

CO₂ vrije datacenters en tuinders

Sessie 7: Elektrificatie, technieken en flexibiliteit

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Microsoft will be carbon negative by 2030 and will remove all historic emissions emitted either directly or via electricity consumption by 2050



2025:
100% renewable energy

Sustainability Goals by 2030

Carbon
negative

Zero Waste

Water
positive

Restore more
land than we
use



Corporate carbon disclosure and procurement; GHG reporting metrics and use of new technologies to calculate and track emissions and climate impacts

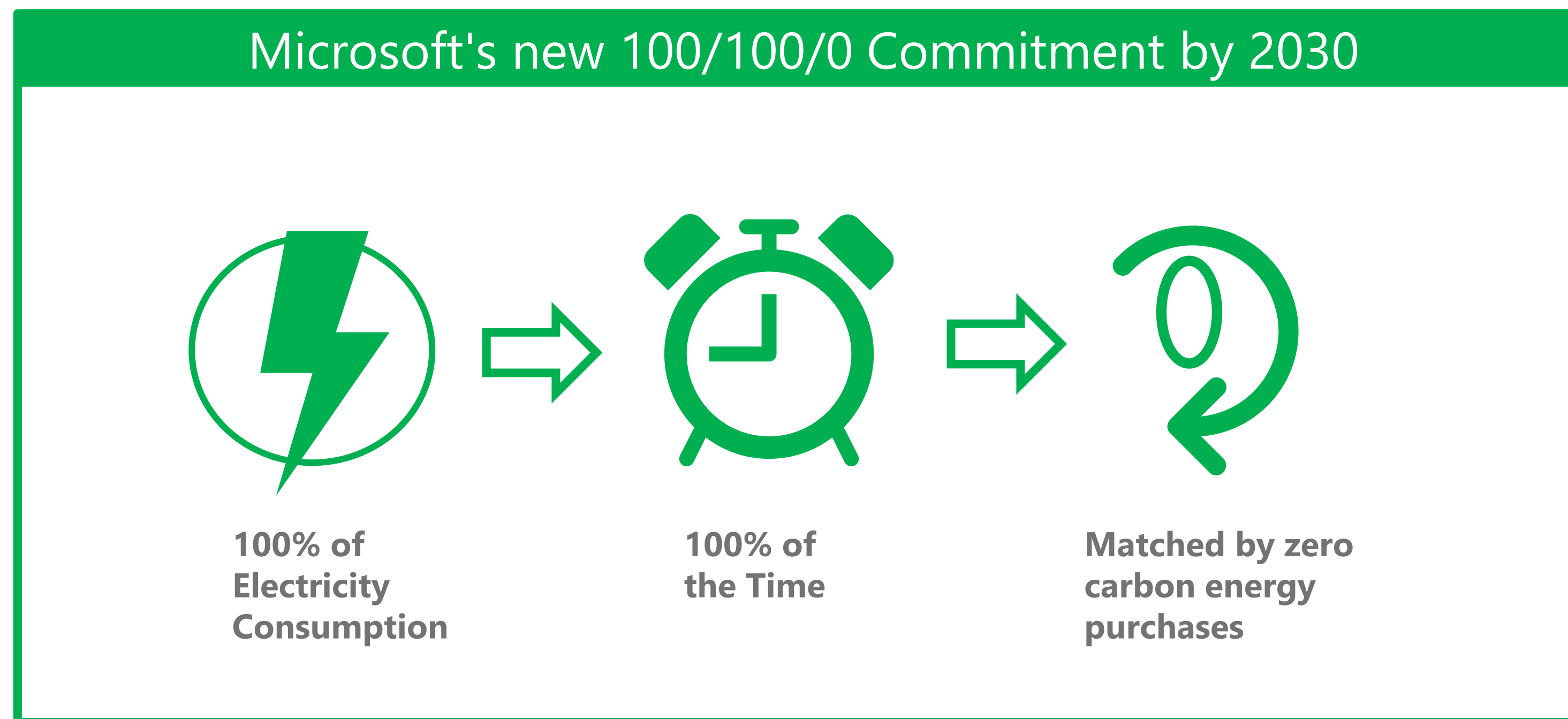
Outcome based, grid-decarbonization, incentivize hard to abate sectors

Clear accounting standards, durable solutions, engaging impacted communities.

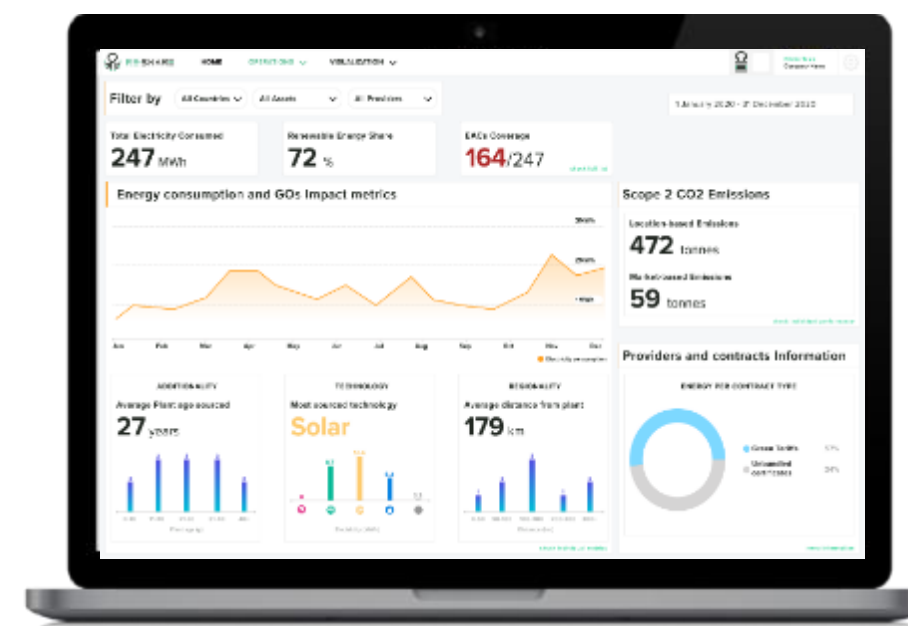
Microsoft's 100/100/0 vision and commitment for a decarbonized grid

Stanford study: When 100% renewable energy doesn't mean zero carbon

"In 2025, is er in Californië 50% meer hernieuwbare energie beschikbaar op jaarbasis, dan nodig is op uurbasis"



Multi-party hourly matching project for Microsoft's data center in Amsterdam

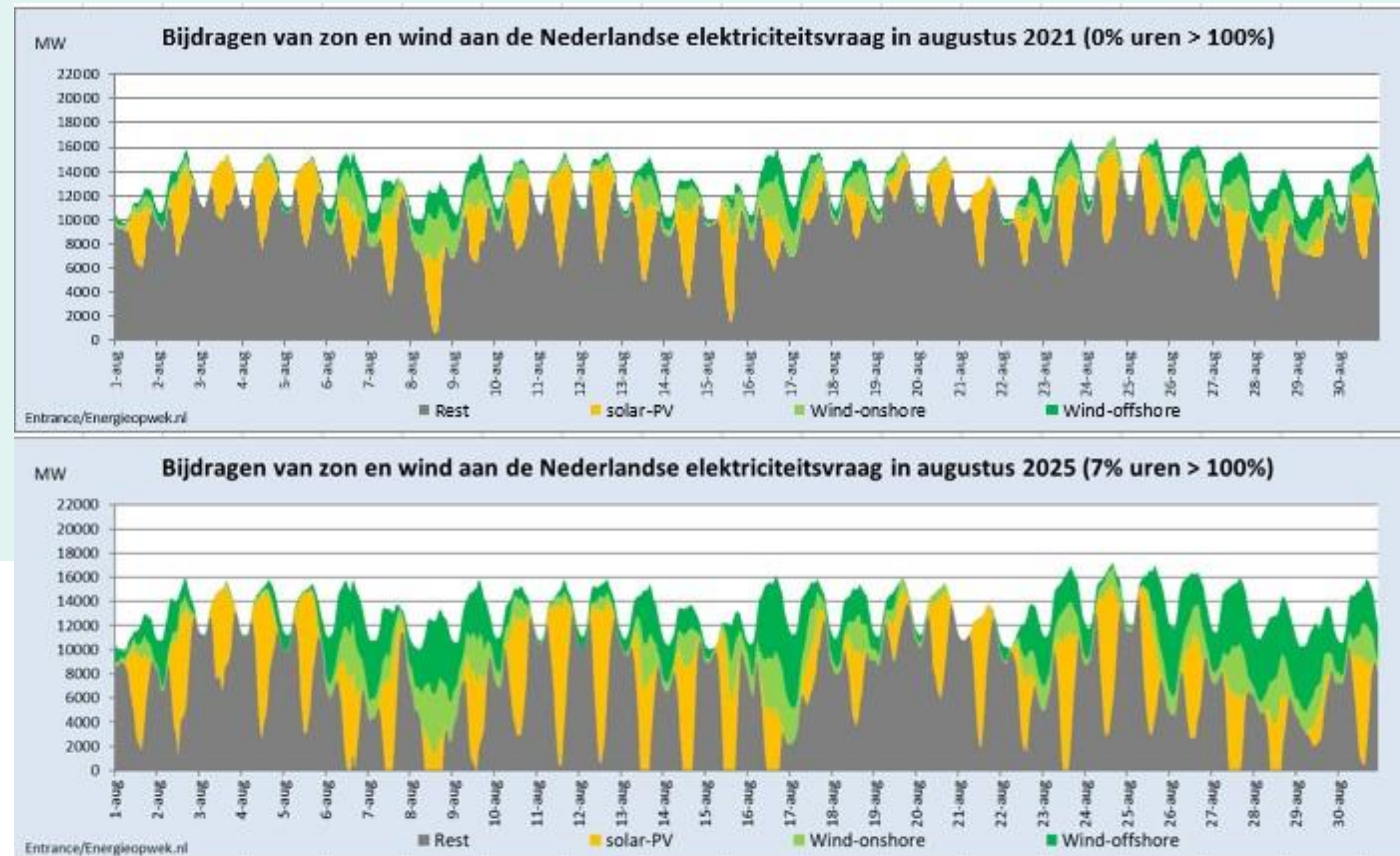


Currently Microsoft has signed a PPA contract with Eneco for renewable energy from an offshore wind farm. Microsoft has committed to a **100/100/0 goal** in order to truly eliminate emissions from the electricity they buy for its datacenters.

