

FIELD LAB FOR SUSTAINABLE INNOVATION



**THE
GREEN
VILLAGE**

**Arnoud van der Zee – Programma Manager
Toekomstig Energie Systeem – The Green Village**

**THE
GREEN
VILLAGE**



THE GREEN VILLAGE



The Green Village 2020-2025

Three themes:

1 Sustainable building and renovation

2 Future energy system

3 Climate adaptive city

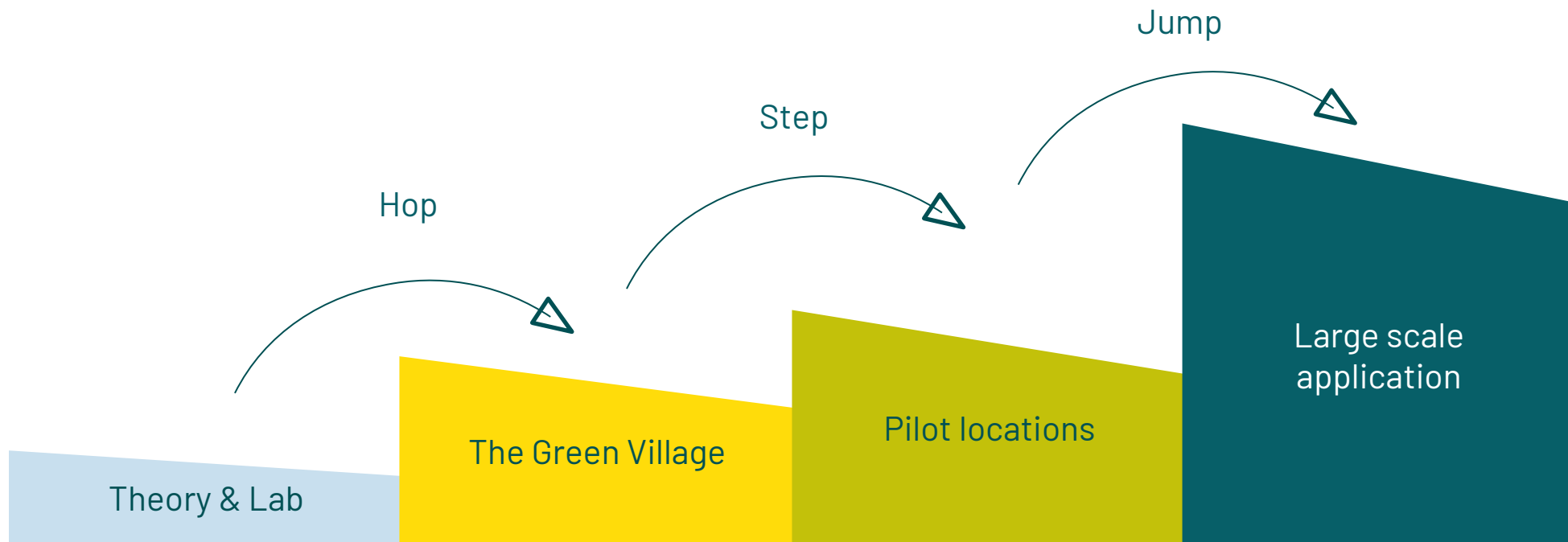
THE GREEN VILLAGE

Stz0



The Green Village

The first 'hop' to large scale application



A unique, safe environment at TU Delft Campus, exempt of standard rules and regulations, to **experiment, research** and **demonstrate**



Publicly accessible
(28.5k visitors)



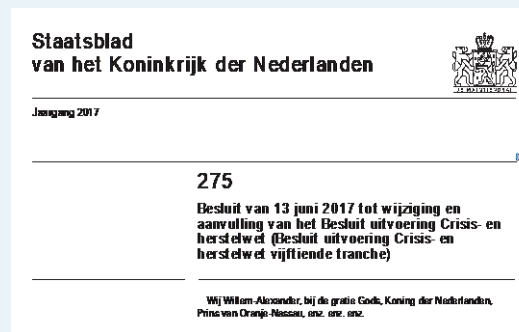
8 houses
12 real residents
2 offices
15 employees



