

From local needs to national heat strategy

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SER Energy Agreement 2013 (Energie Akkoord)

- First national overall plan on the energy transition
- Signed by 47 parties, ranging from relevant stakeholders, (local) governments, employers' associations, unions and NGO's.
- Three mistakes: Parliament was not involved, too much top-down, not clear on responsibilities

Urgenda Wins Climate Case 2015

- Against Dutch Government
- First in the world demanding 25% reduction GHG compared to 1990
- State appealed even though it took steps to meet the target set by the Court
- In December 2019 the Supreme Court confirmed the 2015 court decision

Conference of Parties (COP-21)

- The COP -21 in Paris in 2015 was a wake-up. It was a turning point for Dutch and EU climate and energy policy.
- The COP-21 not only concerned the sustainability of energy, but the reduction of all greenhouse gases.



United nations conference
on climate change
COP21/CMP11

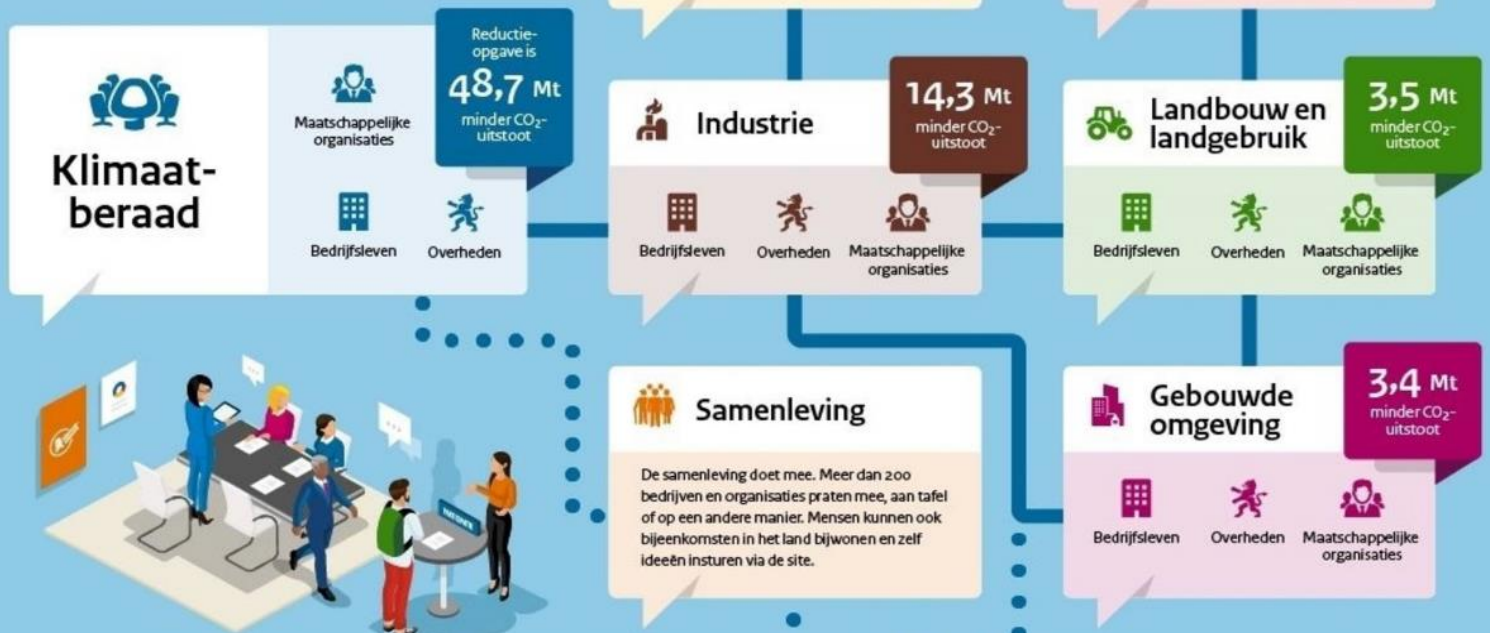
Climate Agreement (Klimaatakkoord)



- After the national elections in 2017 the national government took the initiative to get started with the climate agreement.
- Creation of sector tables with their own reduction target.
- Depending on the objective, the participants are assigned to sector tables, governments, industries, interest groups, and social groupings and labor unions.

