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Submission to consultation on second electricity and gas networks climate change sectoral adaptation plan

https://www.gov.ie/en/department-of-climate-energy-and-the-environment/consultations/consultation-on-the-second-electricity-and-gas-networks-climate-change-sectoral-adaptation-plan-egn-sap-2025/

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The electricity climate change sectoral adaptation plan offers an opportunity to create grassroots bottom-up local resilience, through community owned, renewables-based, microgrids, capable of meeting essential electricity needs while islanded or disconnected from the main grid.

Executive Summary

The Community Energy Federation of Ireland (CEFOI) welcomes the opportunity to contribute to the consultation on the Second Electricity and Gas Networks Climate Change Sectoral Adaptation Plan (EGN-SAP 2025).

Ireland faces escalating climate-related risks, with storms and flooding increasingly disrupting electricity transmission and distribution networks. The draft plan identifies these networks as the most vulnerable components of our energy system. CEFOI believes this consultation provides an opportunity to strengthen national climate resilience by enabling 100% community-owned, renewables-based microgrids as a central part of Ireland's adaptation strategy.

Key Recommendations:

1. **Embed community-owned microgrids in the final plan –** include a dedicated action to enable deployment of community-owned renewables-based microgrids.

2. **Set clear national targets –** aim for 1,000 operational microgrids and 100,000 connected households by 2030.

3. **Mandate ESB Networks integration –** require a published microgrid integration framework, including islanding protocols, by 2026.

4. **Establish a Community Microgrid Support Scheme –** provide SEAI-administered grants, tax supports, and planning fast-tracks for 100% community-owned projects.

5. **Prioritise community-owned private wires –** ensure legislation gives statutory preference to locally accountable, not-for-profit microgrids.

6. **Deliver energy equity and just transition outcomes –** ensure microgrids actively reduce energy poverty and include vulnerable households.

By adopting these measures, Ireland can:

- Improve climate resilience through local continuity of supply.
- Accelerate decarbonisation by enabling grassroots investment in renewables.
- Deliver social and economic benefits, including lower energy costs, local job creation, and reinvestment of profits within communities.

Introduction to CEFOI

Community Energy Federation of Ireland (CEFOI) advocates for better supports for, and removal of barriers to, 100% community owned energy projects in Ireland.

The Federation was revived in 2025, building on a previous pre-2020 iteration of the federation. Aware of the barriers to community energy projects in Ireland, and the need for more and better support for community energy to achieve its potential, we re-formed and are working to bring the voice of 100% community energy to Government.

Ireland faces increasing climate-related risks to electricity infrastructure, with extreme weather events such as storms, flooding and heatwaves already impacting transmission and distribution systems. The Second Electricity and Gas Networks Climate Change Sectoral Adaptation Plan provides an opportunity to embed locally led adaptation measures. CEFOI believes that enabling 100% community-owned, renewables-based microgrids is one of the most effective strategies to strengthen energy system resilience, particularly for vulnerable households and critical community services

Microgrids - resilient to risk

The draft climate change adaptation plan highlights that the highest likelihood, highest consequence, most urgent and highest priority climate risks to energy systems lie in risks to the transmission and distribution systems. In contrast, the risks to generation generally, and particularly solar generation, are either lower or not mentioned at all by the analysis. This demonstrates that locally self-sufficient systems based on solar, other renewables, and battery storage are most resilient to climate disruption.

The draft plan observes that “Due to Ireland’s dispersed rural population, the electricity network in Ireland is four times longer per capita when compared to the European average.”. The draft plan details the risks to distribution and transmission from storms such as Storm Éowyn “which brought unprecedented, widespread and extensive damage to Ireland’s electricity infrastructure, resulting in 768,000 customers being left without power.” “All of County Mayo was severed from the transmission system at one point during the storm. Counties Donegal/Sligo were one line away from being disconnected during the storm.” “During Storm Eleanor in January 2018; approximately 5,000 customers lost supply due to lightning and high winds.”

