

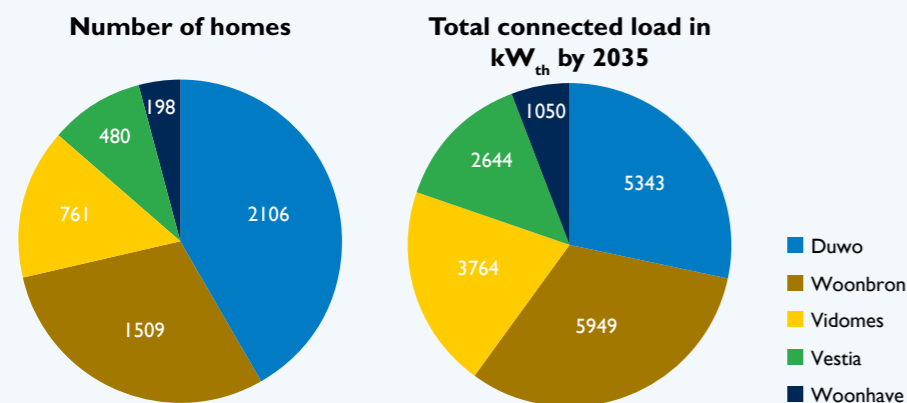
Summary Open Heat Network Delft (OHND)

Housing corporations DUWO, Vestia, Vidomes and Woonbron want their tenants in the Voorhof and Buitenhof districts to enjoy living in a comfortable and warm house for a long time to come. This is why they are investigating together with the municipality of Delft, grid operator NetVerder and EQUANS the possibility of whether, in the future, these districts can be heated by a heat network that will be fed by sustainable sources. In doing so, the parties are taking a major step together towards a natural gas-free future.

Planning OHND (status March 2022)

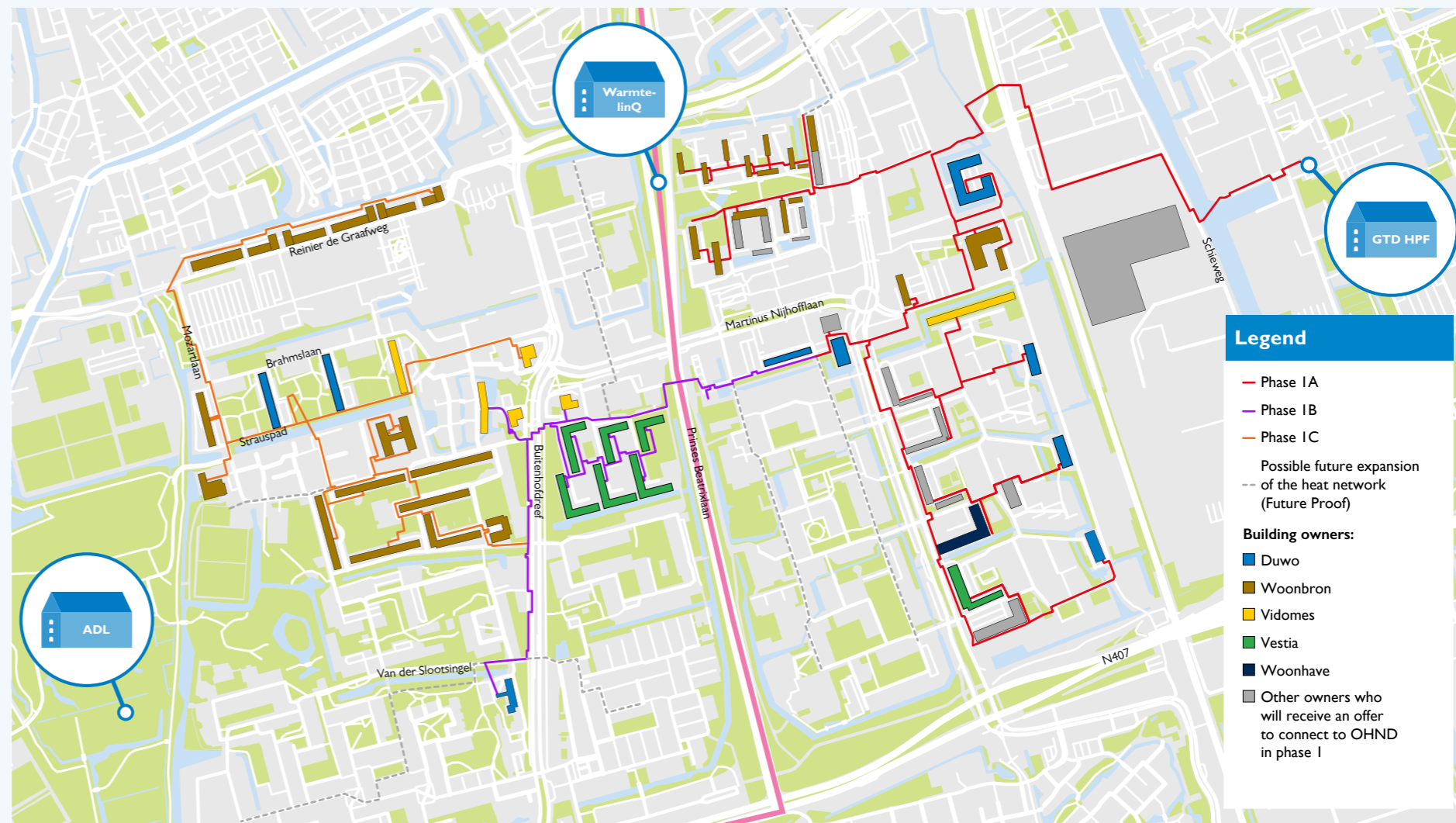
- Q1 2022: Conditional investment decision Open Heat Network Delft
- Q2 2022: Contracting the work
- Q4 2022: Definitive investment decision Open Heat Network Delft
- Q1 2023: Permits
- Q2 2023: Start construction of heat network and heat pump facility
- 2024: Connection of first buildings