Meer dan 100 partijen verlagen de CO₂-uitstoot van Nederland met 49% ten opzichte van 1990 via het

Klimaatakkoord



Regional Energy Strategy (RES)

- As a follow-up to the sector tables, the establishment of regional plans (RES), aimed at a strategic energy approach
- Inventory of possible sustainable sources (wind turbines, solar meadows, geothermal sources) and energy consumption
- Consultation with the stakeholders
- Regional approach, thus transcending municipal boundaries
- The total of regional energy plans must add up to the national task

District heating in The Netherlands

- Nowadays only 5% of Dutch dwellings are connected to a heat network
- National Climate Agreement: potential of district heating equals 25% - 50% of all dwellings in 2050, which demands an enormous growth of connections
- However, the current increase of new grid connections is rather low ...

From heat demand to heat supply

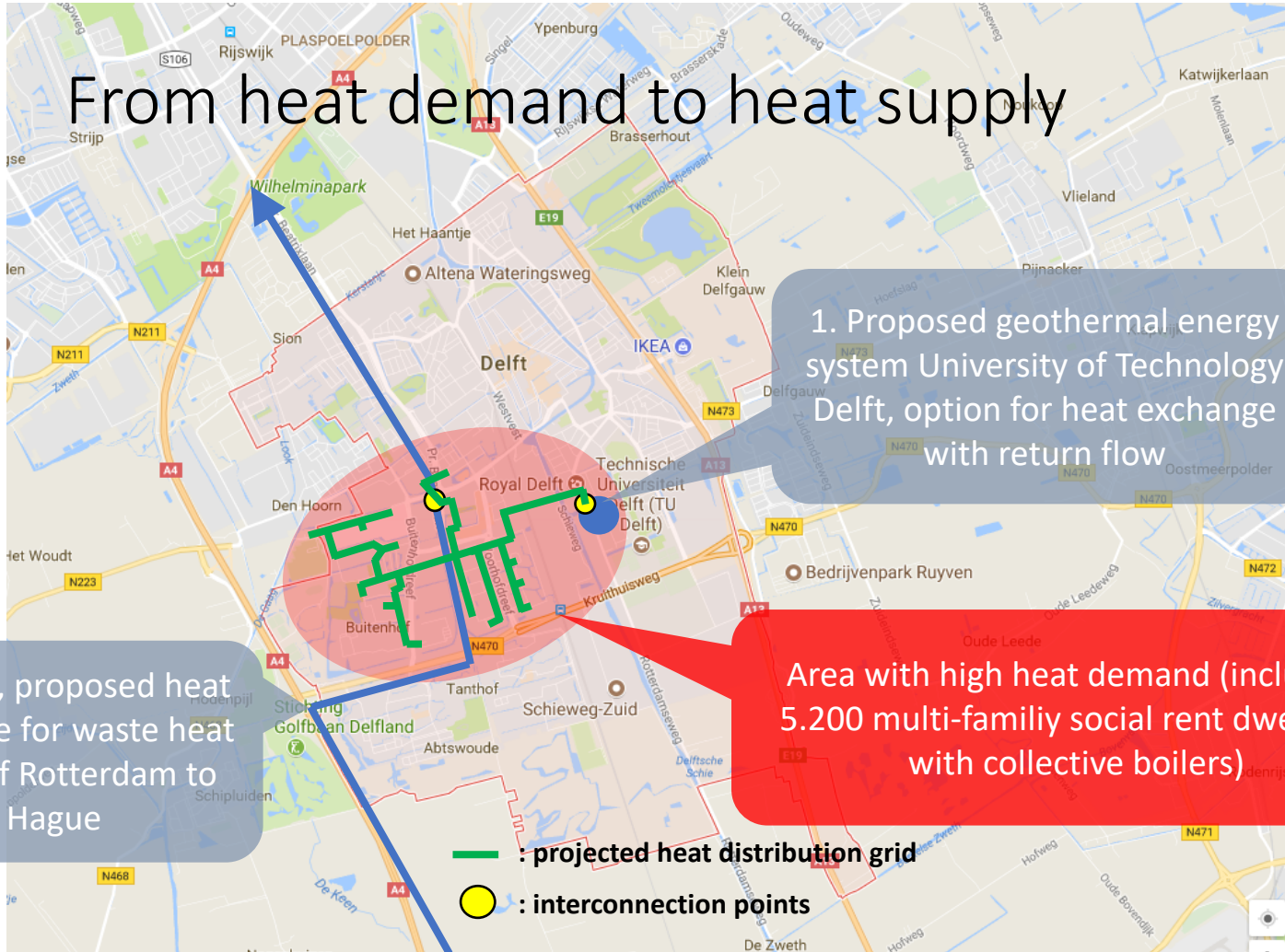
1. Proposed geothermal energy system University of Technology Delft, option for heat exchange with return flow