Microgrids are sections of grid which are capable of functioning in islanded mode, relying on locally connected generation such as solar, wind, local biogas and small hydro, and local energy storage such as community level batteries. While microgrids may normally be connected to the macrogrid (main distribution and transmission grid), and may normally import and export electricity to the macrogrid at the connection point between the microgrid and macrogrid, when there is a problem with the macrogrid, for example due to climate risk, the microgrid can disconnect and continue to supply electricity locally.

This is in contrast to the current setup where households, businesses and communities with solar panels, other renewables and even batteries, cannot access their own electricity during disruption to the main transmission and distribution systems, resulting in cascading effects to essential health, food, water, communications and transport systems.

Given the draft plan's identification of transmission and distribution systems as the most climate-vulnerable components of Ireland's energy infrastructure, enabling local microgrids directly addresses the highest-priority risks. By decentralising electricity generation and storage, microgrids reduce dependence on long transmission lines and enable continuity of supply during climate-driven outages.

Local management of microgrids during climate events

Local management of such disconnection events can entail local rationing and prioritisation of essential electricity needs, in line with the level of locally stored and generated electricity. This can ensure that the highest priority needs in a community are met, such as essential transport and communications, health services (including home based electrical health equipment as well as health facility services), food refrigeration/freezing/cooking, and water services. The cascading effects of electricity system disruptions (as detailed in the draft plan) can therefore be minimised.

Community-owned microgrids also support Ireland's just transition objectives. By lowering overall energy costs, reinvesting surplus revenues locally, and enabling targeted protection for energy-poor households during outages, microgrids offer a pathway to address both climate resilience and energy poverty together. We recommend that any national framework for microgrids include specific provisions to ensure inclusion of low-income and vulnerable households.

Other benefits of community owned renewables based microgrids

Community-owned, renewables-based microgrids also have other advantages, as well as addressing climate risk, such as the ability for local communities to take ownership over decarbonisation and ensure local accountability of essential electricity services. A higher degree of local self sufficiency reduces the level of investment needed in the electricity transmission network. From the point of view of ESB networks, connecting a microgrid as a single entity with a combined maximum import and maximum export capacity is lower cost than connecting individual households and businesses.

International experience demonstrates that community-led models deliver resilience, lower costs, and stronger local engagement. For example, over 50% of Denmark's renewable capacity is community-owned, Germany's Bürgerenergie cooperatives account for nearly 40% of generation, and the Netherlands funds microgrid pilots as part of national adaptation planning. Ireland has the opportunity to learn from these models and embed community ownership into our resilience strategy

Ownership of microgrids

Electricity distribution systems are a natural monopoly, and so are not suited to a for-profit ownership model, as there is no competition to incentivise good service and value for money. Currently there is a public ownership model in place for electricity distribution, in the form of ESB networks, which 97% owned by the Irish Government and 3% owned by employees[1]. Private wire legislation is planned, which may allow for private ownership of electricity distribution wires which cross public lands[2]. Depending on how this is implemented, it could either privatise essential electricity distribution infrastructure into private, for-profit hands, bringing risk of lower quality services and higher prices over time, or it could be an enabler of locally accountable, resilient, community owned microgrids[3]. To avoid unintended consequences of speculative private ownership, CEFOI recommends a statutory preference for 100% community-owned, not-for-profit microgrids under any private wire legislation. This would ensure essential energy infrastructure remains locally accountable while enabling innovation and flexibility. CEFOI position is that there are benefits to allowing community, not-for-profit ownership of the lowest level of distribution lines, in the form of microgrids, in combination with public ownership, and that public ownership can involve local authorities as well as ESB networks. The appendix to this document sets out proposed governance principles for community owned microgrids.

Transition to a bottom-up electricity system

Transitioning to a locally resilient electricity system can entail both conversion of existing infrastructure to community microgrids, as well as supporting and encouraging the development of new infrastructure in the form of community microgrids.

For new developments, such as new housing estates and settlements, new apartment blocks and new community services such as schools, community facilities and health facilities, community-owned renewables-based microgrids can be supported and encouraged by policy and by ESB networks.