With CertiQ and FlexiDao parties are testing with tracking energy on an hourly basis using the Granular Certificate standard from EnergyTag.

Demand for CO₂-free Flex

Even with bad aug-mnth'21 we go to surpluses in 2025

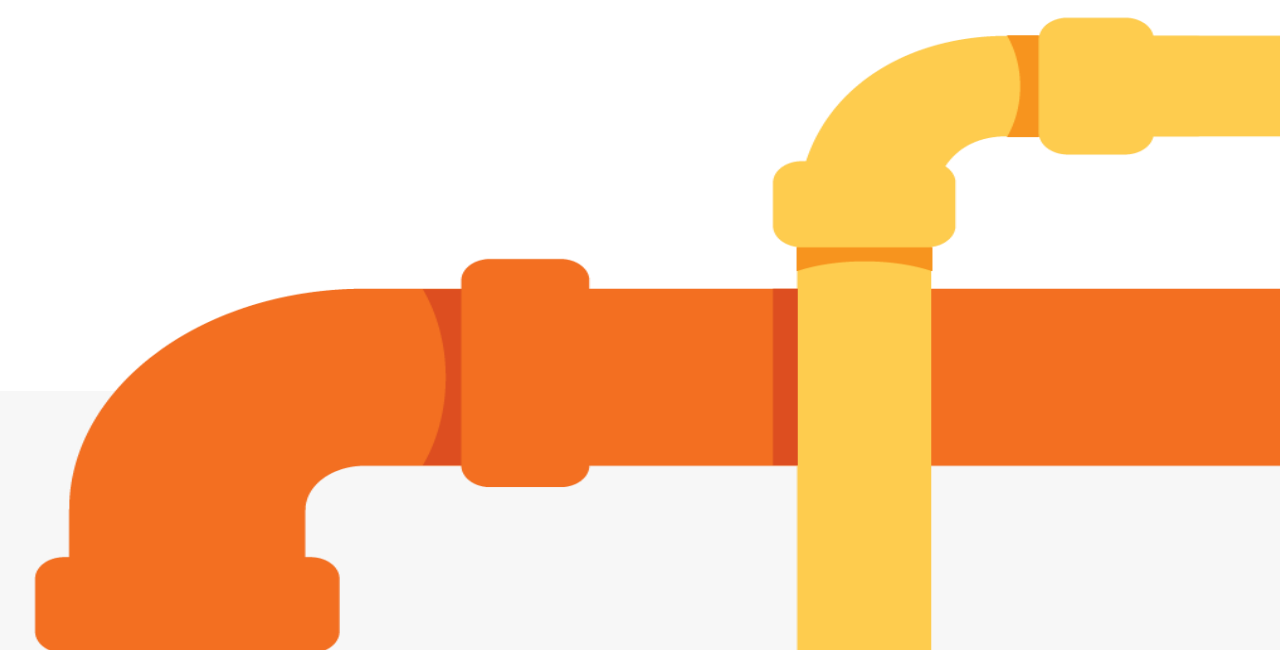


How to anticipate?

- 1) **Optimal production mix**
e.g. contract 25% solar and 75% wind, improves matching score from ca 60% to 70%
- 2) **Demand steering**
if possible and where economical
- 3) **Battery storage**
- 4) **CO₂ free Flex** (e.g. H₂)



