

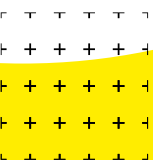
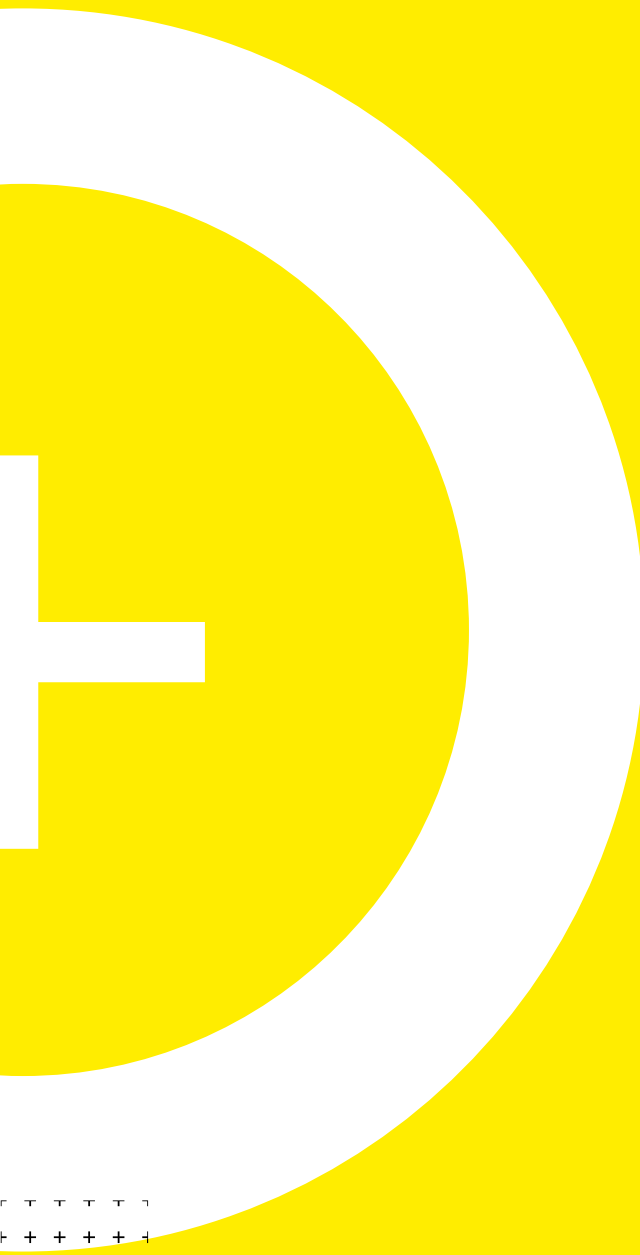
Drivers of Change

# Groen Gas

**en haar rol in de energietransitie**

Provincie Drenthe | 4 maart 2025

Assen





New  
Energy  
Coalition

Drivers of Change

# Ruud Paap

Projectmanager groen gas

# Inhoud

## Deel I - 19.15 - 20.00

Groen gas - waarom

Groen gas - hoe en wat

Groen gas in Drenthe

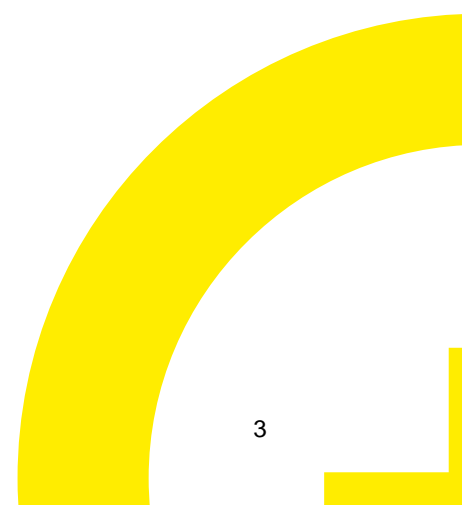
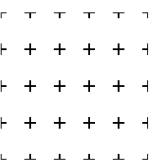
De bijmengverplichting

Trends

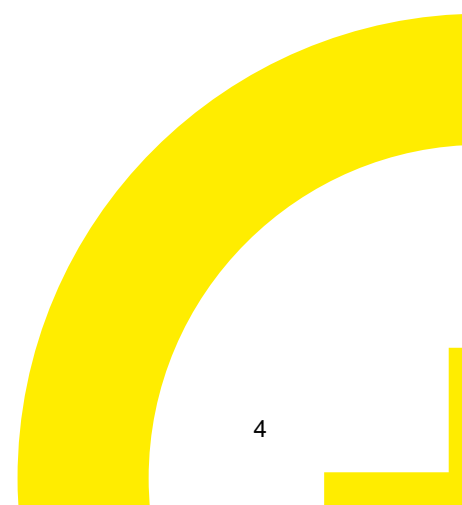
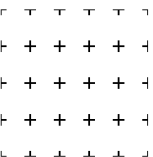
Uitdagingen

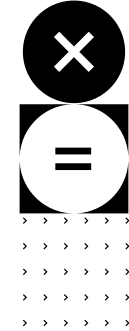
## Deel II - 20.15 - 20.45

Vragen en discussie

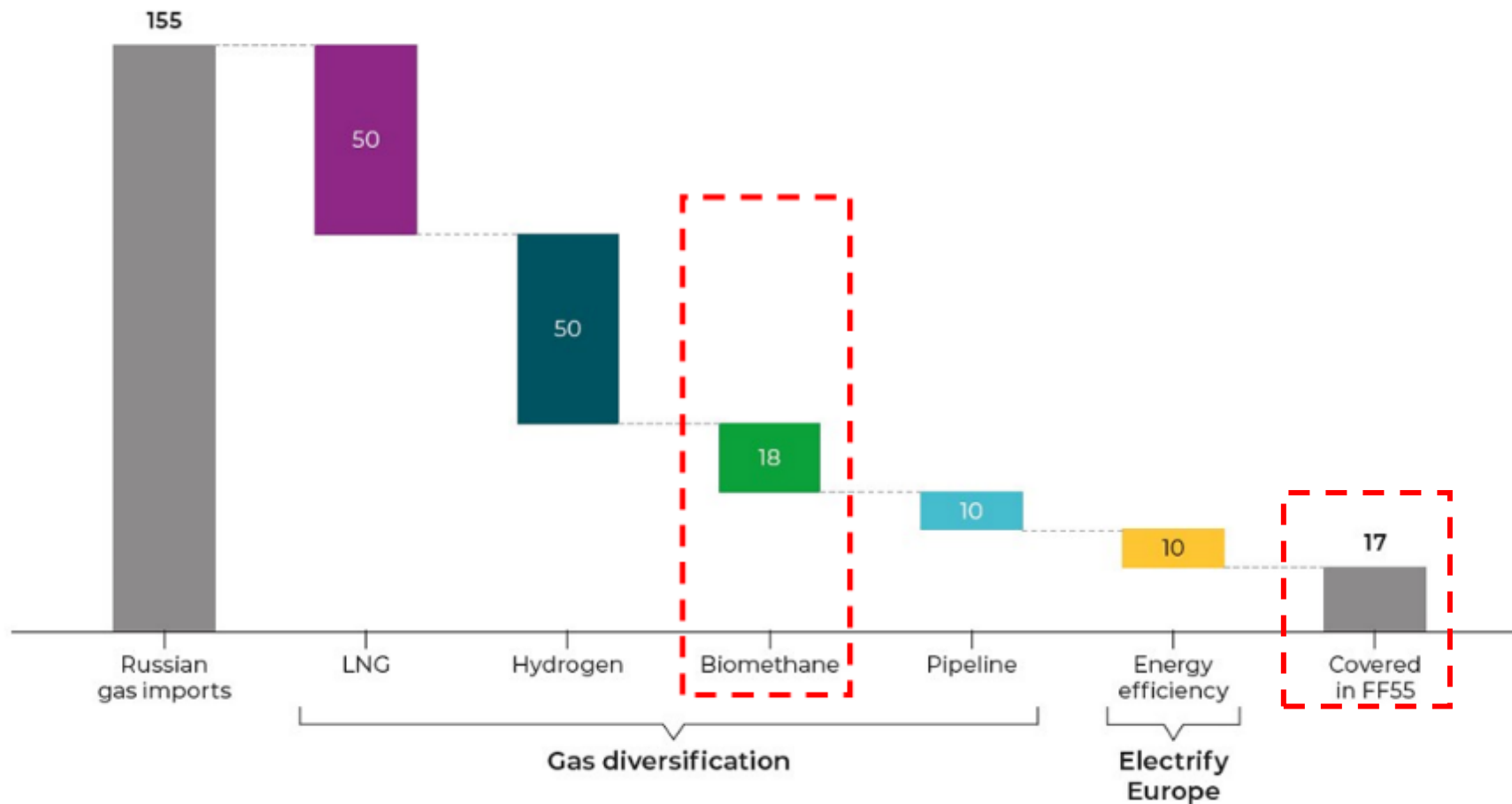


# Waarom groen gas | Functie van moleculen

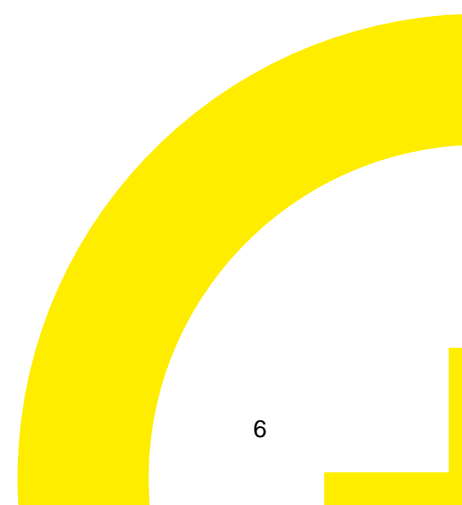
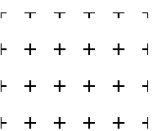
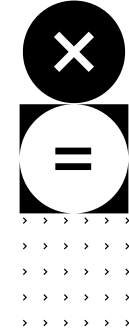




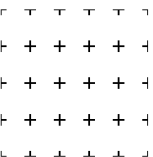
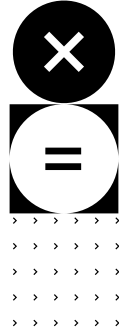
# Waarom groen gas | RePower EU (BCM)



