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Dear Mark,

RE: Draft Climate Change Sectoral Adaptation Plan for Flood Risk Management

In line with Section 6 and Section 11 of the Climate Action and Low Carbon Development Act 2015 (the Climate Act), it is a function of the Climate Change Advisory Council to provide advice and make recommendations in relation to adaptation policy and Ministers are required to consult with the Council in the preparation of their sectoral adaptation plans.

The Council welcomes the publication of the draft Climate Change Sectoral Adaptation Plan for Flood Risk Management and believes that the sectoral adaptation planning process offers a valuable opportunity for sectors to build resilience to the impacts of climate change by identifying vulnerabilities, adaptive capacity, risks and opportunities, and developing adaptation plans to address them.

The Council has agreed criteria of assessment for sectoral adaptation plans and the draft Climate Change Sectoral Adaptation Plan for Flood Risk Management has been considered by the Climate Change Advisory Council and its Adaptation Committee with reference to these.

The Council wishes to outline the following observations on the draft.

General Comments

- Chapter 7 of the Council's Annual Review 2019 contains advice and recommendations relevant to the development of sectoral adaptation plans and these should be considered in the preparation of the final plan.

- The projected impacts of climate change often seem distant from everyday life, but flooding represents a key area where communities are faced with the vulnerabilities in our society and systems that may be exacerbated as our climate changes further.
- The Flood Risk Management sector is one of the most advanced and informed of the climate adaptation sectors in Ireland, however the final plan could show further leadership on holistic and coordinated adaptation action to build societal resilience and in the development and application of new adaptation techniques for the management of flooding and wider in environmental management. To this end, further consideration could be given as to how community engagement will be enhanced, particularly where defences or other approaches threaten cultural heritage or places of local significance. This may require capacity building in this specific area.
- The Council's 2018 and 2019 Annual Reviews have highlighted the OPW's robust and comprehensive analysis of flood risk across the country and suggested it may provide a possible model for other sectors, including in capturing costs and benefits of adaptation interventions. However more information should be provided on how the 2015 non-statutory plan has been reviewed, monitored and implemented. How actions have been strengthened to take into account lessons from the previous plan should be articulated.
- A statement at the beginning of the plan demonstrating how the Climate Act, National Adaptation Framework and the sectoral guidelines have been considered would be useful. It is recognised that in some aspects of adaptation planning the sector is likely ahead of other sectors implementing the sectoral guidelines and preparing adaptation plans for the first time.
- How scenarios and the OPW's understanding of uncertainties will be revised in the future, in particular taking account of extreme scenarios, should be articulated. This is important to avoid over confident assessments of preparedness for future impacts. In the appendix work on Scenario Neutral approaches to stress testing design allowances are noted but the value of such approaches to decision making under uncertainty could be further detailed in the main text.
- As highlighted in the Council's Annual Review 2019, the coastal zone is a critical environment for Ireland, as an island nation, and 1.9 million people live within 5km of the coast (i.e. c.41% of the population, with the location of major urban centre and economic hubs in this coastal strip). Approximately one third of the CFRAM communities are coastal and the challenges of ensuring coastal resilience should be further addressed in the text, in particular higher sea level rise scenarios should be addressed in the final plan. In addition, the consideration of complex events such as

sea level rise, combined with storm surge and fluvial flooding could be included. Such events are highly uncertain but could hold significant impacts given the exposure of many Irish towns and cities to such events.

- Further information should be provided on potential linkages with Disaster Risk Reduction and the Sustainable Development Goals.
- The inclusion of a schematic or short section at the beginning of the document explaining the relationship between the adaptation plan and CFRAM programme etc. should be considered rather than restating text throughout the plan and this may provide an opportunity for a shorter, more accessible document. Similarly in places, there is overlap across parts of the plan and the appendices.
- The inclusion of a glossary is welcome. However, the Council recommend greater use of links or footnotes and the use of maps and images should be reviewed (for example Figure 1-1 is of limited value as presented and further information on the context of the flood protection scheme presented in Figure 1-2 should be provided).
- Though they are listed in Table 3-1, it may be useful to include a case study of significant flood events (e.g. Cork 2009) considering issues such as emergency planning and response, insurance, communications etc. Greater coverage of the lessons learnt and changes for future responses to such urban flooding events would be valuable. This could form a benchmarking case study of 'risk' in the final plan.
- The Council recognises the value of the rural, urban and coastal climate impact assessment case studies presented in Part 5. However, a national level synthesis might be more appropriate for this plan.