1. Introductie
2. Ontwikkelingen
3. Vooruitblik



1. Introductie- Netwerken

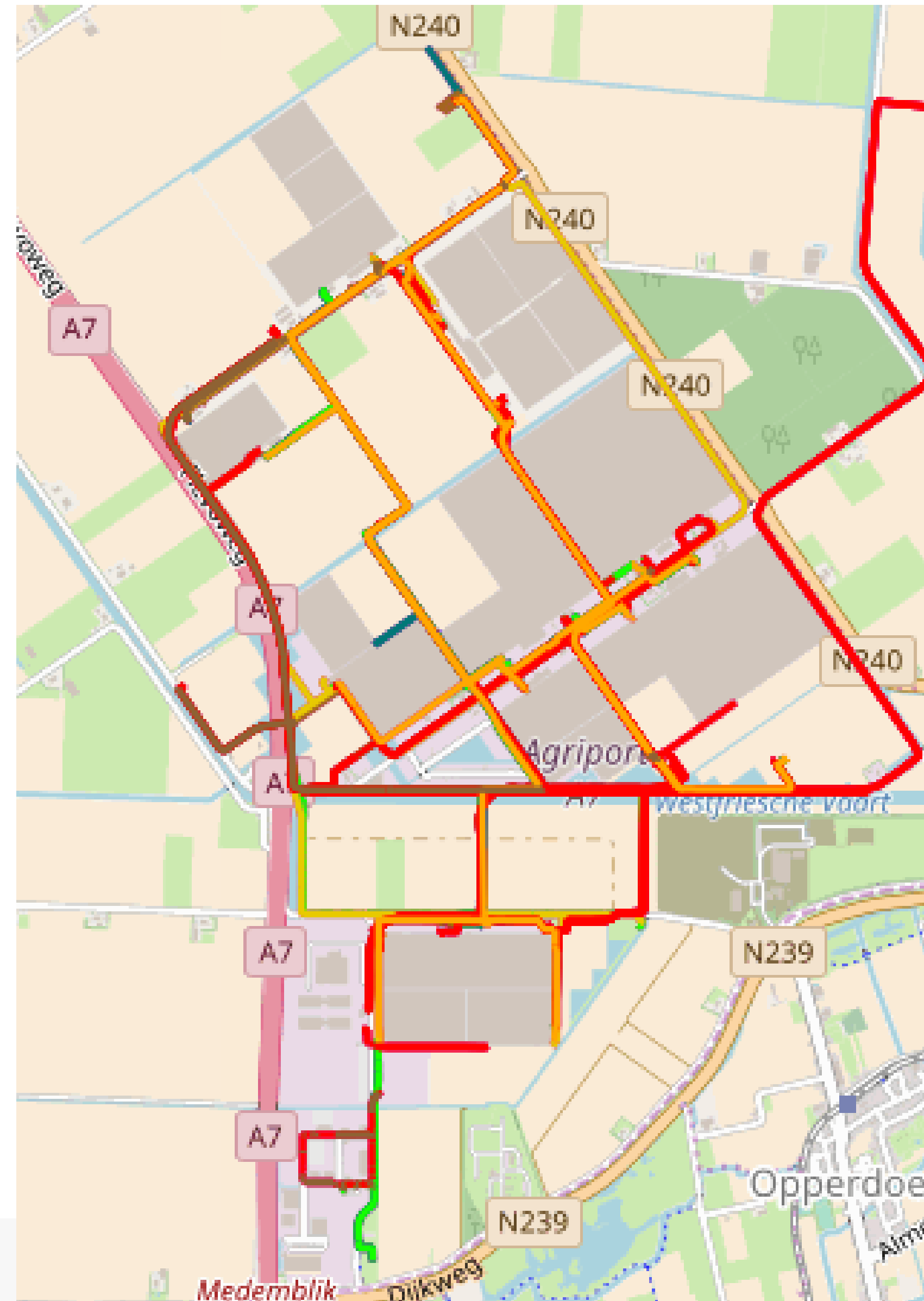
Warmte



Gas



Water



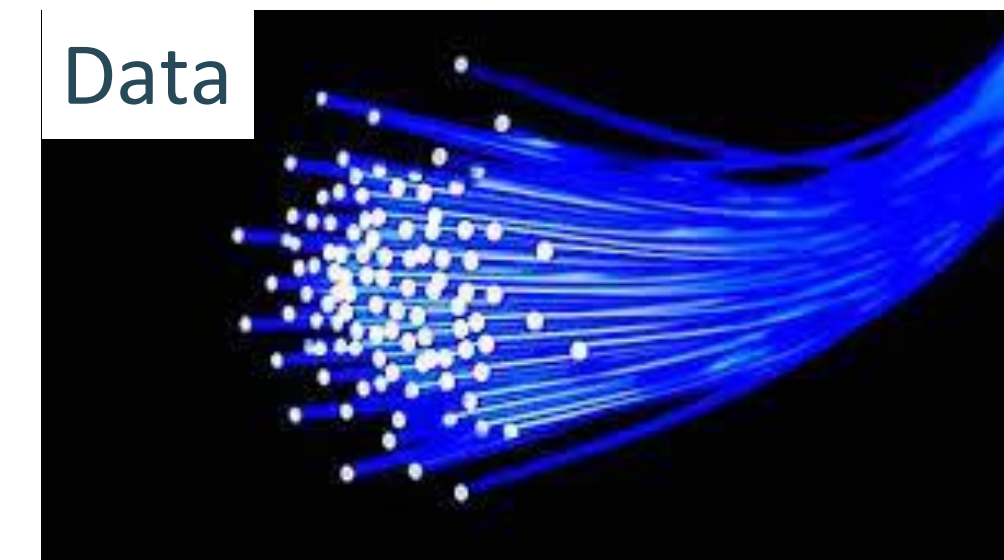
Elektra



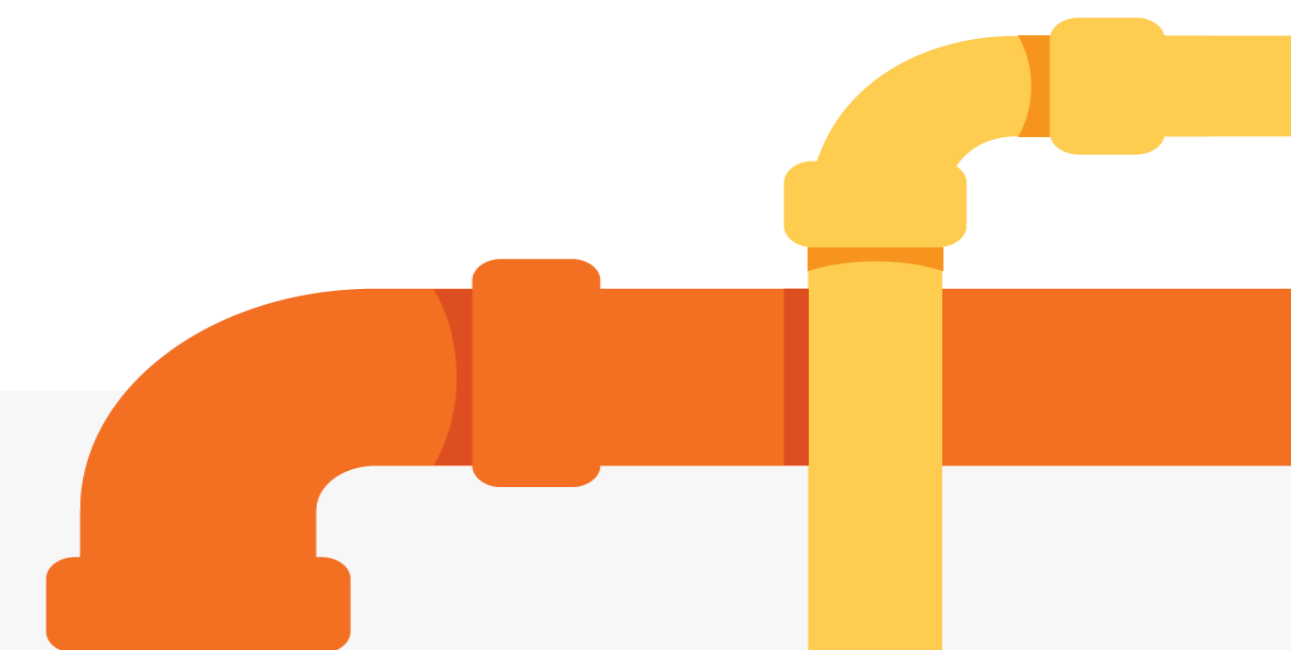
CO2



Data



Netwerken	Productie	Diensten
• Energie (<i>elektra, gas, warmte, CO2</i>) • Water • Data (Glasvezel)	• WKK • Zon PV Bij aangeslotenen: • WKK • Wind • Zon PV • Geothermie • Biomassa	• SU+M (handelsplatform) • Grondwater • Noodstroom • Meetdiensten • Advies • VVE





Gebiedsvisie Energie AgriportA7

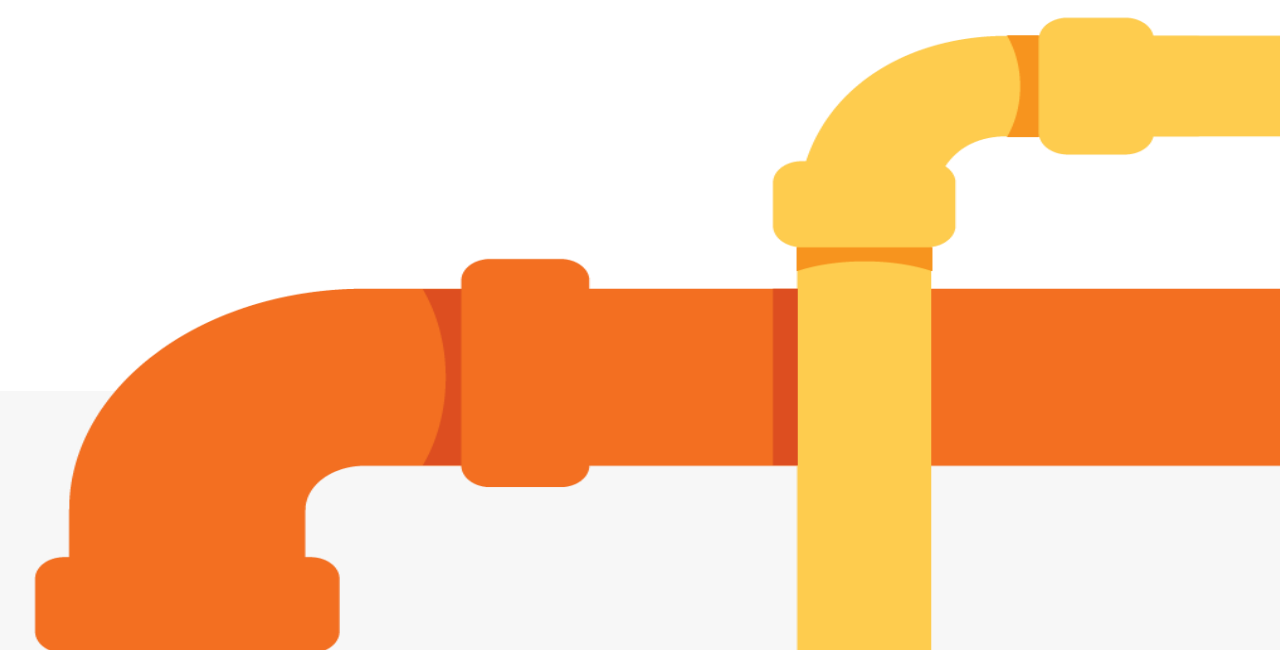
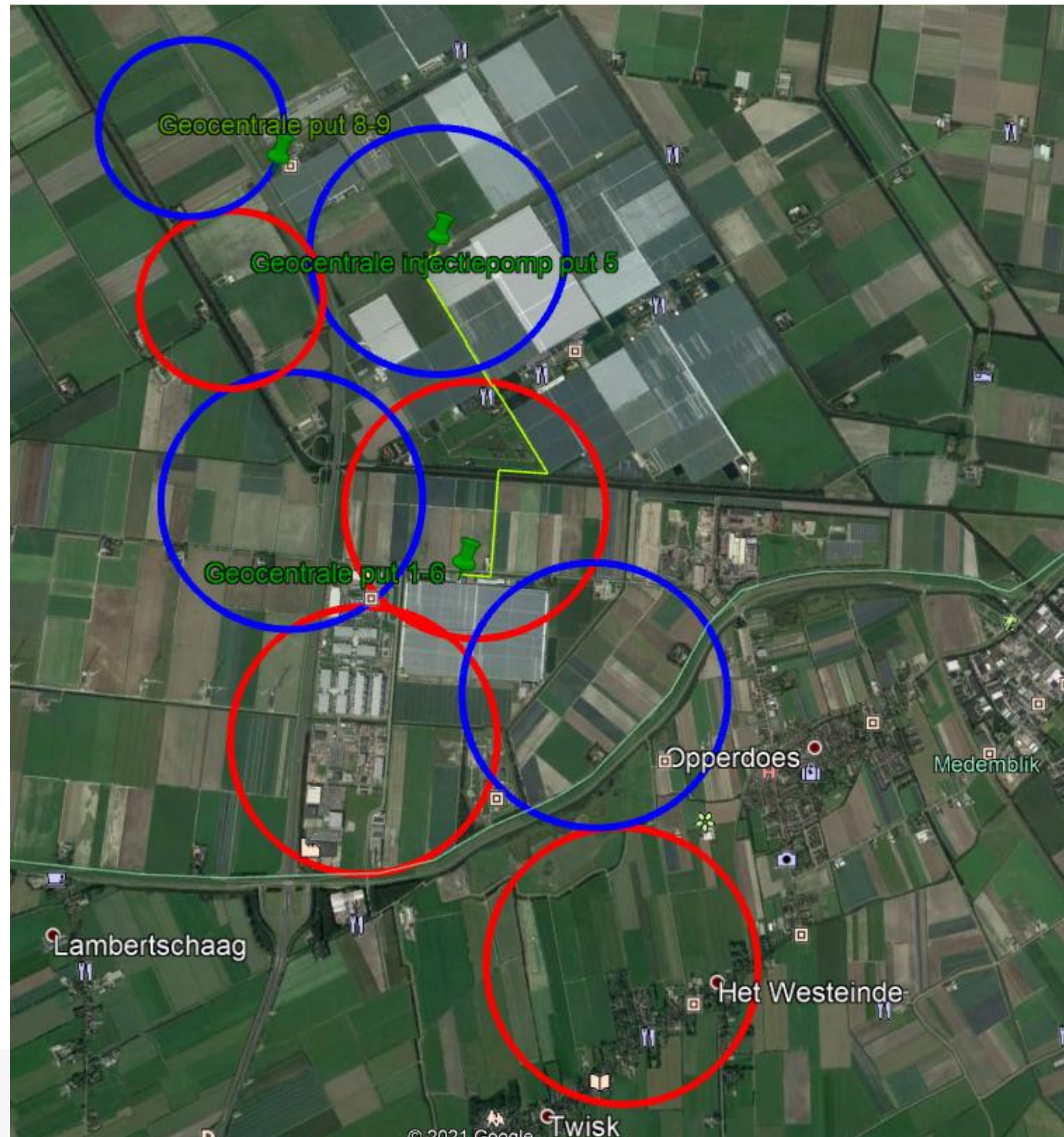
Doorkijk richting 2030

