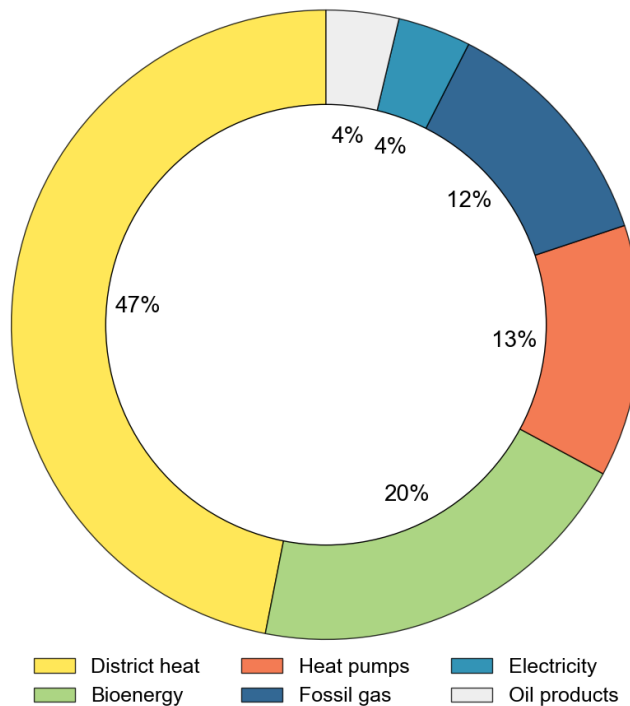


Clean Heat Policy Tracker 2025

Denmark



Energy used for space heating and hot water in homes in Denmark, 2023



Source: Eurostat, 2025.

Does the country have a national heat plan? Is it statutory?

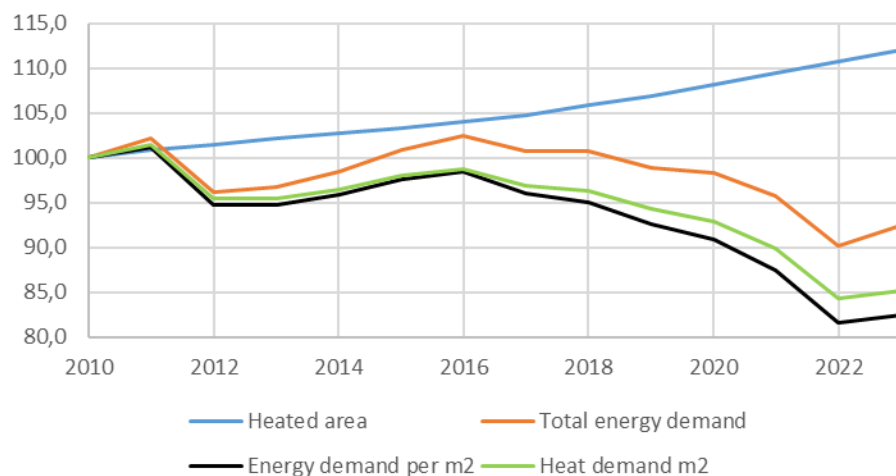
The Danish Government has set ambitious objectives for energy conservation and the decarbonization of the heating sector, aiming for net decarbonization by 2035. Municipalities play a key role in heat planning, with most developing plans to transition natural gas-heated areas to district heating systems or individual heat pumps.



Is the progress of heating decarbonisation tracked and is the information publicly accessible?

Yes, the decarbonization progress is illustrated in figures showing the energy demand for residential heating and the decoupling from the growing heated area of buildings. The energy efficiency of residential buildings has significantly increased since 2016, driven by a shift from fossil fuel boilers to district heating and heat pumps.

Figure 1. Energy demand for heating of residential buildings, 2010-2023



Source: Danish Energy Agency, 2025.

Is the country a member of the Buildings Breakthrough?

No.

Is the heating sector governed by local authorities?

