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Green gas: market under development

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Agenda

- European and National challenges
- Role of gas
- Green gas:
the sustainable component
- Future challenges



European and National Challenges

Climate targets Europe

- '20 – 20 – 20'

National NL-targets

- 14% sustainable energy use in 2020
- Governmental Policy for Top Focus Area's and 'Innovation Contracts'

Consumers rely on affordable energy

Wanted:

timely, effective and efficient solutions that link up with existing strong points and assets

Open, 'all inclusive' solutions needed



Flexible role in European energy supply

Safe, efficient and relatively cheap transport

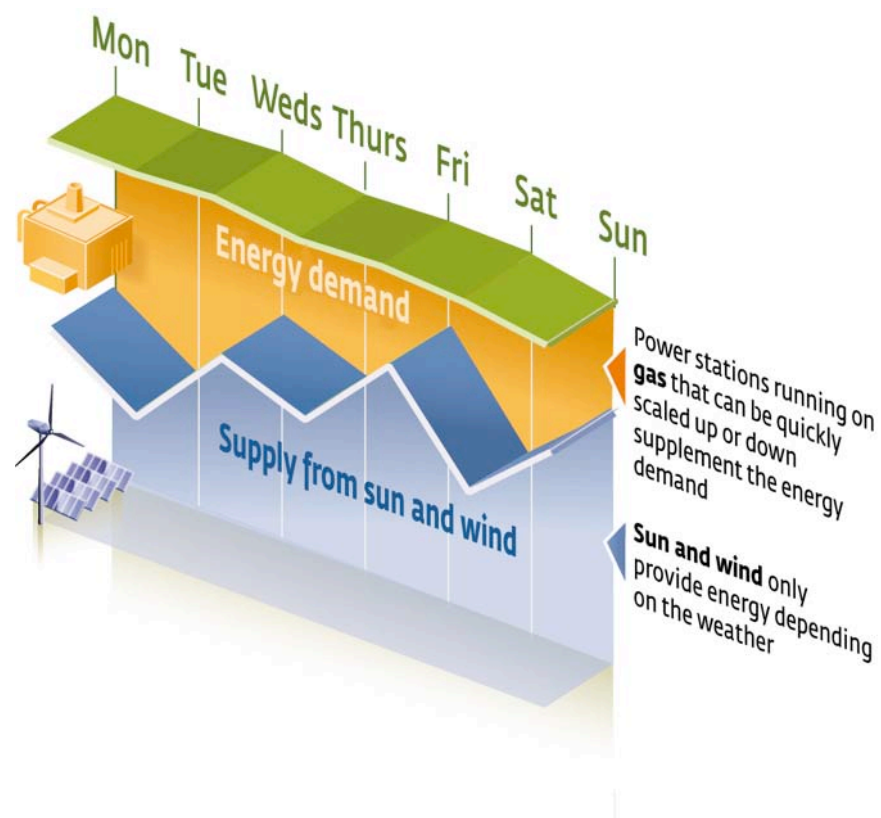
Excellent availability

Cross-border infrastructure

Gas is a natural born balancer:

- Strong fluctuations in heat demand
- Strong fluctuations in electricity demand

Increasing share of sustainable energy means increasing demand for flexibility and balancing



