

Living natural gas-free in Middenmeer

District heating Watergraafsmeer

Affordable, sustainable
and owned by us

 MeerEnergie



join
now = **save**
later



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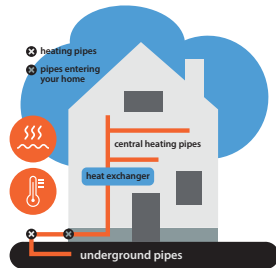


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Natural gas-free with a heat network owned by us

Like the rest of the Netherlands, Amsterdam aims to be a natural gas-free city. Luckily, there is good news: in Middenmeer, we can use residual heat from a data center at the Amsterdam Science Park to heat our own neighbourhood. In the future, we can use this local energy source to sustainably heat our homes and tap water and become independent of commercial energy suppliers.

Sustainable, easy, and affordable

To make district heating possible, we as neighbours have founded a local cooperative: MeerEnergie. You can join us! This is your chance to live gas-free in a sustainable, simple, and affordable way. In this brochure, you can read more about how it works, the planning, and the costs.

For all residents

The heat network is for homeowners, tenants, and landlords. In this brochure, you will find specific information for each target group. Please check the icons:



Homeowner



Tenant



Landlord



“Our heat network is an extraordinary opportunity to drastically tackle both CO2 emissions (in our neighbourhood) and energy waste and heat stress (at the Amsterdam Science Park). Democratic, supportive, and transparent, with a fair price: this way, profit and value stay in the community.”

Ardine Nicolai,
Chairwoman of MeerEnergie

Our chance for a local, sustainable-, and affordable alternative to gas

The Netherlands is replacing gas-based heating with carbon-free heating. Amsterdam aims to be a natural gas-free city by 2040. That seems far away, but to make this significant change happen, we need to act now. The municipality has researched the best alternatives to natural gas for each neighbourhood. For the Middenmeer district in Watergraafsmeer, district heating is the best possible and affordable solution.

Residual heat for 5000 homes

In the future, we can heat our homes by using residual heat from a data center at the Amsterdam Science Park. This heat is currently wasted. We can use it to provide 5000 homes with hot tap water and heating. The data center offers this residual heat free of charge. Over the past few years, we have conducted extensive research showing that it is technically and financially feasible to use this residual heat for our heat network.

Alternative to natural gas

The most common alternatives to gas are heat pumps and district heating. In neighbourhoods where homes are close to each

other, like in Middenmeer, developing district heating is efficient and therefore the best alternative to gas. For this reason, the municipality of Amsterdam has concluded, after research, that district heating is the best choice for the Middenmeer district in Watergraafsmeer.



“The energy transition starts with us. Let’s work together to stop using gas and make our neighbourhood greener!”

Frank Siblesz,
Finance Board Member of
MeerEnergie

By and for the neighbourhood

MeerEnergie is a local cooperative that develops a heat network for the local residents. This means that you - as a resident - can participate in the decision-making. We are not dependent on a commercial party. MeerEnergie is a non-profit organisation that offers all residents a fair, transparent, and affordable solution.



The advantages of a local heat network



Future proof

Alternative to gas, which Amsterdam wants to phase out by 2040;



Convenient

MeerEnergie will take care of the connection, maintenance, and necessary adjustments in your home;



Sourced locally

So you always know where our energy has come from;



Clear

MeerEnergie provides each participant clear information;



Sustainable

Using energy which will otherwise go to waste;



Participation

Possibility to co-decide and co-invest;



Affordable

Reliable costs and more affordable than alternatives;



By and for the neighbourhood

The heat network is by and for the neighbourhood.

District heating vs heat pump

What are the differences?