DATUM | 25-01-2023

OPDRACHTGEVER | Greenport Noord Holland Noord

STATUS | Concept





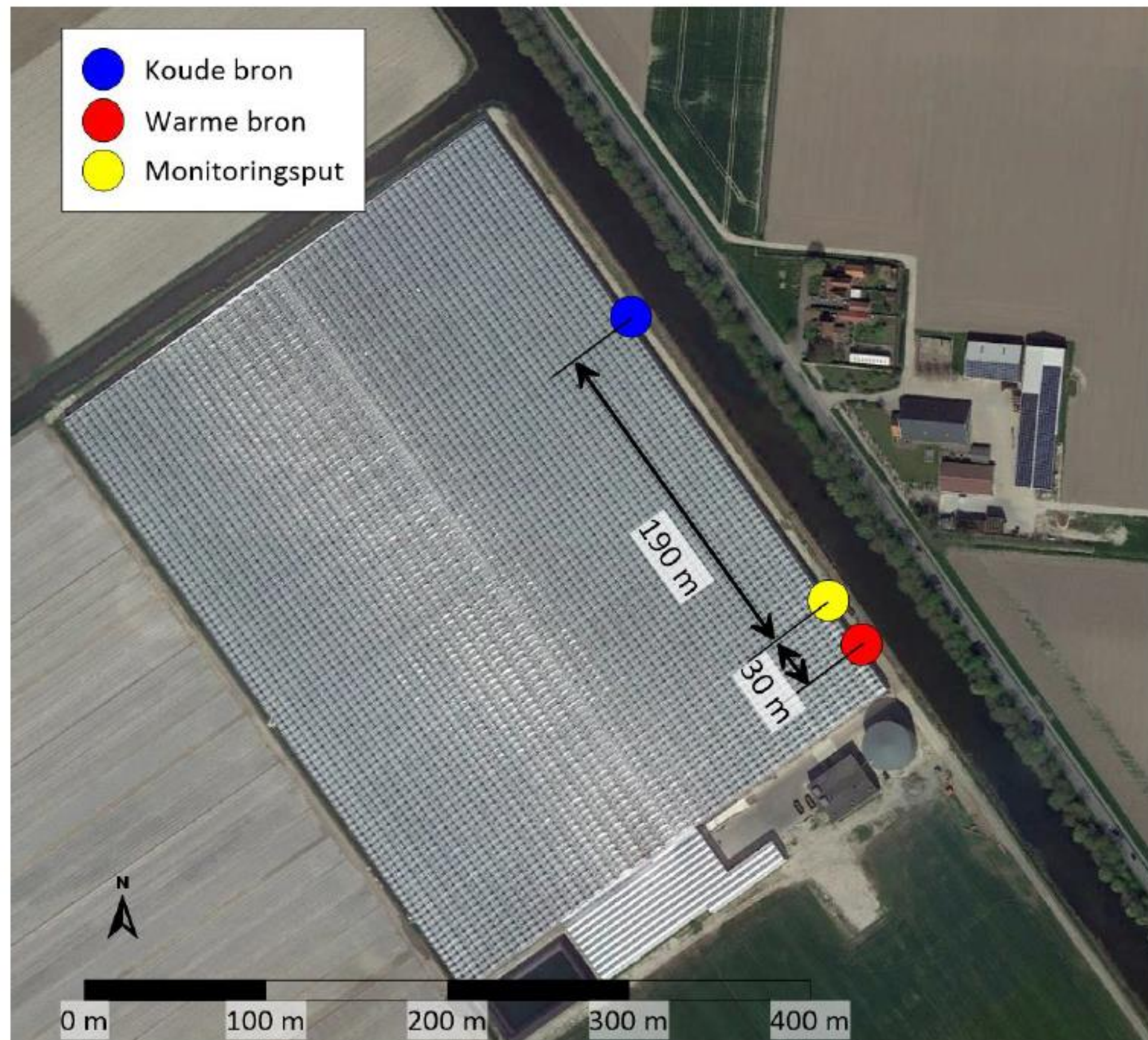


Warmteditistributie

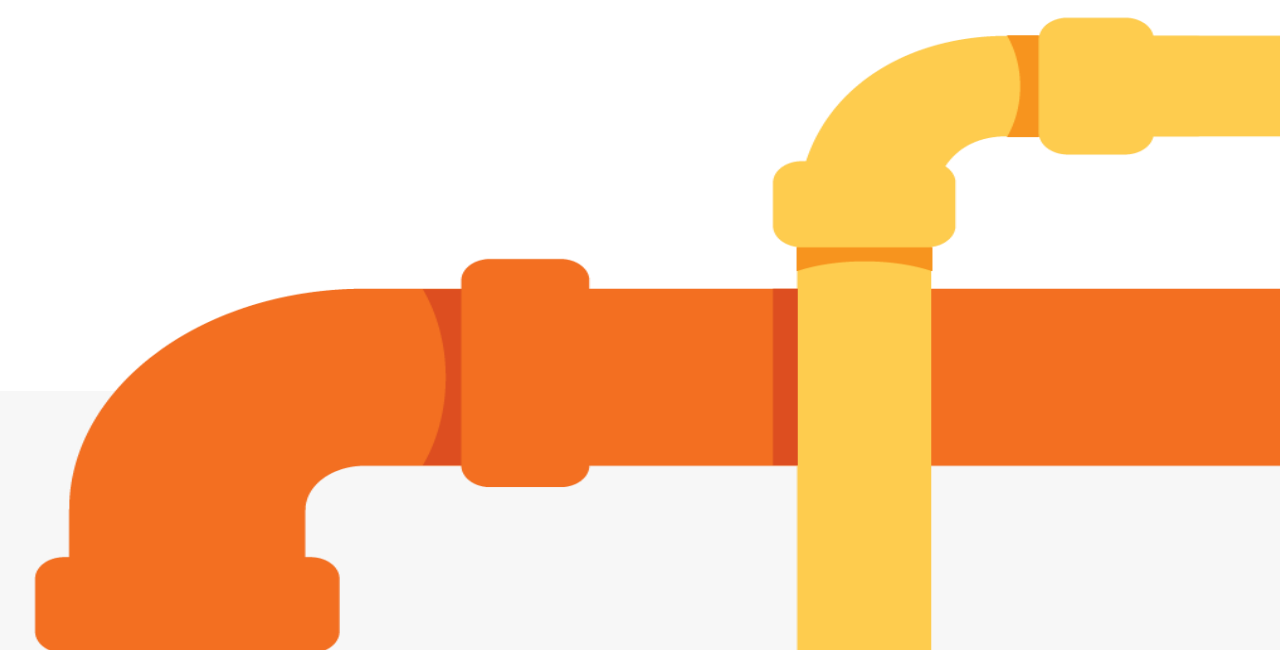


Biomassa-energiecentrale

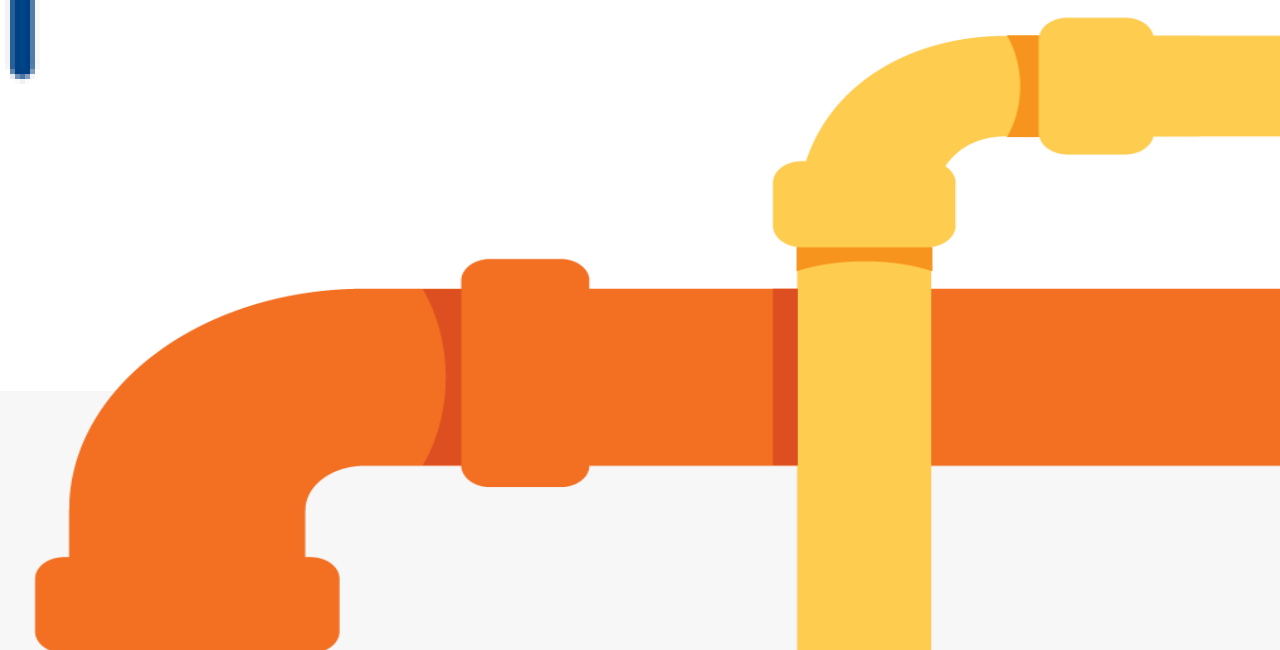
