

UTES in The Netherlands

Gerdi Breembroek, The Netherlands

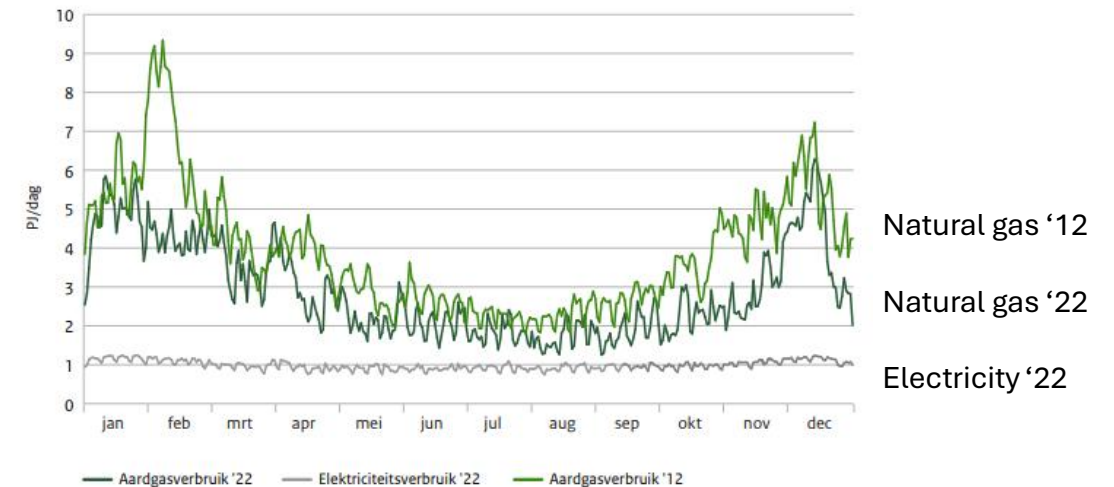
UTES Workshop
22 May 2025, Vienna



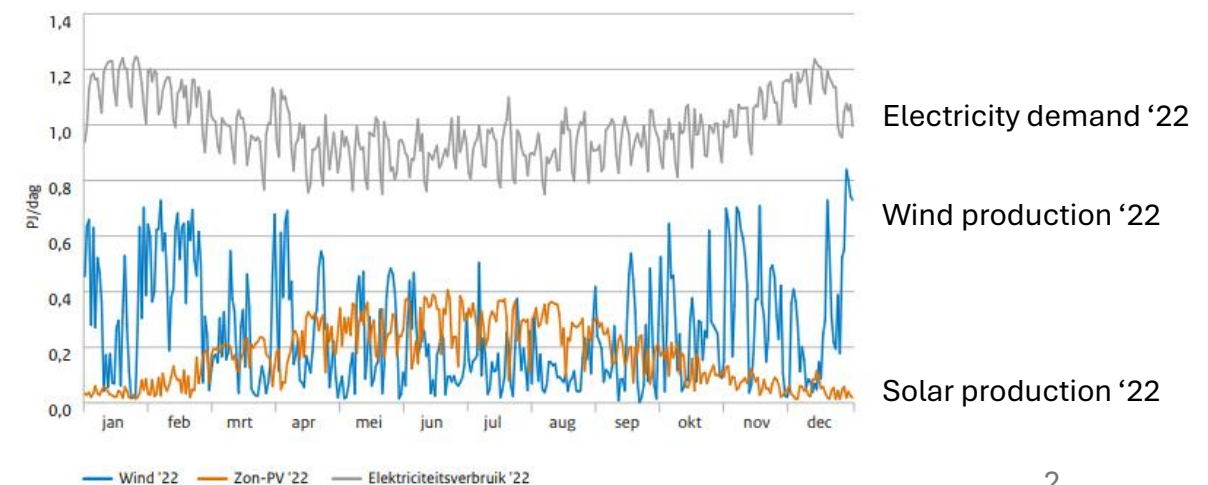
UTES Policies in The Netherlands

- Legal CO2 reduction target of 55% compared to 1990
- Climate policies address the power generation, industry, built environment, mobility and agriculture
- Long term vision on energy system ([NPE, 2023](#)), electricity, molecules, heat and carbon chains
- [Roadmap energy storage](#) approved by Parliament, 2023, electricity, molecules, heat