Information per housing corporation



In 1st phase a total of at least **5054** homes

Ultimately, 15,000 homes and a number of companies should be connected to the heat network. This is facilitated in part by the Delft 2040 Fund.



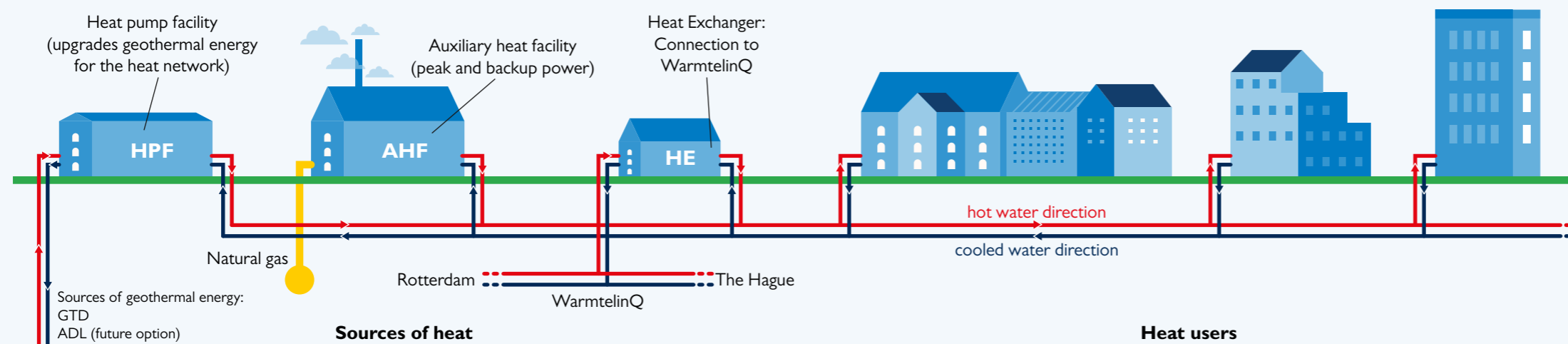
Legend

- Phase IA
- Phase IB
- Phase IC
- - - Possible future expansion of the heat network (Future Proof)

Building owners:

- Duwo
- Woonbron
- Vidomes
- Vestia
- Woonhave
- Other owners who will receive an offer to connect to OHND in phase I

Heat sources and users



Potential sources and temperatures

1. Geothermie Delft (GTD): geothermal energy
2. WarmtelinQ (WLQ): residual heat from
3. Aardwarmte Delfland (ADL): geothermal energy

Temperature in the network is 70°C to 90°C (at -10°C outside temperature). In the long term to be reduced to 70°C year-round.