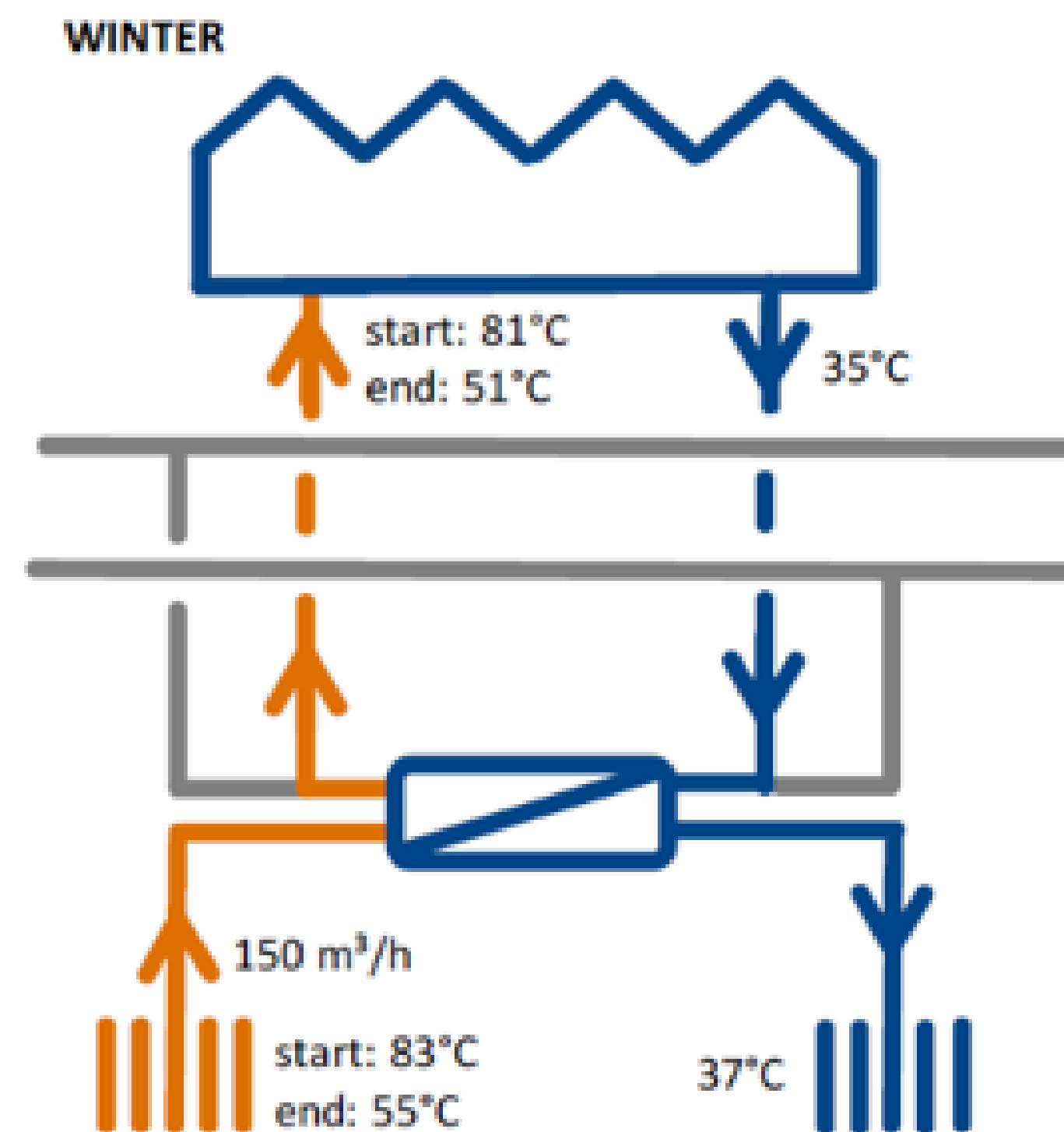
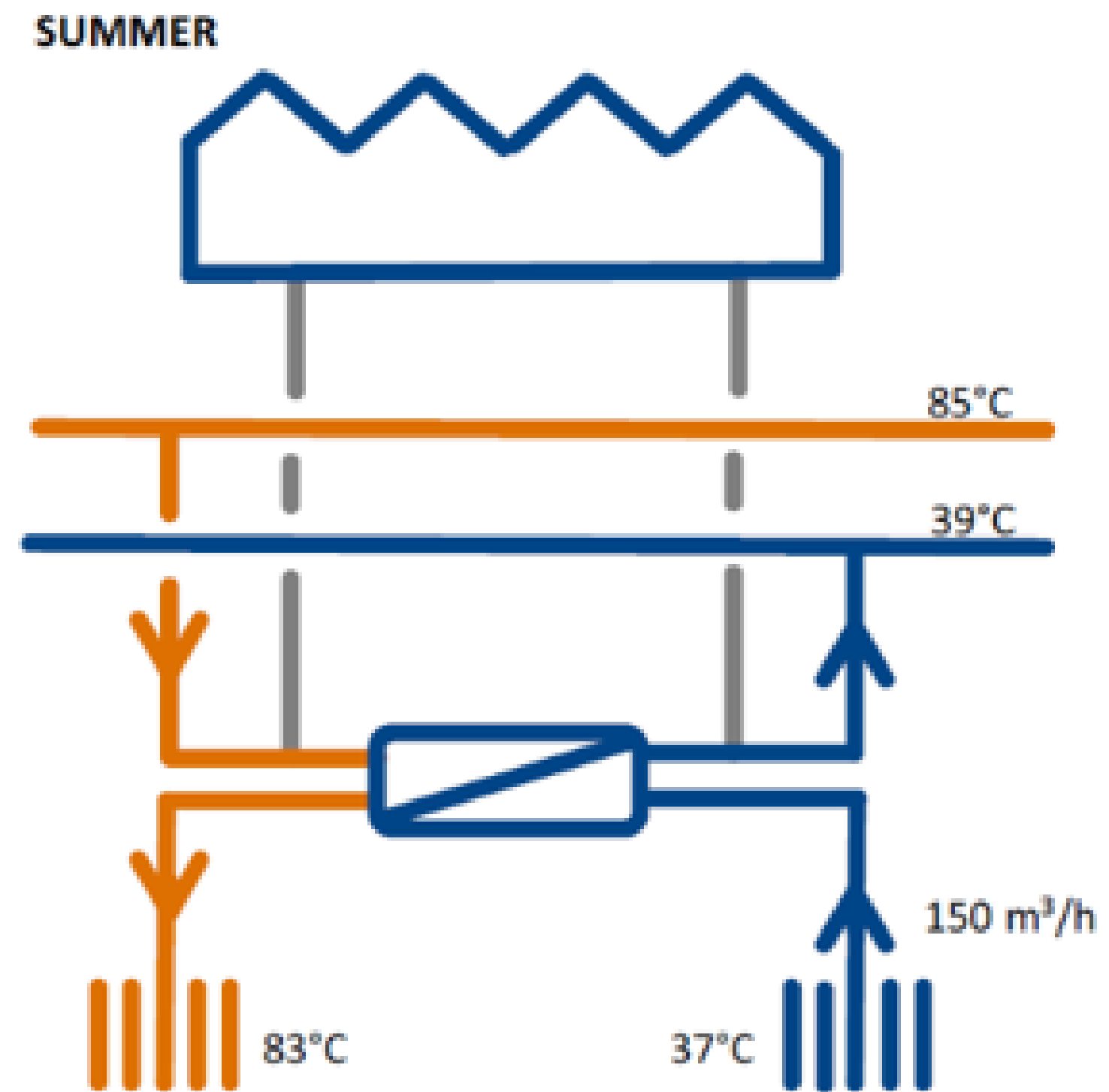




Figuur 2.1 | Overzichtskaart met daarop aangegeven de locaties van de bronnen en de monitoringsput, geplaatst op de strook land tussen de kas en de Medemblickervaart.



Hoe werkt HTO?