(Hybrid) heat pump - individual alternative to gas	District heating - collective alternative to gas
<p>Insulation A fully electric heat pump requires good insulation, and underfloor heating and/or low-temperature radiators may be necessary. With a hybrid heat pump, this is usually not required.</p>	<p>Insulation Additional insulation is not necessary, but it is advised.</p>
<p>Required space A heat pump has an outdoor unit that is mounted on the outside of your home. A fully electric heat pump also has a boiler tank for hot water. This boiler tank should be placed indoors and is about the size of a refrigerator. Additionally, heating pipes will be installed in your home.</p>	<p>Required space Your home will be connected to the heat network with a heat exchanger (afleverset in Dutch), which is slightly smaller than a gas boiler. Heating pipes will be laid inside your home leading to the unit.</p>
<p>Visibility The outdoor unit is visible on the outside of your home. The size of the outdoor unit varies by type and is comparable to an air conditioning unit.</p>	<p>Visibility The underground pipes are not visible. There are heating units ('warmtehuisjes') in the neighbourhood that look like an electric transformer building.</p>
<p>Noise The outdoor unit produces noise. You can hear your own unit as well as your neighbours'.</p>	<p>Noise The heat exchanger makes almost no noise.</p>
<p>Purchase, installation and maintenance You are responsible for the purchase, installation and maintenance of the heat pump, which lasts about 15 years.</p>	<p>Purchase, installation and maintenance MeerEnergie is responsible for the maintenance and replacement of the pipes and the heat exchanger. The heat exchanger also lasts around 15 years.</p>
<p>Heat supply A heat pump operates on electricity. You can choose your own electricity supplier, and your water company remains the same.</p>	<p>Heat supply MeerEnergie provides heat for heating and hot water. You can choose your own electricity supplier, and your water company stays the same.</p>
<p>Gas connection With a hybrid heat pump, you keep a gas connection. With a fully electric heat pump, you can move away from natural gas.</p>	<p>Gas connection You will no longer need a natural gas connection. If you do not use gas for cooking, your home is gas-free.</p>
<p>Costs You will have to pay for the purchase, installation, and maintenance of the heat pump. The monthly costs for heat depend on your consumption. With a hybrid heat pump, you will pay monthly for both gas and electricity.</p>	<p>Costs You will have to pay one-off costs for the connection, a monthly fixed fee for using the heat exchanger, and a monthly variable fee based on your consumption.</p>



Is district heating interesting for you?

Homeowners, landlords, and tenants can join the heat network. You can also participate if you are a member of a homeowners' association (VvE) or if you rent a commercial space.



For homeowners

Are you the owner of a home in Middenmeer? You can participate if you live there yourself or if you rent out the home. All you need to do is sign a 'start contract'. If you own an apartment and are a member of a VvE, you can also sign a start contract. In many cases, a joint decision from the VvE is required: if your VvE has block heating, if pipes run through your neighbours' homes or public areas, and/or if the boiler is not located in your own home. MeerEnergie is happy to visit VvEs to provide a presentation and tailored advice.



For tenants

Are you renting a home privately or through a housing corporation? Then you can also sign the start contract without permission of the landlord (if the landlord does not agree, your signed start contract will expire). We will ask the landlord to sign a start contract as well, as the landlord must pay for the connection costs to the heat network. MeerEnergie is in contact with all housing corporations in Middenmeer. The two largest housing corporations (De Alliantie and Eigen Haard) have already signed a letter of intent and are positive about the plan. MeerEnergie also assists private tenants by reaching out to landlords and informing them about the project and its benefits.



For landlords

We will ask both landlords and tenants to sign a start contract. As a landlord, you will arrange and pay for the connection and cover part of the fixed monthly costs. The tenant will use the heat. You no longer have to worry about maintenance and replacement of boilers, as these responsibilities will be managed by MeerEnergie once your home is connected to the heat network.



"I find my home country, Denmark, an inspiring example. Nearly 2 million homes have been receiving heat through heat networks for years, organised on a non-profit basis, largely as cooperatives. They are at least as reliable and affordable as gas. If they can do it, we can do it, too."

Anne-Mette Jørgensen,
general Board Member of MeerEnergie

Will we go ahead with the heat network?

