



The natural gas phase-out in the Netherlands

Katja Kruit & Emma Koster



CE Delft

- Independent research and consultancy since 1978
- Transport, energy and resources
- Know-how on economics, technology and policy issues
- 80 employees, based in Delft, the Netherlands
- Not-for-profit



Clients



Private sector
(Small and medium size enterprises,
transport, energy and trade
associations)



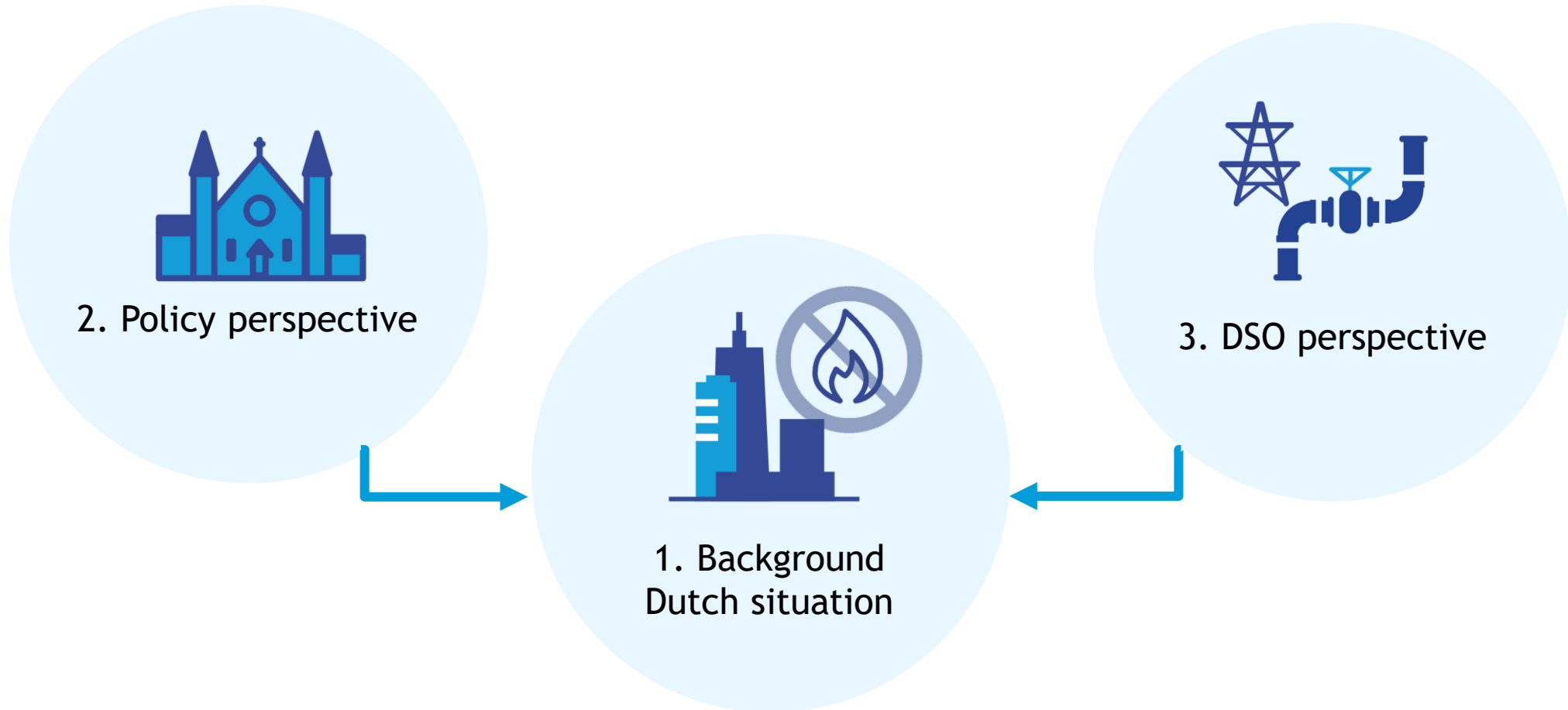
Governments
(European Commission,
European Parliament,
regional and local governments)