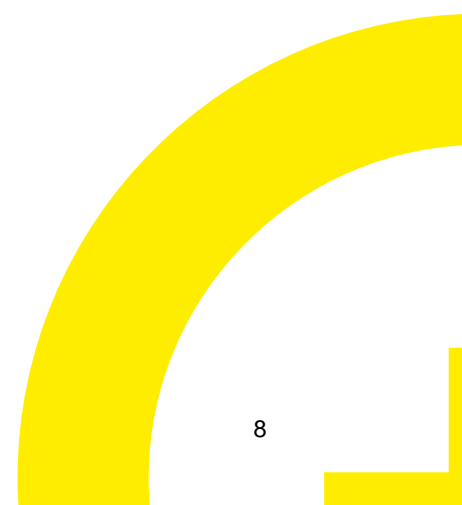
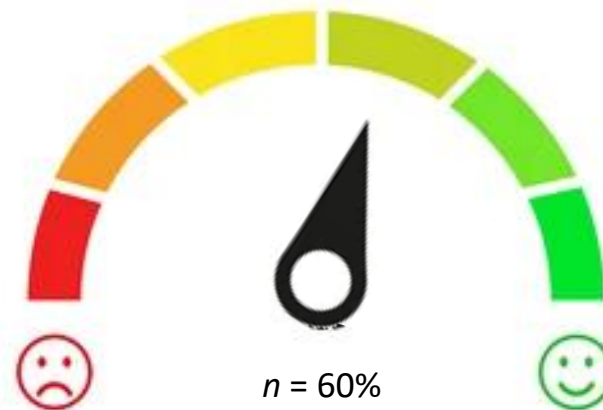
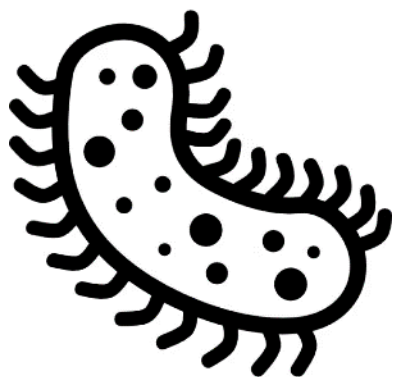
# 4 productieroutes



# Types vergister

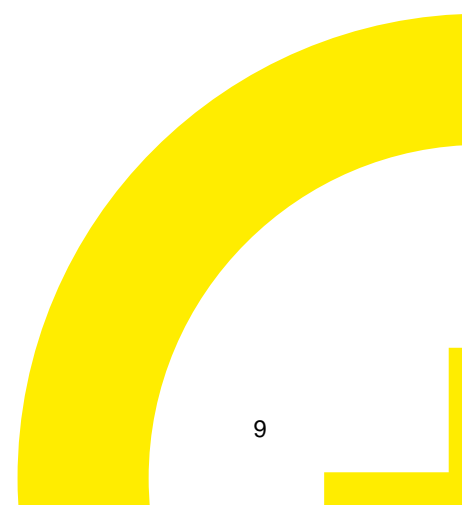
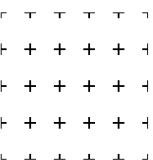
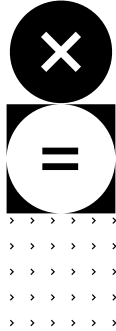
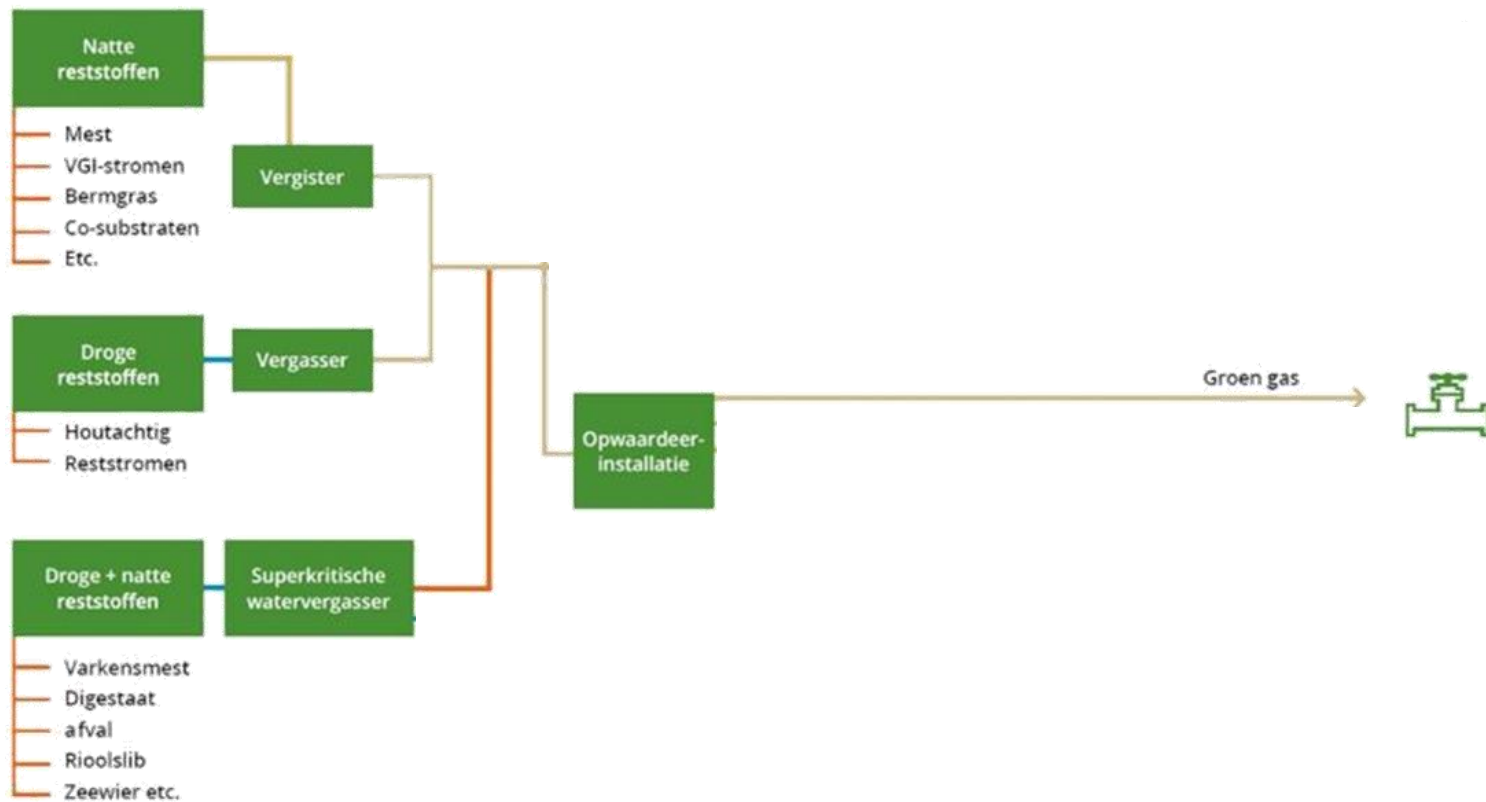


# Hoe maak je het | vergisting

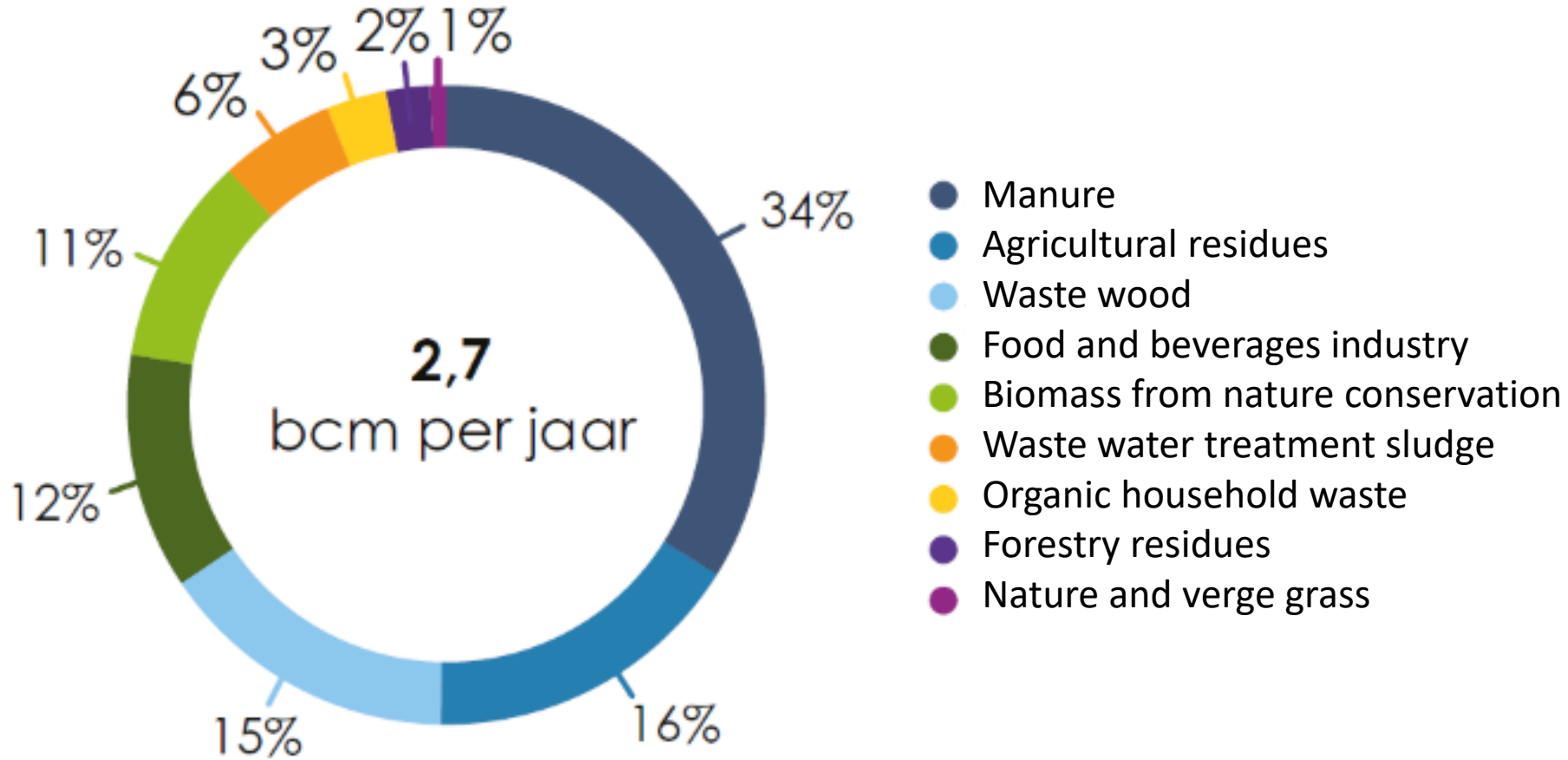




# Groen gas



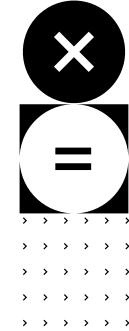
# NL | Biogrondstoffen & potentieel groen gas volume nu