Gas enables a fast transition towards a sustainable and stable energy supply

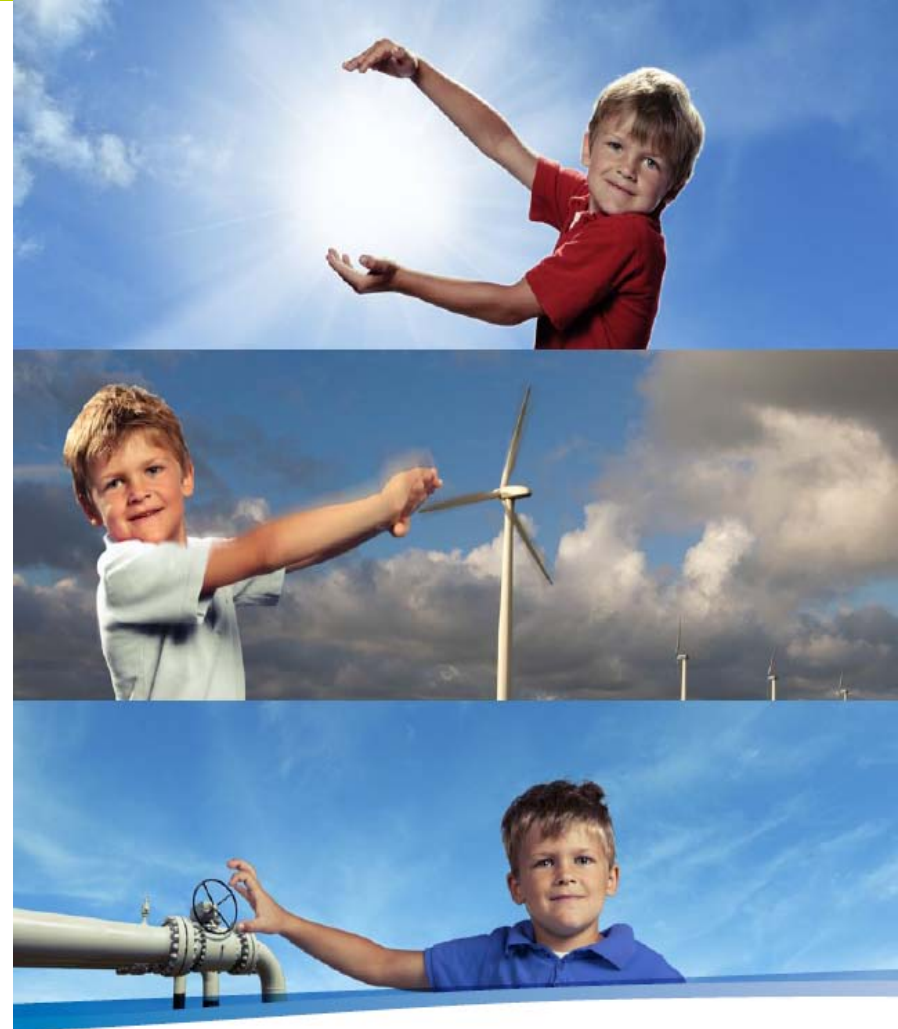
Sustainability asks for system flexibility

Gas to power

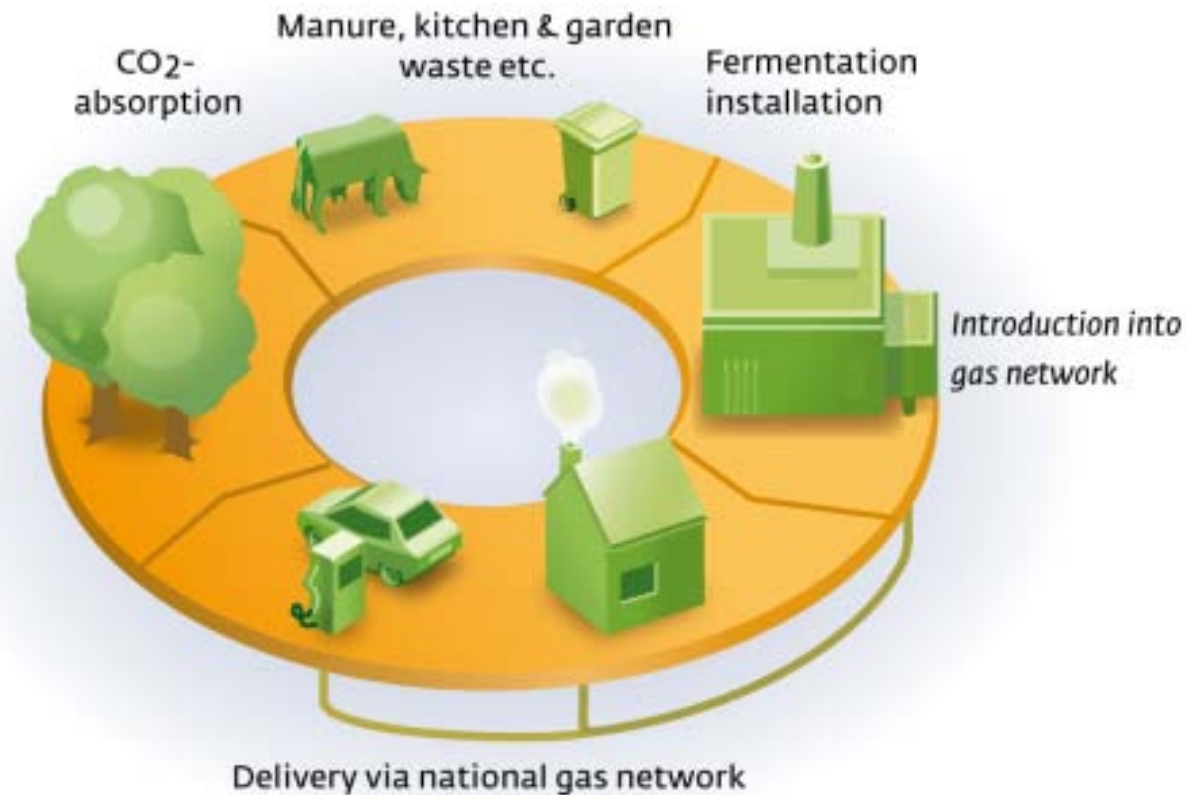
- Available on demand ('no wind, no sun')
- Smooth adjustment upwards or downwards in power stations
- Available until far in the future