NGOs

The natural gas phase-out in the Netherlands

<https://cedelft.eu/publications/the-natural-gas-phase-out-in-the-netherlands/>



Background

Dutch climate goals



1. Background



2. Policy



3. DSOs



2015 Paris Climate Agreement



European Union:

- Climate neutrality by 2050
- 55% reduction in emissions by 2030



Dutch Climate Agreement (2019):

- 49% reduction of greenhouse gases by 2030
- 95% reduction by 2050



Built environment:

- All buildings heated without natural gas by 2050
- 1.5 million (of the almost 8 million dwellings) heated without natural gas in 2030

Additional public support:

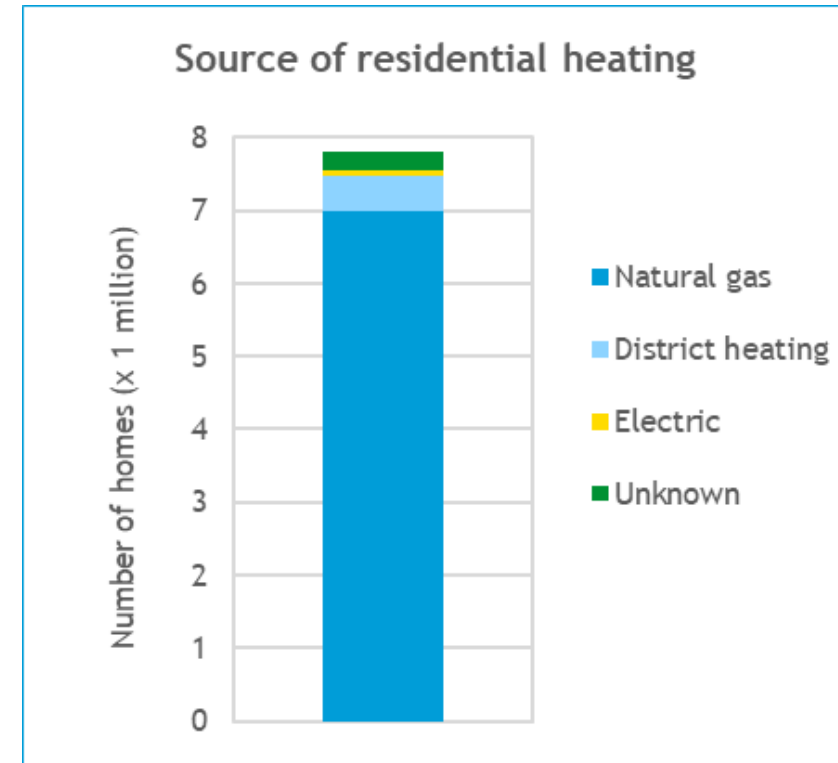
- Natural gas extraction identified as cause of earthquakes in Groningen
- Ukraine war

Background

Current situation



- 17.4 million inhabitants
- 8 million residential buildings
- Maritime climate
- Natural gas main source of heating since 1960s



Background

Progress so far

- 27% GHG reduction since 2000
- Decrease in use of natural gas
 - Insulation
 - Efficient appliances
 - Reduced gas for cooking
 - Climate change (temperature)
- Increase in gas-free homes
 - Mostly new dwellings!