In Denmark, municipalities are responsible for heat planning, organising and managing local heat supply solutions. This governance structure allows municipalities to tailor heating solutions to regional needs while aligning with national objectives for energy conservation and decarbonization.

Is heat planning carried out at a municipal, regional or national level?

It is governed at the municipal level, guided by national and European legislation.

Is there a specific body that governs heat decarbonisation?

Yes, the Danish Energy Agency (Energistyrelsen) – part of the Ministry of Climate, Energy and Utilities.



Is heat decarbonisation part of the country's Nationally Determined Contribution?

Yes. Denmark aims for a 70% reduction in greenhouse gas emissions by 2030, achieving climate neutrality by 2045, and a 110% reduction by 2050, primarily through Carbon Capture and Storage (CCS).

Does the country have targets for heat pump deployment?

There are no defined targets for heat pump deployment, but the individual and district heating sectors require heat pumps for decarbonization. An annual need for 25-30,000 new individual heat pump installations is projected, though this is not a binding rate.

Does the country have a clean heating obligation or standard?

No. Local authorities often establish their own plans and targets, supported by national government efforts, including economic incentives for preferred solutions such as guaranteed loans, taxes on undesirable fuels, and subsidies for preferred solutions.

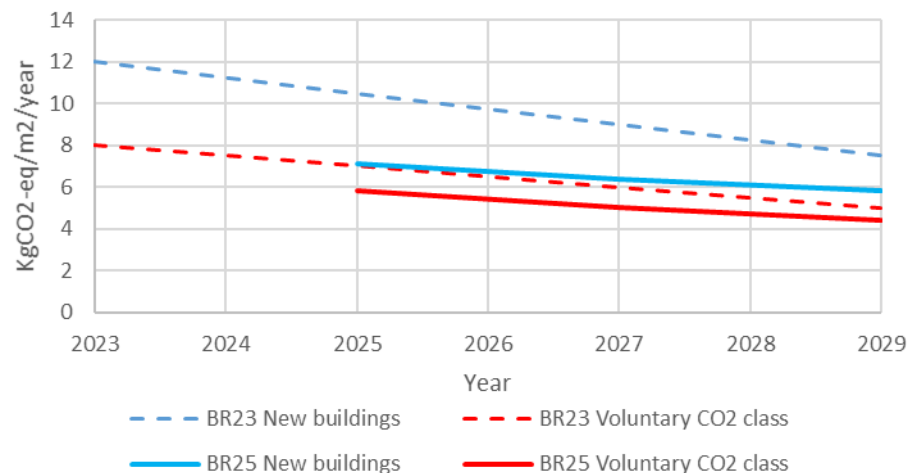
Does the country have restrictions on installing fossil fuel heating appliances in new buildings?

The Danish Building Code mandates that new buildings meet nearly Zero Energy Building (nZEB) standards, with specific energy use limits. By 2030, district heating and heat pumps are expected to rely fully on renewable energy sources.

The CO₂-eq requirements will gradually become stricter, as illustrated in figure 5. Beginning in June 2025, even more stringent CO₂-eq limits will take effect, as also shown in figure 5.

From June 2025, a maximum allowable emission of 1.5 kg CO₂-eq/m² per year will be enforced for construction sites. This limit will be further reduced every two years.

Figure 2. Emissions requirements in the Danish Building Code, 2023-2029





Source: Danish Energy Agency, 2025.

Does the country have restrictions on installing fossil fuel heating appliances in existing buildings?

Not directly. Major renovations must comply with new building requirements, implementing energy-saving measures as assessed by the Energy Performance Certificate (EPC).

Has the country decided on a phase-out date for fossil fuels in heating?

Denmark has not yet established a formal phase-out date for fossil fuel heating appliances. However, both the heating and electricity sectors are actively advocating for the creation of such a deadline, with 2035 being the most commonly proposed year. This reflects a strong push from industry stakeholders to expedite the transition to renewable energy solutions and support Denmark's ambitious climate objectives.