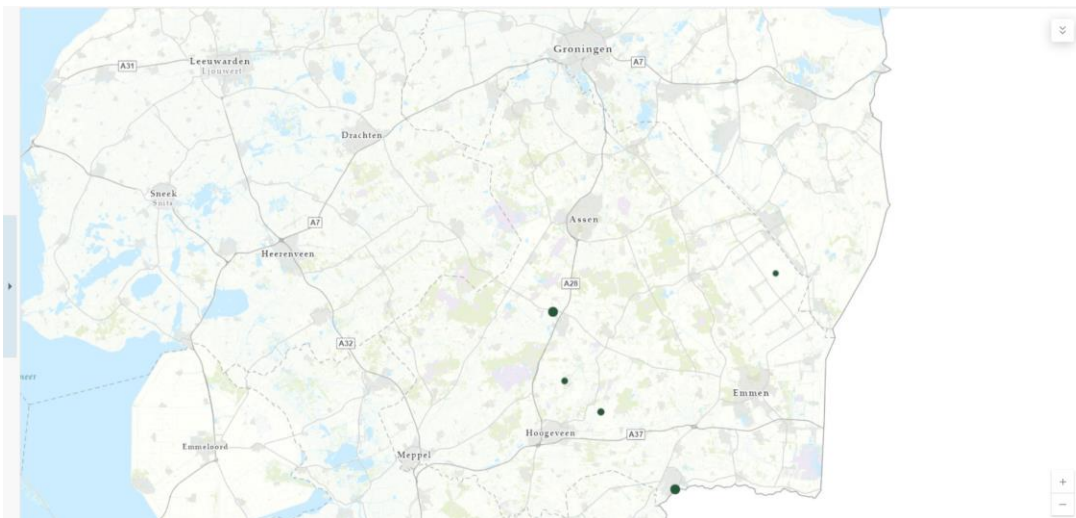
# Groen gas | waar wordt het gemaakt & hoeveel



