
Submission to the Consultation on Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction

Prepared by Codema - Dublin's Energy Agency

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Background

Codema is Dublin's Energy Agency and was founded in 1997 as a not-for-profit company, wholly owned and controlled by the Dublin Local Authorities, and our core function is to act on behalf of the local authorities to researching, planning and delivering solutions that will lower carbon emissions in the Dublin Region and act as their energy advisers. We engage with EU and nationally funded energy programmes to bring innovation to the Dublin region and increase energy awareness among the citizens and energy stakeholders in Dublin. We deliver a comprehensive local and regional service for energy and climate change. Examples of Codema's work include district heating systems, energy performance contracting, management of European projects, energy saving behavioral campaigns, detailed energy reviews and energy master-planning.

Context

Codema welcomes the opportunity to make a submission to this consultation process. Codema's interest in the Long-term Strategy on GHG reductions stems from our ongoing analysis of energy use and climate change, including emissions, in the Dublin region, advising on local level low-carbon policies and our experience in reducing energy, fossil fuel use and associated costs & emissions. We have 20 years' experience in the climate change and energy sector, specifically in how EU and national legislation will affect the DLAs activities and the Dublin region as a whole.

Codema are the leading agency in Ireland in the area of **local level GHG emission baselining and local climate action planning**. Through our work in energy and climate planning we understand how the energy characteristics specific to that area impact how emissions are generated and the potential to reduce those emissions. Identifying solutions to GHG reductions first has to start with a deep understanding of how and where emissions are generated, and not just at a national level.

Response to Consultation

Codema's response to this consultation will concentrate on our areas of expertise in energy and climate change, and therefore a response to every section or every topic is not intended.

General Comments

Approach to setting targets

Ireland's long-term strategy on GHG reductions needs to come from a mindset of what we as the country of Ireland *want to do*, as well as what we have to do, to tackle climate change - the EU have targets we must meet by 2050, but we need to think about our children's future, and about the positive opportunities these system changes present - for a fair, clean, healthy, self-sufficient future. The climate strikes in 2019 have shown us that the people of Ireland, and particularly the young people of Ireland, *want to* act on climate change, and this is our opportunity to listen to them and to make the hard decisions that need to be made.

The Long-Term Strategy on GHG Emissions Reduction should clearly define what the national target for net-zero emissions will be or if it will follow on the Climate Action Plan 2019, which aims to achieve net zero emissions by 2050 through a reduction of emissions by 80% compared to 1990 figures. If Ireland is serious about reducing GHG emissions and limiting climate change to a temperature

change of 1.5 C then this strategy should create a realistic evidence-based pathway to achieve its net-zero emissions target by 2050. It should be clear how all existing and new policy interacts and overlaps.

Key Players to Achieve Targets

Greater autonomy of local level and regional actors is essential for the transition to net-zero emissions. These actors, groups and agencies have the skills, connections, engagement with citizens and passion for positive societal change that is required to fill the huge void between top-down policy and on the ground change - they are the key difference between Ireland being leaders or laggards in the area of Climate Action. They need the support and acknowledgement from government level to allow them to be the change agents needed to drive action from a bottom up level to achieve our targets and save our environment - this fight against climate change cannot be won with a top-down approach alone.

5.1 Pathway to 2050

Q.2. What advanced technologies, across all sectors, could support a move to net-zero or negative emissions by 2050?

Underestimation of District Heating potential

The NECP uses the results of **one** national level study¹ on the viability of district heating and cooling in Ireland as the basis of their assumptions on the potential for district heating in Ireland. There is no other energy policy in the NECP that has been based solely on the results of one, non-peer reviewed report. **The decision on how an energy technology should be supported to 2030 cannot be based solely on the results of one report.**

The ambition of 0.12 TWh from DH should be substantially increased under the “National Targets in the NECP”. The Irish District Energy Association (IrDEA) developed Ireland’s first All-Island heat atlas and the results show that ~30% of buildings in Ireland are located in areas suitable for district heating.

This heat atlas was developed by Europe’s leading researchers in the field of heat demand and heat source mapping, which uses peer-reviewed methodologies that have been developed and refined for over 5 years through the Heat Roadmap Europe project, and corroborated using actual measured heat demands in cities & towns across the EU. The results of the Irish Heat Atlas are available at www.districtenergy.ie

This type of planning policy is already outlined and supported in the Eastern and Midland Regional Assembly’s Draft Regional Spatial & Economic Strategy; e.g. policy RPO 7.34 “**EMRA shall, in conjunction with Local Authorities in the Region, identify Strategic Energy Zones** as areas suitable for larger energy generating projects, the role of community and micro energy production in urban and rural settings and the potential for renewable energy within industrial areas” and RPO 7.37 “Local Authorities shall consider the use of **heat mapping to support developments which deliver energy efficiency and the recovery of energy that would otherwise be wasted. A feasibility assessment for district heating in Local Authority areas shall be carried out and statutory planning documents** shall identify local waste heat sources.”