Power to gas

- Can be 'greened'
- Gas helps us to use every little bit of sustainable energy
- Peak use and surpluses are balanced out (in the future: 'methanisation')



Green gas: the sustainable component



- 100% climate neutral
- No competition with the food chain
- Guaranteed with green gas certificates

Green gas: fits perfectly into existing gas supply

Sustainable because of a short cycle

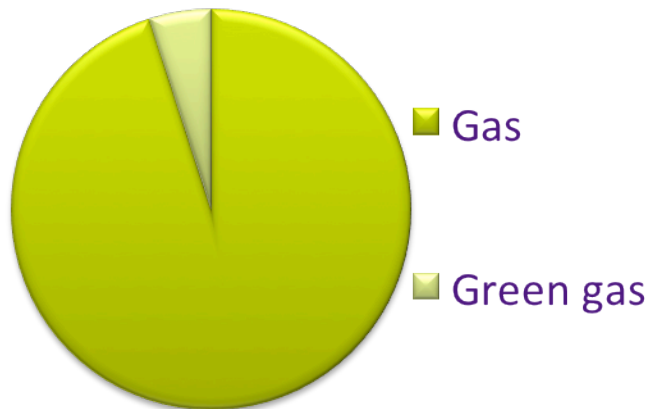
Connection to national & international transmission and distribution which...