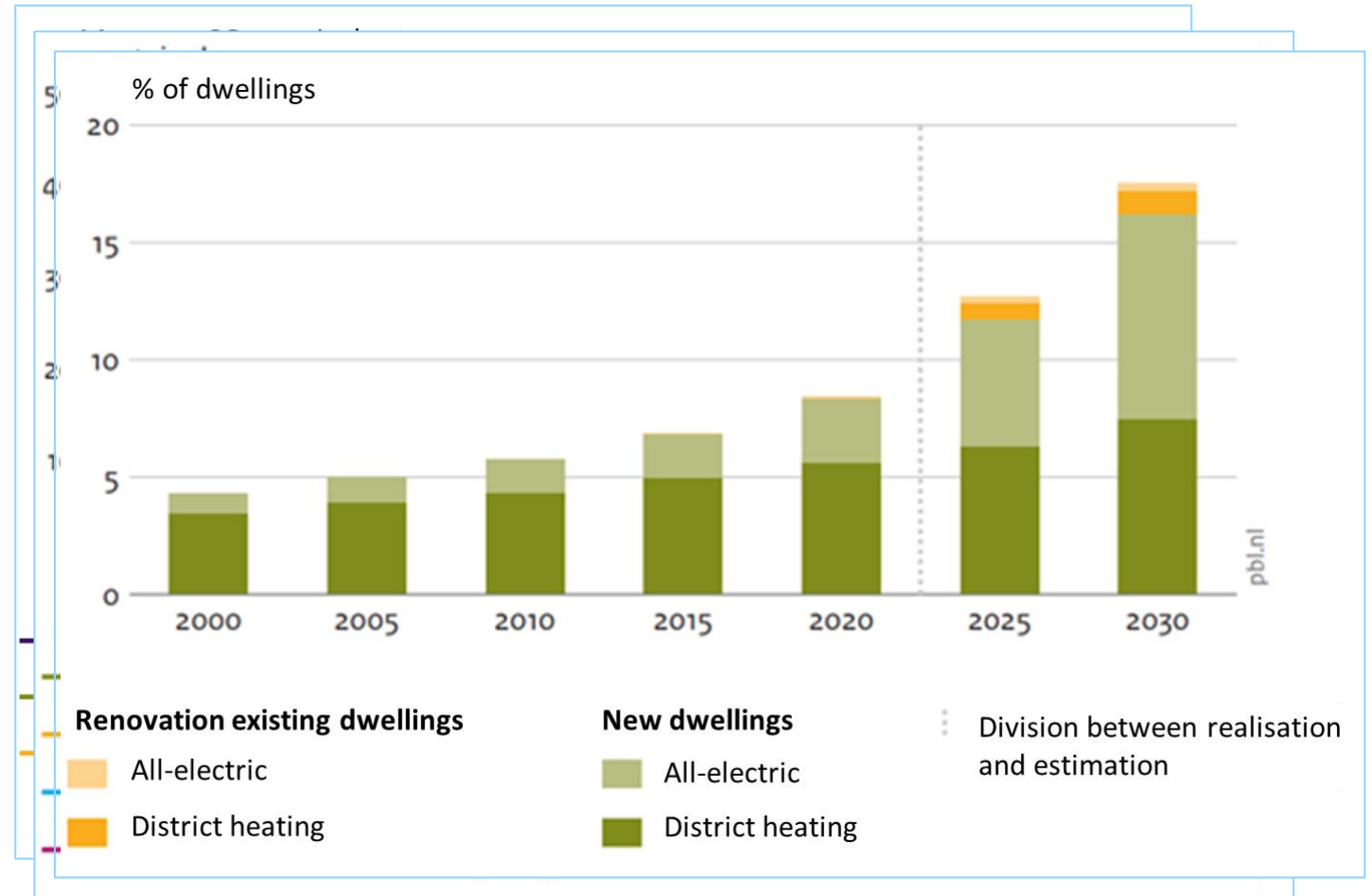
1. Background



2. Policy



3. DSOs



The Dutch approach

Core principles

- Affordability
 - Cost-neutrality?
 - Energy poverty
- Feasibility
 - Right conditions for stakeholders
 - Legislation