Figuur 2a Fluctuaties in aardgas- en elektriciteitsverbruik in Nederland



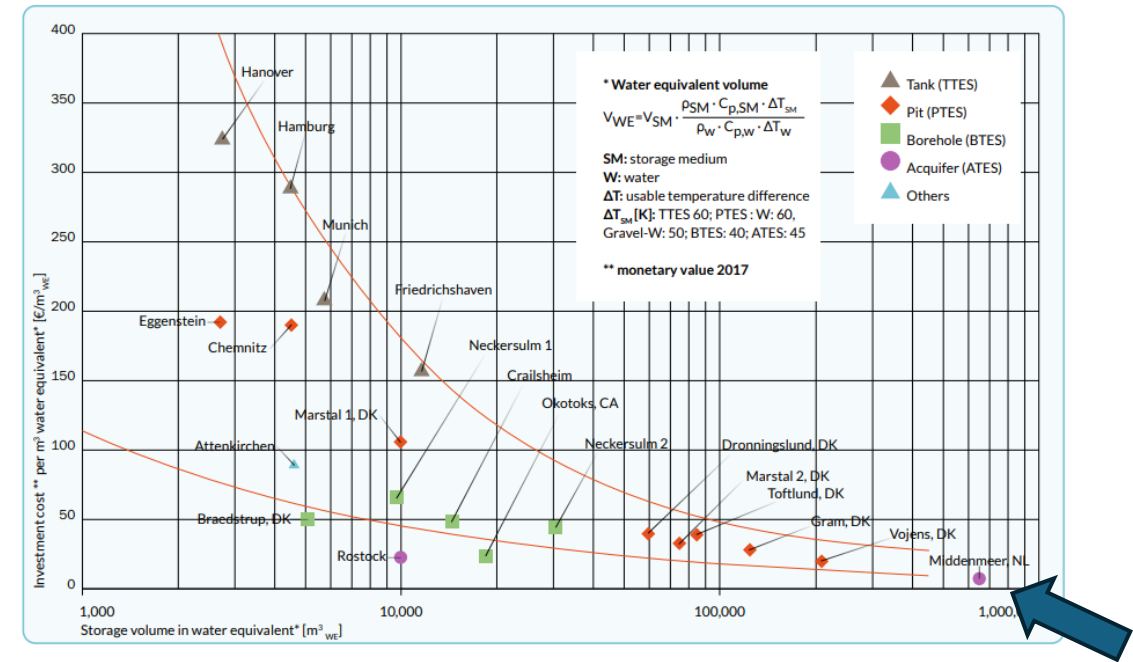
Figuur 2b Fluctuaties van aanbod in wind- en zonne-energie en vraag naar elektriciteit in Nederland



UTES Business Cases in The Netherlands

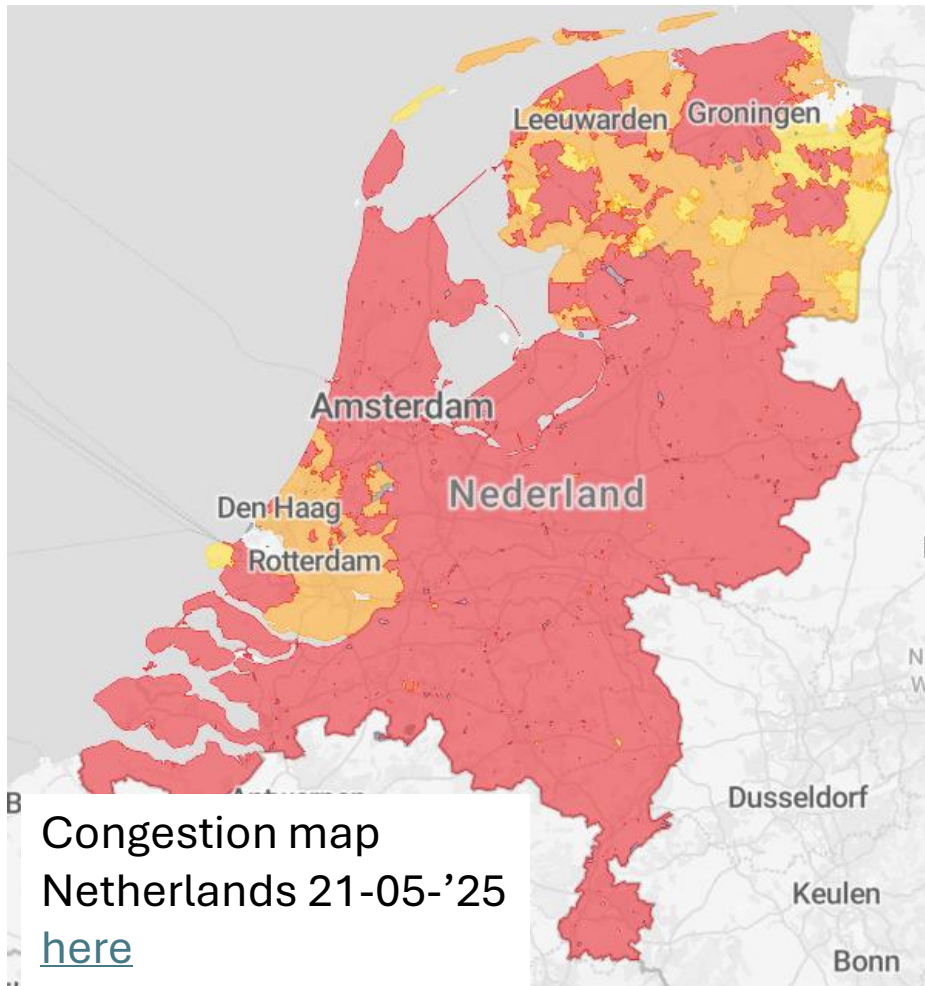
- ATES, open systems, is economically viable for commercial buildings Seasonal storage for both heating and cooling.
- Roll-out since 1990s
- HT-UTES is demonstrated and piloted supported by subsidies
- Little data on business cases for HT-UTES

Figure 15 Specific storage cost of UTES demonstration plants. Including all necessary costs for building the storage device, without design, without connecting pipes and equipment in the heating plant without VAT. Source: Solites



From HEATSTORE [HEATSTORE – Roadmap for flexible energy systems with underground thermal energy storage towards 2050.pdf](#)

Wider system benefits in the discussion



- Grid congestion really problematic
- Electrification of industry hampered by grid congestion
- Significant investments in the electricity grid are announced – supposing 20% of winter heat demand with heat grids
- The words ‘season’ and ‘winter’ are too much absent in our discourse about the energy system
- Thermal storage needs to be incorporated in integrated assessment models and the likes.