

District Heating Can Supply the Heat for 10% Ireland by 2030 and Save Almost 1 Mt CO₂ Per Year

District heating is a proven low-carbon solution for the heating sector, which has existed for over 100 years, and is facilitating the highest shares of renewable heat in Europe.

Dubbed 'central heating for towns and cities', district heating is a network of insulated pipes that delivers heat from a central energy source to provide space heating and hot water to buildings. It has the flexibility to combine multiple locally available, renewable heat sources and it can also recycle surplus heat from applications such as electricity generation, industrial processes, data centres and breweries. District heating has many economic, environmental, and social benefits, such as lower carbon emissions, reduced maintenance costs, increased comfort and less fuel poverty.

The multiple benefits of district heating.¹



District heating enables higher shares of renewable heat and as a result, lower carbon emissions.

The countries with the highest shares of renewable heat in Europe, which are Sweden, Finland, Latvia, Estonia, Lithuania and Denmark, are also the top six countries in Europe in terms of district heating. Each of these countries has a renewable heat share in excess of 40% whereas Ireland has the worst renewable heat share in Europe at 6.3%.

There is scientific evidence showing over half of the buildings in Ireland could use district heating

According to the Irish Heat Atlas² developed by Flensburg University on behalf of the Irish District Energy Association, one-third of the heat used for buildings in cities, towns and villages in Ireland is suitable for district heating technology widely deployed across Europe today. District heating would also be feasible for a further 21% of the heat demand if more advanced 4th Generation District Heating is used, bringing the total potential to over half of all Irish buildings (57%). A separate National Heat Study, independently carried out by the SEAI, found similar results indicating that district heating can meet around 50% of building heat demand with measures to close the viability gap³.

¹ HeatNet North-West Europe: <https://guidetodistrictheating.eu/>

² Irish Heat Atlas, Flensburg, Halmstad and Aalborg Universities, 2019.

³ National Heat Study Net Zero by 2050, Summary Report, SEAI 2022.

The district heating industry is ready to deliver district heating in 10% of buildings by 2030

Delivering 10% district heating by 2030 will mean the connection of approximately 200,000 homes and 2500 public/commercial buildings with low-cost, low-carbon heat. The total investment required has been estimated at ~€1.2 billion (€650 million in public pipe network and €600 million in homes) for the deployment of the heat networks and associated heat production plants (mostly surplus heat recovery systems). This investment, together with the operation, maintenance and heat supply to the DH networks will lead to the creation of over 2,000 full-time jobs over the next decade.

This target can be met primarily due to the well-established district heating industry in Europe which can be leveraged for the rapid roll out of district heating in Ireland. For example, there are already over 30 million homes with district heating in Europe, so connecting 200,000 in Ireland over the next decade will require less than 1% of what the industry has already delivered in Europe.

There are members of the Irish District Heating Association willing to invest hundreds of millions of euro in district heating in Ireland if there is a clear long-term commitment for the sector. Our members will invest in local people, facilities and infrastructure to ensure that Ireland can reduce its carbon emissions in the heat sector, which historically has been extremely slow to decarbonise.

However, to deliver 10% district heating we need urgent policy intervention in planning and funding.

District heating can deliver low-carbon heat at a lower cost than fossil fuel alternatives, but as it requires investment in extensive infrastructure upfront, this can only be done with the assurance that there is a stable long-term commitment and revenue stream for district heating. To unlock the huge potential for district heating in Ireland, we need the follow policy changes as soon as possible.

1. **Zone for district heating:** Designate areas with a heat density >120 TJ/km² where renewable or surplus heat sources are available as district heating zones which mandate the development of district heating. For buildings located within these zones, planning regulations should also require buildings to connect to district heating where they are in place for all new developments, major redevelopments and the replacement/upgrade of a heating system.
2. **Make district heating networks financially stable in district heating zones by reducing the risk of the upfront investment:** Firstly, provide the same grants for residential district heating customers as those provided for residential heat pumps at present, which is a one-off grant of €6500 per house or €4500 per apartment. Secondly, allocate a €650 million capital investment fund for DH networks to build the piping infrastructure that distributes the hot water. Applicants should receive a one-off upfront grant of €200/MWh⁴ from this fund to build the district heating transmission and distribution piping required to connect new customers.
3. **Update Building Regulations Part L compliance procedures:** Revise the DEAP methodology used for Building Energy Ratings (BERs) and compliance with Part L of the Building Regulations to properly reflect the decarbonisation benefit of low-carbon heat supplied by district heating. In particular, excess heat for district heating should have a primary energy factor of zero to reflect the carbon emission reductions it actually offers.
4. **Streamline the Planning Process for District Energy:** Update the Roads and Traffic Act to include permission to lay district energy pipes. Classify district energy pipes 'exempt development' in Planning Act.

⁴ District heating pipes have a lifetime of at least 40 years, so this equates to €5 per MWh per year over the lifetime of the infrastructure.