<https://ez.maps.arcgis.com/apps/dashboards/04077558b37243dbbfda0d9ec694ab12>



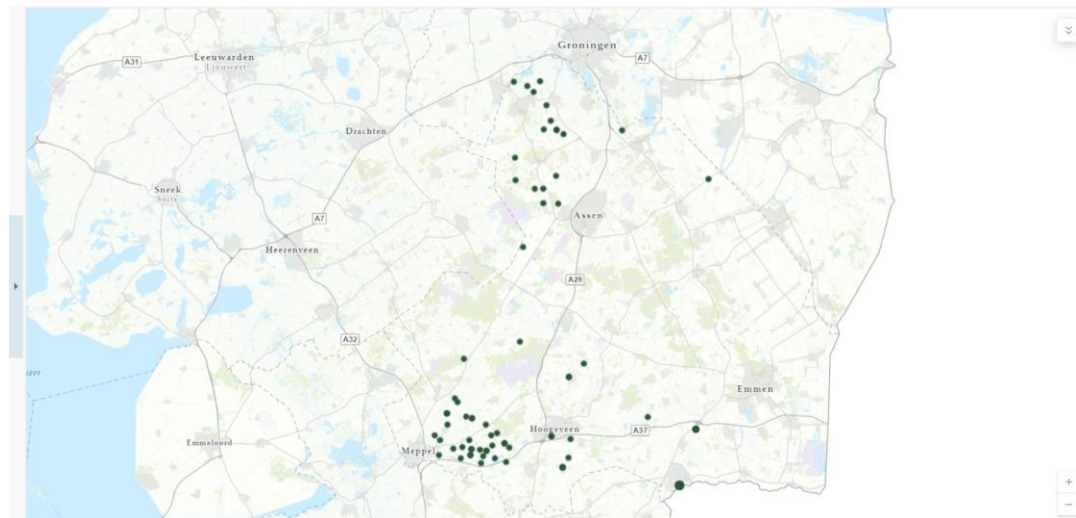
# Gerealiseerd en gepland in Drenthe



5 projecten

Max: 84 MW

Max: 68,8 MNm<sup>3</sup> groen gas

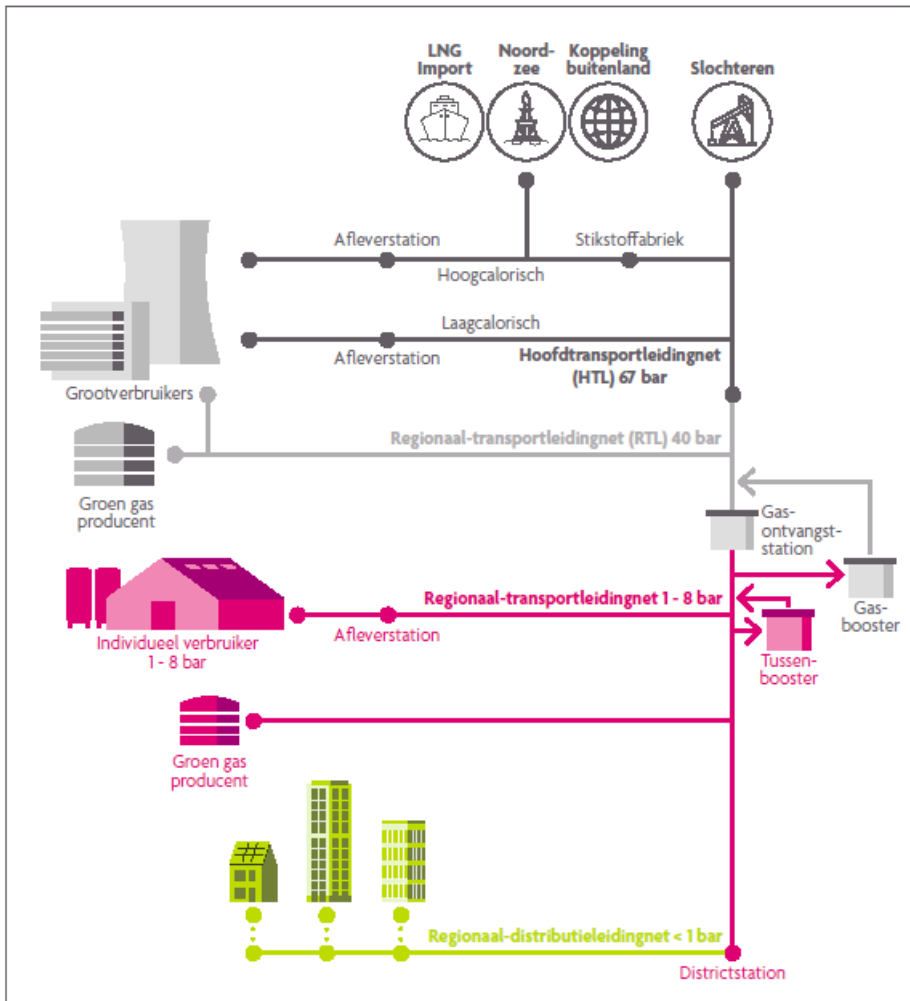


76 projecten

Max: 47 MW

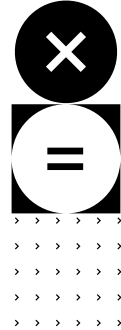
Max: 38,5 MNm<sup>3</sup> groen gas

# Infrastructuur – het gasnet

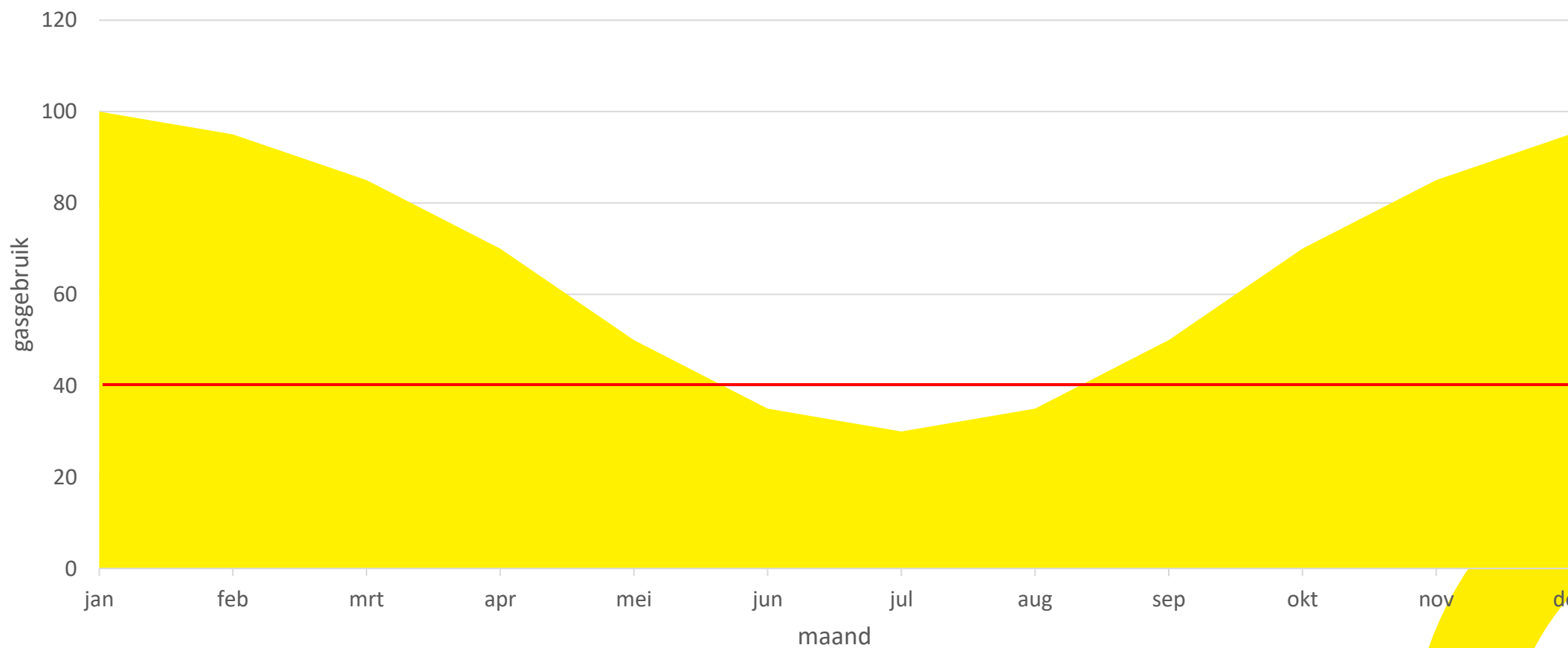


gasunie  
transport services

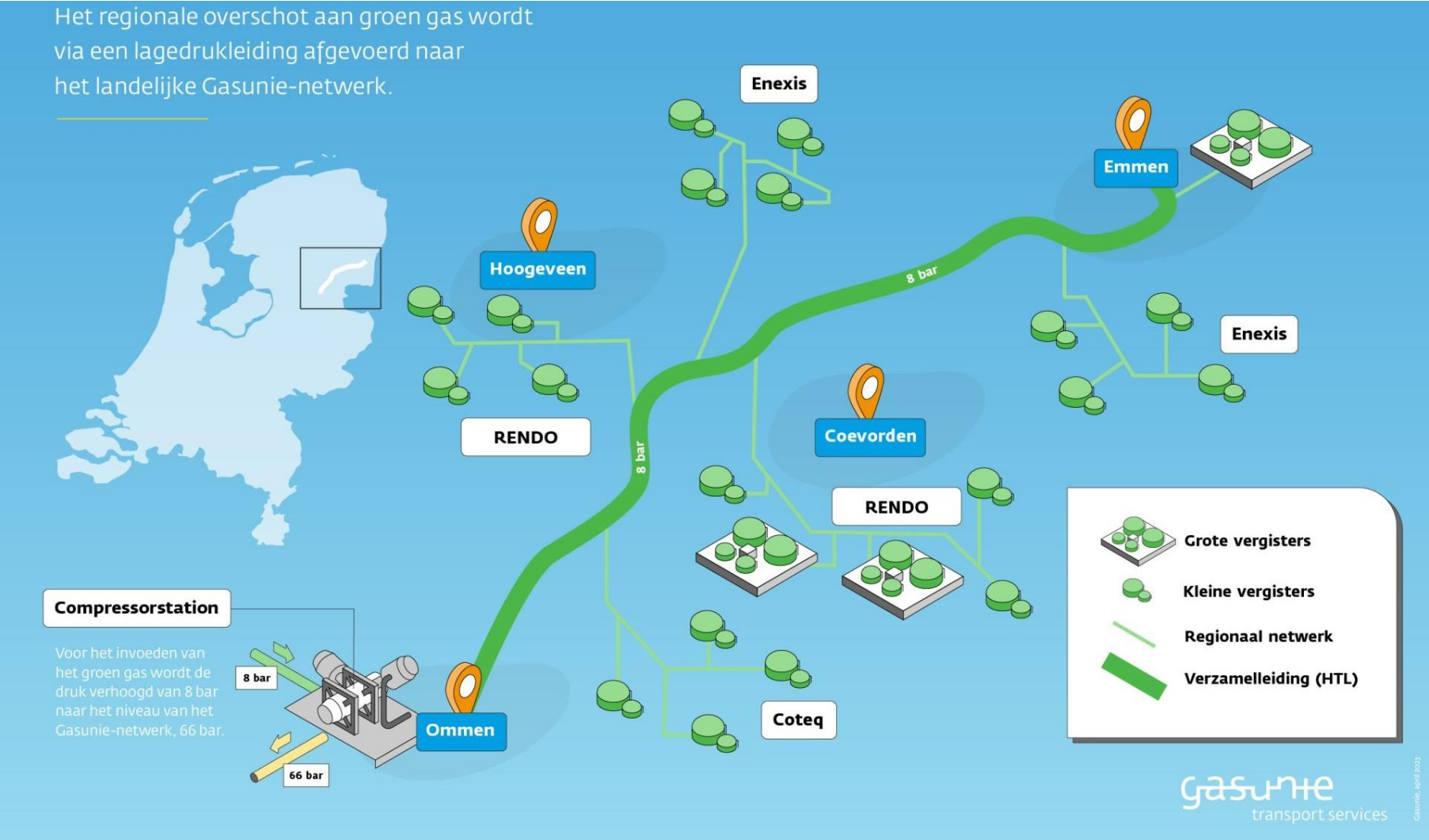


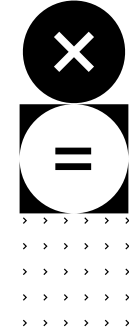


# Aardgasnet, gasgebruik en groen gas

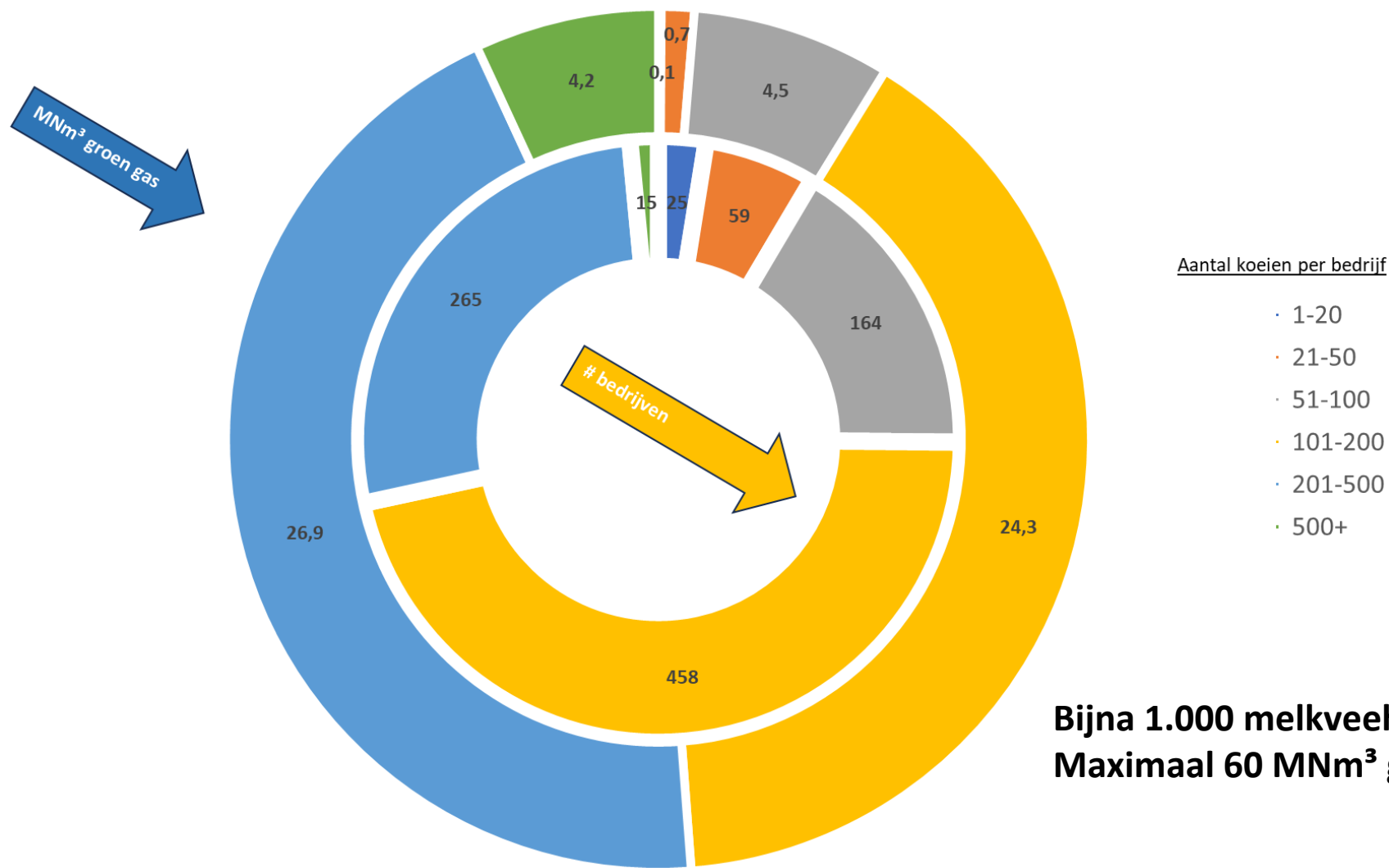


# 6. Verzamelleiding groen gas



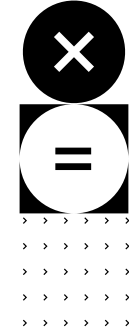


# Omvang & groen gaspotentie melkveehouderij

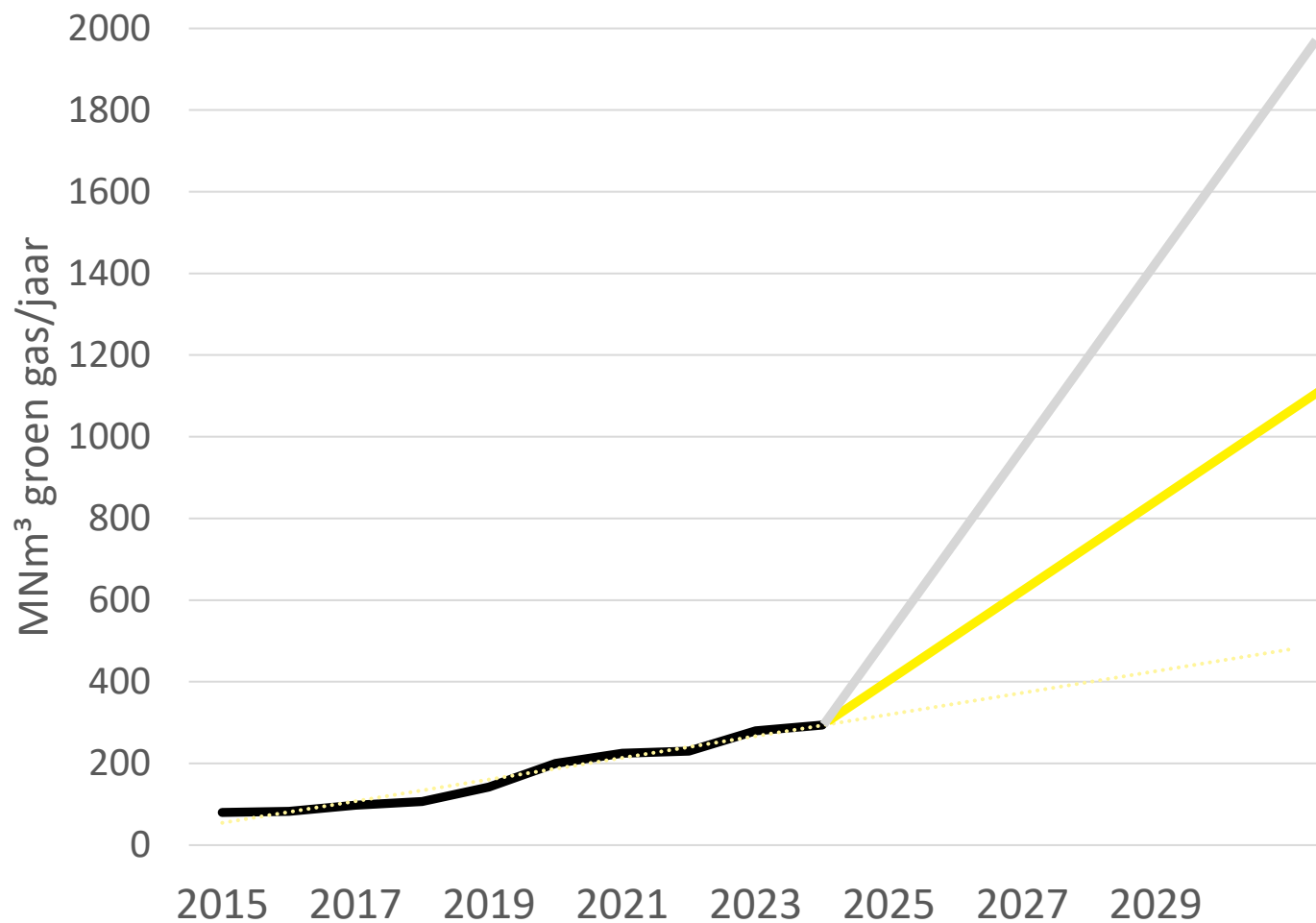


**Bijna 1.000 melkveehouders  
Maximaal 60 MNm<sup>3</sup> groen gas**





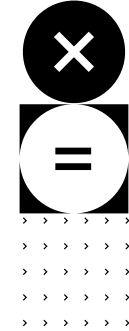
# Ambitie en realiteit



**Huidige groei**

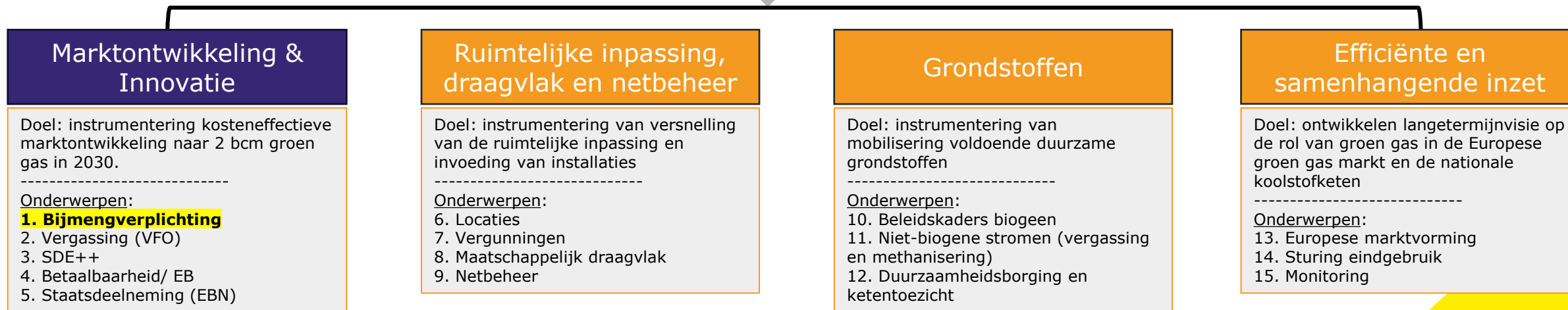
Nodig om 2 BCM te halen

**Bijmengverplichting ETS2**



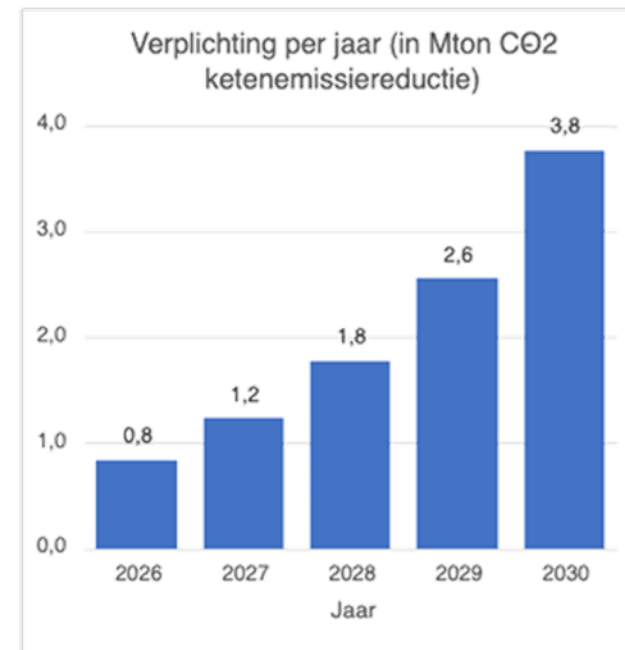
