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EPAC Reference No-2225

Re: Public Consultation on the draft second Electricity and Gas Networks Climate Change Sectoral Adaptation Plan (EGN SAP 2025)

Dear Sir/Madam,

The Environmental Protection Agency (EPA) welcomes the opportunity to respond to this consultation on the draft second Electricity and Gas Networks Climate Change Sectoral Adaptation Plan (EGN SAP 2025).

The development and implementation of robust sectoral climate adaptation plans is critical to national resilience. These plans are particularly important in the context of a changing climate, where the frequency, intensity, and unpredictability of extreme weather events are also increasing, as highlighted in Ireland's National Climate Change Risk Assessment (NCCRA) recently published by the EPA.

Overall, the draft SAP demonstrates reasonable alignment with the National Adaptation Framework and the Sectoral Planning Guidelines for Climate Change Adaptation 2024, involving a structured process with stakeholder engagement that the EPA was involved in at the planning team stage. Given the critical nature and long operational lifetimes of electricity and gas network infrastructure, it is essential that adaptation planning considers long-term climate risks extending to the year 2100. While there are inherent uncertainties in projecting climate impacts over such a timeframe, acknowledging these uncertainties and identifying gaps in current planning approaches is vital. This forward-looking perspective ensures that infrastructure investments made today remain resilient and effective under future climate conditions.

In addition to the comments provided below, we suggest that consideration also be given to the comments previously provided by the EPA on earlier drafts of the Plan, if these have not already been taken into account.

Key EPA recommendations

While we recognise many positive aspects of the Plan, we have identified six areas that we recommend should be strengthened before the Plan is finalised. These are:

1. A more detailed risk assessment should be undertaken and communicated in the Plan;
2. The three National Adaptation Framework principles of just resilience, nature-based solutions, and maladaptation should be comprehensively addressed within the Plan;
3. Elaborating on all cascading impacts as laid out in the NCCRA;
4. Additional climate resilience actions should be identified;
5. More specific outcome indicators and targets should be put in place to track the implementation of actions and resilience outcomes;
6. Research gaps should be identified and actioned within the Plan.

These points are further developed below.

1. Risk assessment

The NCCRA Technical Guidance for Sectoral Risk Assessments was published by the EPA in 2024 in order to support sectors in developing more detailed, sector specific risk assessments to follow on from the NCCRA. There is scope for the EGN SAP to include a more granular evaluation of impacts under a reference trajectory of at least RCP4.5, clearly categorising risk types, identifying vulnerable populations, and addressing cascading and systemic risks. The EPA recognises the uncertainty inherent in long-term projections, however, it is important to consider planning for 2100, particularly in the case of the long-lived critical infrastructure present in the Electricity and Gas Networks sector. The risk assessment should also align with future climate and population projections, and present risk data consistently and accurately.

An example of a risk identified in the Plan as requiring further investigation is extreme wind. The Plan identifies windstorms as a high-priority risk for the electricity transmission and distribution network, yet acknowledges low confidence in future projections without adequately addressing the implications or proposing contingency measures. Inconsistent and insufficient risk data—especially on regional vulnerability and asset-level exposure—undermines effective adaptation planning and prioritisation. In addition, while future network expansion is expected to increase exposure, this is neither quantified nor reflected in the risk scoring, creating a disconnect between infrastructure growth and evolving climate hazards. To address these gaps, the Plan should incorporate contingency planning for low-confidence but high-impact risks, improve granularity of risk data, and integrate projected infrastructure expansion into the risk assessment framework.

2. Further consideration of National Adaptation Framework principles

The EPA recommends a more in-depth and systematic consideration in the Plan of the key National Adaptation Framework principles of Just Resilience, Nature-based Solutions and Maladaptation.

Just Resilience

Just resilience and vulnerability should ideally have been taken into account as part of the risk assessment process. In implementing the Plan, actions relating to just resilience should be developed and should be progressed in an integrated way with other sectors, to ensure just resilience is being considered consistently across sectors with no gaps. For example, there is potential for energy disruption to disproportionately impact on the health sector. The EPA recommends that the Department engages with the relevant sectors on incorporating these considerations into EGN sector adaptation planning.

Nature-based Solutions

The EGN sector's exposure to climate hazards – particularly extreme winds, flooding, and extreme heat – necessitates a proactive approach to climate-proofing critical infrastructure. Nature-based Solutions are mentioned as an aspect of some actions in the Plan, which is welcome; however, no narrative is given within the Plan as to the potential of Nature-based Solutions in the EGN sector. This should be addressed in finalising the Plan.

Maladaptation

There appears to be no consideration of maladaptation in the draft Plan. The EPA recommends that further consideration should be given to the potential for EGN adaptation actions to cause maladaptation more broadly; for example, the potential for necessary vegetation clearance and forestry corridor expansion to reduce storm-related outages to inadvertently impact biodiversity, carbon sequestration potential, or community land-use priorities. The Plan references the development of revised forestry corridor standards to support the co-existence of a resilient electrical network and afforestation, but does not assess the broader environmental or social trade-offs that may arise from such measures.