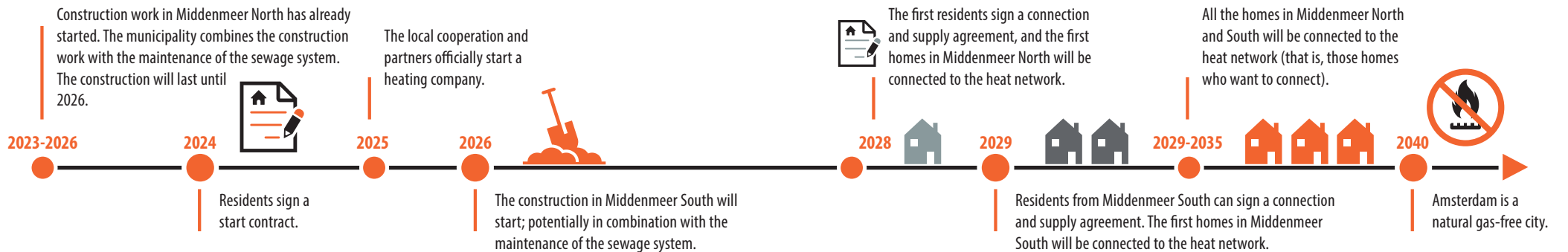
The fact that the municipality of Amsterdam is already laying pipes shows how far we have come. A part of the piping network is already in place in Middenmeer North. But now we need you! Investments from banks and other financiers are required for the development of the heat network. For this, sufficient support is needed in the neighbourhood. 85% of residents have to verifiably support the plan for the heat network, otherwise we will not get the money for the investments. That is why it is important to sign a start contract now. Without your help, we will not be able to further develop our own heat network.

Where and when

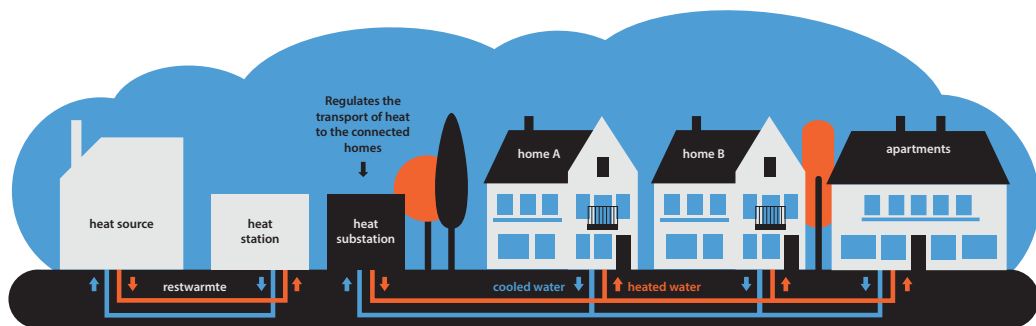
In Amsterdam, in the district of Watergraafsmeer lies the neighbourhood of Middenmeer. 5000 homes in this neighbourhood can be connected to the heat network between 2028 and 2035. In Middenmeer North, construction work has already started.

Where will the heat network be located?

The pipes for the heat network will be laid in the streets between Linnaeuskade, Middenweg, Kruislaan, and Archimedeslaan.



Installation in the neighbourhood and in your home



From Amsterdam Science Park to your home

The residual heat from the Equinix data center has a temperature of about 30°C. Pipes run from the data center to a heating station with a central heat pump powered by (green) electricity. This heat pump heats the water to about 80°C. The hot water then goes to 10 to 15 heating units in the neighbourhood. These units are the size of a parking space. From these heating units, pipes will run to the homes.

Construction work in the neighbourhood

The installation means that streets may be temporarily dug up; the municipality of Amsterdam tries to coordinate this with larger maintenance work where possible. The construction of the heating units will also cause some disruption, such as construction traffic or temporary road closures.

