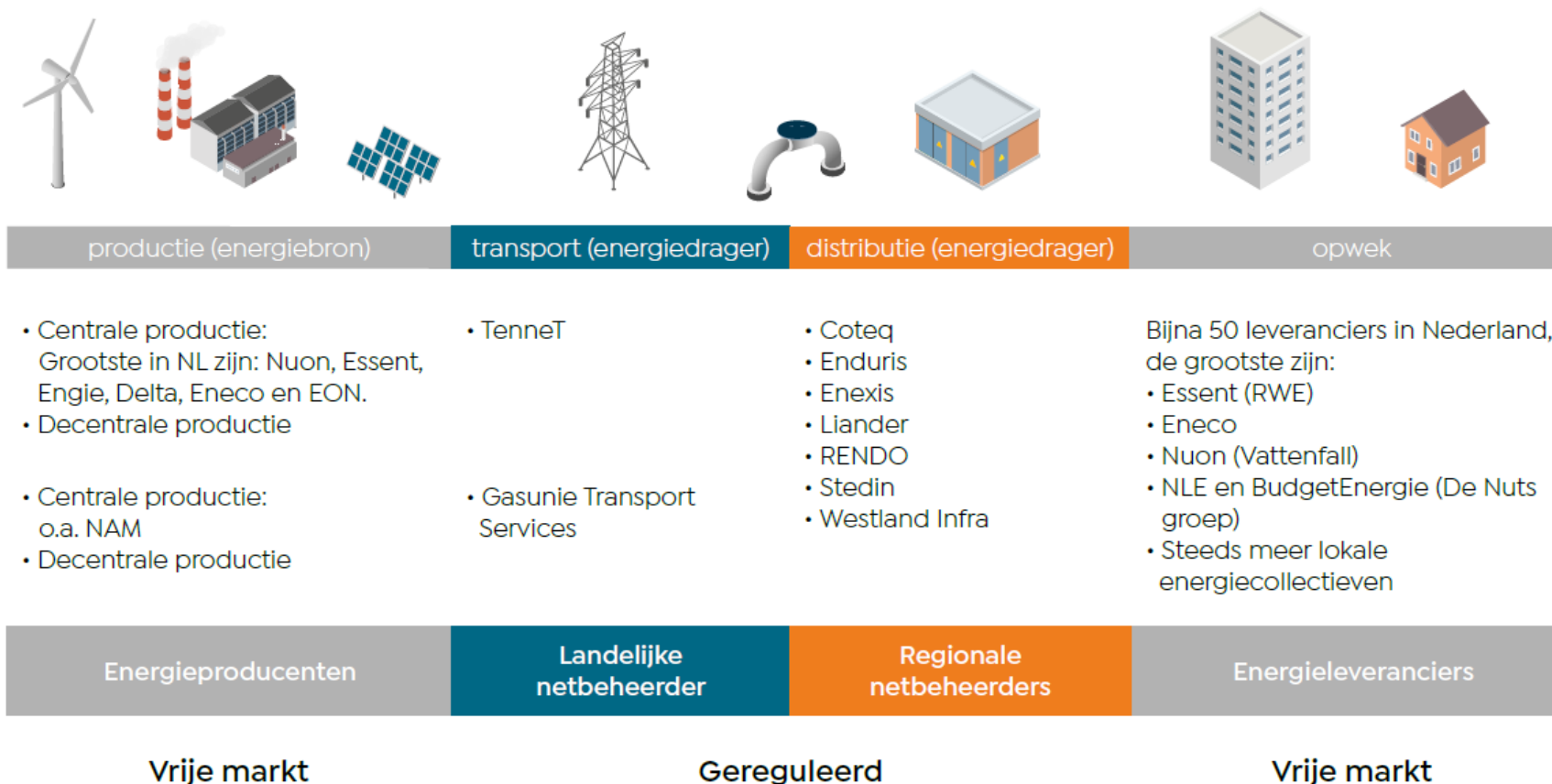


Hydrogen plan Hoogeveen

Hydrogen for heat in residential areas

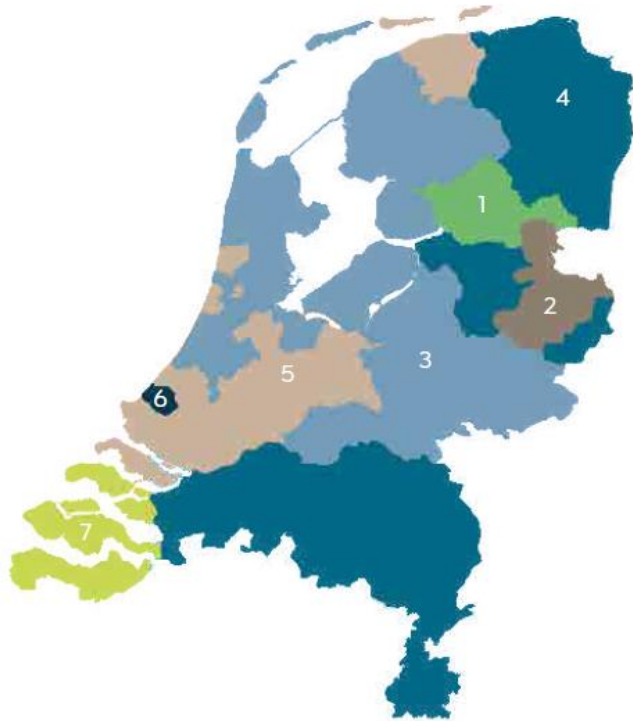


Different parties play a role in Dutch gas system



Dutch distribution grid operators

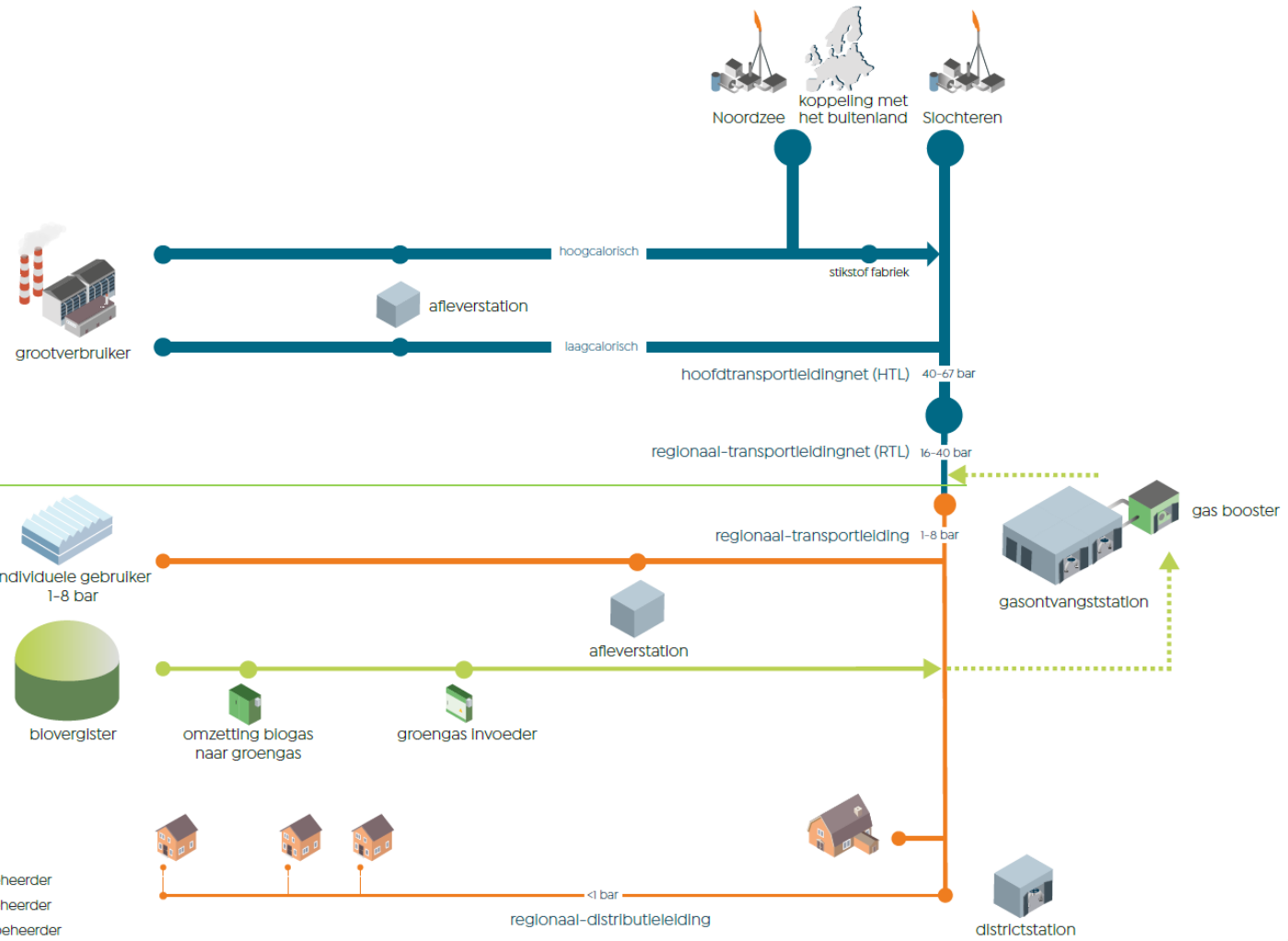
gasunie
crossing borders in energy



- 1. REDO
- 2. Coteq
- 3. Liander
- 4. Enexis
- 5. Stedin
- 6. Westland Infra
- 7. Enduris

Gas grid, who is connected where?

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- aardgas, landelijke netbeheerder
- aardgas, regionale netbeheerder
- groengas, regionale netbeheerder
- biogas, regionale netbeheerder/particulier

Collaborating in the development of hydrogen applications

Theorie & study

Test- and learn

Demonstration

Market



<https://www.gasunie.nl/projecten/waterstofnetwerk-nederland>

Kennis doorvertaling:
Hy4Heat, H21, Hyhouse
(vanuit Verenigd Koninkrijk)

Kennisdeling met o.a.:
Green Village (TU delft)
Hydrogen Experience Centre (KIWA)

Kennisdeling met o.a.:
Lochem (Liander)
Wagenborgen (Enexis)
Stad aan het Haringvliet (Stedin)



Woningfasering

Fase 2: Erflanden
Search area
Existing 6 buildings
2023

Fase 3: Erflanden
Existing
95 buildings