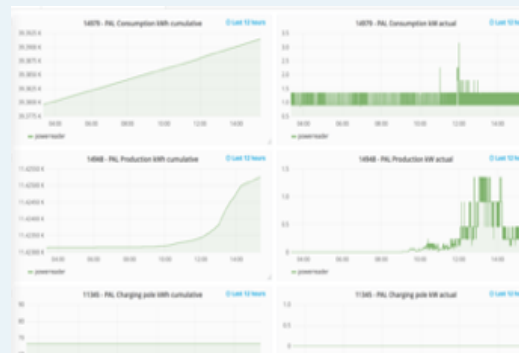
Workshops &
matchmaking



State-of-the-art
infrastructure



Exempt of standard rules
and regulations



Data platform

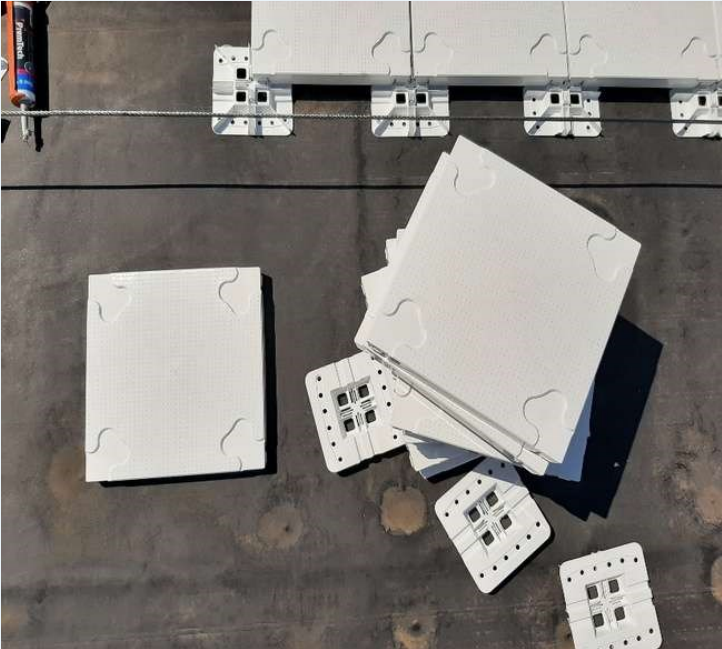
Water Street



Heat Square



Climate Quarter



Sustainable building and renovation



Circular and bio-based building



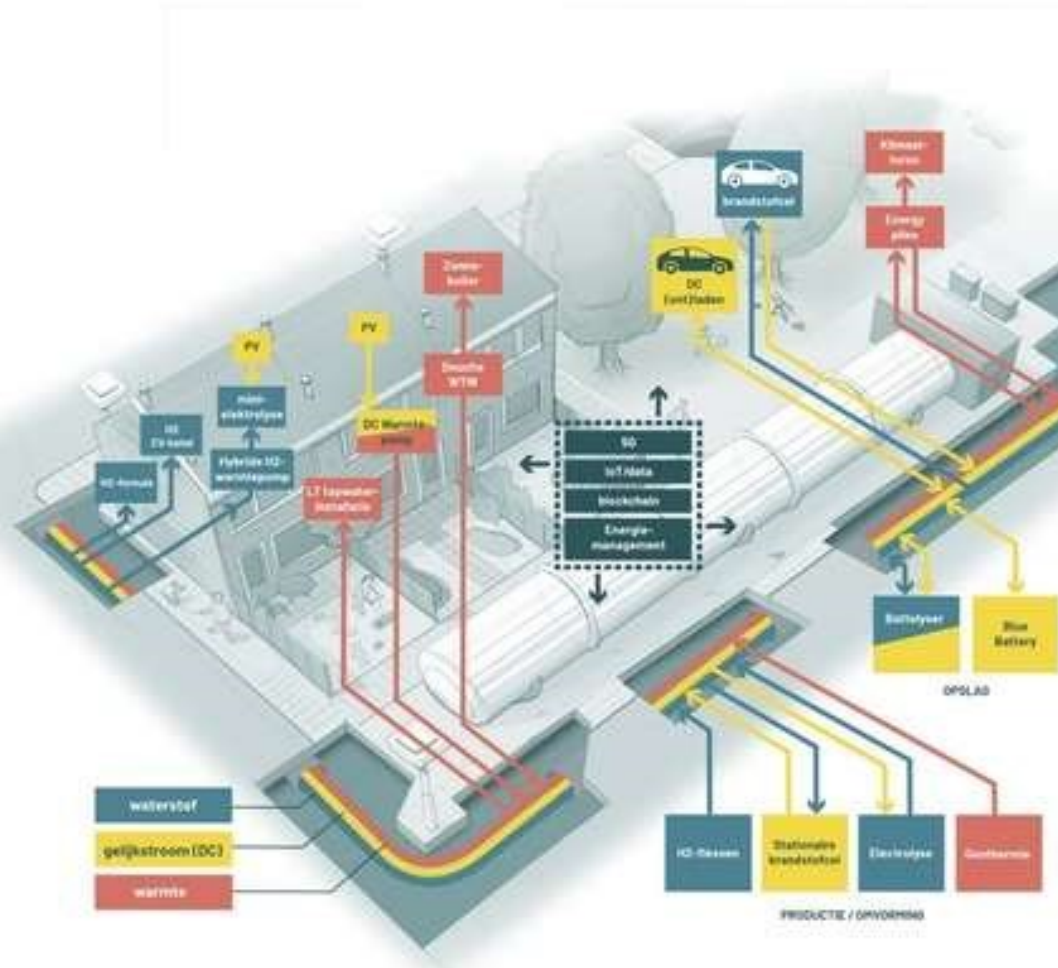
Student Community



Future Energy System



Future Energy System



1) Change of grid usage

- 1) Electricity
- 2) New gas
- 3) District Heating

1st horizon

2) Production & storage on building & neighborhood level

on building & neighborhood level

2nd horizon

3) Optimal control on building & neighborhood

on building & neighborhood

2nd horizon

4) Better usage of sustainable energy (DC instead of AC)

3rd horizon

9 Future Energy themes

WATERSTOFSTRAAT



- FuelCell@home project binnenhalen

24/7 ENERGY



- Flexinet, SHPLES & Synergys succesvol uitvoeren
- SSS live & nieuw SSS project binnenhalen
- Sector coupling W&E project binnenhalen

OPWEK



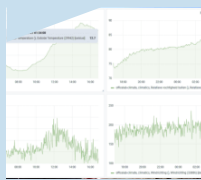
- Diversificatie met o.a. aquathermie, wind
- Integrated PV project binnenhalen

WARMTESTRAAT



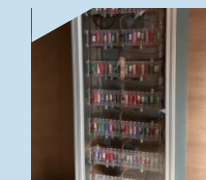
- Warmtestraat live
- Project GO-Zon succesvol uitvoeren

DIGITAL ENERGY



- TGV Digital Energy plan uitvoeren
- NextGen Slimme Meter uitvoeren

OPSLAG & CONVERSIE



- Heliox, DrTen, Exergy Storage, Stored Energy, Energy Piles succesvol uitvoeren

DC-NET



- Werken aan betere zichtbaarheid DC testfaciliteiten
- Naast DCopp ook andere bedrijven aantrekken

LAADPLEIN



- Opzetten samenwerking met E-laad
- Positie verwerven op laden achter de meter onderzoek

