire to collect and identify seeds from native and non-native trees, flowers and vegetables / fruit etc.
  - Suggest that all new buildings in the city should be mandated to include plans for green spaces, trees, green roof tops, green walls, etc.
  - Consideration to more incentives for cycling and walking.
  - Suggest that spraying ‘Roundup’ (Glyphosate) or similar chemicals at the base of trees, in public parks, cemeteries and all other lands that the council maintains be ceased.
  - An empty chair representing nature should be created at local city council meetings. This idea was first adopted by Maastricht local city council and proved very effective.
  - Encourage the citizens, communities etc. to learn skills to help develop resilience in the event of severe weather events and the consequences of global climate catastrophe.
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- Acknowledges the link between Climate Change and biodiversity loss and have focused much of our efforts across our wide range of programmes in using nature as a tool to engage people and bring them together for action on biodiversity and climate change.
- Suggests that a climate change action plan should be produced and implemented for actions of the strategy.
- Section 3.6 should be elaborated upon; in terms of the risks to biodiversity itself, and also in how climate change impacts on biodiversity will have consequences for eco-system services for Cork City.
- Objective 9.1 refers to enhancing the role of the natural environment to promote climate adaptation by promoting nature-based solutions e.g. green infrastructure; SECAD's Wild Work initiative could play an important part in helping make this happen.
- 13.3 Should state that alien invasive species may become more of a problem, as opposed to will become more of a problem.
- 13.7 on green procurement is a most welcome idea and is something that should have a great impact.
- Actions where SECAD Partnership can play an important role as an external partner and could be listed in the strategy as an external partner include:
  - Action 1.1 Establish a Climate Action Team
  - Action 2.1 Managing and overseeing the effective mainstreaming of climate adaptation measures into all plans
  - Action 5.2 Assist in building resilience and capacity within local businesses and communities
  - Action 6.1 Identify, source and leverage funding streams for the implementation of climate change actions
  - Action 6.3 Collaborate and work with businesses in seeking new ideas to reduce the impact of climate change
  - Action 13.5 Potential ecological corridors and connectivity
  - Action 13.6 Work with communities to enable them to develop an appreciation of natural resource protection, thus highlighting the link with climate change.
  - Action 13.7 Adopt 'Green Public Procurement', moving from 'most economically advantageous' to a 'life cycle costing model.
  - Action 14.2 Develop a green infrastructure strategy and associated action plan
  - Action 16.3 Raise awareness of the impacts of climate change and the ways for citizens, businesses and communities to respond appropriately and to increase resilience to these impacts
  - Action 16.4 Explore ways Cork City Council can help older, vulnerable and isolated people/communities to become more climate-resilient.
- Objectives 16.3 and 16.4 are of particular relevance to SECAD's work in social inclusion.
- In addition to the above objectives, our Wild Work initiative could be listed in the strategy as an external partner for objectives:
  - 9.1 enhancing the role of the natural environment to promote climate adaptation by promoting nature-based solutions e.g. green infrastructure
  - 10.4 Identify natural floodplains in Cork city and incorporate nature-based solutions
  - 13.1 Support and enhance a shrub and tree planting programme for Cork City in conjunction with an awareness campaign in the context of climate adaptation.
  - 13.4 Support and enhance a pollinator plan, paying attention to the threats from climate change
  - 14.1 Work with communities and schools to create and implement local Biodiversity Action Plans.

