

Amsterdam Metropolitan Area prepares for a gas-free future

In December 2016, 32 public and private parties in the Amsterdam Metropolitan Area (MRA) voted to go ahead with the 'Grand Design' for a regional heating network stretching from IJmuiden to Almere and from Zaanstad to Aalsmeer. This move will prepare the area for a gas-free future with heating networks as an attractive alternative for the built environment. Research carried out by independent research organisation CE Delft has shown that the planned collective heating network ('district heating') would be much cheaper than an approach involving individual measures in each home, and it would generate considerable energy savings too. The Roadmap to Sustainable Heating in the Amsterdam Metropolitan Area (*Routekaart Duurzame Warmte in de MRA*), which includes agreements on how district heating can be established, has also been determined. The district heating grid will need to provide homes, greenhouses and businesses with the equivalent amount of sustainable energy that would be required to heat 500,000 homes.

Gas-free

With the ratification of the Paris Climate Agreement, we have made a commitment to breaking free from our dependency on fossil fuels. Network operators have also stated that it is no longer feasible to replace the existing gas network, meaning that local authorities, energy companies and building owners will have to make haste to implement alternatives to gas in the built environment. The parties in the MRA have stated that it is their ambition to have the built environment mostly gas-free by as early as 2035, taking into account the local situation in each municipality. We are not starting at zero however: large networks are already in place in Amsterdam and Almere, and other municipalities are at an advanced stage in the planning.

Grand design for district heating

The parties in the MRA are working enthusiastically towards realising their ambition of making the existing neighbourhoods gas-free. The City of Amsterdam, for example, recently announced that next year it would designate 10,000 existing homes for the break from gas. At the same time, concrete plans concerning alternatives to gas in the rest of the area are being drawn up. The Grand Design inspiration document maps out the locations of the biggest heat consumers, the current and prospective sources of heating and where the infrastructure for the heating networks can eventually be located. For example, the Aalsmeer Greenport horticulture cluster has a heating requirement equivalent to 130,000 homes. The parties in the MRA would therefore like to see horticultural businesses connected to district heating so that they can make use of residual heat from industry, for example. This way, the supply of heating will be sufficient to meet the demand. At present, this residual heat is simply being discharged.

Making it sustainable

The goal is to make the heating networks fully sustainable by 2040 by, for example, fully exploiting geothermal energy and residual heat from sources like Tata Steel and data centres. Take the new data centre park at Schiphol Trade Park for example: in time this should be able to supply the heating needs of the PrimA4a greenhouse cluster. It is also expected that the heating network will help in converting any excess electricity from the wind turbines in the North Sea into sustainable heating. The district heating will furthermore produce primary energy savings of 6 petajoules; to put this in perspective, the National Energy Agreement has set an energy-savings target of 100 petajoules.

Other alternatives to gas

There are other alternatives to gas too, like combining extensive, high-quality insulation with all-electric measures (heat pump and solar panels) or 'green gas' (purified and upgraded biogas). In

collaboration with the province/provinces, the municipalities will endeavour to develop heating transition plans outlining which heating method is the most efficient and desirable for each neighbourhood, before the end of the council term. The Grand Design will make it easier for local councillors in the MRA to decide whether heating networks are a possible solution for their municipalities. The province is providing support by having CE Delft draw up a 'heating map' for each municipality showing, for each neighbourhood, which alternative to gas is economically the most attractive option.

Lobbying the national government

In order to be able to make the customer an attractive offer and roll out the heating network on a large scale, the support of the national government is needed. Sustainable heating needs to be accessible and affordable. This can be achieved by 'socialising' parts of the heating infrastructure (apportioning the costs over all households) as is currently done with gas and electricity networks. What's more, including a form of carbon pricing in energy tariffs would make alternatives like sustainable heating considerably more attractive. It is also essential that municipalities – and the network operators – be given the authority to no longer replace gas networks. These are all areas where consultations with the national government are under way.

Partners

The Heating and Cooling Programme (from which the Grand Design arose) currently has 32 members: AEB Amsterdam, Alliander DGO, Aalsmeer Greenport, Amsterdam Economic Board, Eneco, ECN Energy Research Centre of the Netherlands, ENGIE, ENnatuurlijk, HVC, Liander, Nuon Heating, Ocap, Omgevingsdienst IJmond, Province of Noord-Holland, Schiphol Area Development Company, Stadsverwarming Purmerend, Tata Steel, TNO, Veolia and the municipalities of Aalsmeer, Almere, Amstelveen, Amsterdam, Beverwijk, Diemen, Haarlem, Haarlemmermeer, Heemskerk, Ouder-Amstel, Uithoorn, Velsen and Zaanstad. It should also be mentioned that the Amsterdam Federation of Housing Corporations (AFWC) is also taking part in the programme, bringing the consumers of heating to the table as well.

Information

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About the Amsterdam Economic Board

For more information (in Dutch only) please visit:

<https://www.amsterdameconomicboard.com/projecten/warmtenetten>