Changes in your home

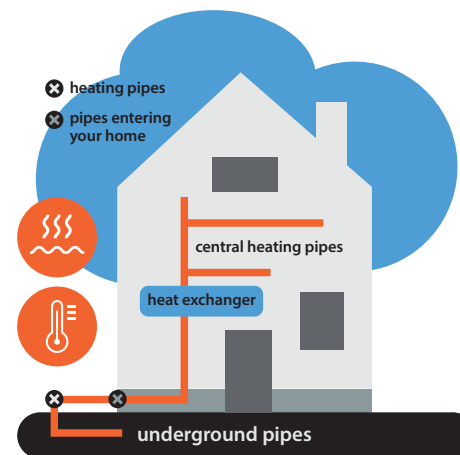
MeerEnergie will take care of the connection to your home. Via a heat exchanger, two pipes enter the home: one for the supply of hot water and one for the return of cooled water. The heat exchanger is a closed system, which means that it will only give off the heat; cooled water will return directly. In other words, the water of the heat network does not mix with your tap water. The heat exchanger does two things: 1. it heats the tap water and 2. it heats the home via the existing radiators. The heat exchanger ensures that you can use the existing radiators and that hot water comes from the taps and shower. The size of the heat exchanger is approximately 60 x 40 x 20 centimetres, taking up less space than a small boiler.

Construction work in your home

For each home, the installer will assess the best location to place the heat exchanger. Of course, you will have the final say in the exact location where the heat exchanger will be installed. The location of the heat exchanger is preferably as close as possible to the front door, such as in the meter cupboard. The extent of the necessary adjustments varies by situation. There will be no changes to your electricity supply; you can continue with your current energy supplier.

MeerEnergie can also provide the following additional services for an additional cost:

- Additional modifications in the home.
- Modifications for electric cooking.



And the gas stove?

When you are connected to the heat network, you no longer need gas for heating and hot water. If you want to live completely gas-free, however, you need to switch to electric cooking. Subsidies are available for connecting your home to the heat network on the condition that you completely switch off gas. Therefore, we would suggest making the switch to electric cooking once connected to the heat network. Additionally, you may want to shut down your gas connection, because the monthly connection costs for gas can be quite high. Since you only need the gas connection for cooking, it is cheaper to switch to electric cooking. Sometimes, modifications to your fuse board are needed for electric cooking. If this applies to many residents, MeerEnergie can assist.

Will I have two water pipes in my home?!

The supply pipe from the heat network carries hot water, while the return pipe carries cooled water. This is separate from the water tap. The pipes entering your home are solely for delivering heat to your current system. There is no exchange of water. Your existing water supply remains unchanged; you will continue to drink Amsterdam tap water.



Collaboration with Firan Infrastructure specialist

“Firan, a subsidiary of Alliander, makes sustainable energy accessible to everyone. We ensure that residents and businesses across the country receive sustainable and affordable energy. We achieve this with smart energy solutions, such as heat networks. Since this is always tailored to local needs, we determine together with local partners what is necessary and how we can achieve it as much as possible with local, sustainable sources. Take, for example, the heat network in Middenmeer. By using the residual heat from the data center, we will soon provide 5000 homes with heating and hot water.”

Firan, expert in the development of district heating

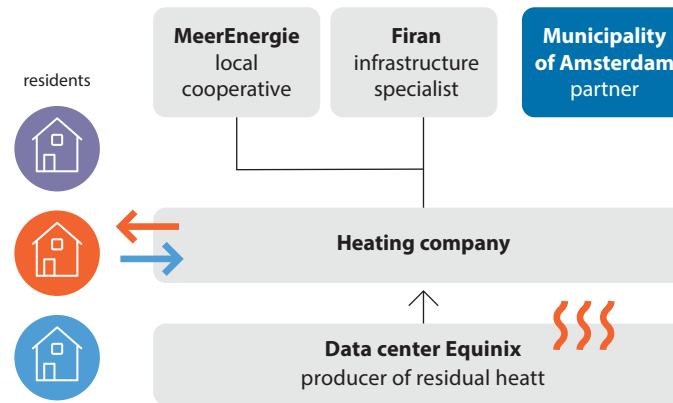
Heat exchanger in your home

The heat exchanger distributes heat to the radiators and water taps in your home:

- The heat exchanger connects you to the heat network
- It replaces your boiler
- It is quickly and easily installed for you
- It provides heating and hot water



The organisation. Five parties are collaborating on the development of the heat network:



Firan: A subsidiary of Alliander. Expert in the development of district heating.
Municipality of Amsterdam: Provides knowledge and financial support for the project.
The heating company (to be founded in 2025): Supplies your heat and will have a contract with you. MeerEnergie and Firan will be shareholders.
Data center Equinix: Provides residual heat.