# Programma groen gas | MinEZK

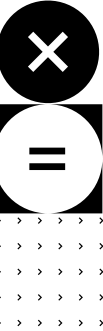
**Doel:** 2 miljard kuub groen gas productie in Nederland in 2030



# De bijmengverplichting...

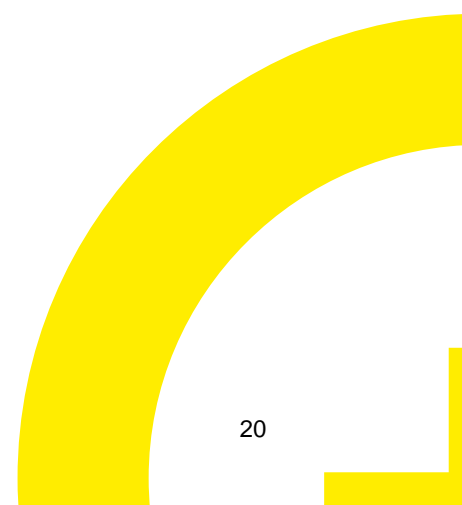
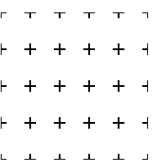
- ... is bedoeld om de productie van groen gas aan te jagen
- ... rust op de leveranciers van aardgas (Vattenfal, Eneco, etc.)
- ... geldt voor levering aan gebouwen, wegvervoer en overige sectoren
- ... krijgt een buy out prijs van € 450/ton CO<sub>2</sub>
- ... stuurt op BKG emissiereductie.
- ... begint 01.01.2026

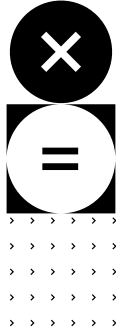




# Verwachte opbouw en BKG emissiereductie

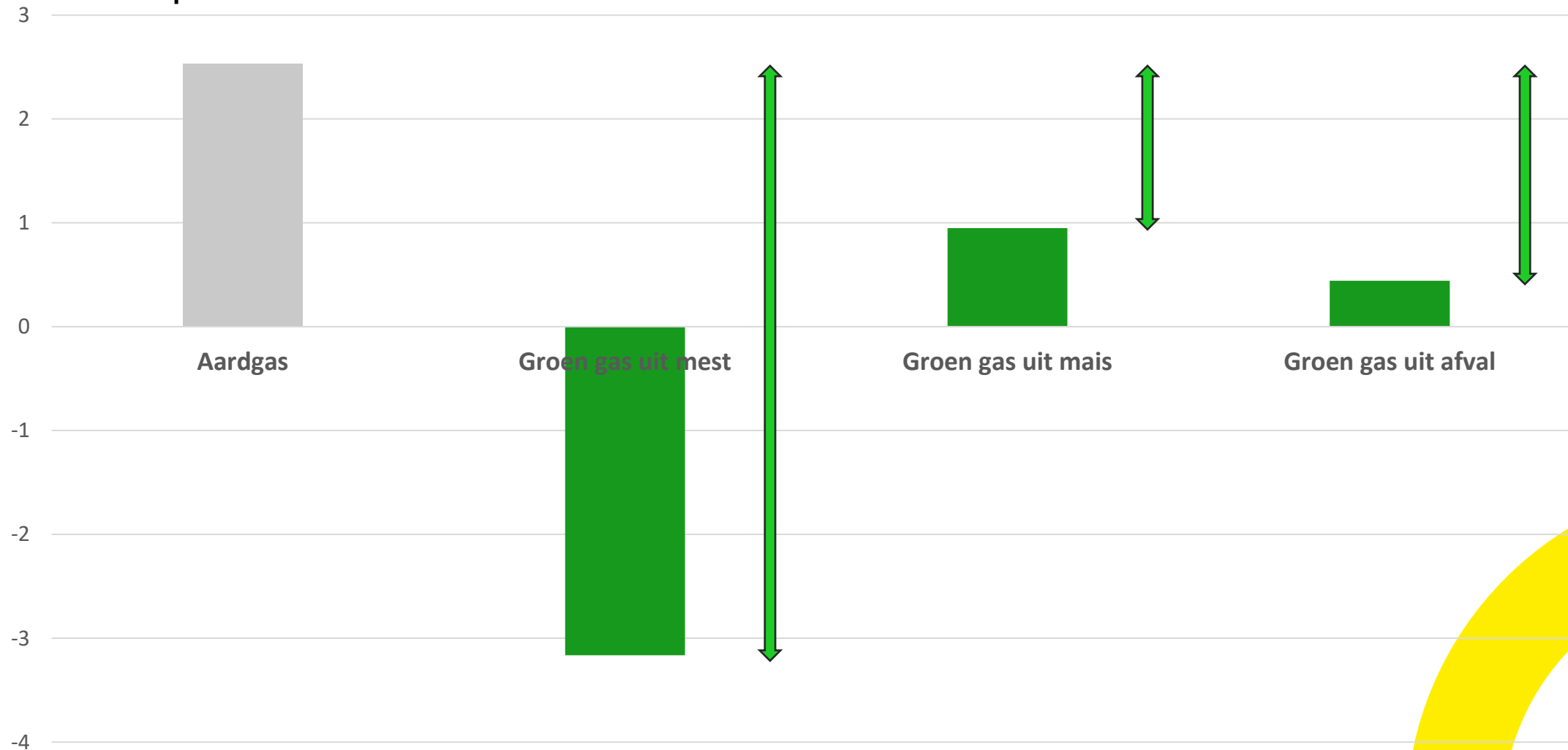
Type	Groen gas (MNm <sup>3</sup> /jr)	Emissiereductie	
		(Mton CO <sub>2</sub> )	(kg/Nm <sup>3</sup> )
Mestvergisting	400	2,4	6,0
Vergassing	400	0,7	1,8
Overig	300	0,7	2,3
Totaal	1100	3,8	3,5



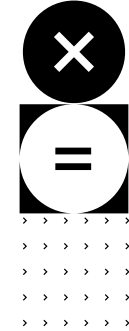


# Carbon intensiteit en CO<sub>2eq</sub> reductie

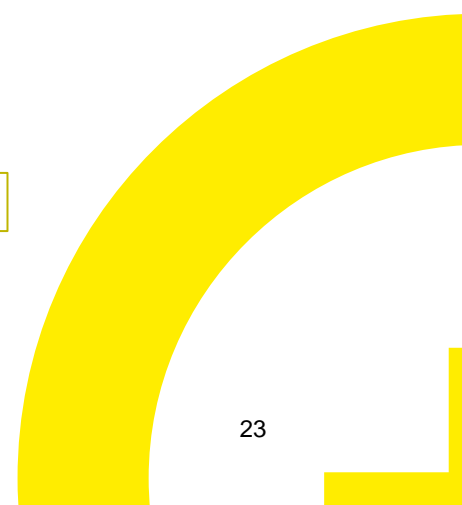
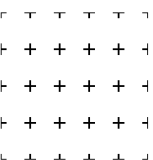
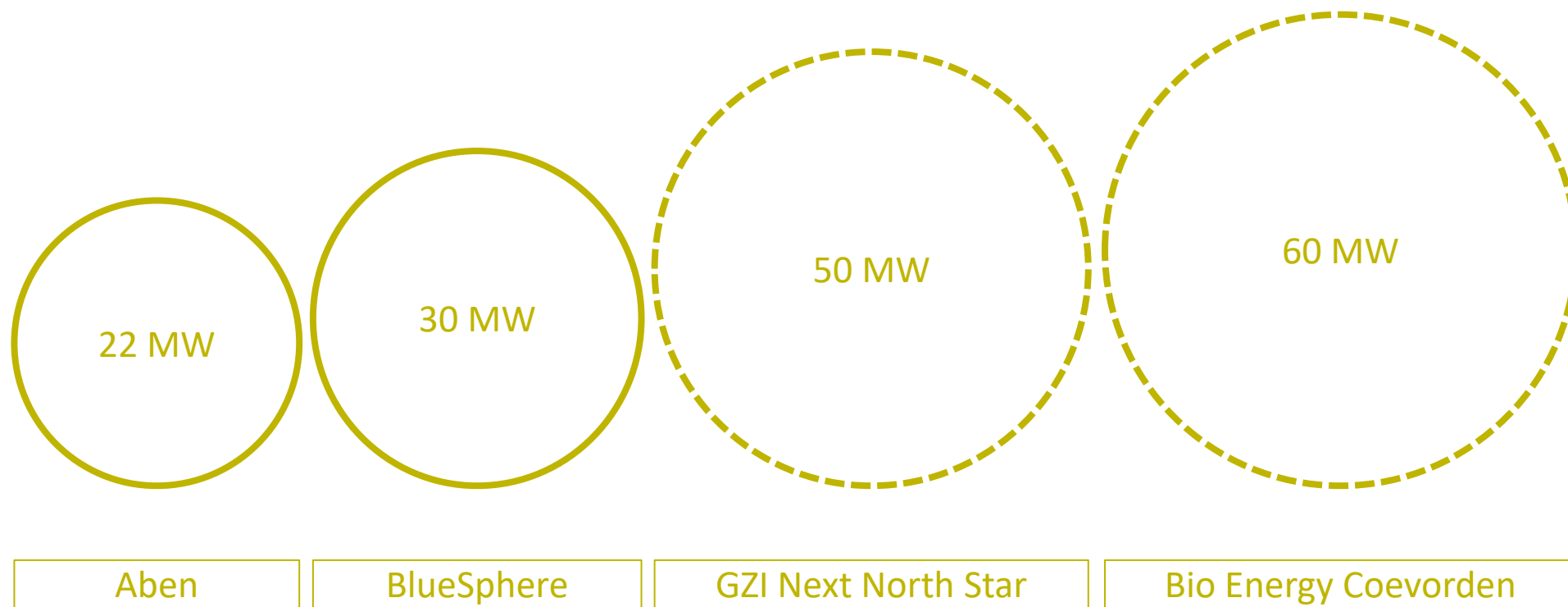
kg CO<sub>2eq</sub>/Nm<sup>3</sup>