2025

Fase 4: Erflanden
Existing
193 buildings
2026

Fase 5: Erflanden
Existing
303 buildings
2027

Fase 6: Erflanden
Existing
418 buildings
2028

Fase 1: Nijstad-oost
Newly build
80 tot 100 buildings
Start 2023



Regulation

The regional network operators all work in their own region, so:

The Netherlands Authority for Consumers and Markets (ACM) ensures fair competition between businesses, and protects consumer interests. By setting rules:

The Electricity Act (1998) and Gas Act (2000)

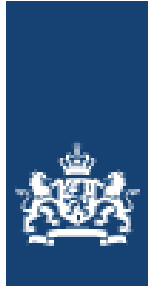
Grid operators have public tasks:

- Connecting producers and consumers;
- the transport of energy;
- Ensure non-discriminatory access to the networks;
- To manage, for safety and to prevent failures and interruptions;
- Invest in expansions on time and efficiently (cost-efficiently).

Authority for
Consumers & Markets



Staatstoezicht op de Mijnen



Staatstoezicht op de Mijnen
*Ministerie van Economische Zaken
en Klimaat*

The SodM supervises regional network operators and private owners of small gas networks.

In supervision, the emphasis is on:

- the safety of the network;
- the gas meter;
- the gas.

Temporary framework for hydrogen pilots

There are currently no regulations on the supply of hydrogen to consumers, so safety and consumer protection are insufficiently guaranteed by law. So:

- Policy of tolerance for involvement of grid operators in pilots with hydrogen in the Built environment The Netherlands Authority for Consumers and Markets (ACM)
- Supervisory arrangement pilots Hydrogen distribution (SodM)
- Generic guideline for hydrogen safety (Ministry of Economic Affairs)
- Additional guideline for hydrogen pilots in the built environment (Ministry of Economic Affairs)

Generic Terms

- Heat supply in built environment
- Role of network manager: construction, management and maintenance of hydrogen network. No role for production, trade and supply of hydrogen
- Clear and transparent learning objective and size not larger than necessary
- Tolerance is temporary until legislation
- Duration is for a maximum of 5 years, after which new laws and regulations are assumed

- Consumer Protection, mainly bij apply gas act
- Specific on:
 - Affordability, no more than usual;
 - Contract set-up;
 - Security of delivery;
 - Conversion indoor installation.

Thank you!

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