“MeerEnergie is at the forefront of transforming a system that primarily serves fossil fuels and large companies. They contribute to a successful energy transition by giving residents control over their own sustainable energy system. This is an innovative approach, and it is essential to recognise and eliminate all obstacles in institutional, financial, technical, and legal areas to enable a sustainable future. I am convinced that MeerEnergie will overcome these challenges and create a local and transparent heat network for Middenmeer.”

Zeeger Ernsting,
 District Administrator,
 Municipality of Amsterdam



What will it cost?

MeerEnergie is a not-for-profit organisation and therefore aims to keep the costs as low as possible. The participants in the heat network (the residents of Middenmeer) can decide what happens to potential profits. Of course, we also ensure that we maintain healthy financial management. We will always be transparent about our financial management.

Kosten	
 Homeowner	<ul style="list-style-type: none"> • One-off contribution to the connection costs • Monthly fixed and variable costs • Membership fee
 Tenant	<ul style="list-style-type: none"> • Monthly variable costs and a part of the monthly fixed costs • Membership fee
 Landlord	<ul style="list-style-type: none"> • One-off contribution to the connection costs • Part of the monthly fixed costs • Membership fee

Monthly costs

- The heat rate depends on your consumption, similar to gas. There will be a price per consumed gigajoule of heat.
- Fixed costs for the network (fixed fee). This amount is to pay off the investments in the heat network.
- Measurement fee. This is the rate for measuring your heat consumption.
- Rental of the heat exchanger. The heat exchanger remains the property of the heating company. Maintenance and repairs are the responsibility of MeerEnergie. To cover these costs, you pay rent.

One-off costs

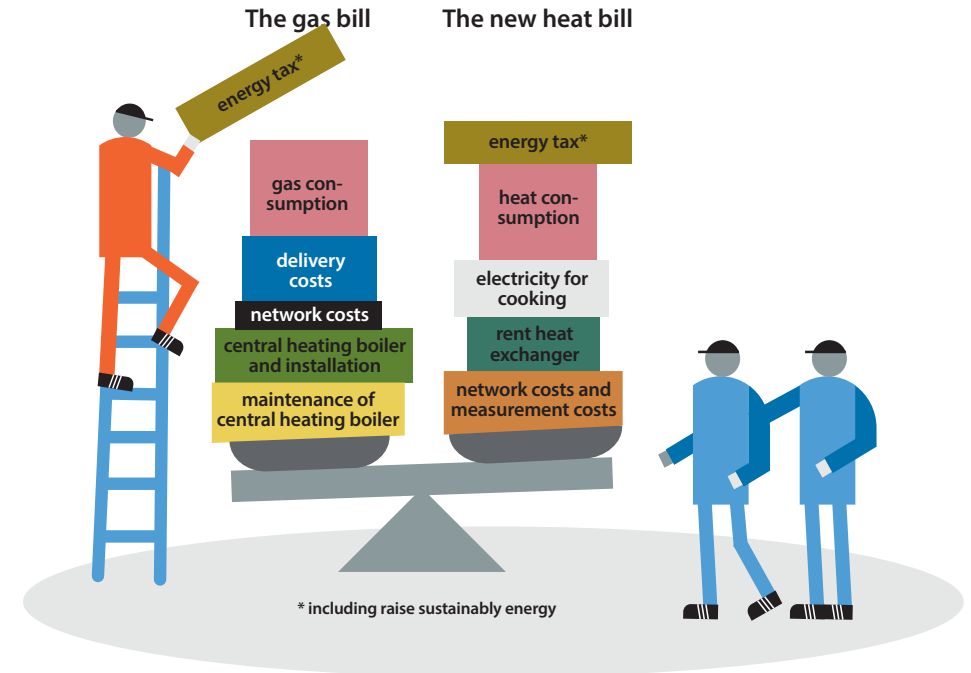
Homeowners and landlords pay a one-off contribution to the connection costs, which are comparable to the purchase and installation of a new boiler. Tenants do not have to pay these costs.