<u>Cross Sectoral Considerations</u>

- Further consideration should be given to pressures faced by the sector in addition to climate change (e.g. demographic and societal change stressors such as urbanisation) and how climate change compares and relates to these pressures both positively and negatively. It is important that adaptation actions and planning do not happen in a vacuum and that other pressures are also taken into account, recognising that climate action may be synergistic or complementary. This may be useful in the identification of adaptation options whereby 'win-win' measures can be pursued.
- Further information should be provided on how the natural environment is used to address flood risk and further information on links with the agriculture and forestry sectors should be provided. Further information on co-ordination with the Water Framework Directive should also be included. These are particularly relevant to the

provision of further information on approaches, opportunities and uses of integrated river catchment techniques and planning in the final plan.

- There is an opportunity for further detail on the role of SuDS and how to maximise its impact in terms of flood risk reduction and co-benefits.
- Though some aspects are articulated under objective 2, overall the links with local adaptation strategies should be more clear.
- How the impacts of flooding set out in appendix A have been utilised by other sectors and informed other sectoral adaptation plans is not clear. Linkages with the health sector also merit further attention.
- Flooding issues are already a significant matter for Ireland, as evidenced by the CFRAM programme. However greater attention should be paid specifically to the impacts and costs of coastal flooding. It is likely that any adaptation schemes to address coastal zone flooding will require a large amount of public investment. A discussion on the investment requirements of such urban coastal adaptation schemes should be included. This could define the parameters of these costs, appraise the appropriate adaptation response options in each of the major areas affected by climate change to 2050 and 2100, and consider how the public awareness of this issue is to be further developed and incorporated into future planning.

<u>Data</u>

- Data constraints are identified in the draft plan but further detail on how these may be addressed should be provided.
- Further information on the updates to the Irish Coastal Protection Strategy Study commissioned in 2018 should be provided.
- Chapter 7 of the Council's 2019 Annual Review addresses adaptation indicators and this discussion should be considered when developing final interim indicators for the plan. Consideration should be given to the use of other interim indicators such as insurance payouts for flood damages, the amount of built-up areas covered with impermeable surfaces or the number of units built on floodplains.
- Additional relevant literature which may be considered includes the 2019 update of Devoy, R.J.N., 2015. Sea-level Rise: Causes, Impacts and Scenarios for Change. In, Ellis, J. & D. Sherman (eds), Coastal and Marine Hazards, Risks and Disasters. Also, it may be more appropriate to cite scientific literature rather than conference presentations that are not publicly accessible (e.g. Broderick et al).

- It is not clear if the findings of the 'Critical Infrastructure Vulnerability to Climate Change' or the 'National Risk Assessment of Impacts of Climate Change' research projects have been considered.

Objectives and Implementation

- The draft plan's articulation of a long term adaptation goal is useful.
- Further information on scheme adaptation plans, including their potential methodology and content should be provided. Also, further information should be provided on how flood defences are maintained and monitored.
- Further information on the current structures intended to facilitate monitoring and review of the plan, including more detail on the proposed annual progress review should be provided. Further information should also be given on how the implementation of this sectoral plan, other sectoral plans and local authority strategies will inform the 2021 review of the 2018 Flood Risk Management Plans.
- As noted in the Council's Annual Review 2019, the finalisation of a national Flood Forecasting and Warning Service as set out in action 3.E is essential.
- Though somewhat addressed in objective 3, further consideration should be given to how to engage vulnerable groups and communities exposed to coastal change and increases in flood risk.

The Council looks forward to the publication of the final statutory sectoral adaptation plan.

Yours sincerely,

Prof. John FitzGerald
Chair
Climate Change Advisory Council

Cc. John O'Neill, Department of Communications, Climate Action and Environment