The Dutch approach

Stakeholders



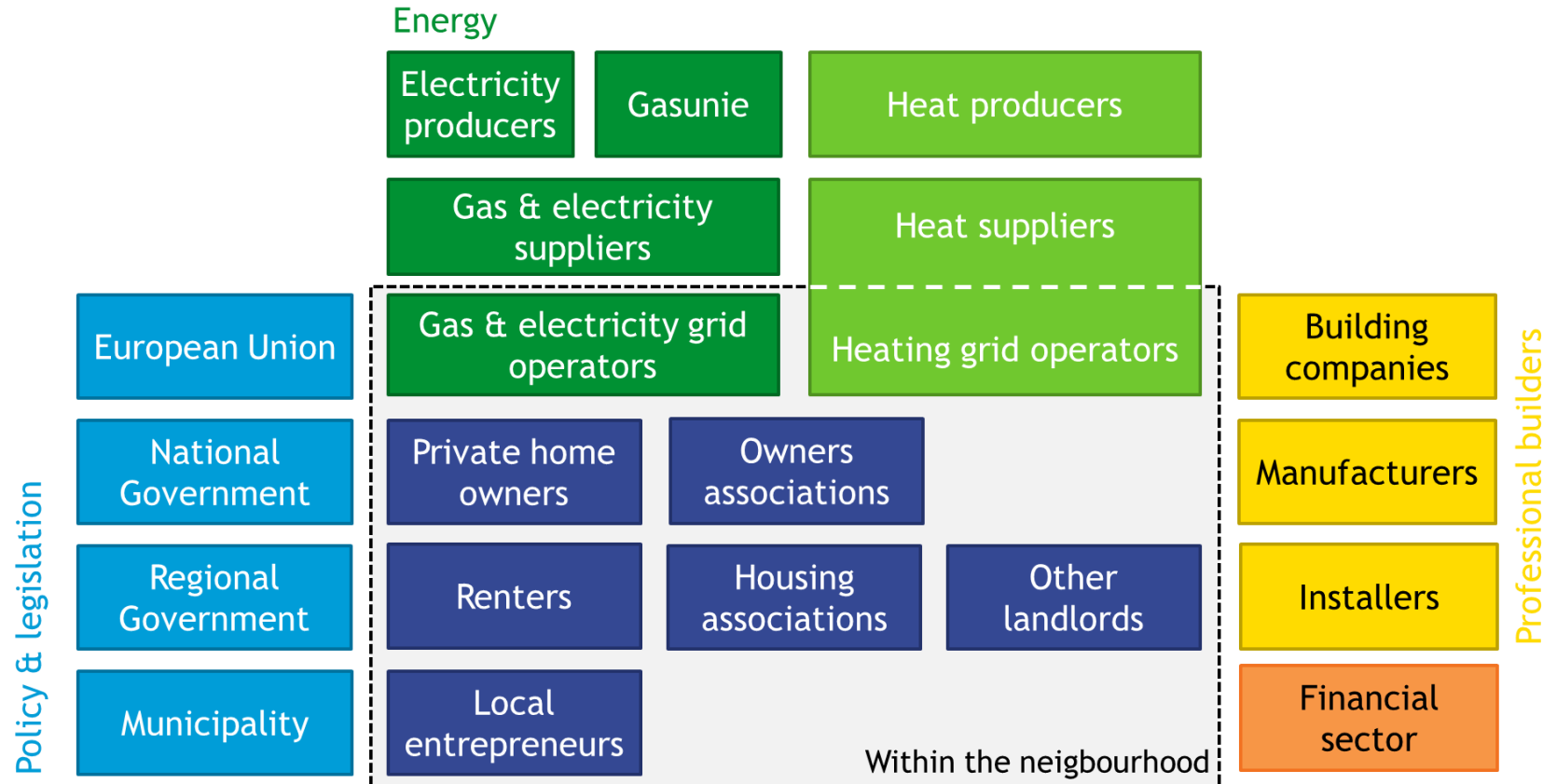
1. Background



2. Policy



3. DSOs



The Dutch approach

Policy measures



1. Background



2. Policy



3. DSOs

1. Regulation to enforce sustainable heating for new construction
2. Energy performance of buildings
3. Energy taxes on gas and electricity
4. District-oriented approach, where municipalities create local heating plans and run pilots;
5. Voluntary and binding agreements with housing associations
6. Subsidies and loans for energy efficiency & sustainable heating

The Dutch approach

Policy measures



1. Background



2. Policy



3. DSOs

1. Regulation to enforce sustainable heating for new construction
 - Change in Gas Act (Gaswet): grid operators are prohibited from connecting new buildings to gas grid
 - NZEB requirements (EPBD)