- ... forms the backbone of our energy supply
- ... facilitates solar and wind



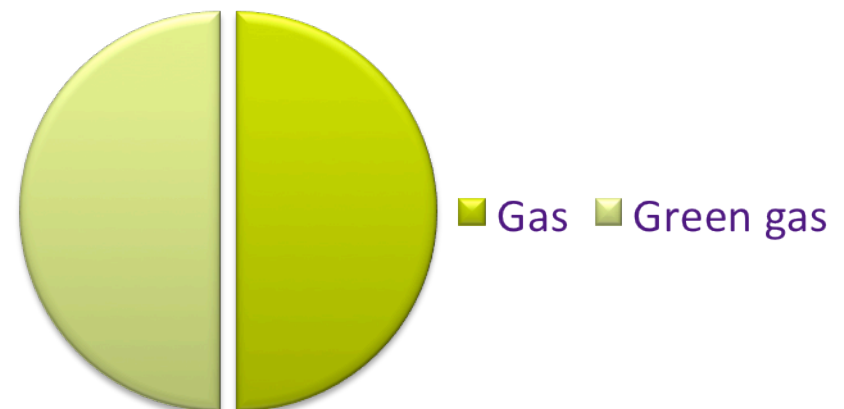
Potential for Green Gas

from 5% of the gas consumption



2020

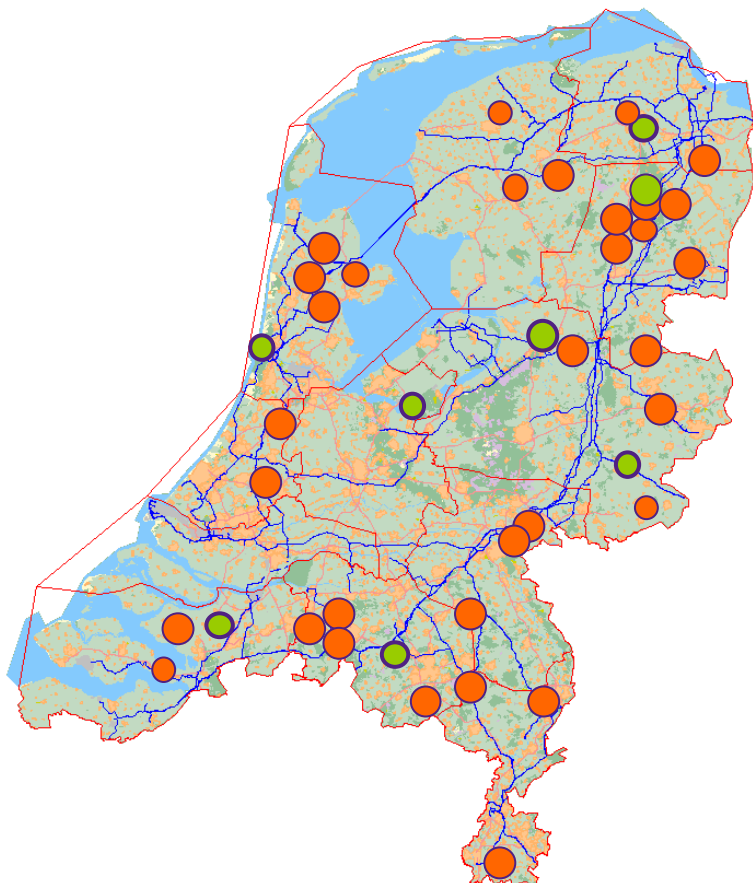
to 50% of the gas consumption!



2050

Ambition:	30 Mm ³	now
X 10 =	300 Mm ³	in 2014
X 10 =	3000 Mm ³	in 2025

Green gas in the Netherlands: in full swing



- Green gas production in operation
- SDE/SDE+ subsidy being approved

Examples of Production Facilities:

- Attero Tilburg, Attero/Vagron, Groningen, Attero Wijster, SuikerUnie (Groningen), Omrin and BioNof (Friesland)
- € 1.000 M subsidies (SDE+ 2011) in NL to green gas projects
- Private initiatives, public cooperation and support
- Certification via Vertogas

And... Biogas Hubs are to be expected in the Netherlands

Green gas ambitions in the Netherlands: how?

Achieved

- Various sectors and stakeholders in contact (PNG: Platform New Gas)
- Creation of an independent foundation: 'Green Gas Netherlands'
- Certification of certifying institute: 'Vertogas'
- National volume ambitions
- SDE-subsidies
- Prominent in 'Green Deals' and 'Innovation contracts': policy for economic focus areas

Challenges

- Forming consortia
- Innovation and Future: gasification and scaling up
- Innovation: methanisation
- Future: large-scale application of biomass
- Investing in the gas roundabout and the European energy roundabout