GEBOUW INSTALLATIES



- Dreamhus goed gevuld houden met projecten
- CCC in B4B



24-7 Energy Lab

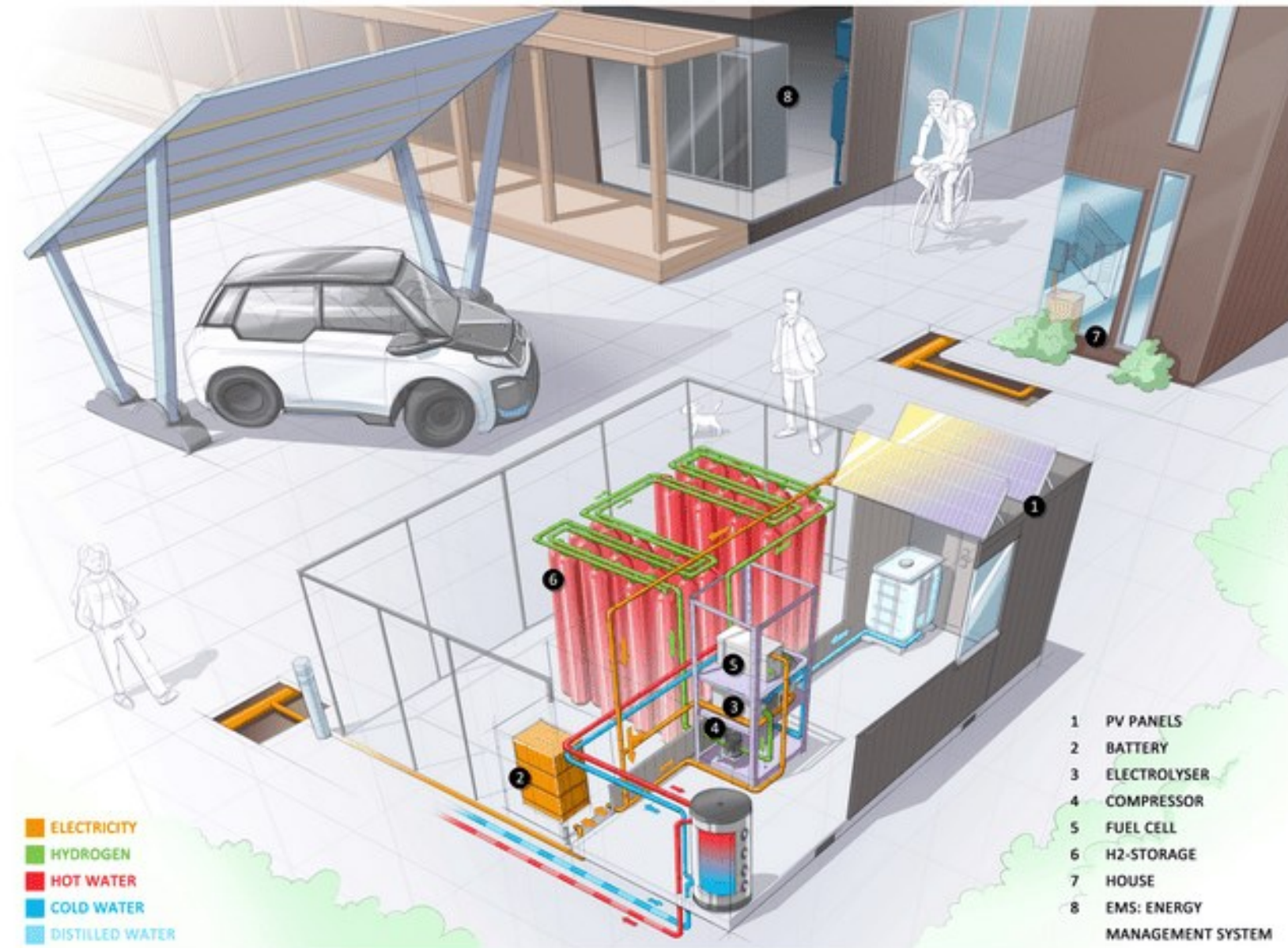


Local and CO₂-free energy system



- ELECTRICITY
- HYDROGEN
- HEAT ENERGY
- COOL ENERGY
- CONTROLLED ENERGY

24/7 Energy Lab



TU Delft
THE GREEN VILLAGE

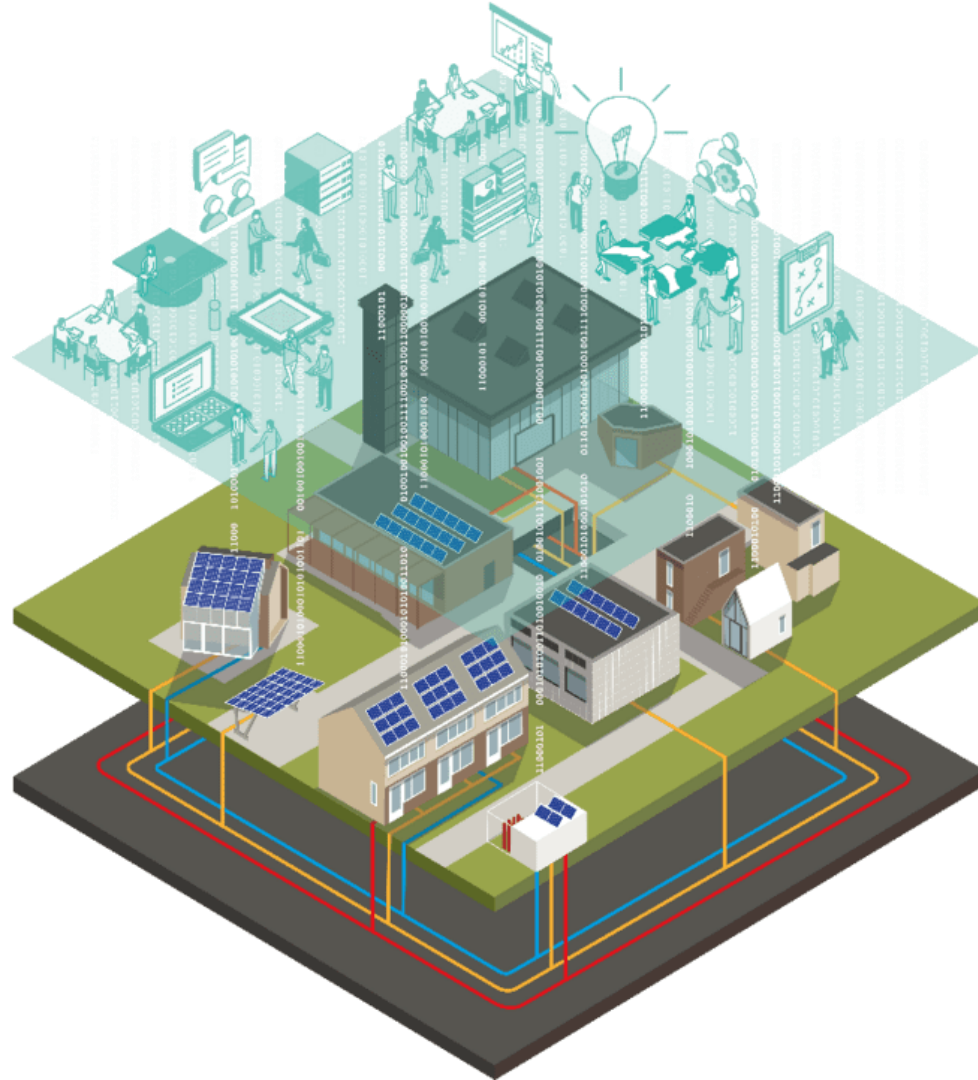
WINTERSOL
 Renewable Energy Storage

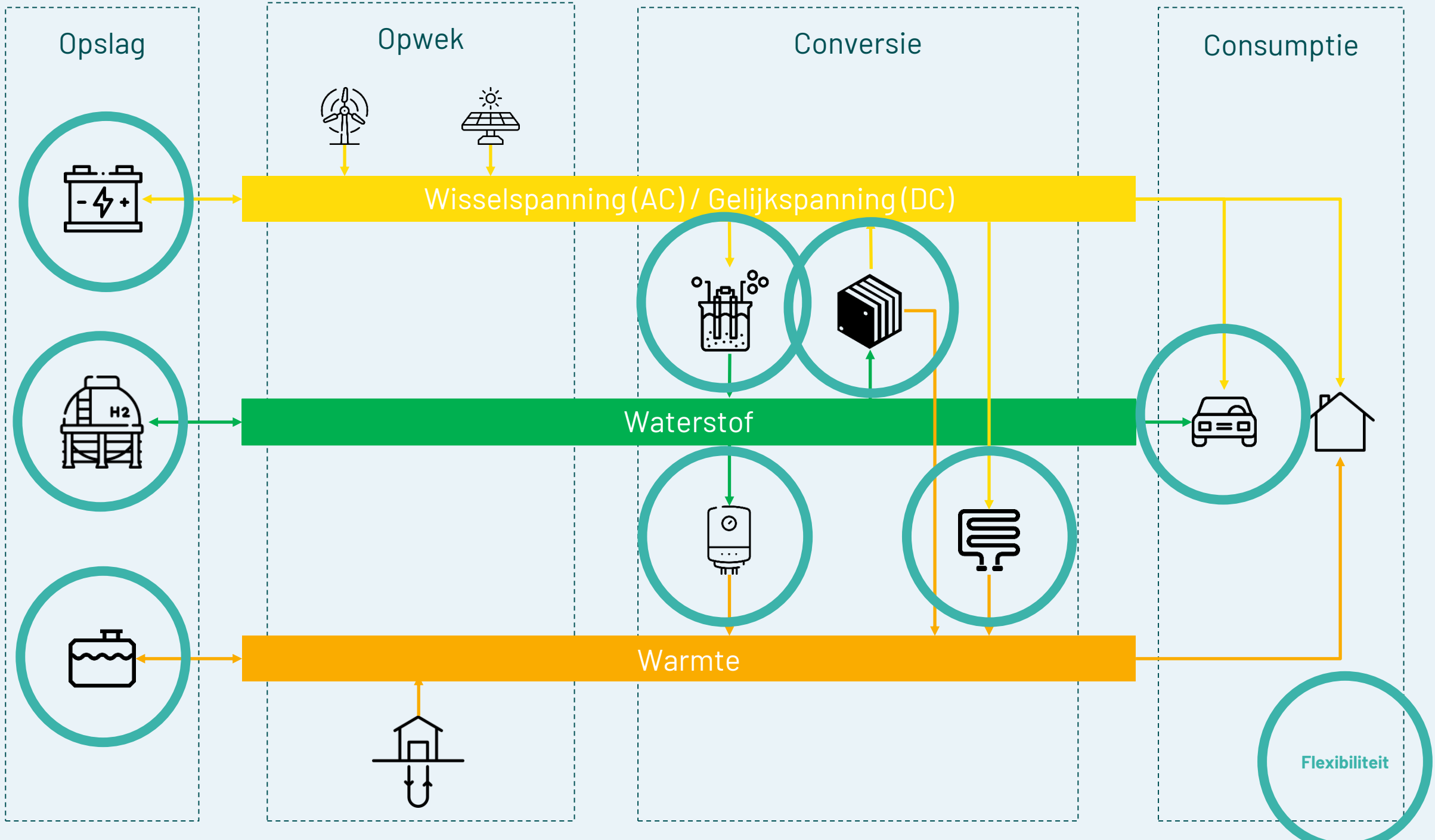
Nedstack
 PEM FUEL CELLS
To be sure.