Zon-PV



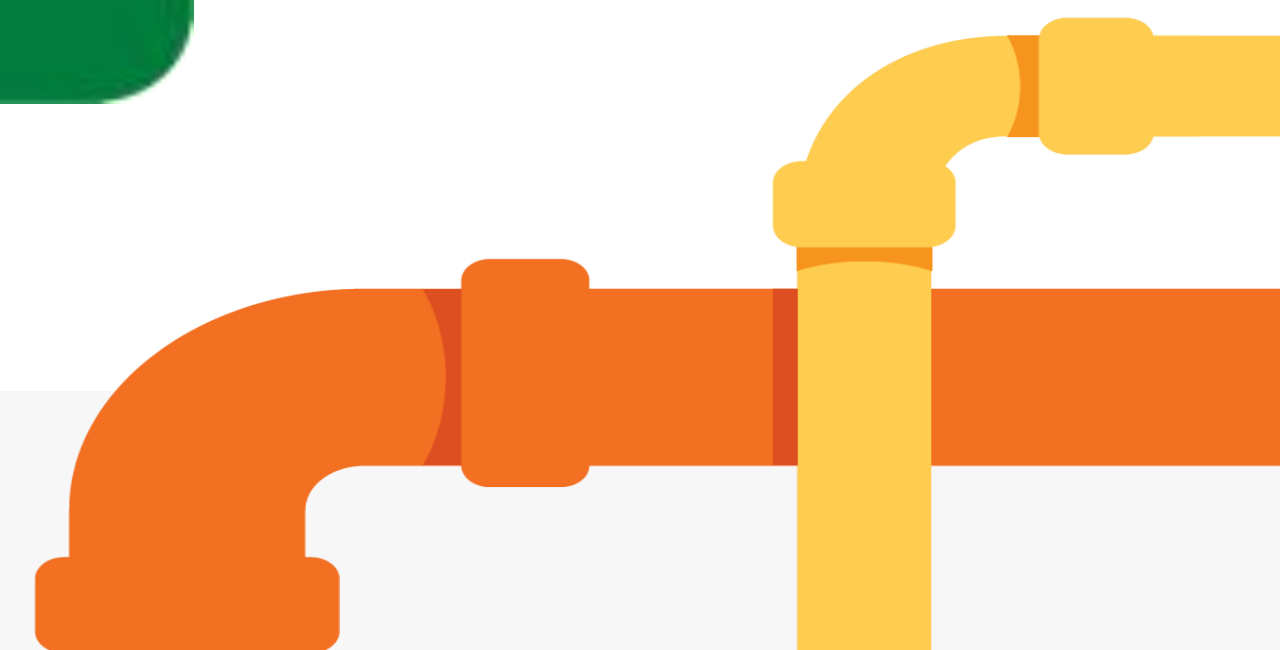
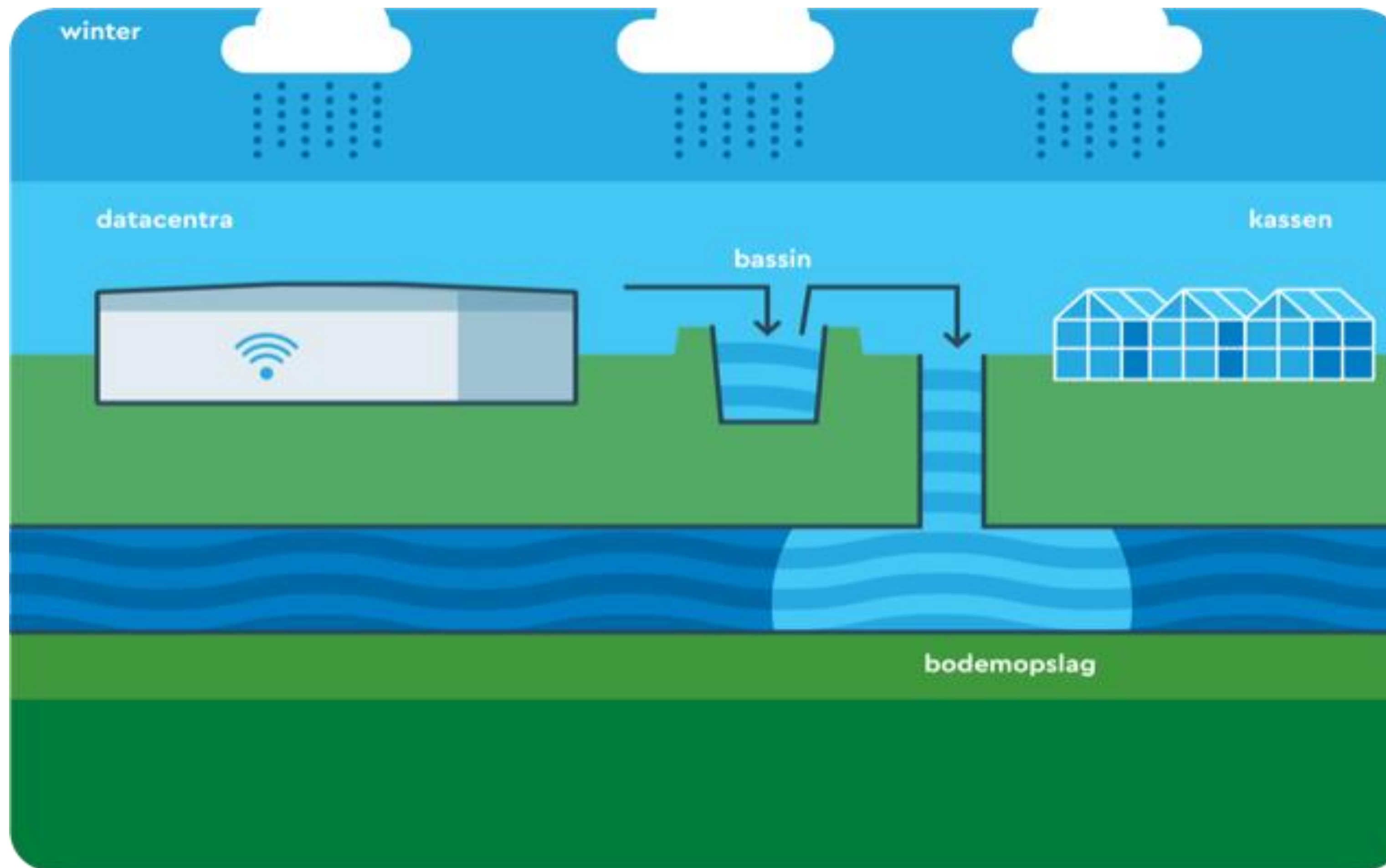
Zon-PV & Biomassacentrale

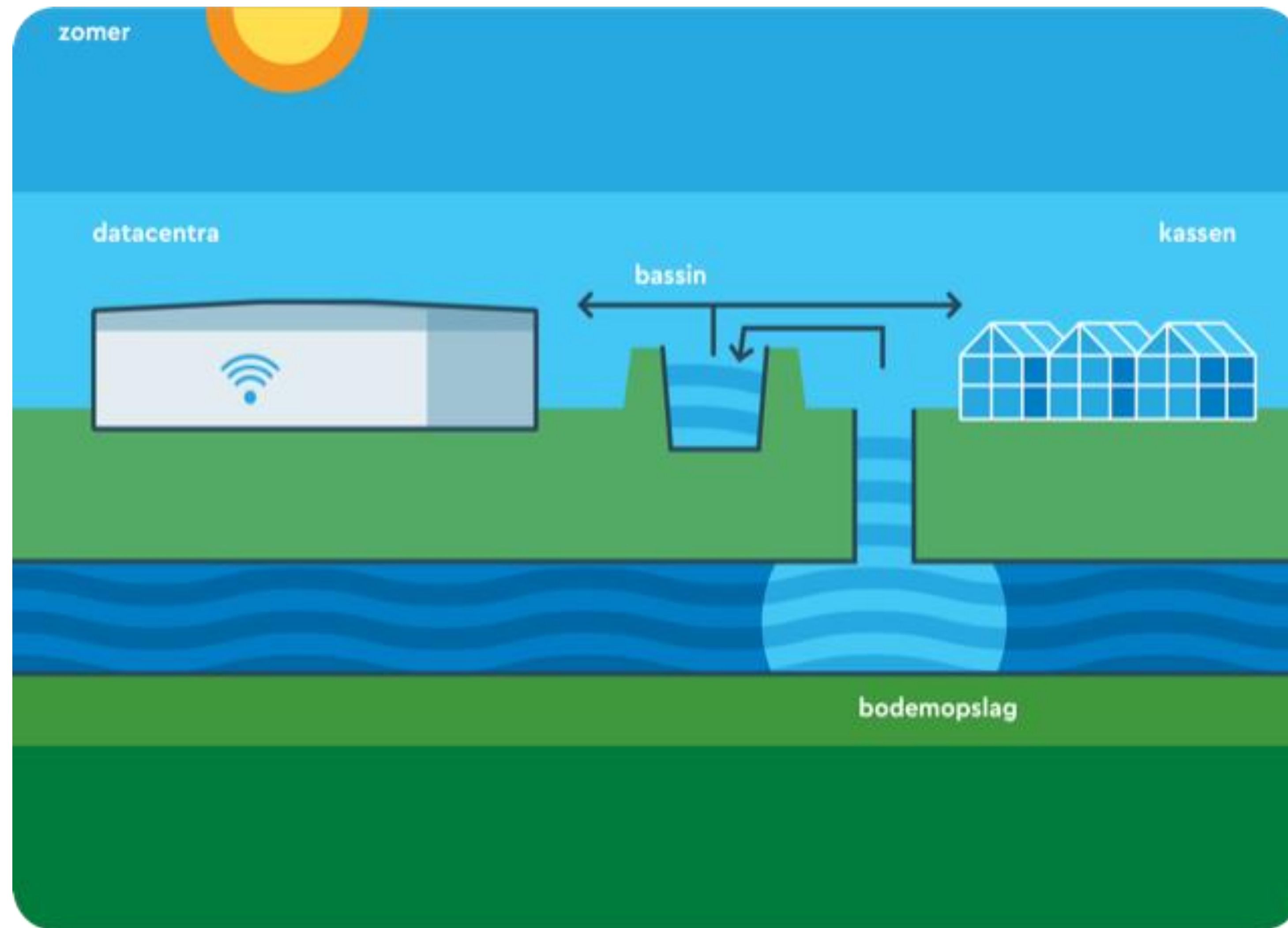


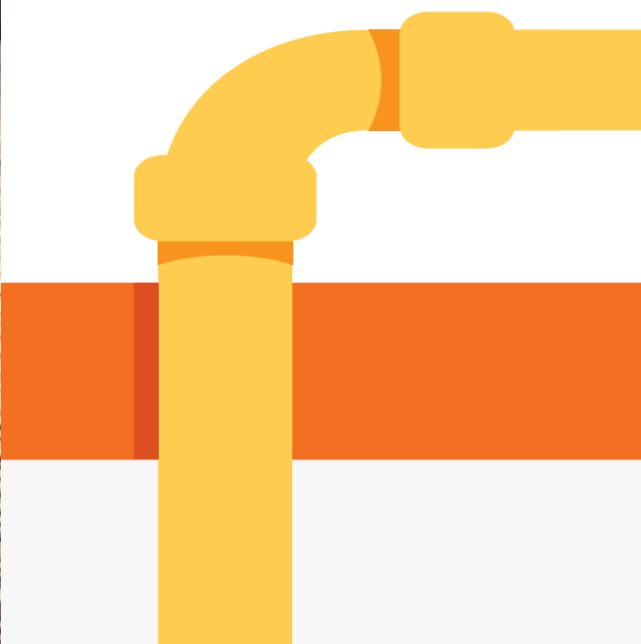
Waterbank Agriport

- Hemelwaterberging
- Regenwater van daken van tuinders en datacenters wordt opgevangen in waterbank
- In periodes van droogte wordt water gebruikt voor irrigatie (tuinders) of als koelwater (datacenters)