Future challenges: scaling up

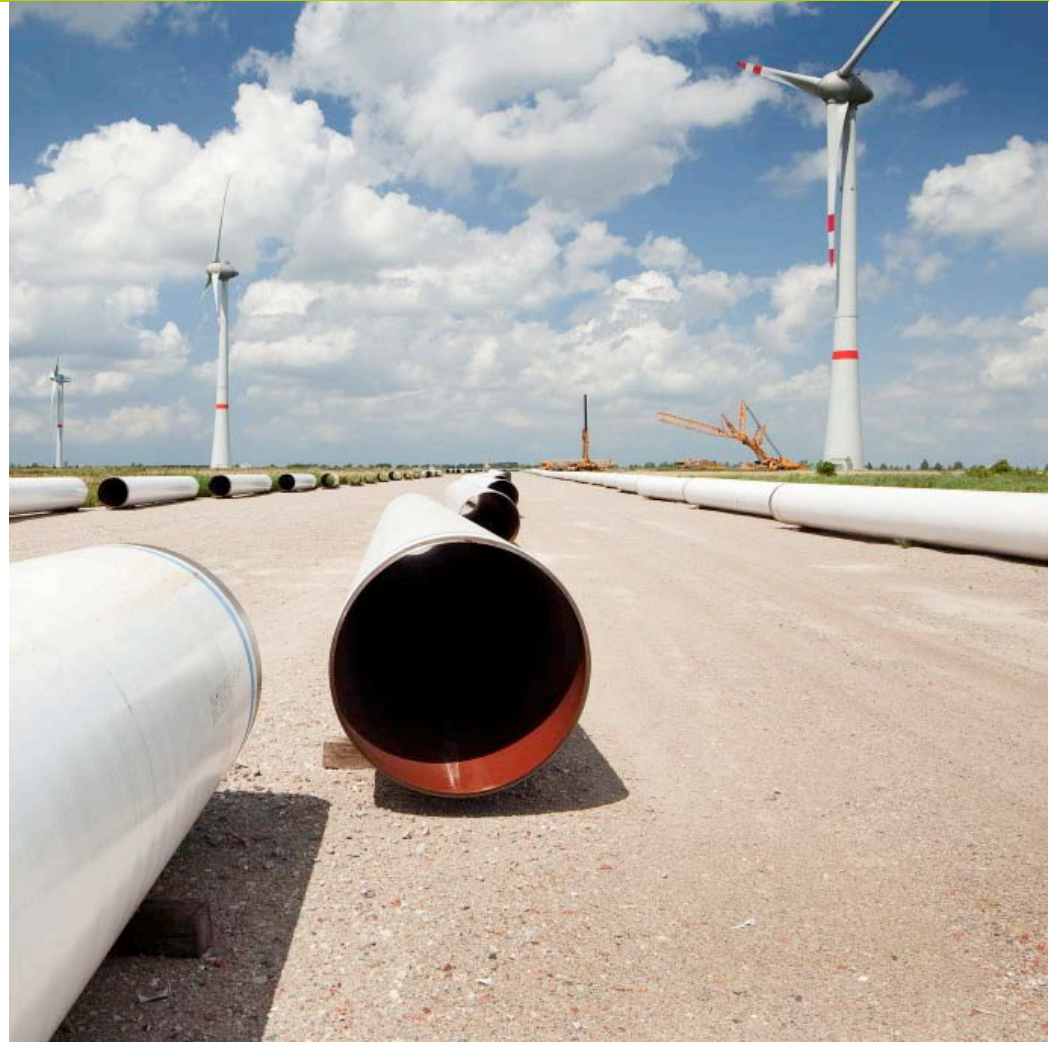
Present

Emphasis on fermentation:

- Start, creating new chains
- Developing the market
- Certification
- CO₂-reduction