# Trends | Schaalvergroting (...en verkleining..)



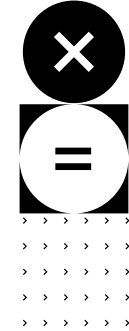
# Trends | Internationale bedrijven



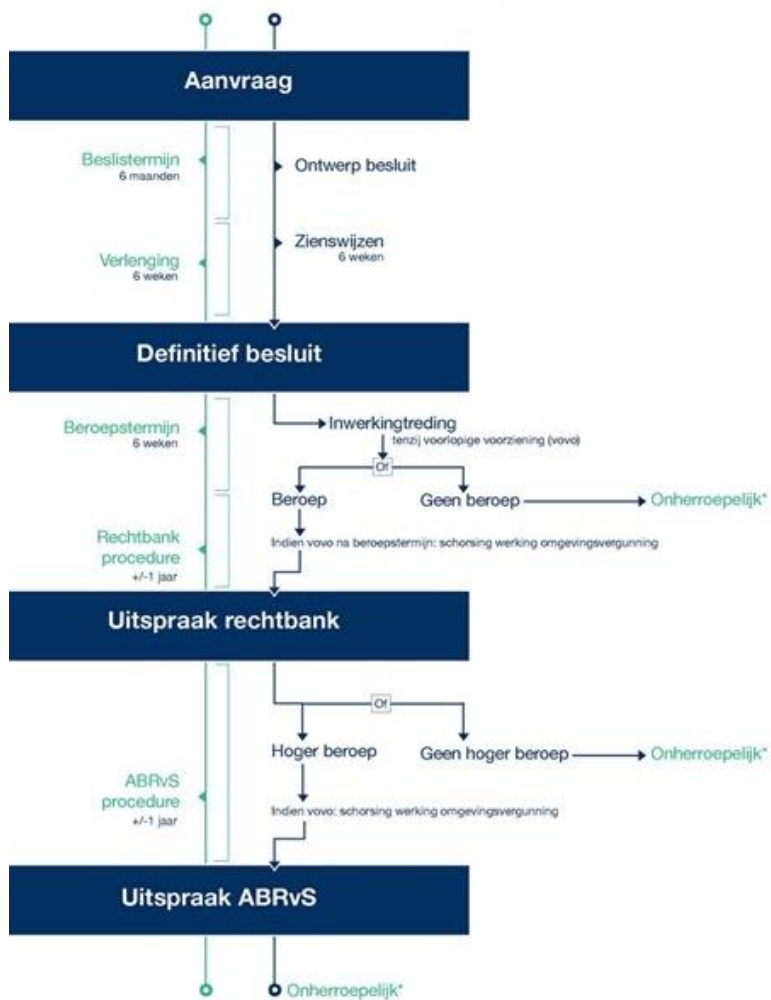


# Maatschappelijke acceptatie



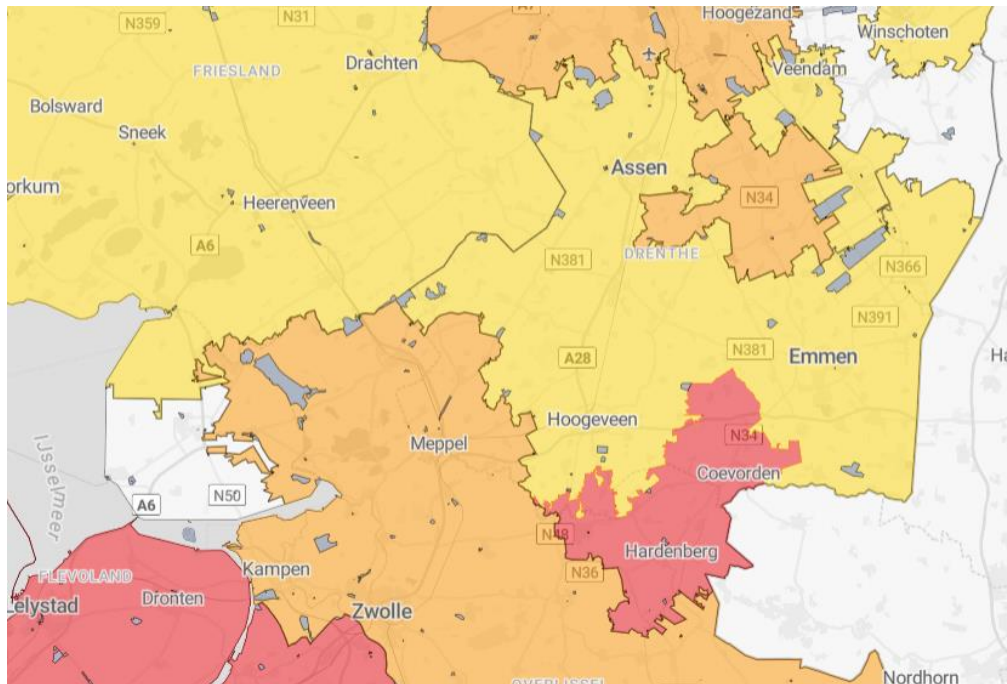


# Omgevingsvergunning – uitgebreide procedure



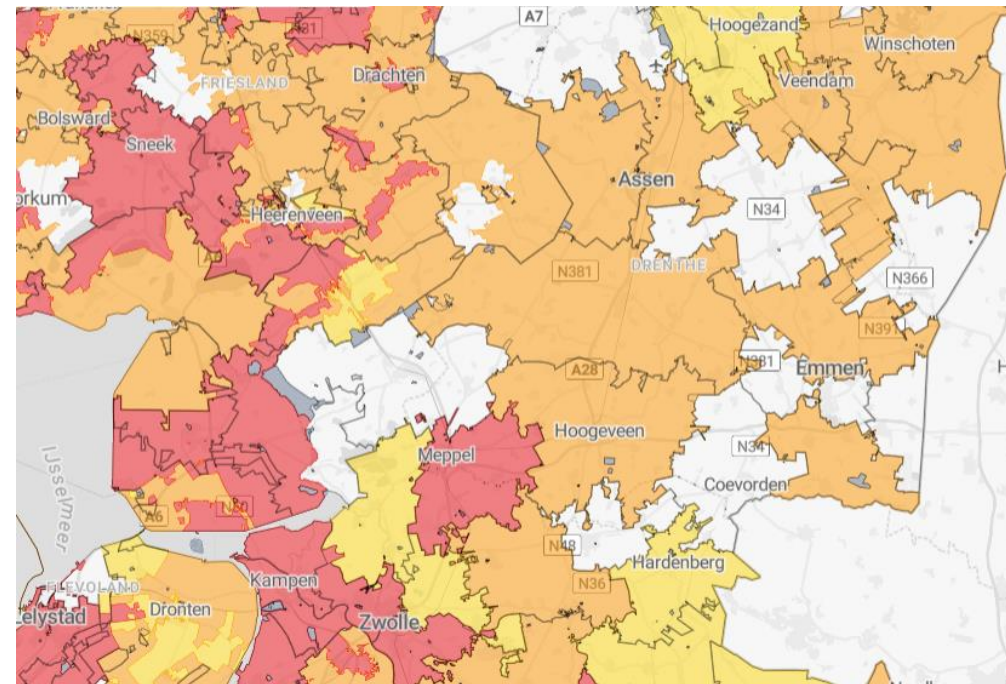
# Netcongestie

## Tennet

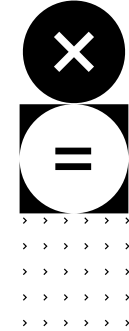


- Transportcapaciteit beschikbaar zonder wachtrij
- Transportcapaciteit beperkt beschikbaar zonder wachtrij

## Regionale netbeheerder



- Gebied is in onderzoek met wachtrij
- Tekort aan transportcapaciteit met wachtrij



# Afdronk

Biogas is een deel van de oplossing

Biogas gaat niet alleen maar over energie

maar ook over circulaire economie

het sluiten van kringlopen

het voorkomen van BKG- en N-emissies

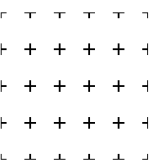
Biogas vult zon en wind mooi aan

Biogas kan op een verantwoord manier geproduceerd worden

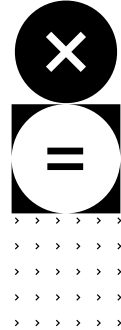
door gebruik te maken van laagwaardige biograndstoffen

en zonder overlast te veroorzaken

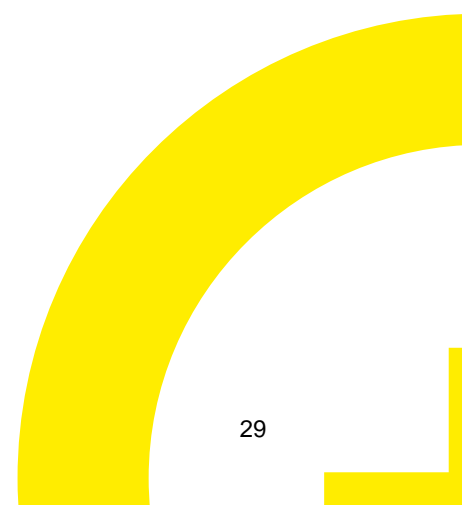
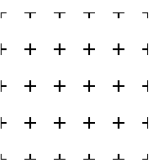
Biogas is bijzonder veelzijdig