- Under Local Adaptation Governance and Business Operations;
  - A call for better cooperation and progressive engagement between state stakeholders, including Local authorities, TII, OPW, ESB.
  - Suggests that adoption of proven evidence based mechanisms and techniques across all sectors.
  - Rectify the issues resulting from the lack of engagement by Local Authorities and State agencies up to now affeting issues such as air quality, vegetation, carbon footprint per person, cycle infrastructure etc.
- Under Infrastructure and Built Environment;
  - City Council to lead by example in the delivery of exemplar projects.
  - Suggest emphasizing and expanding on para 15.1 'Natural Capital Accounting'.
  - Suggests renewables should only be used to enable energy positive buildings.
- Under Land Use and Development;
  - REcommends prioritizing brownfield development.
  - Suggests emphasizing para 9.3 and demand that City Planning applications address SI 243 :2012 for all applications.
  - Embrace standards like Home Performance Index.
  - Recommends integrating cycle ways and stop putting cars first.
  - Suggests integrating pocket parks, green ways and encourage pedestrian / cycle and public transport.
  - Recommends demanding better performance from public transport providers.
  - Suggest that public transport is a need, not an 'nice to have'.
- Under Drainage, Water and Flood Management;
  - Call for the Immediate peer review of walls project by Arup / OPW.
  - Demands that appropriate modelling using software fit for purpose is used when modelling or simulating Cork's groundwater / Aquifer. Suggests that the OPW scheme used software that is not fit for purpose in this regard.
  - Suggest the review of flood plans acknowledging main water body exist below biospheric study.
  - Prevent further impact on river / groundwater by assessing deep water incursions /carparks and how they effect water flow.
  - Suggests building a tidal barrier and integrate outer orbital route on it to alleviate congestion at Dunkettle and avoid Bloomfield madness.
  - Engage with upstream catchment management.
- Under Nature, Natural Resources and Cultural Infrastructure;
  - Demands that marina navigation wall and polder flood defence from the Victorian era is properly maintained and that recent civil works on river side are removed and limestone wall stabilised.
  - Suggests to replant and intensify trees as they go through a life cycle.
  - Encourage appreciation of nature and vegetation and encourage roads engineers on the matter and on how DEMURS should be implemented.
  - Suggests stopping pumping fluoride into Corks harbour.
- Under Citizen Safety, Health and Wellbeing;
  - Suggest that building walls as flood defence may put Corks inhabitants at risk and 40 pumps wont address the water pressure if we have a 2m rise in sea level.
  - Calls for no more Skehard Road Concrete jungles.
- Under Partnerships with other Sectors and Agencies;
  - Suggests looking at all the sectors and that Ireland is behind the European curve.
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69 Carol Doyle /  
Thorsten  
Ohlow

- Welcomes the opportunity to be consulted with as a city citizens and residents on something so important and the opportunity to feed into the process.
- Questions the timeframe for submissions and suggests a greater and genuine public awareness and capacity building and education.
- Under Local Adaptation, Governance and Business Operations, suggests that many of the actions in Objective 1 represent the very least that should be doing as a city and there should be recognition that many of these have been on the table for a number of years, if not decades. Suggesting that Objective 1.5 should apply to all current developments and current developments under consideration.
- Under Infrastructure and Built Environment,
  - Objective 7, Action 8.4, electric cars are not the solution, with questionable supply chains and end of life cycle, a call to start steering away from individual motorised transport, to better car sharing.
  - Commitment to cycling and pedestrians, with more dedicated and safer bike lanes in both directions and suggests cycle training.
  - Driver training should teach motorists to respect cyclists and pedestrians and their right of way.
  - Suggests traffic lights prioritise pedestrians and cyclists.
  - Recommends a commitment to cyclists, pedestrians and to even more reliable and regular public transport would significantly reduce car journeys in the city.
  - Explore if inner city buses can be free for everyone (like in some cities), free park and ride should be a minimum
  - Close Patrick Street to traffic full time.
- Under Land Use and Development, green spaces must be priorities.
- Under Drainage Water and Flood Management:
  - Action 10.4 should Identify not only flood plains in Cork City, but also the County.
  - When assessing SUDS for Cork City, investigate far reaching and innovative solutions, such as
    - Green roofs for storm water and insulation.
    - Lee fields as a flood and other flood plains in the Lee catchment to slow the flow of the water entering the city and harbour.
    - Suitable forestry in the Lee catchment to slow the flow of water.
    - Investigate reintroducing farm ponds to collect large volumes of water.
    - Review Arterial Drainage act and its role in aggregating flooding
- Under Nature, natural resources and cultural infrastructure,
  - Suggest that Action 13.1 Tree Planting select an ambitious target and suggest the need to publicise and raise public awareness.
  - Recommends Action 13.2, that hedge maintenance lies with local landowners and needs to be in line with needs of wildlife and biodiversity commitments in the Pollinator Plan
  - Action 13.6 suggest that litter and waste education should to be part of a schools programme. Greater focus on compost and other systems could greatly reduce food waste.
  - Action13.7 suggests inclusion of green and ethical procurement, taking life cycle into account and also fair trade as they go hand in hand.
  - Action14.1 suggests that capacity in building in schools, communities, tidy towns in relation to Biodiversity action plans. Suggests addressing city wide bi-annual planting to review the amount of waste it creates in terms of single use plant pots and also work to enhance biodiversity and focuses on wildlife.