Rates

To provide an idea of the costs of the heat network, we compare it with the costs for gas and the costs for a heat pump.

District heating

How the transition to district heating financially compares to now depends on the gas price you pay. A key factor is how the gas price develops towards 2030, when most of the homes will be



connected. The gas price fluctuates with developments in the global market. See the graph on page 18. Since the price is fluctuating so much, it is hard to say what the price of gas will be in 2028. The same applies to our heat network.

The price of energy in the future

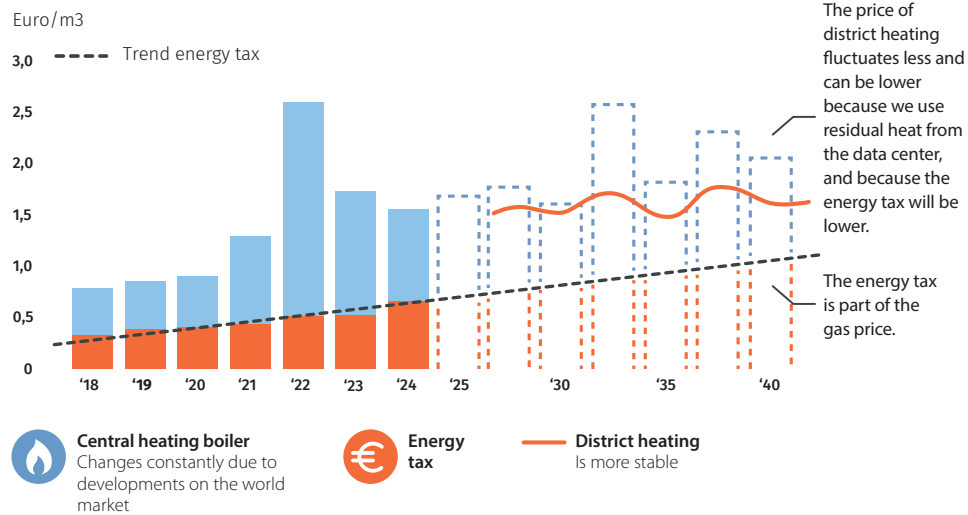
A fixed component in the gas price for consumers is the energy tax. The energy tax determines a large part of the gas price, currently more than 50%, and will continue to rise because the government wants to curb gas consumption. The energy taxes for electricity has risen less over the past years, and for a large consumer (like the

heat network), the price of electricity is much lower. Both are favourable for the price of our heat network. It ensures that we can offer price stability in the long term, which is a reassuring prospect for participants in the heat network.

District heating versus a heat pump

The comparison with an all-electric solution for heating is more relevant. After all, a heat pump is also a future-proof solution on the way to a natural gas-free city. The costs of a heat pump depend on the home in terms of insulation and ventilation and the heat emission system (type of radiators or underfloor heating). In general, the

Development of gas price vs price for district heating



required investments are much higher, but the annual costs can be lower. On page 6, there is a comparison between the advantages and disadvantages of district heating versus a heat pump.

No more hassle

Once you are connected to the heat network, you will never have to purchase or install a new boiler or another device again. If your heat exchanger needs to be replaced, MeerEnergie will arrange a new one. Maintenance for the heat exchanger will also be managed by MeerEnergie.

When do I have to pay?

You will start paying from the moment your home is connected to the heat network. You will then pay a monthly amount



“The strength of our heat network is that all neighbours can participate; it fosters connection between neighbours. Individual or commercial alternatives are more expensive for society and are also more expensive for the residents. In addition, they do not provide the community spirit of a local heating company, which ours does.”

Wim van der Woerd,
Technology Board Member of
MeerEnergie

in advance, just like with your current energy provider. At the end of the year/term, this will be settled against your actual consumption. To determine the amount, which we will charge in advance, we will convert your current gas consumption into gigajoules.

Annual statement

At the end of each year, we will send you an annual statement with your actual consumption in terms of heat.