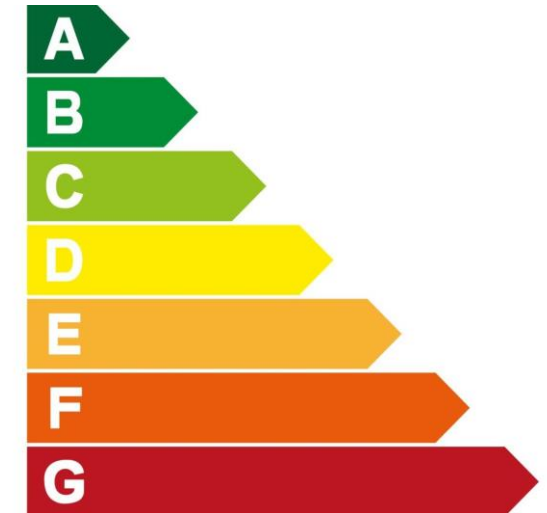
The Dutch approach

Policy measures



2. Energy performance of buildings:

- Required energy label monitoring
- Mandatory minimum energy label C for office buildings by 2023
- Agreement with housing corporations: average label B by 2021
- Guidelines for energy performance of dwellings



The Dutch approach

Policy measures



3. Energy taxes on gas and electricity

- Degressive: lower rates for high-volume users
- Gradual increase for gas, decrease for electricity (“slide”)



The Dutch approach

Policy measures



1. Background



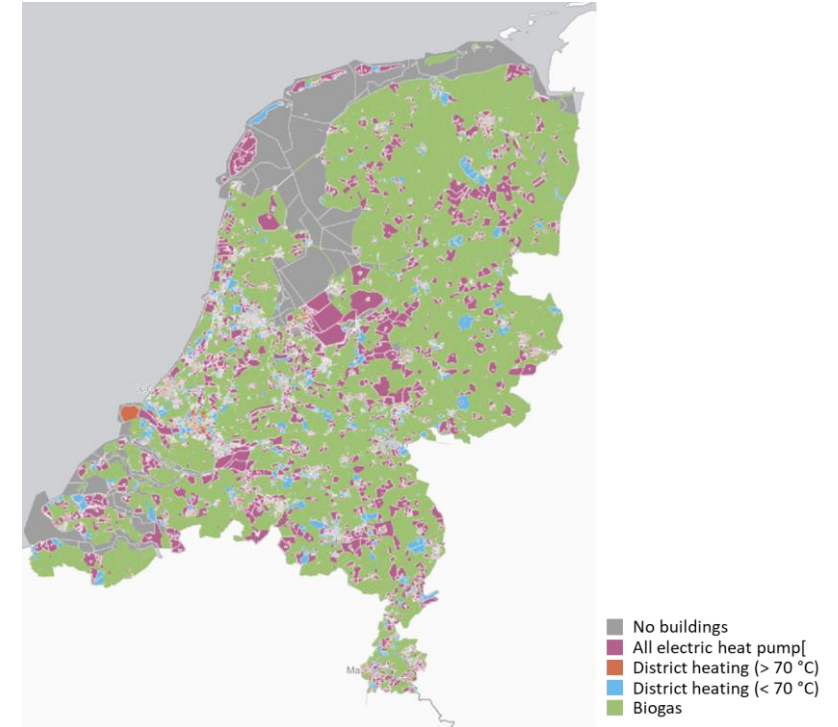
2. Policy



3. DSOs

4. District-oriented approach

- Programme for Natural Gas-Free Districts: funding, identifying barriers, share experience.
- Municipalities required to make local heating plans & neighborhood execution plans
 - Based on lowest cost
- Municipalities have limited legal power



The Dutch approach

Policy measures



1. Background



2. Policy



3. DSOs

5. Voluntary and binding agreements with housing associations

- Start Motor framework agreement: 100,000 units natural gas-free (or sufficiently insulated) by 2022
- Energy performance restitution (EPV): regulated rent increase
- Voluntary agreements with municipalities
- Performance agreement with national government: average energy label B by 2020