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## Under Citizen Safety, Health and Wellbeing

- Action 15.2 should recognise that it start from one's own space and addressing paper based information dissemination including quantity of leaflets and booklets created for events and festivals and elections and address and share waste. Bring us as citizens on the journey of internal behavioural change within the council incl. waste management, increased composting, reducing paper, waste free and ethical and local food choices and reducing car usage.
  - Work with business to ban non compostable single use coffee cups and increase a charge on compostable cups and introduce a reduced fee for a multi-use cups that can be washed at any number of coffee outlets. A call for a ban on plastic packaging within council and throw away coffee cups.
  - Suggestion to address packaging materials of convenience food with business.
  - Could Cork City could become plastic free and join Zero Waste and Transition town movements.
  - Consider fast food places and coffee chains pay for public bins and street cleaning to encourage them to move away from single use packaging.
  - Offer waste/ recycling separation in public spaces.
  - Properly address public awareness campaigns: reduce wasteful printed materials and increase option of real and regular capacity building talks and workshops.
  - Suggests the creation of green inner city spaces and public benches for people.
  - Offer free public drinking water fountains to drink and refill
  - Raise issue of literacy friendly writing and materials to ensure it is accessible to all of us.
  - Action 16.2 should address Travellers accommodation.
  - Action 16.3 should include behaviour change plan.
  - Action 16.4 should explore how more public workshops / consultations and reach out to all communities to get the expertise on the ground and of people living in the city.
- Under Partnerships with other sectors and agencies, suggestion that proper cooperation with Cork County Council.
  - Highlighting there is potential through the language of culture and placemaking to bring about behavioural change.
  - Suggesting there is potential for a more ambitious action plan for Cork and also for greater education and action through schools and even preschools.
  - Recognise impact of inequality, poverty, low wages and insecure work and recognise mental health benefits of improving green area, biodiversity and increasing public transport and making the city generally a nicer place to be and live.

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## 70 Save Cork City

- Showing support for:
  - Action 7.1 to give priority to nature-based solutions in the integration of climate change adaption (and mitigation) measures in the design, planning and construction of all roads and transport infrastructure
  - Action 9.1 to promote nature-based solutions in tailoring planning policies to reduce the vulnerability of Cork City to the impacts of climate change.
  - The promotion of climate resilient designs and materials in tailoring planning policies to reduce the vulnerability of Cork City to the impacts of climate change.
- In relation to Actions 10 of the Strategy and the actions relating to flooding should fully reflect the EU Floods Directive. The EU Floods Directive is concerned with the impact of flood defence on areas of economic activity, heritage and the environment as well as other considerations that are almost left without any consideration in the Strategies actions.
- References the Arterial Drainage Act as being implemented to address flooding in Ireland is in contravention of the commitments of the Aarhus Convention on public consultation and the Granada Convention relating to heritage protection. In addition the strategy should give consideration to the broad directives contained within the EU Floods Directive, the Aarhus

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Convention and the Granada Convention relating to Heritage Protection and should not make connection or reference to specific strategies that do not or may not comply with these.

- Suggesting that there are outdated drainage techniques being employed throughout Ireland and that severe destruction of heritage is taking place. Furthermore, there is widespread disruption to economic activity and damage to the environment is excessive and there is severe damage to nature which is taking place on a widespread scale throughout Ireland. These in many ways are part of the problem in that, by damage and excessive development, are contributing to the causes of climate change and the crisis of biodiversity in nature. The damage to the environment is causing severe distress.
- Highlighting there is potential for conflict in that OPW are asking private firms to make considerations based on a limited interpretation of the EU Floods Directive. Suggesting that a multidisciplinary team in OPW would understand the issues and identify ways to meet the requirements of the EU Floods Directive. The OPW process, to be legal, needs to adapt and educate itself or be replaced but there is no doubt that currently the approach is severely outdated and limited and is causing great and needless harm throughout the country. Flood defence and protection could be much more extensive, could be more economical, could create amenity, could be much more long term and catch up with the thinking of people who want funding spent well and economically.
- Highlighting the need for the Climate Change Adaptation Strategy to be adequately broad in scope to retain the possibility for new research, and expert opinion to inform strategies and technologies for adoption in the future.
- Suggests that the Climate Change Adaptation Strategy should not promote the piecemeal damage to heritage and economic activity.