¹ AECOM report carried out to comply with Article 14 of EE Directive

5.3 Enterprise

Q.7 How can emissions from large industry, e.g. cement and alumina, be reduced, including options beyond fuel substitution?

Waste Heat – huge resource currently completely ignored in Irish energy policy

A recent peer-reviewed scientific paper estimated that there is 102 PJ/year of excess heat in Ireland, which is a by-product of power plants, waste incineration, and industrial processes. In comparison, the total heat demand in all Irish buildings was calculated in the same paper as 117 PJ/year.²

This excess heat study is also limited to sources of high temperature waste heat, when there are also multiple sources of lower exergy heat available in close proximity to heat demands, such as waste water treatment plants, data centres and service sector buildings, that can be utilised, particularly when looking at heat supply of buildings with improved energy efficiency. For example, the first DH scheme in Dublin will be heated from waste heat from a Data Centre in Tallaght, which is supplying 4MW of waste heat just from its latest extension. The data centre sector in Ireland is growing substantially, and as an example a midsize data centre with 1 MW IT load releases 3,700 MWh thermal energy per year into the atmosphere (equivalent to around 0.46 MWhth of waste energy/MWh of electricity consumed by the data centre)³. Codema research has shown that, **there is 343MW of waste heat available just from planned and existing data centres in Dublin alone**, and these centres run 24/7.

From Codema's research into the waste heat potential in the Dublin region, there is **2,358 MW of zero-carbon waste heat already available that is currently not being used**, over half of this is available from existing power stations and industrial processes. The **equivalent annual market value of this heat is €1.2 billion**. The potential value to the heat suppliers for their **waste product is €410m**. This is money that will be paid to local business for indigenous energy that will **off-set the equivalent gas import dependency and increase security of supply**.

Waste heat needs to be considered in the NECP, as it is in most other European countries, as a way to reduce emissions in the heating sector, and reduce reliance on imported fossil fuels.

5.4 Built Environment

Heat Sector Targets and Policy

As highlighted, the EU regulation states that MS long-term strategies shall cover “emission reductions and enhancements of removals in individual sectors, including electricity, industry, transport, the **heating and cooling** and buildings sector (residential and tertiary), agriculture, waste and land use, land-use change and forestry (LULUCF)”. This consultation is broken into sections to reflect these areas, but has omitted the heating and cooling sector as a stand-alone sector, even though this sector accounts for nearly 40% of Ireland's final energy use. Ireland is doing particularly poorly in

² U. Persson, B. Möller, and S. Werner, “Heat Roadmap Europe: Identifying strategic heat synergy regions,” Energy Policy, vol. 74, no. C, pp. 663–681, Nov. 2014.

³ Source: ReUseHeat project at <https://www.reuseheat.eu/data-centres/>

regards to our 2020 targets in renewable heat – this sector needs the same level of support as transport and electricity, and will not be solved by building sector energy efficiency measures alone.

5.5 Transport

Do you think modal shift will play a key role in decarbonisation by 2050? If so, what is needed to drive substantial modal shift?

A modal shift will play a key role in decarbonising transport by 2050, to drive a modal shift it is important that a reasonably priced and efficient public transport is provided throughout Ireland. Road infrastructure must prioritise supporting pedestrians, cyclists and public transport. Choices proposed for new transport systems or changes to existing transport systems, be it roads and/or public transport, need to include the level of emissions generated by each option as a fundamental part of the options evaluation process. This can only be achieved by an increase of the proportion of the transport budget share allocated to public transport, cycling and walking.

We would encourage the inclusion of more policy objectives on decarbonising private, commercial and public transport, as currently the focus seems to only be on the switch to EVs.

5.8 Just Transition

Q.25 What should the primary focus of adaptation policy be for 2050?

Focus of adaptation policy by 2050 should be to climate proof Ireland using a mix of grey and green solutions, which try to balance engineered solutions with nature-based resilience. Different policies should be in place for different regions, as specific geographic and demographic characteristics would differ between rural and urban, landlocked and coastal or sparsely populated regions. In the Dublin Region emphasis should be made on flood resilience and temperature control by making use of nature-based solutions which are both adaptive and emission reducing measures.

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