For state-owned public buildings, plans have been made to phase out fossil fuel heating. It is projected that 98% of fossil fuel heating in public buildings will be eliminated by 2035, though this goal is not legally binding.

Has the country undertaken energy pricing reforms to support electrification?

Legislative work for developing [Market Model 3.0](#) for the Danish power market has begun. The aim is to pave the way for the electrification of the Danish energy system via the development of a flexible electricity market where among other aggregators of small portions of energy flexibility (e.g. from buildings) will become an important player. Danes are already familiar with energy flexibility.

A Danish executive order from December 2013, based on an EU directive, mandated that all billing electricity meters must be remotely readable (smart meters) by the end of 2020. The Danish electricity market is liberalized (Marked Model 2.0), allowing customers to freely choose their electricity retailer.

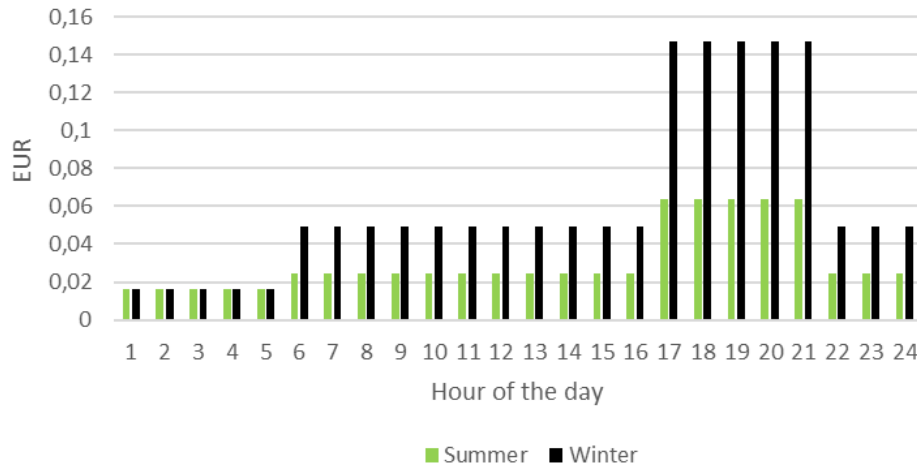
Prior to the introduction of smart meters, power utilities only offered flat-rate pricing, as billing meters were manually read once a year. However, with smart meters, electricity retailers can now offer dynamic pricing schemes, where customers pay the actual electricity price hour by hour. The hourly production price fluctuates significantly throughout the day and from day to day. The day-ahead hourly production prices for the coming day are published at 13:00 each day. Most Danes use smartphone apps to monitor the hourly end-user electricity prices.

Since January 2023, end-user electricity prices have become even more dynamic, as District System Operators (DSOs) were allowed to implement Time of Use (ToU) network



tariffs. These tariffs reflect more real transport costs, which increase with the volume of electricity transported through the grid.