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**71 Office of Public Works (OPW)**

- Acknowledge the works carried out by Cork City Council to date in the progression of flood protection schemes such as Lower Lee (Cork City) Flood Relief Scheme, Blackpool Flood Relief Scheme and Togher & Glanmire Flood Relief Schemes.
- Maps and future scenario maps issued to the council under CFRAM should assist in the planning appropriate adaptation strategies and measures.
- Suggest referring to the Natural Water Retention Measure (NWRM) in the context of identifying floodplains and incorporating nature based solutions in future enhancement works.
- Suggests referring to flood mapping outputs from the National Catchment Flood Risk Assessment and Management (CFRAM) programme, particular in the area of climate change awareness raising amongst communities, citizens and businesses.
- Would welcome the promotion of Sustainable Urban Drainage Systems with due consideration for the potential increases in intense rainfall events.
- Suggest consideration of more intense rainfall on the performance of the urban storm water drainage systems.
- Suggest Natural Water Retention Measures to manage flood risk as a means of climate adaptation, water quality, biodiversity, sediment / soil management and the creation of amenity areas.
- Would welcome objectives and actions that require the consideration of climate change in the planning process.
- Proposes future scenario flood maps may assist the identification of potentially vulnerable assets.
- Would welcome action on taking into account increased flood extents and depths in the planning and implementation of new infrastructure to avoid potentially flood prone areas and ensure infrastructure is resilient to such risks.
- Suggest consideration of increases in the frequency and / or severity of flood events may necessitate more frequent and / or resource intensive emergency responses from first responders.

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72 **Department  
Agriculture,  
Food and the  
Marine (DAFM)**

- Outlines that it is a well presented report with good analysis of climate change issues facing the local authority.
- States forestry planting/management, soil erosion, nutrient management, grazing management of sensitive soils, farming intensity within river catchments and many more issues influence adaptation/mitigation decisions at a county level.
- States the report could also take note of the role of land use in the water system. For example, well planned and managed forests can help to improve water quality and to buffer and slow flows.
- States local authorities can benefit from forest planting supports for native woodland and amenity forests (see the Neighbourhood scheme in the DAFM Forestry Programme), which could provide localised climate benefits as well as supporting climate change mitigation.
- The Department would like to highlight the climate change related impacts on the inland aquaculture industry which depends on the freshwater resource and the impact on seafood related infrastructure such as coastal harbours and piers.
- States the following impacts are recognised as being cross-sectoral concern for both the Department of Agriculture, Food and the Marine and the Local Authority
  - Wildfires – increased risk of uncontrolled fires due to hotter drier summers causing damage to forest stands, farmland, raised bogs and peatlands, air quality, increasing pressure on fire services.
  - Slurry Storage and Land Spreading Issues – wetter winters affecting timing of slurry spreading which may lead to nutrient loss and run-off causing water quality issues for the local authority to monitor and manage.
  - Soil Quality – impacted by both wet and dry conditions due to machinery working or livestock out on land in wet conditions causing poaching. Soil sediment run-off impacting water quality in river catchments.
- Non-native invasive species – may be an escalation on the spread of non- native invasive species which could lead to loss of biodiversity on local authority management land.

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73 **Department of  
Communications,  
Climate  
Action &  
Environment  
(DCCA) /  
Geological  
Survey Ireland**

- Advised to use Geological Survey Ireland’s data when creating the Environmental Impact Assessment Report (EIAR) for the Climate Adaptation Strategy.
  - Referenced the importance of groundwater quality and recommends using GSI’s National Aquifer and Recharge maps to identify areas for integrated constructed wetlands with regard to Flood Risk Management
  - Referenced the environmental and economic benefits of geothermal applications and recommend using GSI’s Geothermal Suitability Maps to determine the most suitable type of ground source heat collector for use with heat pump technologies.
  - Advised that the sustainable development of our natural resources should be an integral part of all development plans from a national to regional to local level to ensure that the materials that are required for our society, (materials/Aggregates), are available when required and that these material assets should be recognised within the environmental assessment process.
  - Advised to use GSI’s data, maps, interpretations and advice on matters related to minerals, their use and their development.
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\*\*\*END OF REPORT\*\*\*