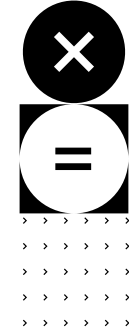


# Discussie



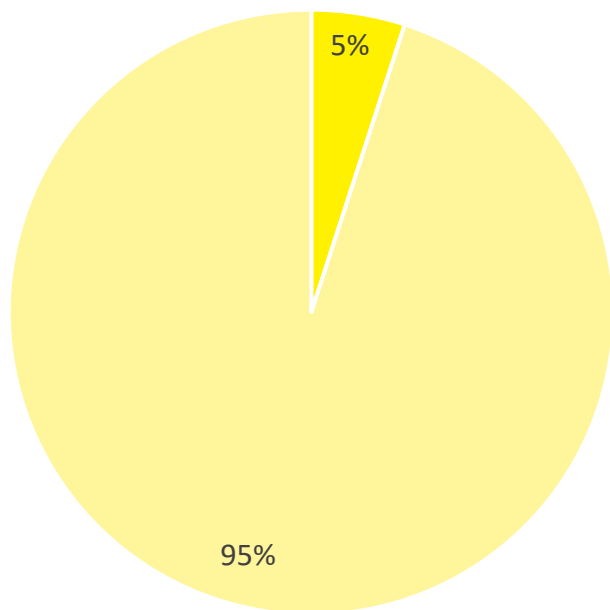
The screenshot shows a game show interface. At the top, a host stands at a podium in a studio with a large audience represented by silhouettes. A '2x' multiplier icon is in the top right. A score bar on the right shows '0'. Below the host are three category buttons: 'CATEGORIE' (purple), 'MAKKELIJK' (yellow), and 'MOEILIK' (red). A large orange question box contains the text: 'Hoeveel energie is nodig om groen gas te maken uit mest?'. Below this are three answer options in yellow buttons: 'A Ongeveer evenveel als het oplevert', 'B Ongeveer de helft van wat het oplevert', and 'C Minder dan de helft van wat het oplevert'. On the right side of the answer buttons, there is a 'EISN TEGEN 100' icon.





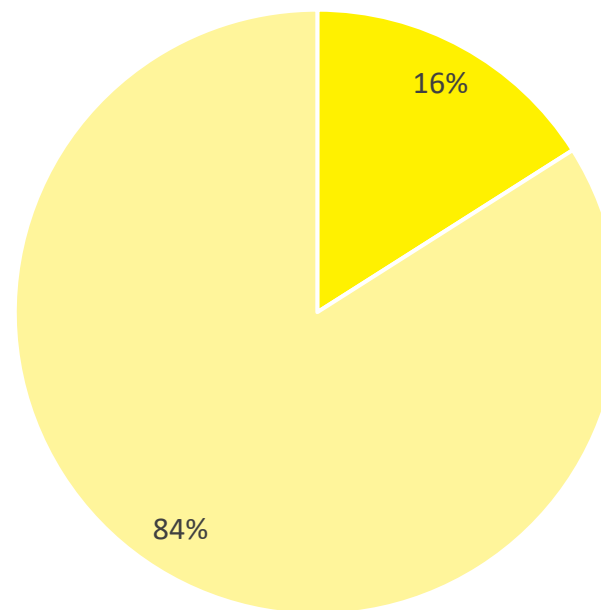
# Energie nodig voor de productie van groen gas

## Allesvergister



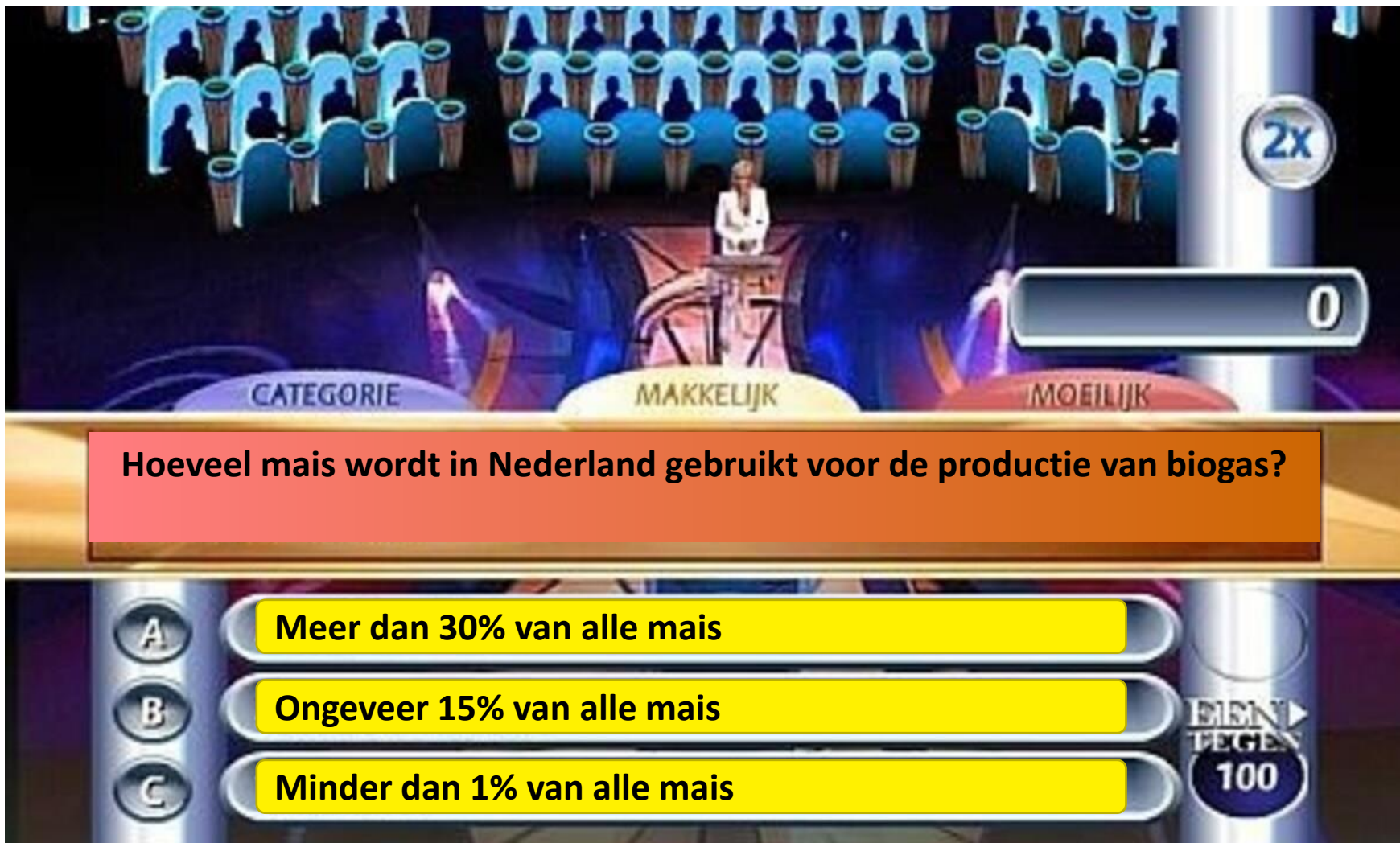
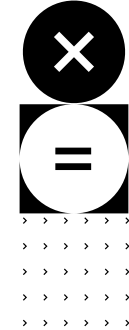
■ Eigen gebruik ■ Levering

## Monomestvergister

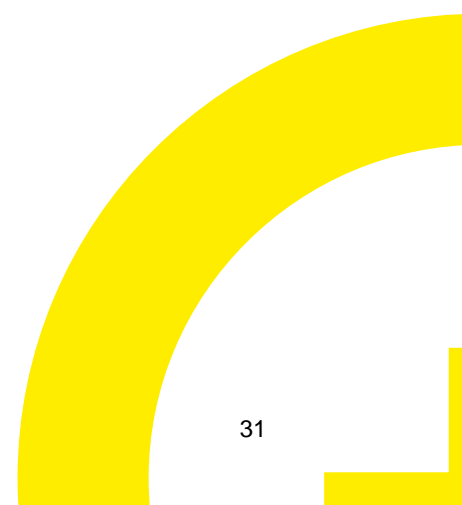
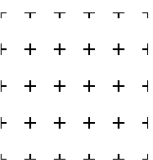


■ Eigen gebruik ■ Levering

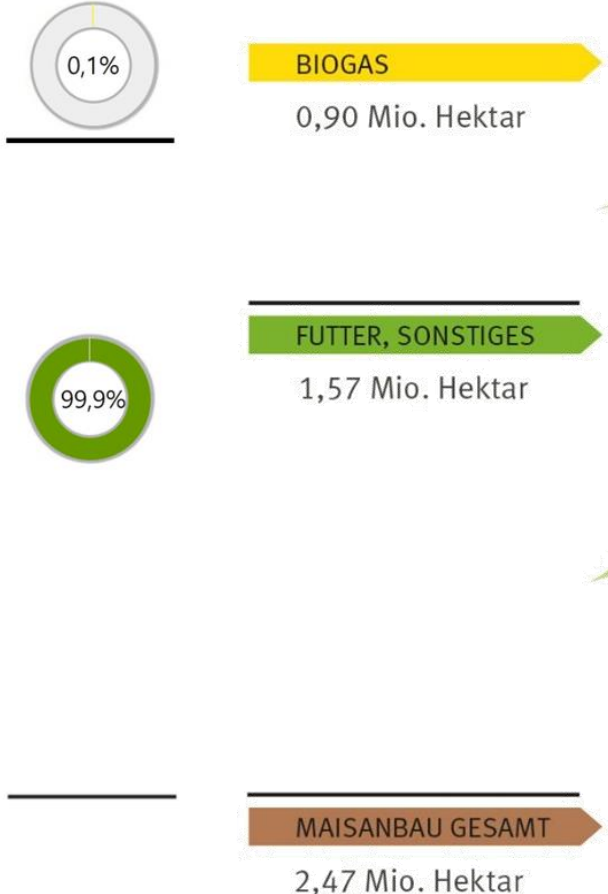
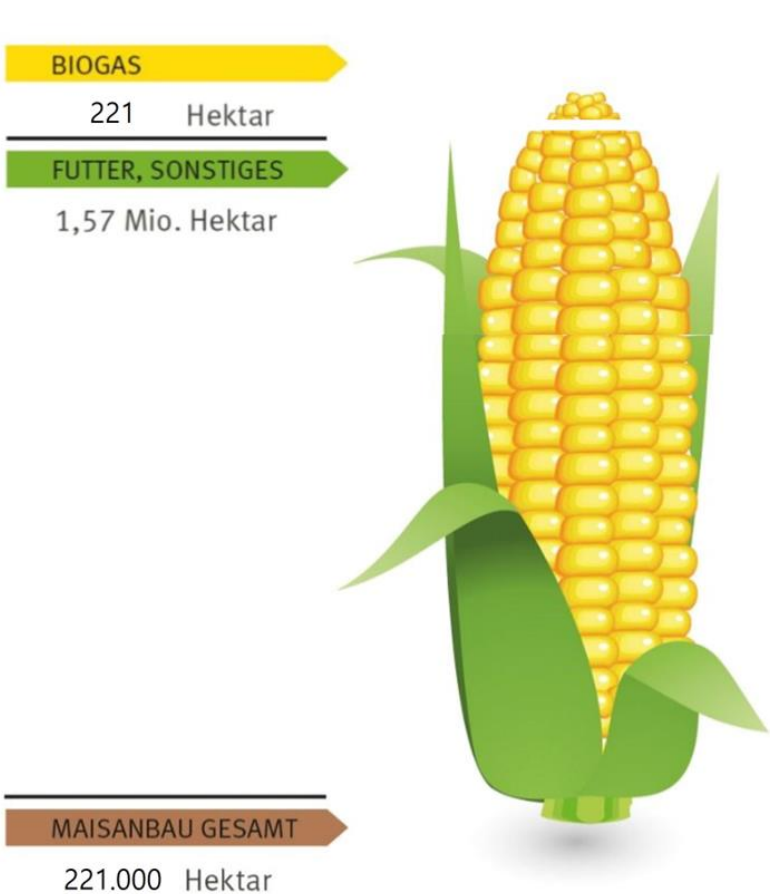
# Discussie