Starting points

The heat that will be fed into this heat network must be as sustainable as possible. This sustainable heat will come from the planned geothermal heat source at TU Delft and, in principle, in the long term also from residual heat from the port of Rotterdam via WarmtelinQ. With the aid of the municipality, NetVerder is building an extendable heat network to which, in time, multiple suppliers and users can be connected for the supply and consumption of sustainable heat. This is known as an open heat network.

The four housing corporations, EQUANS and NetVerder guarantee that residents' costs for heating will not change at the time of connection. This relates to average consumption in a year with average weather conditions. This means that at the time of connection, the costs for heating will remain the same for tenants (after which they will be indexed each year, as is usual).

Perspective tenant (compared to the current situation with natural gas)

- NMTTC (No More Than at the Time of Connection): in an average year, the tenant will not be paying more for heat, the costs will remain the same.
- No consent required: no changes to the property or the invoice (unless renovation, then 70%).
- Same level of comfort.
- Possible inconvenience in the neighbourhood due to excavation work, no inconvenience in the home (unless renovation).

Perspective EQUANS

- Heat supplier.
- Construction of heat pump facility (HPF), production and purchase of heat for own account and risk.
- Contract duration 15 years.
- In principle, the supply of heat will start within two years after the start of the construction of the heat network.

Perspective NetVerder

- Grid operator.
- Realisation Future Proof heat network in Buitenhof and Voorhof is being financially facilitated by the municipality of Delft (Delft 2040 Fund)
- Loan from municipality for incremental costs Future Proof (= around 15,000 homes instead of 5,000).
- Contract duration 30 years.
- Renovations of homes welcome, but first years not necessary for OHND because the supply temperature in the network is still high then.

Perspective municipality

- Role of coordinator in heat transition.
- Climate ambitions: Delft natural-gas-free by 2050.
- Financially and otherwise facilitate construction of Future Proof network to allow other users in the Buitenhof and Voorhof districts to also connect to the heat network.

Perspective housing corporations

- Connection costs:
 - One-off contribution for connection and delivery costs.
 - Additional costs such as possible boiler room and piping adjustments.
- Tenants' bills do not change (NMTTC), bill to the housing corporation will change (higher standing charge, lower variable charge).
- No consent required from tenant, unless renovation.
- Connection to the heat network within 2 years after the start of construction.
- Contracts for 30 years (NetVerder) and 15 years (EQUANS).
- Renovations depend on corporation's room for investment.

Perspective local residents and entrepreneurs

- Inconvenience caused by construction work, temporary road closures and tree felling.
- In time, a connection to OHND may be a possibility.
- Future initiatives for new connections are taken by residents and/or, for example, a new heat supplier.

Communication

- No changes for tenants (unless it is combined with a renovation):
 - Costs for heat remain the same (at the time of connection)
 - Same level of comfort
- Inconvenience caused by construction work and temporary road closures.
- Not yet natural gas-free (but natural-gas-free-ready).
- Cooking: for the time being by means of gas, in the long-term using electricity (not part of OHND).
- Key message: living comfortably for a long time to come, improving sustainability step by step.

Sustainability

- Geothermal heat (fossil-free) but, for the present, with the use of grey electricity for heat pumps and natural gas (peaks).
- Heating curve 70-90 degrees (high temperature heat network).
- Intention to further insulate the houses as soon as possible.
- Lowering the heating curve to 70 degrees year-round = more sustainable (medium temperature heat network).