Figure 3. Example of Danish Time-of-Use DSO network tariffs

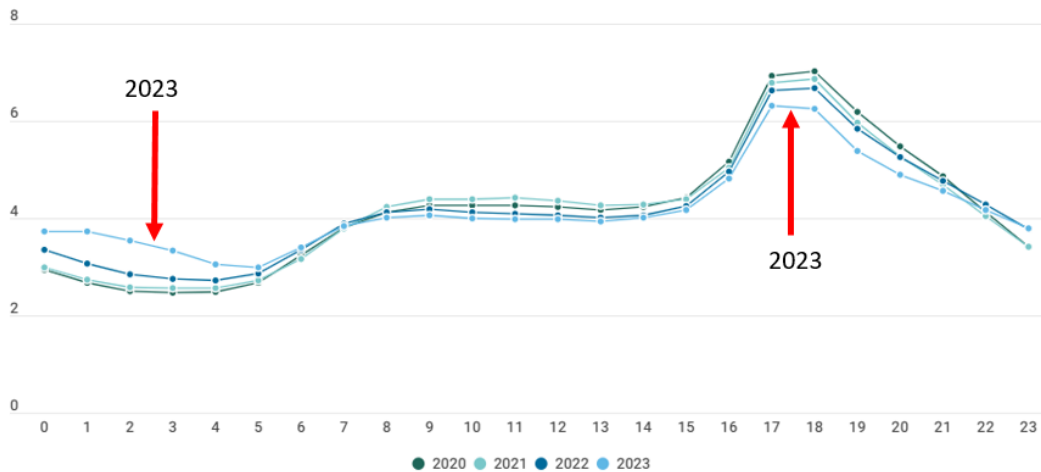


In February 2021, only 11 electricity price products - representing approximately 7% of the Danish electricity market - offered flexible electricity prices. However, their popularity grew rapidly, reaching 18 products just two months later. By 2022, smartphone apps displaying hourly electricity prices became widely adopted by consumers.

By 2023, around 70% of Danes had adopted payment schemes based on hourly varying electricity prices. Among these, nearly 70% reported that they monitor electricity prices daily. This behavioral shift has led to a roughly 10% reduction in peak household electricity consumption between 17:00 and 21:00 from 2020 to 2023, while nighttime consumption has increased over the same period, as reflected in Figure 4.

Figure 4. Distribution of domestic electricity consumption for the years 2020-2023

Percentage consumption per hour over all hours of the day



Source: Danish Energy Agency, 2025.

District heating

Roll-out of smart heating meters to district heating end-users is ongoing. Work has been initiated to make measured data from these meters available for third parties, so that the measurements can be utilized for inventing smart solutions, which can optimize the performance of the district heating grids and buildings.

Does the country place a carbon tax on fossil fuels for heating?

Yes.

If yes, please provide details. If not, is it under discussion?

Table 1. Danish 2025 taxes on oil, gas and electricity for heating

Energy carrier	Unit	Energy tax	CO ₂ tax	NOx tax	Total
Heating oil	EUR/m ³	166,4	303,1	1,47	470,9
Natural gas	EUR/1000 litre	183,5	267,0	0,00134	450,5
Electricity	EUR/kWh	0,096			0,096

On top of the energy prices is added 25% VAT. There is a tax exemption on electricity for heating – see below.



Does the country provide financial support for heat pumps?

Subsidies are available to cover the decoupling fee for disconnecting from the natural gas grid. This fee typically ranges from EUR 1,070 to 1,340.

In 2025, subsidies are available for installing individual heat pumps:

- EUR 2,280 for an air-to-water heat pump.
- EUR 3,610 for a ground source heat pump.

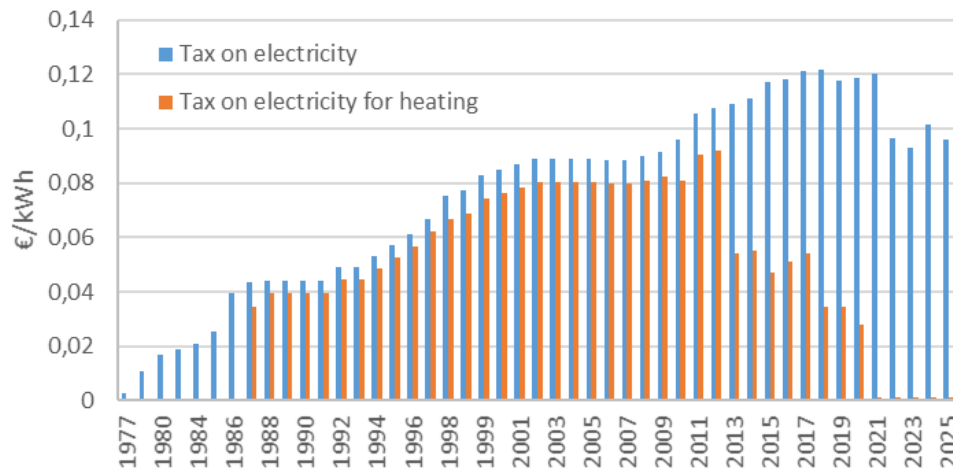
For air-to-water heat pumps (which make up the majority of installations), the subsidy covers 15-20% of the total installation cost, depending on the cost and quality of the heat pump. Between 2021 and 2024, 22% of all individual heat pumps installed in Denmark benefited from these subsidies.