The screenshot shows a game show interface. At the top, a host stands at a podium in front of a large audience represented by silhouettes. A '2x' multiplier icon is visible in the top right. A score bar on the right shows '0'. Below the host, three difficulty level buttons are visible: 'CATEGORIE', 'MAKKELIJK', and 'MOEILIK'. A large orange question box in the center contains the text: 'Hoeveel mais wordt in Nederland gebruikt voor de productie van biogas?'. Below the question, three answer options are listed in yellow buttons: 'A Meer dan 30% van alle mais', 'B Ongeveer 15% van alle mais', and 'C Minder dan 1% van alle mais'. On the right side of the answer buttons, there is a 'EISN TEGEN 100' icon.

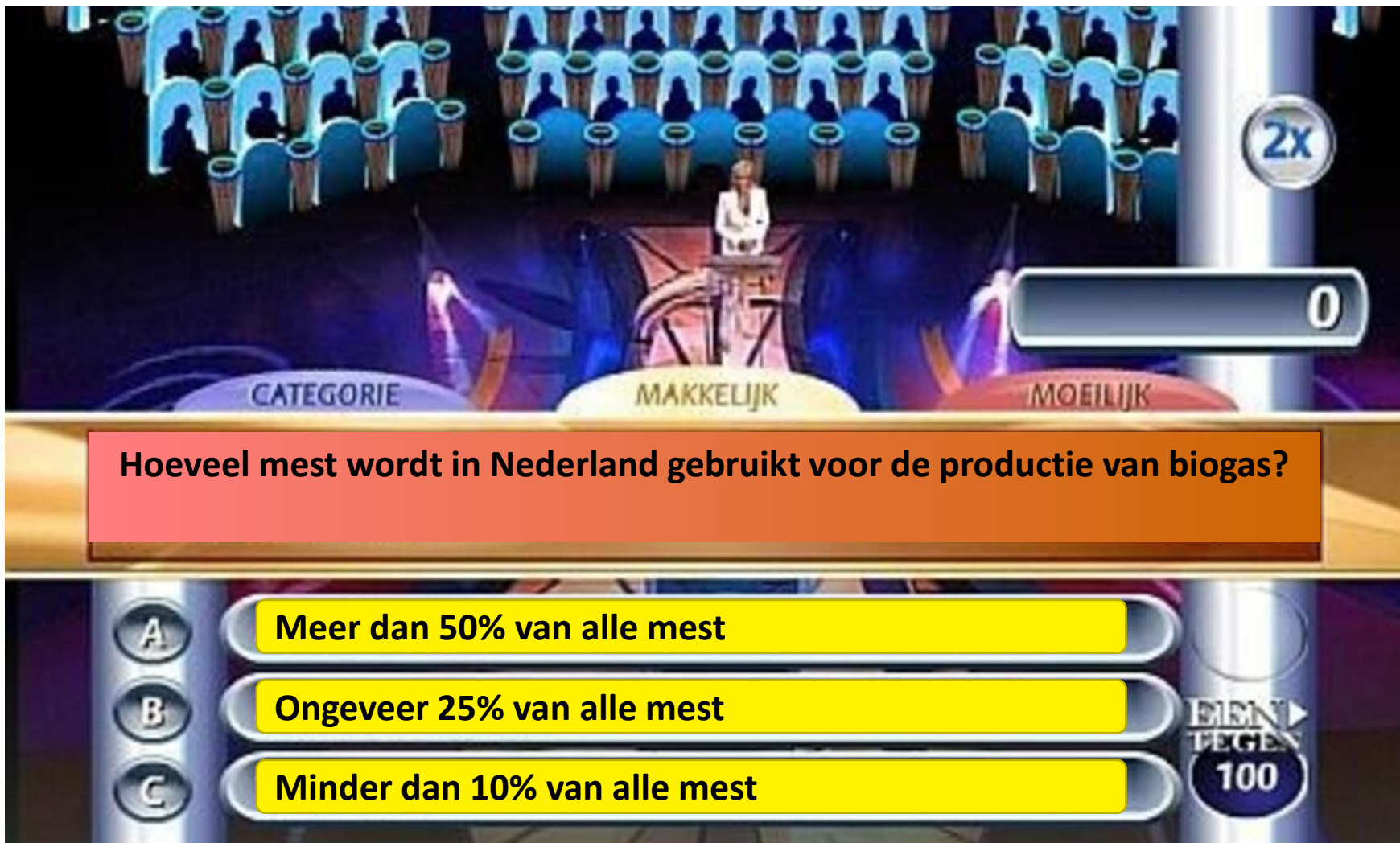
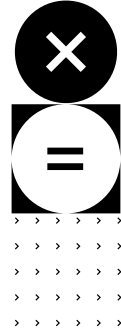


# Energiemais en groen gas

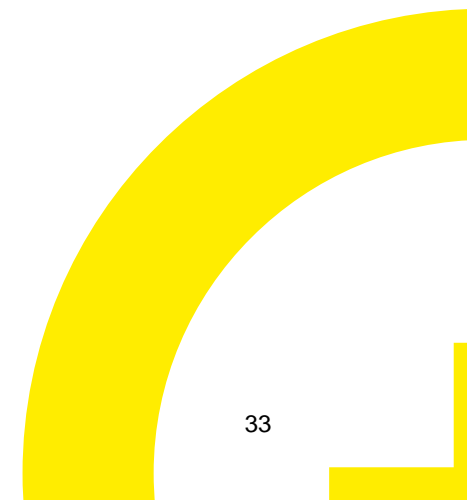
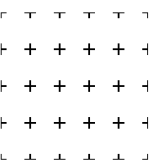




# Discussie

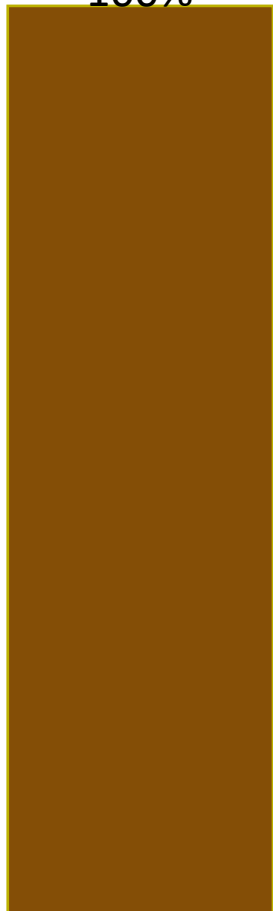


The screenshot shows a game show interface. At the top, a host stands at a podium in a studio with a large audience represented by silhouettes. A '2x' multiplier icon is in the top right. A score bar shows '0'. Below the host are three category buttons: 'CATEGORIE', 'MAKKELIJK', and 'MOEILIK'. A large orange question box contains the text: 'Hoeveel mest wordt in Nederland gebruikt voor de productie van biogas?'. Below this are three answer options in yellow buttons: 'A Meer dan 50% van alle mest', 'B Ongeveer 25% van alle mest', and 'C Minder dan 10% van alle mest'. On the right side, there is a 'EISN TEGEN 100' button.



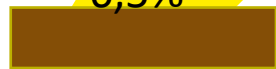
# Mestgebruik in vergisters

100%

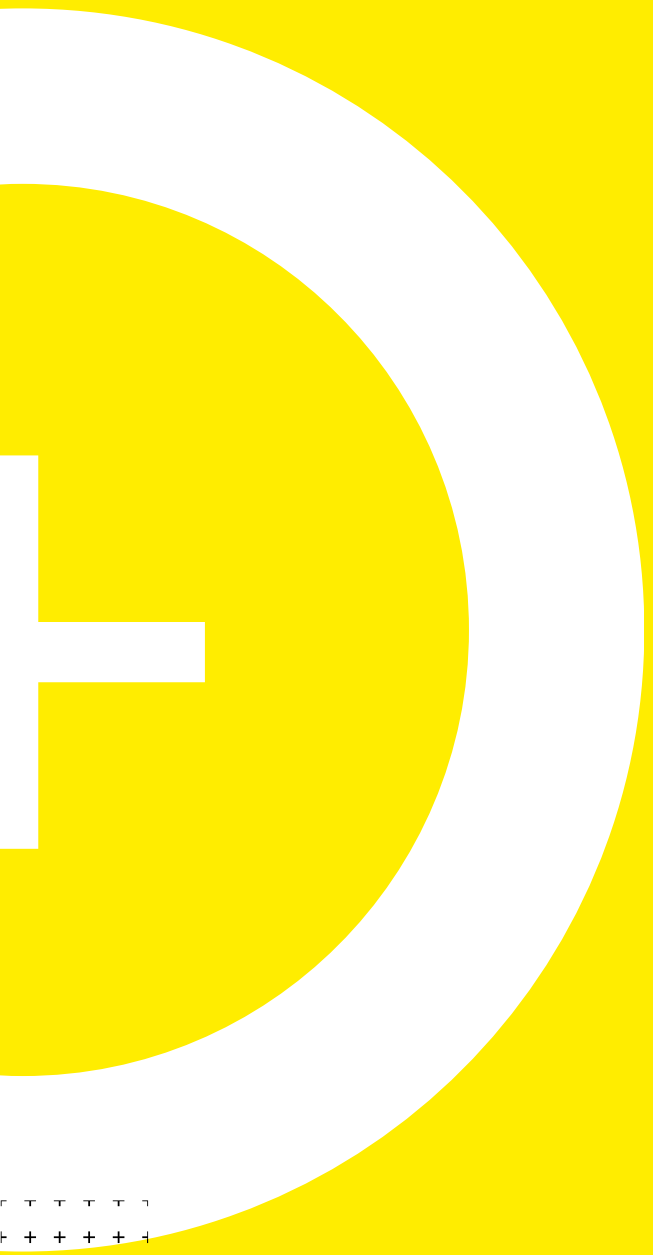


Stalmest NL

6,5%



Mest voor biogas



Drivers of Change

# Vragen?