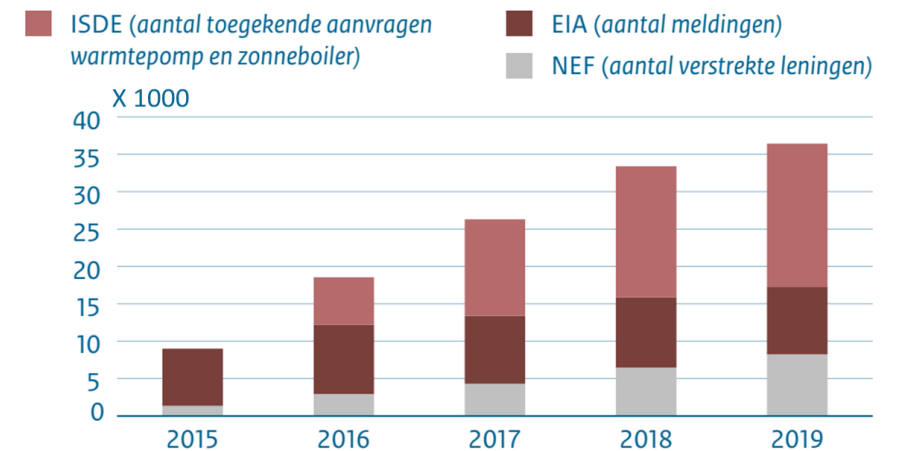
The Dutch approach

Policy measures



6. Subsidies and loans for energy efficiency & sustainable heating measures

- Insulation
- Heat pumps
- PV panels



The Dutch approach

Recent developments



1. Background



2. Policy



3. DSOs

- Coalition agreement
 - Organising large-scale insulation efforts through a ‘**national insulation programme**’.
 - Towards minimum insulation requirements (**phasing out worst performing buildings**).
 - Requiring heating installation suppliers to install an **increasing number of (hybrid) heat pumps** when replacing existing condensation boilers (similar to UK Market Mechanism)
 - Requiring energy companies to blend green gas with natural gas to a minimum percentage.
 - Creation of an educational programme that aims to increase the availability of technical staff.
 - Creation of a large fund that provides subsidies for insulation, (hybrid) heat pumps, district heating and other interventions.
 - Subsidising currently unprofitable district heating network business cases.

Perspective of grid operators

Overview

- Energy systems are unbundled
 - Supply - generation - transport - distribution
- Grid operators are commercial companies, whose shares are in public hands
 - 1 electricity TSO
 - 1 gas TSO
 - 7 DSOs that distribute both gas and electricity
- Three interviews (Gasunie, Liander and Stedin)
- Tariffs are regulated and based on costs and benchmark on efficiency and performance



1. Background



2. Policy



3. DSOs



Perspective of grid operators

Developments



1. Background



2. Policy



3. DSOs

- Need for more electricity grid capacity to accommodate heat pumps, EVs, delocalized generation, etc
- Early depreciation of the gas grid due to natural-gas phase-out
- Opportunity to use grids for sustainable gasses, yet availability uncertain

Perspective of grid operators

Impact on business operations



- Reinforcing the electricity grid
 - Uncertain where and how much
 - Tariff regulation looks back, not forward
- Development of sustainable gasses
 - Pilots
 - Training on safety and maintenance
- Finding the right employees
 - Shortage in trained employees
 - New skills and capabilities
 - Keeping motivation up

Perspective of grid operators

Bottlenecks in policy and regulation



- Tariff regulation
 - Increased need for financing
 - Investment plans based on uncertain developments
 - Reflect early depreciation in current tariffs
- Right to shut off last remaining consumers
- Clear role and permission to innovate
 - Sustainable gasses
 - Pilots surpass current role

Reflection



1. Background



2. Policy



3. DSOs

- Progress lags behind Climate Agreement:
 - 1,5 million homes natural gas-free → toned down
 - Energy efficiency targets not met
- Increased public support due to Ukraine crisis
- Path forward:
 - Subsidies & pricing > regulations & facilitation
 - Renovation of existing buildings
 - Phase-out of gas boilers
 - Decarbonising energy carriers
 - Overarching coordinated implementation programme

Thank you!

The natural gas phase-out in the Netherlands

<https://cedelft.eu/publications/the-natural-gas-phase-out-in-the-netherlands/>

- Katja Kruit
- kruit@ce.nl