Other countries have developed regulatory systems to facilitate microgrids

- UK: Independent Distribution System Operators (IDOs)
- Canada: Independent Power Producers (IPPs)
- Australia: Embedded networks

Households and businesses within the area of the microgrid buy/sell electricity to/from their local microgrid rather than directly from electricity suppliers and are not connected to their distribution system operator directly. The microgrid operator in turn contracts with an electricity supplier and has a connection with the distribution system operator.

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1 https://cdn.esb.ie/media/docs/default-source/corporate-governance/esb-corporate-fact-sheet-2024.pdf https://cdn.esb.ie/media/docs/default-source/investor-relations-documents/2023-annual-report-and-financial-statements-march-13.pdf?sfvrsn=5519b7d0_2

2 https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/private-wires-policy-statement/

3 https://350.org/what-are-microgrids/

These regulatory systems can be taken as models in some aspects, although they do not specifically support community and locally accountable ownership, which is important to guard against the dangers of privatisation of natural monopolies such as electricity grids.

For existing infrastructure, communities where there is consensus to do so, with the support of local authorities, may apply to ESB networks to take ownership of their local grid and have it converted to island-able mode, alongside community owned investment in local renewables and local energy storage, through a transition programme.

In both cases, the necessary technical support for management and maintenance of infrastructure, balancing software and financial settlement software, may be provided by ESB networks or by other service providers holding a contract with the microgrid owning entity. However, the decision making on the choice of, and contracts with, such service providers should lie with the microgrid owning entity, which should be 100% non-profit, through a non-profit community entity such as a Sustainable Energy Community and the local authority.

National Targets and Dedicated Support Programme

To accelerate rollout, CEFOI recommends that the Government set a national target for community microgrid deployment by 2030. For example, enabling 1,000 operational microgrids connecting at least 100,000 households would build systemic resilience while reducing energy poverty. We further propose a dedicated SEAI-administered **Community Microgrid Support Scheme**, providing grants, tax incentives, and technical assistance to qualifying 100% community-owned projects.

Proposal for private wire legislation

We propose that private wire legislation contain specific mention of, and supports to microgrids (which cross public land) which are:

a) 100% community owned, by Renewable Energy Communities, Local Authorities, or both (see appendix)
b) Renewables based, ie consist of generation such as solar, wind and small hydro together with energy storage, and do not contain fossil fuel generation

We propose a dedicated scheme for permitting and supporting 100% community owned, renewables-based microgrids, including separate permitting/licensing for *ownership* and *operation* of these grids. Supports for 100% community based, non-profit owners of microgrids should include:

- **grid connection supports:** supportive provisions for prioritisation of connection of 100% community owned, renewables based microgrids to the main ESB network grid at a single agreed connection point, so that the microgrid can import and export to/from the ESB network grid at times through a supplier of their choice, and also disconnect from the ESB network grid and operate in island mode at other times (ie when the community choose to do so, or when the ESB network grid has a powercut).

- **planning requirements:** clear, efficient, supportive planning requirements about installation of wires which cross public land for the purposes of 100% community owned renewables based microgrids. If wires cross only private land, no planning permission needed, only permission from land owner.

- **tax, finance and grants**: supportive tax provisions, financing supports and grants for 100% community owned renewables based microgrids. Community owned microgrids should have access to relevant support schemes for their size, for example Small Scale Generation Support Scheme (SSGS). Sustainable Energy Authority of Ireland (SEAI) enabling grants should be easy to access and include provisions for 100% community owned renewables based microgrids.

- **dual connection**: specific provision to allow a household or business to connect to *both* a microgrid and the main ESB Networks grid, so long as the wiring systems never interact (no appliance or equipment connected to both at the same time, only the ability to switch appliances or equipment from one to the other)

- **operation licensing** - provision that the microgrid owning organisation (which must be 100% community owned) may sub-contract day-to-day operations of the microgrid to a licensed microgrid operating organisation, or may choose to be the microgrid operating organisation themselves. In either case, the microgrid owning organisation can switch from one licensed microgrid operator to another without having to be re-permitted as a microgrid owning organisation.