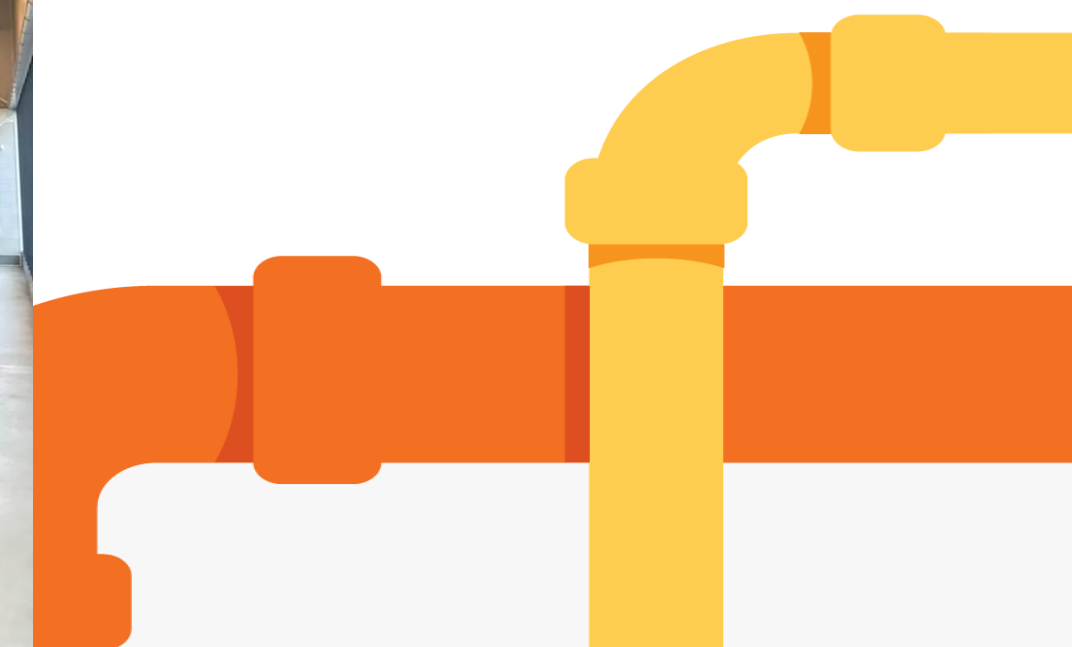


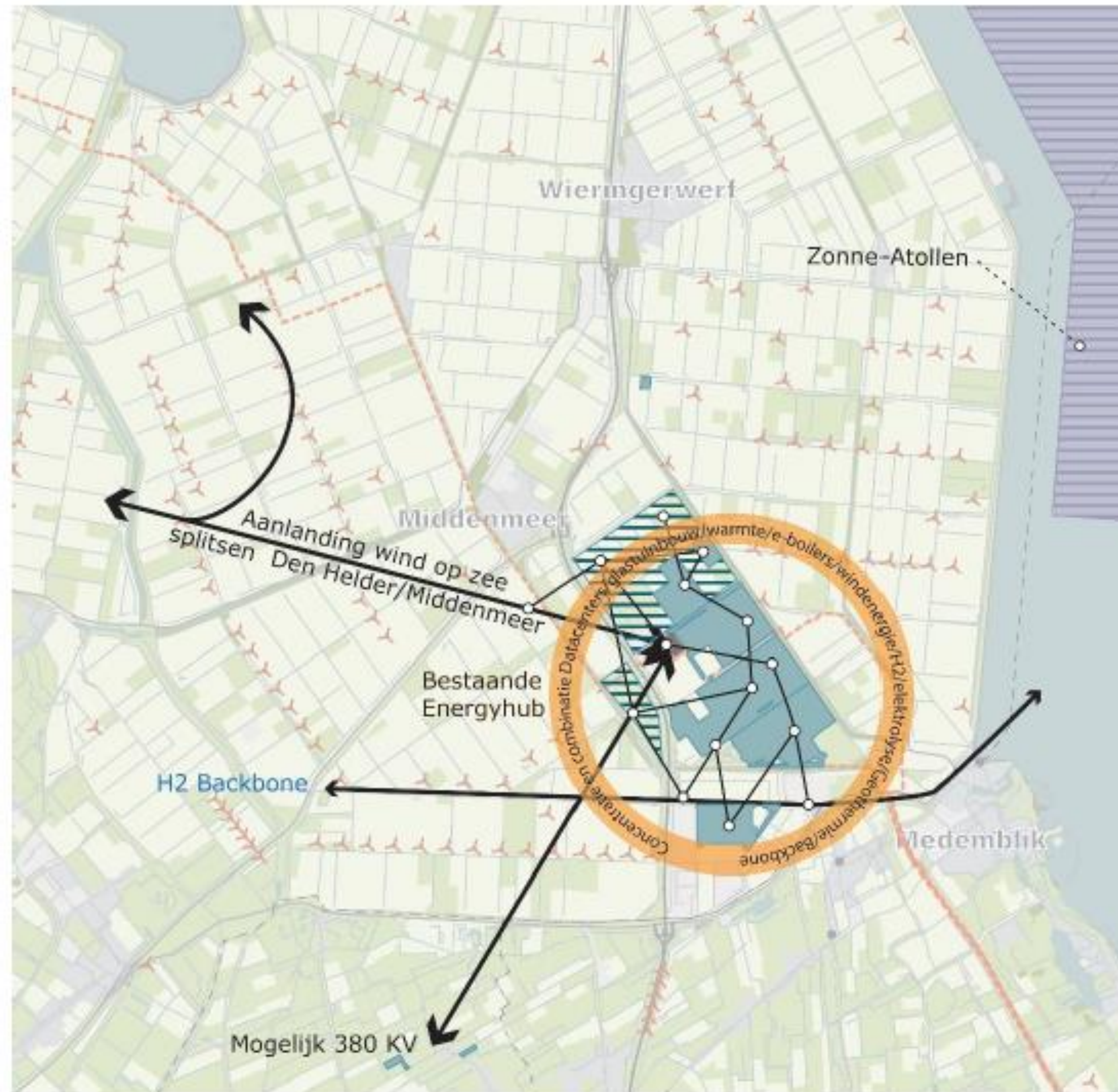




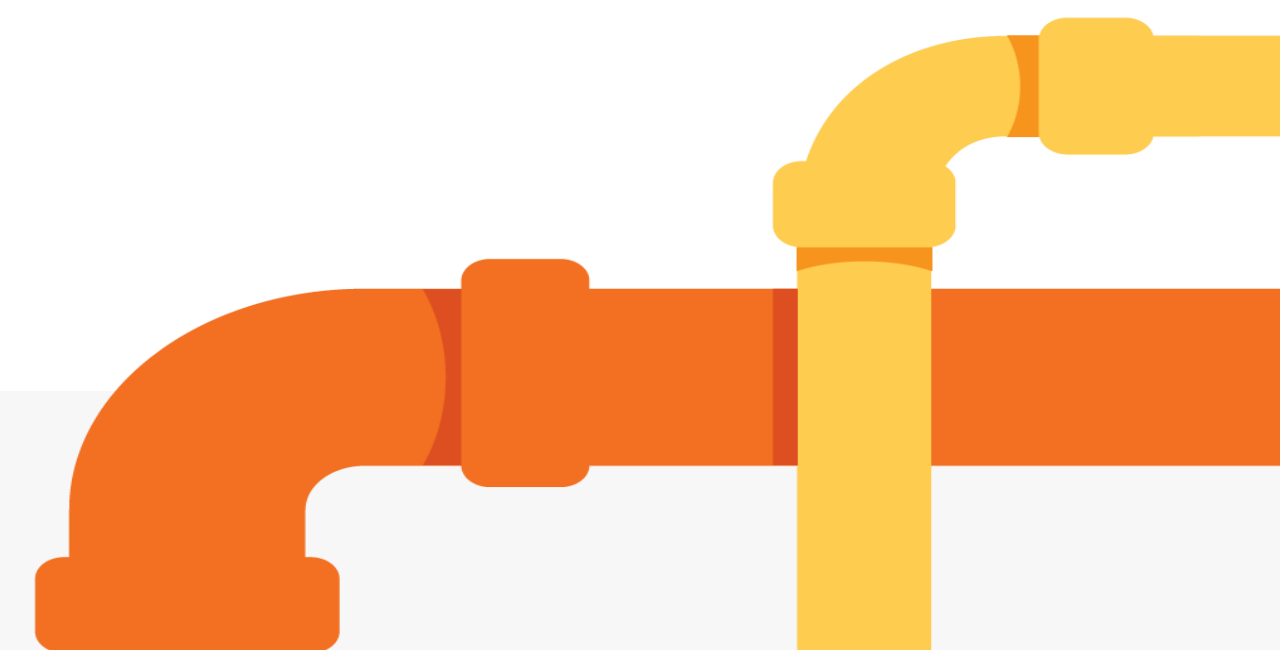


Nederlandse Industrie



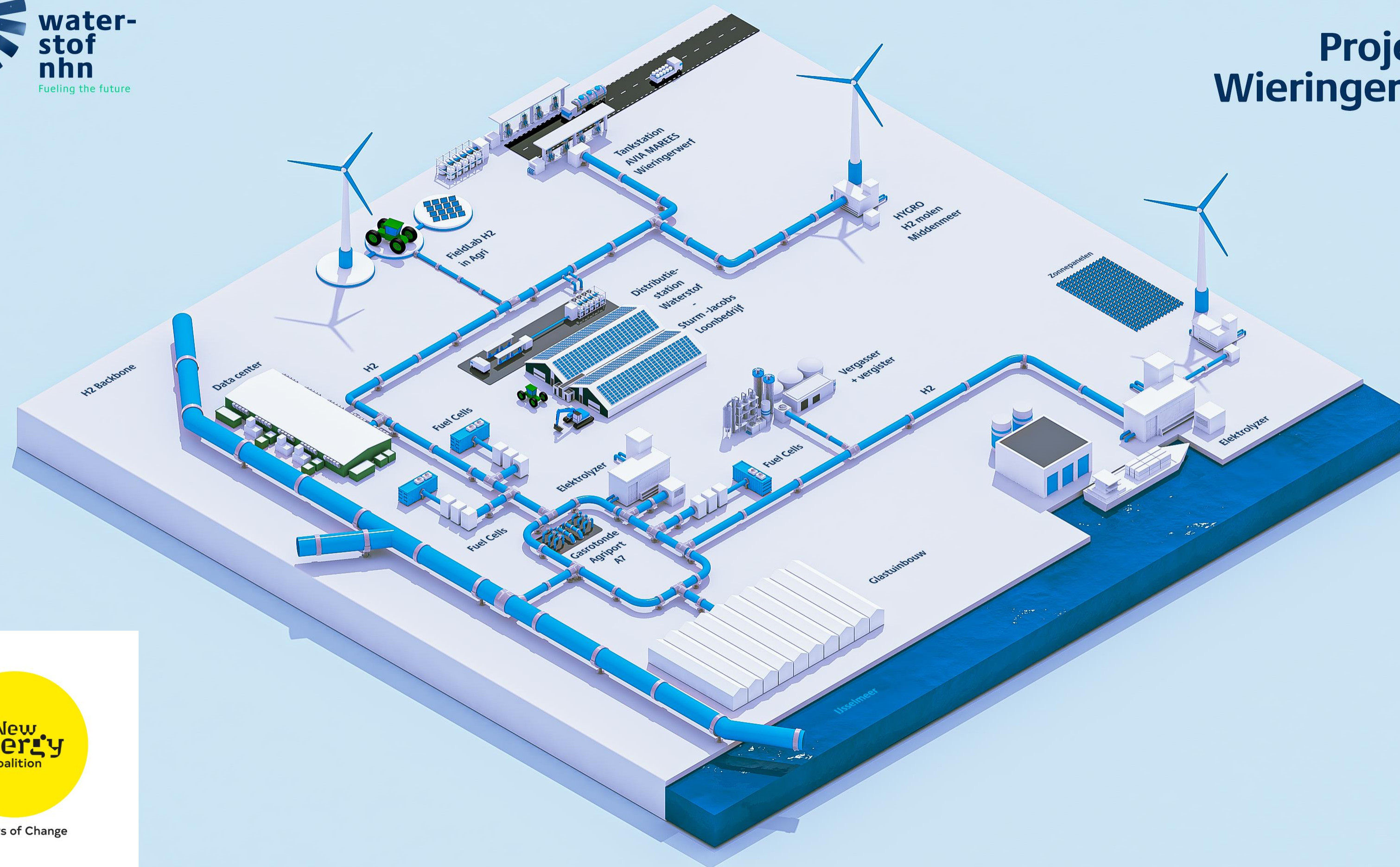


Figuur 3.4: Overzicht ontwikkelingen Middenmeer.





Projecten Wieringermeer



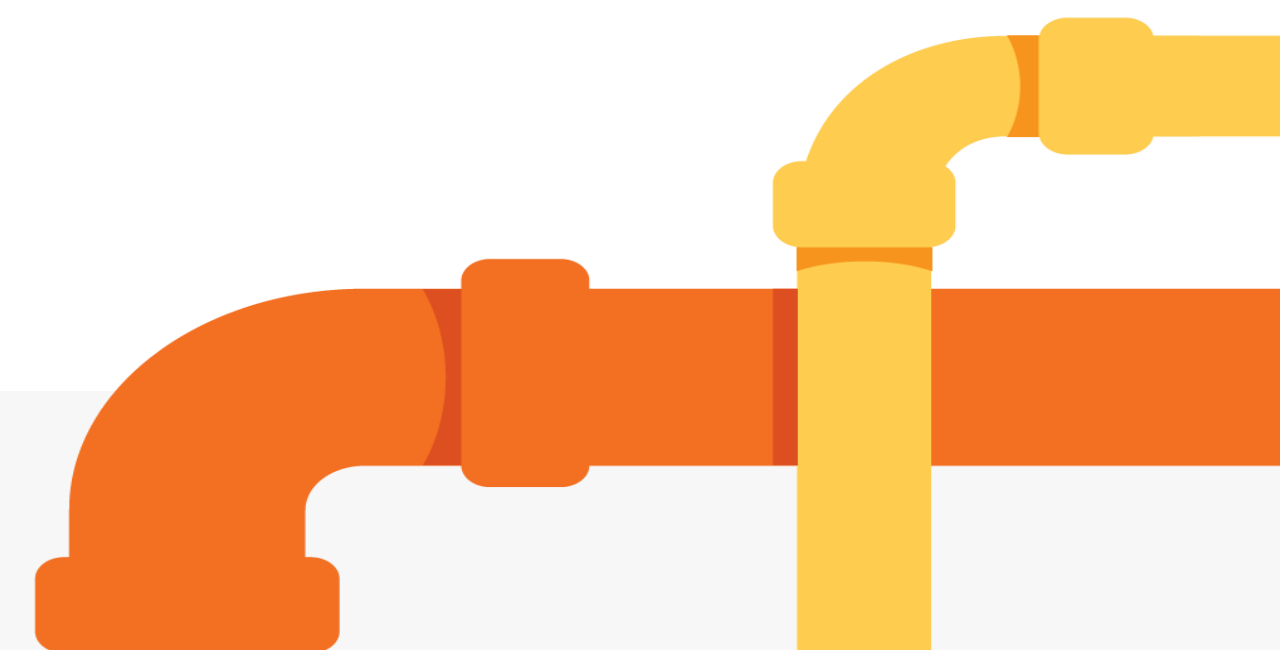
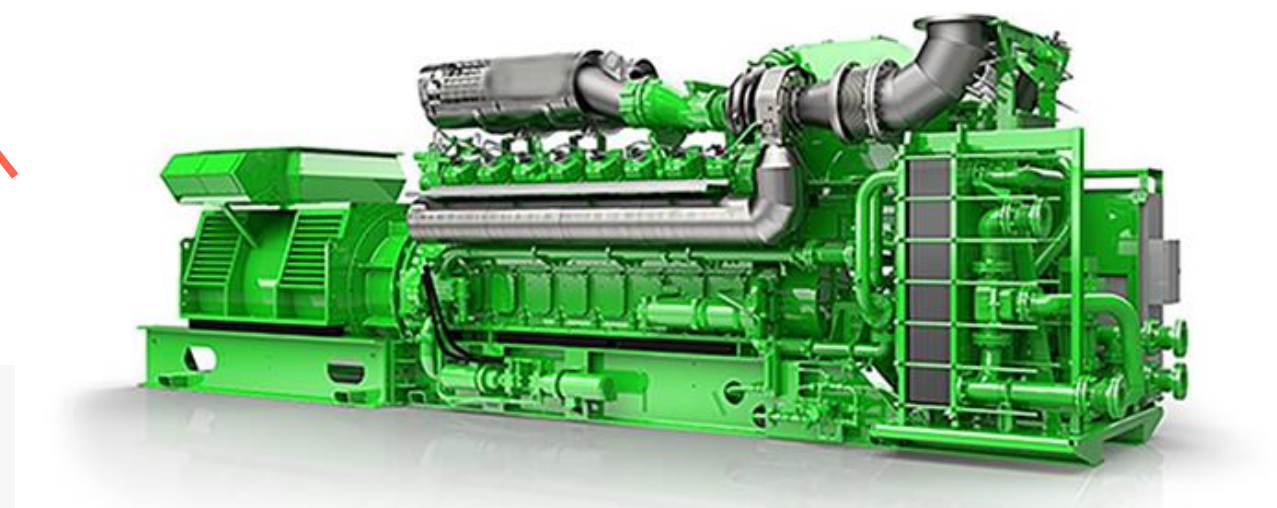