In Denmark, there is a tax exemption on electricity used for heating, including for heat pumps. When electricity is the primary heating source of a house, there is almost no tax on electricity consumption beyond 4,000 kWh annually. This threshold reflects the average consumption of a Danish household not using electricity for heating or electric vehicles.

Currently, the electricity tax in Denmark is 0.096 EUR/kWh, but it is for heating purposes reduced to the EU minimum tax rate of 0.0011 EUR/kWh for electricity consumption exceeding 4,000 kWh annually.

The electricity tax for heating was halved in 2013 and nearly eliminated in 2021. Notably, the tax rate for heating is the same for individual heat pumps and large heat pumps used in district heating companies. Figure 5 shows the electricity taxes from 1977 to 2025.

Figure 5. Electricity tax in Denmark, 1977-2025



Source: Danish Energy Agency, 2025.

The Danish electricity tax, both general and specific for heating, for the period 1977-2025 reflects significant developments over time. From 2018 onward, and particularly since 2021, electric heat pumps have finally become competitive with natural gas solutions. This shift highlights the effectiveness of reduced electricity taxes in promoting sustainable heating alternatives.

Does the country provide financial support for district heating?

Subsidy funding is available for converting buildings from oil and natural gas to district heating, amounting to DKK 20,000 (EUR 2,666) per dwelling. Additional funding has been allocated in recent years to support district heating projects.

The funding applies to the number of dwellings required to make a district heating project feasible in a given area. For example, if 60% of the dwellings in the area were needed for a viable project, only those dwellings would qualify for the subsidy. The subsidies are provided to the district heating companies. Table 2 shows the total amount of subsidies given. Extra funding in 2021-2024 compared to the 2020 agreement has been necessary as indicated in the table.



Table 2. Total amount of subsidies for district heating

Year	Subsidy for district heating (Million DKK / EUR)	Comment
2020	0	Legislation not in place – no funding
2021	485 / 65	Incl. extra funding compared to the 2020 agreement
2022	325 / 43	Two extra funding for 2022
2023	300.5 / 40	Extra funding for 2023
2024	411 / 55	Extra funding for 2024
2025	200 / 27	

Between 2017 and 2023, district heating companies were eligible for subsidies to support the installation of large heat pumps. However, not all implemented projects received the subsidy.

Has the country made efforts to improve public understanding and support of clean heat systems?

SparEnergi (SaveEnergy) serves as a one-stop platform for building owners, providing comprehensive information from the Danish Energy Agency (DEA) on energy renovations and building retrofitting. Hosted by the DEA, this free and accessible web platform caters to owners of residential, commercial and public buildings.

The platform includes guidance on key upgrades, such as transitioning to heat pumps, improving insulation, and replacing windows, along with various examples, case studies, guides and calculation tools. It also offers information on energy labelling and consolidates all of the DEA's campaigns and initiatives aimed at end-users. By creating synergies across different initiatives, SparEnergi makes it simple for users to access cohesive and practical content.

When it comes to district heating, there is a widespread understanding among citizens that it delivers both decarbonization and affordable heating. Studies have shown that houses connected to district heating systems tend to have a higher market value compared to those relying on natural gas. Supporting this, district heating companies, the Danish District Heating Association (Dansk Fjernvarme), and FIF Marketing (Fjernvarmens Informations Fond) actively run public campaigns. FIF also produces educational materials for public schools to raise awareness about district heating benefits.