Conclusion

By embedding support for community-owned, renewables-based microgrids within the Second Electricity and Gas Networks Climate Change Sectoral Adaptation Plan, Ireland can deliver on three national priorities simultaneously: enhancing climate resilience, accelerating decarbonisation, and ensuring a just energy transition. We urge the Department to adopt these recommendations to future proof Ireland's energy system and strengthen local communities.

Appendix: Definition of 100% community owned in terms of microgrids

The microgrid may be operated technically by a licensed microgrid operator which may be either not for profit or for-profit, but the community organisation which *owns* the microgrid infrastructure may, at any time, choose to switch the operation contract to another licensed microgrid operator, if they are unhappy with the service and prices of their current microgrid operator. The microgrid operator does not own the hardware or software involved and cannot remove them if their contract ends.

Existing definitions of energy communities

We note that

- the Sustainable Energy Authority of Ireland (SEAI) has a registration scheme for Sustainable Energy Communities (SECs).
- The Commission for Regulation of Utiliites (CRU) defines energy communities as follows: https://www.cru.ie/regulations-policy/energy/active-consumers-and-energy-communities/
- At European level, sustainable energy communities or renewable energy communities are defined as below:

Article 2(16) Recast Renewable Energy Directive **'Renewable Energy Community'**	**Article 2(11) Recast Electricity Directive** **'Citizen Energy Community'**
An entity: (a) which, in accordance with the applicable national law, is based on **open and voluntary participation**, is **autonomous**, and is **effectively controlled by shareholders or members that are located in the proximity** of the renewable energy projects that are owned and developed by that legal entity; (b) the shareholders or members of which are **natural persons, SMEs or local authorities**, including municipalities; (c) the **primary purpose** of which **is to provide environmental, economic or social community benefits** for its shareholders or members or for the local areas where it operates, **rather than financial profits**.	An entity that: (a) is based on **voluntary and open participation** and is **effectively controlled by** members or shareholders that are **natural persons, local authorities, including municipalities, or small enterprises**; (b) has for its **primary purpose to provide environmental, economic or social community benefits** to its members or shareholders or to the local areas where it operates **rather than to generate financial profits**; and (c) **may engage in** generation, including from renewable sources, distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholder

Shared values

Building on these concepts we have developed CEFOI shared values as below.

- Ensure ongoing **local** ownership and ensuring that control and decision making are in the hands of people who live locally such as individuals, households and small local businesses. "Community energy entities are effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity; which may include natural persons, local authorities, including municipalities, or small enterprises;"
  - **Exception:** the community energy movement includes "community energy service provider" entities which may be national or international, which provide services to local community energy organisations or projects. Examples include registered non-profit electricity suppliers which work with multiple community energy groups, or licensed non-profit microgrid operators which may operate microgrids in multiple localities.

- Have **democratic** governance principles such as one member one vote, with one member being defined as one individual or one household or one business with a grid connection.

- Are **open** to membership to all people locally. "Based on open and voluntary participation." Are **inclusive and diverse**, including supporting and actively encouraging participation by all genders, participation by different ethnic groups and travellers, and participation of young people.

- Support **equity and address energy poverty**, including facilitating membership of and participation by vulnerable, energy poor and lower-income households.

- Focus on **fossil fuel free** projects only, which aim to free communities from fossil fuels. Generation projects should be renewable energy generation only.

- **Conscious of broader impacts of energy projects**- source equipment and inputs with attention to human rights, conflict minerals, the environmental impact of extraction, and the environmental impact of any ongoing fuels. Support **circularity** as much as possible. Respect for **nature and biodiversity**.

- Have, as their **overarching objective, not profit maximisation** for shareholders, but rather **social and environmental objectives** - to facilitate the participation of members and the wider community in a just energy transition, to remove fossil fuels from energy, to protect the environment and to ensure the benefits of the energy transition are local and equitable. Constitutions of such groups will provide that any profits are reinvested for the benefit of the wider community, the just energy transition and addressing energy poverty. Groups and projects should fit definitions of "social enterprise". "The primary purpose is to provide environmental or social community benefits for the local areas where it operates, rather than financial profits."