Can Ireland Still Meet Its District Heating Targets by 2030?

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INTRODUCTION

Decarbonising Ireland's heating demand remains a major challenge in reducing reliance on fossil fuels and transitioning both homes and public buildings toward low-carbon alternatives. A key barrier is the widespread use of peat, coal, and oil across approximately 1.7 million residential homes. District heating (DH), if deployed at scale, offers a centralised solution, capable of decarbonising heat supply to entire communities. In contrast, heat pumps offer a modular option, better suited to single households. The Government's Climate Action Plan (CAP) sets ambitious 2030 targets for the residential sector: 2.5 TWh of district heating and 600,000 heat pump installations. Currently, there is no clear alignment between the energy-based DH target and the number of dwellings that would need to connect to deliver 2.5 TWh, creating uncertainty around planning, investment, and implementation. This policy brief assesses progress toward the DH target and estimates the number of dwellings needed, depending on the energy performance of those connected to future DH networks.

TRENDS & TARGETS

- Currently about **11,000 homes** in Ireland are heated by group schemes—smaller systems typically serving one building, unlike district heating, which scales to entire neighbourhoods, towns, or cities.
- Since 2015, 15,000[2] heat pumps have been installed in existing dwellings and nearly all new dwellings are fully electrified[3]. The CAP aims to deliver 600,000 heat pumps by 2030. 400,000 to existing (retrofitted) stock, and 200,000 to new dwellings.
- CAP targets for district heating (DH) are divided between residential (2.5 TWh) and Commercial and Public (0.2) TWh, representing about 10% of current heating demand for the residential sector (26TWh)[4].

District Heating projects

- The only large-scale deployment of district heating is in the **Tallaght DH Scheme** which to date, is supplying DH to new local authority buildings and the TU Dublin-Tallaght campus. It is expected to connect the DH network to 133 apartment in early 2025[5], with the possibility of **3,000** more homes in later phases.
- The Dublin Docklands District Heating System (**DDHS**) project has advanced through several stages of assessment and could deliver DH to the equivalent of **50,000 homes**[6], supplied with heat from a local Waste-to-Energy plant. Although the first connections for DDHS are ear marked as centralised, anchor loads and not residential dwellings.
- **HeatGrid** Ireland are currently developing a new DH network in Galway, with an initial phase targeting production of 55GWh of heat, equivalent to **4,000 homes**[7].
- There is a current **pipeline of ~ 60,000** homes identified here across the Tallaght, DDHS and Galway DH projects. These projects are at various stages of deployment and will connect anchor loads, such as hospitals and large public buildings before residential dwellings.

INSIGHTS AND RESULTS

- This analysis provides an insight into the relationship between the energy efficiency of the dwellings connected to the DH network and their contribution to the DH target, utilising data from SEAIs Heat Study[8] and UCC's whole energy system, LEAP Ireland[9], see figure 1.
- 2.5 TWh can supply heat to **187,000** inefficient (**G-rated**) homes **or 314,000** efficient ones (**A1-B2**). Delivering annual decarbonisation of ~ 0.6 $MtCO2_{eq}$ in most cases.
- The **pipeline of ~ 60,000** homes identified here falls far short of the 187,000 - 314,000 needed to deliver the CAP target.

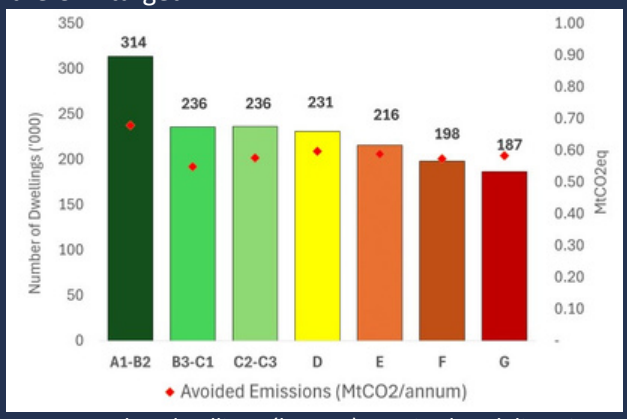

Figure 1 number dwellings (by BER) required to deliver 2.5 TWh

CONCLUSIONS

Can Ireland still meet its district heating target for 2030? Ireland will not achieve its 2030 DH target. Progress to date has been slow and current activity levels do not reflect a pathway consistent with the 2.5 TWh target.

How many homes will be needed to deliver the 2030 DH target? This will depend on the energy efficiency of the homes (BER) which connect to DH, we estimate between 187-314,000.

What will help speed up deployment? There is a lack of grant support for early-stage DH developments which are focused on anchor loads, a prerequisite for the development of DH projects at residential scale. Greater transparency and research are needed to assess when DH targets can be met.

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1 https://assets.gov.ie/static/documents/district-heating-steering-group-report-2023.pdf
2 https://www.seai.ie/grants/home-energy-grants/home-upgrades
3 https://www.sustainability.gov/pdfs/ireland-nzgi-roadmap.pdf
4 https://www.seai.ie/sites/default/files/publications/Heating-and-Cooling-in-Ireland-Today.pdf
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8 https://www.seai.ie/sites/default/files/publications/Heating-and-Cooling-in-Ireland-Today.pdf
9 https://doi.org/10.1016/j.esr.2023.101237