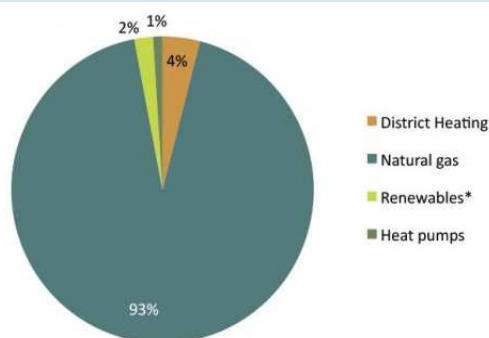


## NETHERLANDS – national policy framework

### Current state of District Heating (DH) in the Netherlands

980MWth total installed DH capacity \* 4 000 km of pipelines for DH transport and distribution  
 80% of DH comes from direct renewables or recycled heat

In the Netherlands, heat supply from district heating schemes represents a relatively small proportion of total heat supply. As of 2013, approximately 4.4% of dwellings in the country are connected to one of the 400 district heating schemes. The total share of district heating is slowly increasing, part due to the growing recognition of the positive contribution that combined heat and power (CHP) and district heating can make towards meeting environmental objectives. There is a large opportunity for growth in district heating, but the potential is uncertain due to changes in the regulations caused by the Dutch Heat Act. The long-term perspectives will largely depend on energy prices, impact of liberalisation and government environmental policies. The Netherlands has huge domestic reserves of natural gas, which is used for heating, industrial processes and electricity. Due to these large reserves, the majority of heating in the Netherlands is predominantly met through natural gas domestic boilers, as shown on the graph. District heating accounts for only approximately 4% and 90% of this district heating in 2013 was generated from direct renewable source and recycled heat. In the Netherlands, the four main district heating companies own the majority of the 4,000 km of transport and distribution infrastructure. Furthermore, several operate their own CHP plants and a number of growing renewable energy projects, such as heat pumps, geothermal and biomass.



**Figure 1:** Share of energy sources used to satisfy heat demand in the residential sector.  
 Source: Euroheat & Power, Country profiles, May 2017

## National policies affecting 4<sup>th</sup> generation District Heating (4DHC) development

- Regulation on heat networks is in the [Heat Act](#) (in place from 1-1-2014 with changes in 2016). It is set up to protect the consumers with a connection of less than 100 kW heating capacity. [Tariffs for heat](#) are based on the principle that the costs for a household with district heat should not be higher than the costs of an individual condensing gas boiler. The ACM is the regulating body, which also sets the tariffs. For larger customers, the heat price is free. In the Heat Act there is regulation around: maximum tariff for consumers, a permit needed for delivery of heat, financial dispensation when delivery of heat is disrupted and costs of metering.
- When a municipality makes a Heat plan for an area it can state that new buildings have to be connected to a heat network for the coming 10 years. A builder can only circumvent this if he can provide a alternative which is as good as the network on energy and environmental aspects

## Other national regulations influencing energy efficiency and renewable energy investments, funding programs

- [Building code \(Bouwbesluit 2012\)](#): **Article 6.10** describes that a house will get a mandatory connection to a heat network when the network is present within 40m, when no equivalent alternative is found. This is only valid if the municipality has described this in the local heat plan.
- [Building code \(Bouwbesluit 2012\) Chapter 5](#) describes how the Energy performance of buildings and areas are calculated with Energy Performance Coefficient (EPC) and Energy performance standard for provisions at district level. Determination method (EMG) described in the [norm NEN 7125:2017](#).
- The [Gas Act](#), states that every new house should be connected to the gas network. This is mainly a barrier for the transition to other heating options since there is also regulation to connect to the heat network (in building code, see above). Recently (June 2017) it was proposed to change this in the new Gas Act proposed to start 1-1-2018, so that municipalities can decide on this locally.
- The latest [NEEAP for the Netherlands \(2017\)](#) reported to the EC, heat networks are not separately mentioned.
- The [Energy agreement \(2013\)](#) is an agreement between national government and 40 public and private organizations on measures to reach the 2020 EU climate goals. It has a separate pillar on heat: prioritisation of cost-effective use of waste heat and development of regional heat plans.
- In the [Energy agenda \(2016\)](#) – a policy under construction – a role is described for heat networks to reduce CO2 emissions and a need to transform the laws around heat networks to facilitate this. To reduce the use of gas it was proposed to: stop connecting new areas to gas infrastructure; change mandatory gas connection to an energy connection; give more responsibility to local authorities to decide on local energy systems; prepare for regulation of heat networks in same way as electricity and gas networks
- [Subsidy schemes](#) (see SDE) stimulate the use of renewables and has categories for renewable heat: solar, biomass and geothermal.

Several new developments will influence the role of district heating and renewable heating in the coming years:

- In the latest Regeerakkoord (government agreement) (2017) the ambition is to have only natural gas free new buildings in 4 years' time.
- the Omgevingswet ([www.omgevingswetportaal.nl](http://www.omgevingswetportaal.nl)) (law on the environment) gives the opportunity to incorporate a heat network in a vision
- lowering of natural gas production from the Groningen gas fields, as response to the earthquakes in Groningen, gives rise to more interest in insulation of buildings, using renewables and district heating

## Regional or local policies influencing 4DHC development

- [Local Heat plans](#) exist in a lot of regions / cities. For example in the MRA (Metropolitan Region of Amsterdam) Nijmegen, Rotterdam, Utrecht, province of Groningen, Brabant etc. Some examples:
  - o [Amsterdam has a city policy since 2005](#) that new buildings have to be connected to the heat network unless the builder had good environmental or economic reasons not to. New areas as Houthavens and Amstelkwartier are not connected to the gas network but to the heat network. Recently it made a [strategy to have a city without natural gas](#).
  - o [Utrecht has a vision for a climate neutral city](#), as part of this there is a vision on heat. Utrecht is also working on a [pilot area \(existing buildings\) that will use natural gas after 2030](#).
  - o [Province of Groningen also has a heat plan](#)
- [Green deal 'aardgas vrije wijken'](#) (fossil free neighbourhoods) where local government has the lead.

## Local and regional good practices

- In 2017, 31 municipalities, energy companies and the national government closed a [Green Deal](#) for [fossil free neighbourhoods](#) ('aardgas vrije wijken'). There are several (older) Green Deals around collective renewable heat and local energy solutions.

## BARRIERS to development of 4DHC

[Often mentioned](#) barriers to development of 4<sup>th</sup> generation district heating include:

### Policy barriers

- No open access for heat providers on network
- Lack of choice (either gas or heat network connection is mandatory) in transition to low CO<sub>2</sub>/fossils is perceived as problematic by consumers

## Financial and market barriers

- Heat prices are perceived by consumers as more expensive than natural gas and the network tariff is experienced as unfavourable when using less energy
- high costs of network
- double cost for connection gas and heat network for consumers
- the use of fossil energy production (lock in effect)
- lack of renewable heat sources

## Recommendations for policy makers – Solutions proposed

- **Incentivise local heat plans favouring district heating**
- **Make local energy heat plan as part of the overall environmental plan**
- **Raise cost of natural gas** to the end consumers – in order to lower relative cost of district heating
- **Include externalities – CO2 costs – on heating**