Does the country support the development of clean heat skills?

Improved Education and Certification of Installers

The Danish RE-authorization system ensures high-quality installation of small renewable energy (RE) systems by certified companies. It covers technologies such as heat pumps, solar panels, solar heating, and biomass boilers and stoves. The RE-authorization guarantees that companies possess documented skills for installing RE-systems correctly, enabling customers to maximize the benefits of their investments. It does not replace other applicable requirements, such as electricity and plumbing authorizations or regulations on refrigerants.

Initially voluntary, the RE-authorization scheme had a limited number of participants, with only 71 companies certified in 2016. However, in April 2021, the scheme became mandatory for receiving subsidies for installing small heat pumps in single-family homes. This led to a remarkable increase, with nearly 1,200 RE-authorized companies by early 2022. By September 2024, the number of RE-authorized companies reached 1,308, broken down as follows:

- 1,272 companies authorized to install small heat pumps.
- 111 companies authorized for small photovoltaic (PV) systems.
- 31 companies authorized for small solar thermal systems.
- 31 companies authorized for small biomass boilers and stoves.

A survey (chapter 6 in <https://ens.dk/media/6411/download>) showed certified installers achieve an annual efficiency average of 3.4, compared to 2.9 for non-certified installer – a 17% increase in efficiency, highlighting the effectiveness of the RE-authorization scheme.

Closure of the scheme is currently under consideration. As articulated by the association for installers TEKNIQ, the RE-certification scheme has played a vital role in improving the competency levels of installers. However, identical skills and knowledge provided by the scheme are now incorporated into the education of new installers. As a result, the RE-certification scheme is expected to become redundant over time.

Platforms for Education and Training

To promote energy savings in building renovations, the Danish Energy Agency (DEA) supports platforms like byggeriogenergi.dk, also known as the Knowledge Centre for Energy Savings in Buildings. These platforms are specifically designed for craftsmen and installers, providing them with technical guidance, practical examples and specialized tools.

The resources include detailed instructions on optimizing heat-emitting systems, particularly for low-temperature heating solutions such as district heating and heat pumps.



By systematically collecting and organizing insights on energy savings, the knowledge center aims to empower the construction industry to achieve maximum energy efficiency in existing buildings.

Specialized Education for District Heating

For decades, Denmark has provided specialized training for technical staff through machine master schools (Maskinmesterskoler). Originally established to train ship technicians for the Danish fleet, including companies like Maersk, TORM, and Norden, these schools have equipped students with essential mechanical, electrical and steam engineering skills.

Today, these competencies are equally vital for managing district heating networks and operating heat production plants. Some machine master schools now offer tailored courses specifically focused on district heating. Additionally, the Danish District Heating Association plays a crucial role in ensuring that technical staff stay up to date, offering training that includes not only technical skills but also management and economic expertise.

Research and Higher Education in the Heating Sector

Danish universities play a vital role in advancing the heating sector through education and research:

- **Aalborg University (AAU):** Specializes in energy planning and improving energy efficiency in buildings.
- **Danish Technical University (DTU):** Conducts cutting-edge research into renewable technologies, including innovative heating sources.
- **Aarhus University (AU) and the Technological Institute (Teknologisk Institut):** Focus on testing and developing expertise in heat pumps, ranging from small to large systems. Aarhus is also a hub for many heat pump manufacturers.
- **Syddansk Universitet (SDU):** Renowned for its expertise in public management, utility companies and consumer protection.

Brief overview of the biggest challenges towards heat decarbonisation in the country.

Heat pump installation costs have risen due to supply chain disruptions and the energy crisis, limiting access for many homeowners. A heat pump subscription model could improve accessibility, but uptake has been minimal. The district heating sector faces challenges in decarbonisation and project delays due to rising costs. Details follow.