The offer from MeerEnergie

Do you want to make use of our local energy source and take a significant step towards living without gas? Then you can sign now the start contract. A start contract is a formal letter of intent for connection to the heat network.

By signing the start contract:




- You indicate that you want to switch to the heat network in the future.
- You make the development of our heat network possible (together with other neighbours). If we do not have enough signatures, we will not be able to proceed.



"I really like the idea of heating your home with residual heat from the neighbourhood."

Sabine van der Snoek,
General Board Member of MeerEnergie

What are you going to sign?

 Homeowner	<p>Now:</p> <ul style="list-style-type: none"> • Start contract with rules on cancellation <p>Later:</p> <ul style="list-style-type: none"> • Connection agreement • Supply agreement
 Tenant	<ul style="list-style-type: none"> • Start contract with rules on cancellation • Supply agreement
 Landlord	<ul style="list-style-type: none"> • Start contract with rules on cancellation • Connection agreement

What do you get if you sign?

- Heating for your home (70°C);
- Hot tap water in your home;
- Connection to the heat network and maintenance;
- Participation (membership in the neighbourhood cooperative);
- A future without gas.



What to expect as a homeowner or landlord?

- Reliable connection and supply of sustainable, affordable heat as soon as the network is established.
- If your boiler needs replacement between signing the start contract and connecting to the heat network, MeerEnergie will assist with a joint solution with a rental or second-hand boiler in collaboration with a partner.
- Opportunity to participate in a joint purchasing action for induction cooktops.
- Contribution towards modifications to your fuse board (up to €100). In some of the homes, this modification is necessary to install an induction cooktop.
- Selling your home? The new owner will receive the same conditions as you (if they want to).

What to expect as a tenant?

- Reliable connection and supply of sustainable, affordable heat as soon as the network is established.

- MeerEnergie will arrange everything needed for the connection with your landlord.

You will get a benefit if you sign before January 31, 2025:

Homeowners: 10% discount on the net contribution to the connection costs of the heat network.

Tenants: 10% discount on variable heat consumption in the first year after connection.

And... if you can demonstrate that at least five other neighbours also sign because of you, you will have a chance to win a year of free heat!

If you sign, can you still opt out?

You can rely on the following rules on cancellation:

1. If the monthly costs at the start of the heat supply from district heating are higher than the prevailing rates for alternatives in your situation.
2. If the landlord, homeowners' association (VvE) or tenant, other than the signatory, does not agree to sign the connection and supply agreement.
3. If the property is sold before signing the connection and supply agreement.

See the start contract for more information.

Want to know more?

We would love to explain.

Let's have a chat!

Come to our 'buurtwarmteloket' on the Mariotteplein playground. See our website for the opening hours:

www.buurtwarmtenet-watergraafsmeer.nl

Questions?

Email us at: info@meerenergie.amsterdam

Want to stay updated?

Sign up for our newsletter or follow us on Instagram.

Do I have to sign now?

Yes! It might seem early to sign up for district heating in 2028 or later, but your signature is important to show that there is enough support for the heat network in the neighbourhood. The network will only be established if at least 85% of all residents participate. Make your future wishes visible by signing. Without enough signatures we will not be able to make our heat network possible.

Want to do more for MeerEnergie?

Are you enthusiastic about MeerEnergie



and want to become involved? Let us know, and we will contact you. Scan the QR-code



"Great neighbourhood initiative, count me in!"

Yvonne van Asselt,
candidate board secretary
MeerEnergie



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Timo Sorber and local residents

