



How to be climate-friendly

– Subscribe to a heat pump and scrap your old oil boiler

The Danish oil and natural-gas boiler scrapping scheme helps house owners to convert to a more climate-friendly heating system without major investments.

Since 2017, Danish house owners with an oil boiler as their heating system and who are located outside district heating areas have been able to order a climate-friendly heat pump on subscription without having to invest too much upfront. This opportunity is due to the Danish oil - and since 2020 also natural gas - boiler scrapping scheme, established by the Danish Government. The scheme involves Government contracts with private-sector energy service providers; financial support from the Government, and a business model similar to the model for district-heating subscriptions. This setup aims at reducing the barriers for house owners converting their fossil fuel heating systems to a more climate-friendly solution by ensuring a lower heating bill and taking care of all the hassle when upgrading the heating system. The scheme also aims to provide part of the necessary steps to reach the Danish GHG emission-reduction targets. The scheme was initially set up as a pilot scheme, in which a limited amount of conversions received Government financial support. However, with the Danish Climate Agreement for Energy and Industry signed by most parties in the Danish Parliament in June 2020, a lasting scheme was established. This scheme entails conversion of oil boilers as well as natural-gas boilers for space heating. At the same time the total budget of Government financial support was increased in order to ensure cheaper conversions for more Danish house owners.

Convenience for house owners plays a role, and they avoid having to buy a heat pump, which is often an investment of more than DKK 100,000 (approx. EUR 13,500). Moreover, house owners do not have to think about installation of the heat pump, as well as maintenance and support, as this is taken care of by the service provider of the heat pump subscription.

Approximately 80,000 Danish households are still heated by oil boilers and approximately 380,000 by natural-gas boilers, and this means there is a substantial heat pump potential for the coming years.

Model elements in the scrapping scheme

The financial support model in the Danish oil and natural-gas scrapping scheme consists of various choices regarding e.g. business model, level of subsidy, pledge allocation, reservation of funds, etc. These choices are based on experience from the previous pilot project.

The subscription solution entails a company – called the energy service provider – owning and being responsible for installation, operation and maintenance. The house owner pays a sign-on fee at the installation of the heat pump, a price for the heat supplied, and a monthly fee for the subscription. The Government subsidy is paid to the energy service provider, although the house owner benefits in terms of a correspondingly lower sign-on fee. This is specified in the contract between the energy service provider and the Danish Energy Agency.

The subsidy is hence targeted at house owners who are reluctant to convert or who cannot invest in their own heat pump as well as house owners who want to avoid the responsibility with installing, operating and maintaining a heat pump.

Background

The background for the Danish oil and natural-gas boiler scrapping scheme is in the Danish Energy Agreement from 2018. The Agreement established a subsidy pool with a reserved amount of DKK per year from 2021-2024 for conversion of oil boilers to heat pumps outside collectively supplied areas. In the spring of 2019, the signatory parties to the agreement decided to implement the Danish oil and natural-gas boiler scrapping scheme as a subscription solution, based on the experience gained from a pilot project and simply named the scheme: *Heat pumps on subscription*.

Later on, with the new Danish Climate Agreement for Energy and Industry from June 2020 the signatory parties decided to set aside further funding for the scheme. Furthermore, the scheme was brought forward to launch in the autumn of 2020 and to include conversion from natural-gas boilers to heat pumps, because with the current natural-gas taxation, there is a lower financial incentive for house owners to convert

The solution was inspired by the concept for district heating, which consists of a subscription price and a connection fee and where the house owner is not an active part of the practical details of the heat supply. In contrast to the collective model for district heating, heat pumps on subscription are for house owners outside the district heating grid. Moreover, heat pumps on subscription are offered by privately owned service providers who operate in a competitive market. Finally, the heat-pump scheme has been established as a voluntary scheme without connection obligation.

Pledge allocations to the energy service provider

In order to encourage as many service providers as possible to take part in the scheme and offer heat pumps on subscription, no providers have been pre-awarded subsidy pledges. This is the opposite of the process in the pilot project. The scheme is now based on a model where all service providers can apply for inclusion in the scheme through a pre-qualification process run by the Danish Energy Agency.

The pre-qualified providers apply on a continuous basis for subsidies and the final number of grants depends on how many subscriptions for heat pumps the energy service provider signs on through the lifetime of the scheme. It is expected that this element will ensure competition and thereby better and cheaper subscription solutions for house owners.

The pre-qualification phase has been designed to objectively ensure that the service providers have an adequate administrative and sales setup as well as financial capacity to operate the scheme. Service providers can apply for pre-qualification throughout the lifetime of the scheme under supervision by the Danish Energy Agency.

When the scheme expires, the market should have well reached a volume in which it will be attractive for energy service providers to continue delivering solutions to existing and potential clients in the future.

Geographical dispersion

In order to ensure a geographically dispersed scheme, smaller parts of the funding for the scheme have been reserved for the five Danish regions (local government areas). Specifically, five per cent of the funding has been reserved for each region, amounting to 25 per cent of the funding in total. The remaining 75 per cent of the funding can be spent in all regions. The scheme has been set up like this to prevent only regional service providers or utility companies from applying. The pilot project indicated that this could happen.

Amount of grants

The market for heat pumps on subscription is still under development in Denmark, but experience so far indicates that a fixed level of grants corresponding to approximately one-quarter of the price of a privately purchased heat pump results in the highest amount of potential additional conversions through the scheme. In situations where a heat pump is small and thus cheaper, the size of the subsidy will be equally reduced, as maximum grant size corresponds to 45 per cent of the eligible costs according to the EU state aid legislation.

In brief:

Heat pumps on subscription

- A number of Danish service providers offer heat pumps on subscription. Solutions include shallow geothermal and air-to-water heat pumps.
- The service provider takes responsibility for everything when converting from oil or gas boiler to heat pump; including scrapping the old oil boiler and installation, operation and maintenance of the heat pump.
- The house owner typically pays a sign-on fee, followed by payment for the heat consumed as well as a monthly subscription fee for up to ten years (a lock-in period).
- The service provider pays for the electricity used by the heat pump, which creates a financial incentive for the service provider to operate and maintain the heat pump as efficiently as possible.
- It is far cheaper for a Danish house owner to acquire a heat pump on subscription than buy one. The service provider obtains a subsidy from the Danish Government of up to DKK 25,000 (approx. EUR 3,350) per house converted from oil or natural-gas boiler to heat pump, which must go towards reducing the costs for the house owner.
- The current and planned future Danish electricity taxation creates a large financial incentive for house owners to convert from oil or natural gas to heat pumps. The subscription scheme aims at bridging the high initial expenses with a cheaper solution of subscription, and at overcoming what could otherwise be seen as barriers for house owners to convert to heat pumps.
- The grant is provided through the Danish oil and natural gas boiler scrapping scheme and it is an outcome from the Danish Energy Agreement from 2018 and the Danish Climate Agreement for Energy and Industry from June 2020.