HyET Hydrogen Efficient purification & compression

Enapter

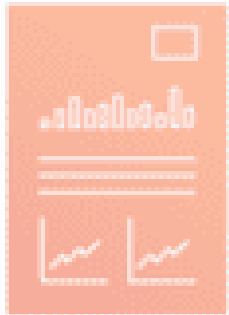
Digital Green Village





Levels van autonome Home Energy Management System

LEVEL 0 Historical Data Visualization



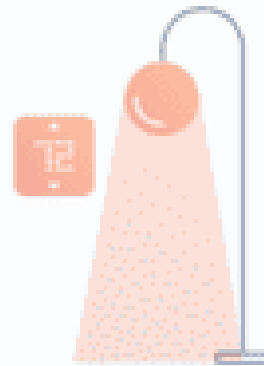
Access to historical energy data, typically through online portals or Home Energy Reports.

LEVEL 1 Real-Time Energy Monitoring



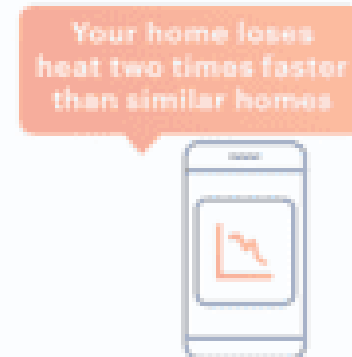
A real-time connection to a home's energy use.

LEVEL 2 Real-Time w/ Connected Devices



Connectivity to smart devices, allowing for control and management of appliances.

LEVEL 3 Insight Assisted Change



Provide personalized insights of home and appliance health.

LEVEL 4 Full Home Optimization



A personalized and autonomous optimization engine for the home that balances comfort and efficiency.

Thank you!

www.thegreenvillage.org

Sign up for our
newsletter