Maladaptation and the wider environmental impacts of the Plan actions should be appropriately assessed.

3. Cascading impacts

Some of the cascading impacts entering and exiting the EGN sector are named and described, however, they are not clearly factored into the risk assessment prioritisation or outcomes. The cascading impacts that the EGN sector can have on other sectors are not adequately acknowledged. All cascading impacts relating to the EGN sector highlighted by the NCCRA should be addressed in the Plan— both cascading into and out of the sector. Examples of such cascading impacts include:

1. Decreased freshwater quality can pose issues on access to water and inability to discharge water from thermal power generation (Water Quality impacts cascading into Energy impacts).
2. Damage to the energy generation and conversion infrastructure can lead to increased expenditure across the system, for example, repairs, maintenance, insurance premia, and

potential difficulties in securing finance and insurance coverage (Energy impacts cascading into Economy and Finance impacts).

The impacts that the EGN sector has on other systems are touched on but merit further attention, with impacts on the social system not mentioned. Cascading impacts were highlighted in the NCCRA published by the EPA, with a table of cascading impacts supplied, which should be taken into account (Appendix E of the NCCRA Main Report and in supplementary material).

4. Climate Resilience Actions

The actions contained in the Plan can support resilience and are necessary for resilience planning, however, they are not likely to be sufficient to ensure resilience in the long term. As mentioned in the Plan, the European Union (Resilience of Critical Entities) Regulations 2024 (S.I. No. 559 of 2024), which transposes the Critical Entities Resilience Directive, includes the energy sector and subsectors as critical entities, requiring them to implement proportionate technical, security, and organisational measures to enhance resilience—particularly in preventing incidents and addressing disaster risk reduction and climate adaptation. The EPA recommends that additional resilience actions should be identified under Goal 3, in particular looking forward to address acute and chronic risks to at least 2050, preferably 2100 for long-lived critical infrastructure. Actions should cover both energy production and distribution and should have more specific outcomes. The EPA notes that, of the 30 actions laid out in the Plan, 26 have a completion date of Q4 2030; we recommend that these actions should be further considered and more realistic but ambitious timebound targets should be set.

More comprehensively linked resilience-focused actions are required in the Plan, such as ensuring coordinated planning between energy and water systems to safeguard electricity generation during drought conditions. The NCCRA highlights the vulnerability of thermal power generation to water quality in drought conditions and the associated depleted water body assimilative capacity, yet the Plan does not include actions to address this interdependency. Where relevant risks in the NCCRA have been classified as requiring “further investigation”, then the required further investigation should be covered in the SAP actions. For example, the NCCRA identifies the potential for saltwater intrusion into coastal energy infrastructure due to sea level rise and storm surges as a significant risk requiring further investigation. Given the relevance of this risk to long-term resilience of gas and electricity assets located in vulnerable coastal zones, the EPA recommends that the Plan should include specific actions to further assess this risk.

5. Indicators

We note the inclusion of a proposed biannual review process to revisit the Plan. Although actions are described using SMART principles, the proposed monitoring and evaluation framework relies primarily on process indicators, limiting its effectiveness in assessing progress toward resilience outcomes. The EPA recommends that outcome indicators should be developed for the actions proposed in this Plan to enable tracking of improved resilience. Actions should be clearly linked to measurable resilience outcomes, including the level of protection they provide. They should integrate climate-proofing,

reflect updated climate and demographic projections, and address systemic interdependencies such as cascading impacts. Monitoring and data infrastructure should be strengthened to support adaptive management, and all actions should be underpinned by transparent, consistent criteria for evaluating progress.

6. Research Gaps

The Plan references several climate-related risks as requiring further investigation, including windstorm frequency, air density impacts on wind energy generation, lightning strike patterns, and flooding risks to gas infrastructure. However, it does not outline how priority research gaps will be identified early and addressed systematically. To strengthen the evidence base and support proactive planning, the Plan should include clear commitments to research, data development, and collaboration with climate science bodies. The EPA would welcome engagement with the Department to address urgent and policy-relevant research needs through the EPA's [Fast Track to Policy](#) research funding programme, which supports rapid evidence reviews.

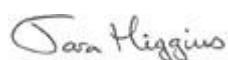
SEA Screening

We note your initial conclusion that SEA is not required for the Plan. We acknowledge that the EPA's SEA Screening guidance has been considered during the screening process. As soon as practicable after making your determination as to whether SEA is required or not, you should make a copy of your decision, including, if appropriate, the reasons for not requiring an environmental assessment, available for public inspection in your offices and on your website. You should also send a copy of your determination to the relevant environmental authorities consulted.

Where changes to the Plan are made prior to finalisation, or where modifications to the Plan are proposed following its adoption, these should be screened for potential for likely significant effects in accordance with the criteria set out in Schedule 1 (S.I. No. 435 of 2004, as amended) of the SEA Regulations, as appropriate.

The EPA looks forward to continuing to work with your Department as part of the Sectoral Adaptation Planning process and is available to discuss any aspect of this submission.

Yours sincerely,



Dr Tara Higgins

Programme Manager