@ MeerEnergie

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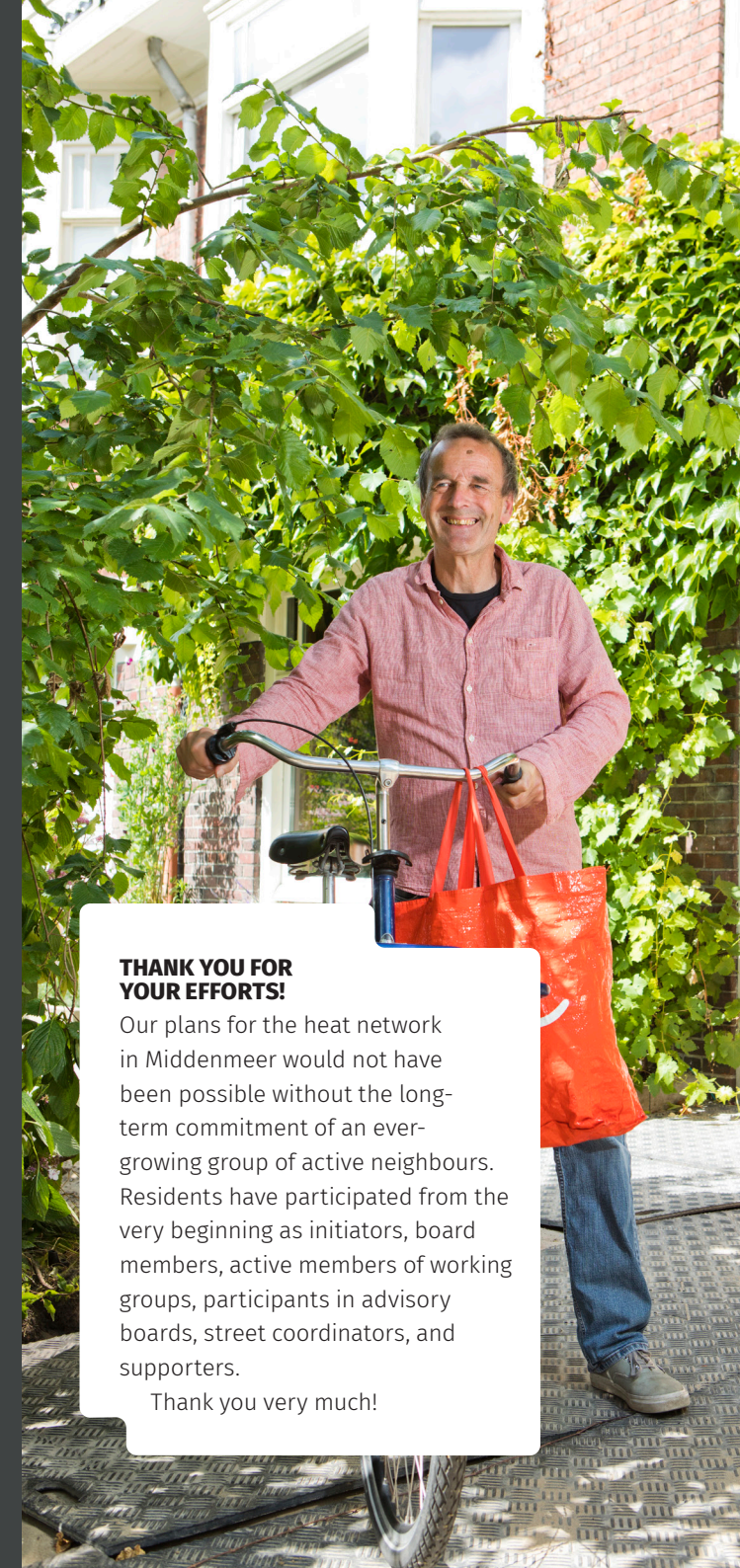
Website

www.buurtwarmtenet-watergraafsmeer.nl

This brochure is published by the local cooperative MeerEnergie and describes a project in development as of September 2024. MeerEnergie plays a pioneering role in developing district heating in the Netherlands. Adjustments may be necessary or desirable along the way. No rights can be derived from the content, including texts and images.

MeerEnergie collaborates with the Municipality of Amsterdam and infrastructure specialist Firan.

 MeerEnergie



THANK YOU FOR YOUR EFFORTS!

Our plans for the heat network in Middenmeer would not have been possible without the long-term commitment of an ever-growing group of active neighbours. Residents have participated from the very beginning as initiators, board members, active members of working groups, participants in advisory boards, street coordinators, and supporters.

Thank you very much!

The advantages of a local heat network



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Alternative to gas, which Amsterdam wants to phase out by 2040;



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