Heat Pumps: The cost of installing a 7 kW air-to-water heat pump in Denmark was approximately EUR 11,000 in 2020. However, supply chain disruptions caused by COVID-19 and the 2022 energy crisis pushed the price up to around EUR 13,000 by 2024. The higher cost, coupled with the limited number of installations receiving subsidies (as previously noted), suggests that primarily homeowners with the financial means and a pre-

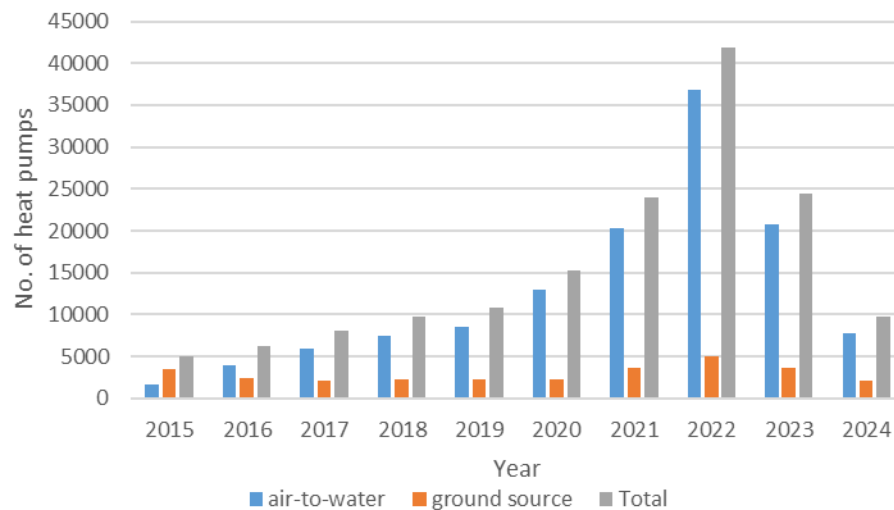


existing interest in heat pumps have been able to invest. This raises concerns that the annual installation rate may not return to 25,000 units unless the transition from gas and oil boilers to heat pumps is incentivized in new ways.

Figure 6 supports this, showing the development in annually installed individual heat pumps in Denmark since 2015. The figure shows a big decrease in 2024 in number of installed individual heat pumps in Denmark. The very high number of installations in 2022, was due to the energy crises.

One potential solution is a heat pump subscription model, where an energy service company owns and operates the heat pump. Similar to car leasing, this approach minimizes or eliminates the upfront cost for homeowners, making heat pumps accessible to those with limited financial resources. While the concept has been available in Denmark since 2021 (<https://ens.dk/media/6411/download>), uptake has been minimal. A rethink, simplification and relaunch of the model may be necessary.

Figure 6. Individual heat pumps installed in Denmark, 2015-2024



Source: Danish Energy Agency, 2025.

District Heating: To decarbonize the fossil component of waste incineration and phase out peak and reserve load boilers fueled by oil and natural gas, CCS (Carbon Capture and Storage) presents a viable solution for waste incineration plants. Additionally, electrification is pivotal in the decarbonization of district heating. Many district heating companies have already installed, or plan to install, large heat pumps in the coming years to support this transition.



Moreover, enhanced energy storage capacity combined with biomethane integration in the gas grid could further facilitate the phase-out of fossil fuels in peak and reserve load equipment.

The district heating sector is expanding by converting individual natural gas boilers to district heating. This transformation takes time due to equipment and staff bottlenecks, increasing investment costs and varying natural gas prices making it difficult to get consumers to connect, if the district heating prices are not competitive with present gas price. The high inflation during the latest years and the high demand in supply chain has resulted in increased prices for district heating projects. This has led to delays of some projects and some projects have been cancelled because the higher prices has made them unfeasible.

Adjusting Incentives: Creating the right incentives remains a continuous challenge. Subsidies for desired solutions and taxes on unwanted systems require regular adjustments to maintain momentum in the transition to sustainable energy.