2. 'HeatInQ', proposed heat transport line for waste heat from Port of Rotterdam to The Hague

Area with high heat demand (including 5.200 multi-family social rent dwellings with collective boilers)

 : projected heat distribution grid

 : interconnection points



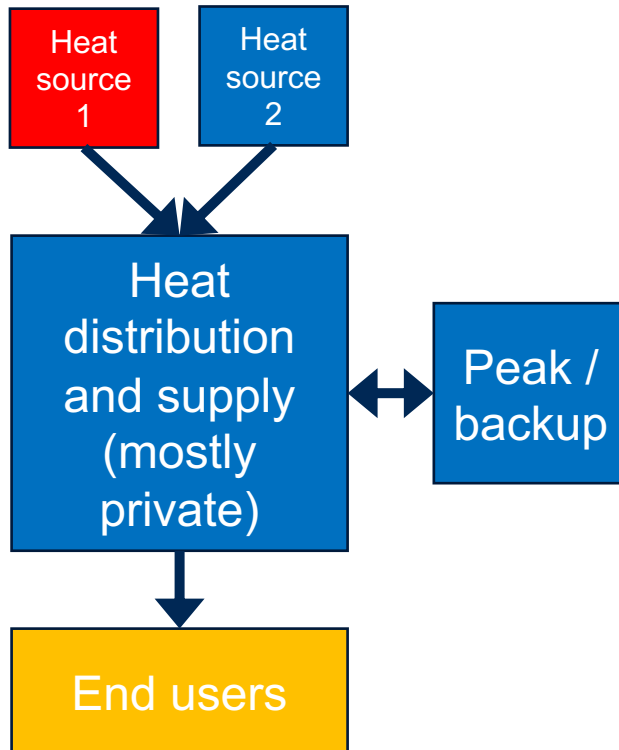
Local wishes with respect to district heating

- Cooperation municipality, local housing associations and DSO!
- Goal: open heat infrastructure
- Open: separation of heat supply and ownership network

What can boost the heat market?

- All energy infrastructure (also for heat) 100% publicly owned:
 - district heating will become a vital infrastructure, like electricity
 - affordability asks for smart local trade-offs between different energy infrastructures
- Competition needed amongst heat suppliers on 1 grid:
 - to break through the dominance of only 4 big market players
 - to get transparency in business cases and fair rates

Current heat market model in The Netherlands: monopoly for supplier, no choice for end users



Proposed heat market model for Delft, amongst others, with division between supply and distribution