Drivers of Change



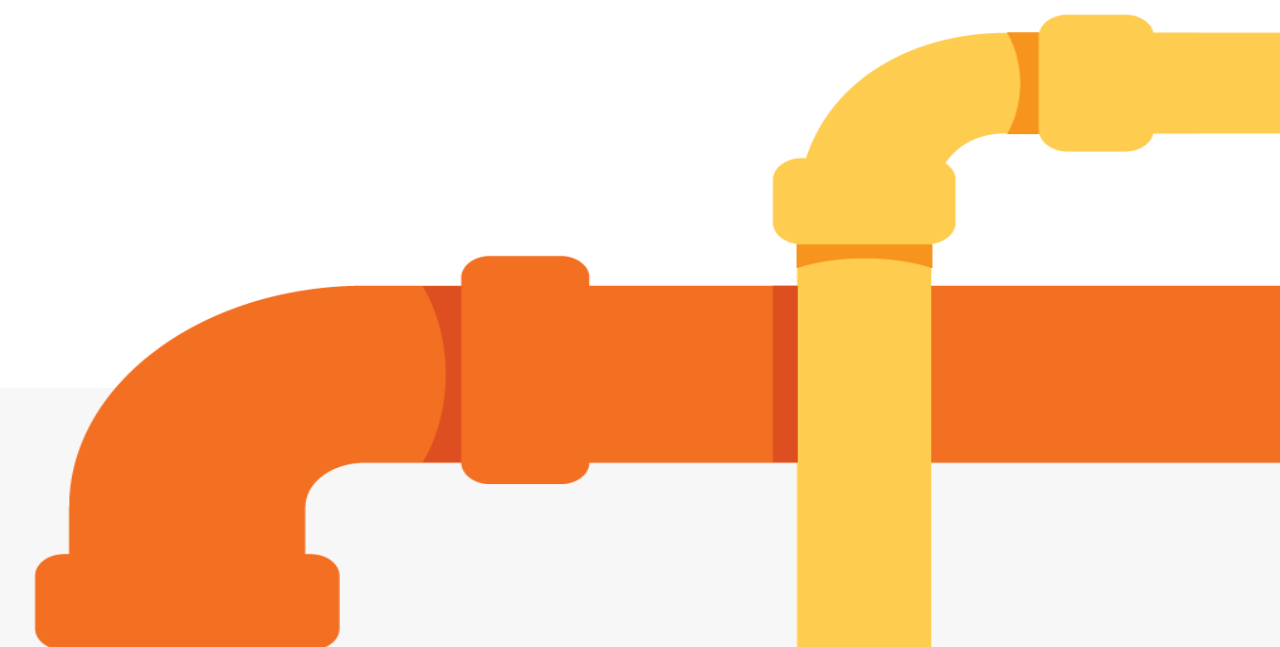
warmte



Back-up as a servive



*Energyhubs bestaan uit energetisch
complementaire bedrijven*



Energy hubs moeten verduurzaming én economische ontwikkeling faciliteren van de industrie, dus moeten qua infrastructuur altijd anticiperen op toekomstige groei (en dus bewust over gedimensioneerd worden).