Innovation: gassification and scaling up fermentation processes

Innovation: methanisation



Essential prerequisite for further market development: certification

Certification to guarantee green origin

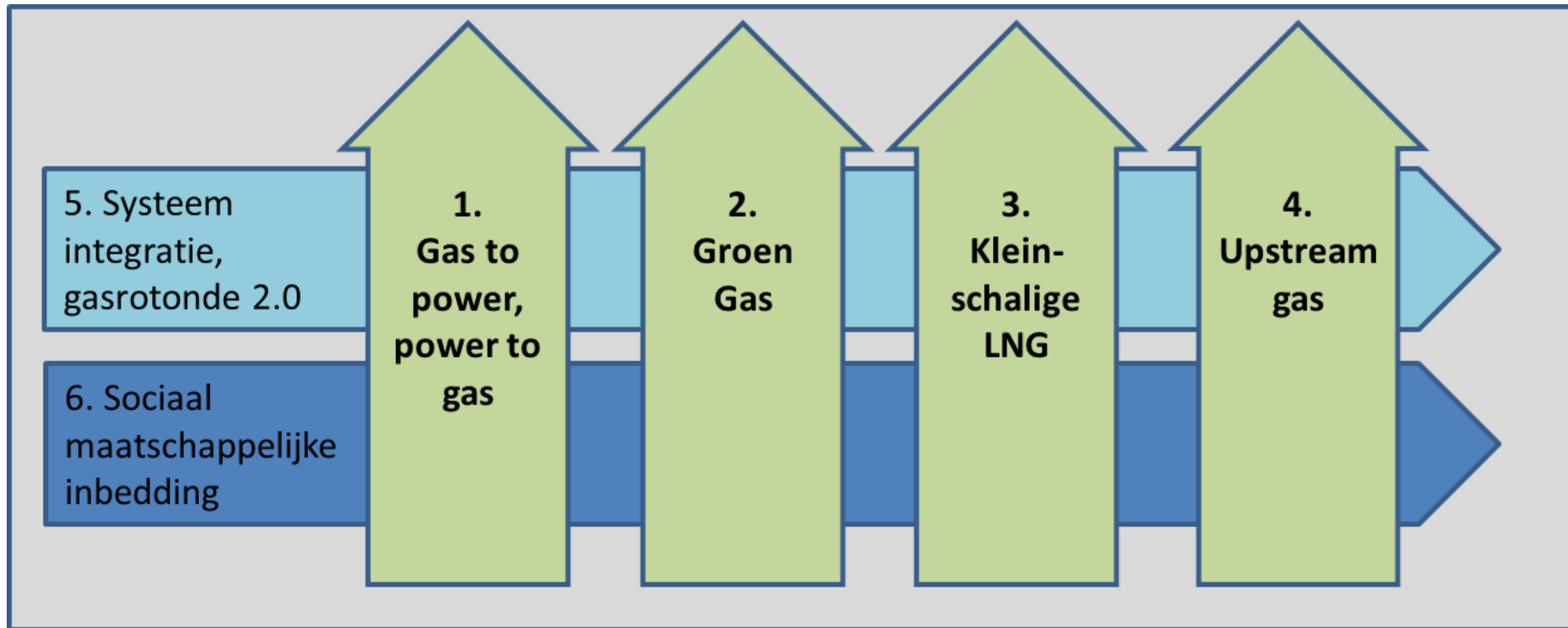
- Necessary for development green gas market
- Making green gas trading possible
- Vertogas: issuer of independent green gas certificates (appointed by Dutch Ministry of Economic Affairs, Agriculture and Innovation)

The logo for Vertogas features a large, stylized green checkmark that forms the letter 'V'. A horizontal green line extends from the top of the checkmark across the width of the word. Below this line, the word 'ertogas' is written in a grey, sans-serif font, with the 'V' from the checkmark serving as the first letter of the word.

'Top sector' policy for focus areas

- Top sectors: sectors in which the Netherlands is strong on a global scale (Life sciences, High-tech materials and systems, Agri-food, Water, *Energy*, Horticulture and output materials, Chemicals, Creative industry and Logistics)
- Products or technologies offer solutions to social issues
- Good interaction between “golden triangle” parties (knowledge institutions, trade & industry and government)
- 1,5 bn available from the budget
- Deployment on the basis of recommendations from the ‘Top Teams’
- Innovation contracts represent an interpretation of this

Structure of the Innovation Contract for Gas



Summary

**Green gas is a major opportunity for Europe -
a natural USP**

- climate objectives
- economy
- international position

It's hugely dynamic – sectors are joining up
and learning to work together in new chains

It can be done!



Thank you for your attention!



groengasnl

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Green Gas Netherlands