

Ameland: Frontrunner in the Energy Transition

e.g. VPP Project with 45 Fuel Cells as part of an island wide Smart Grid,
large H2 project



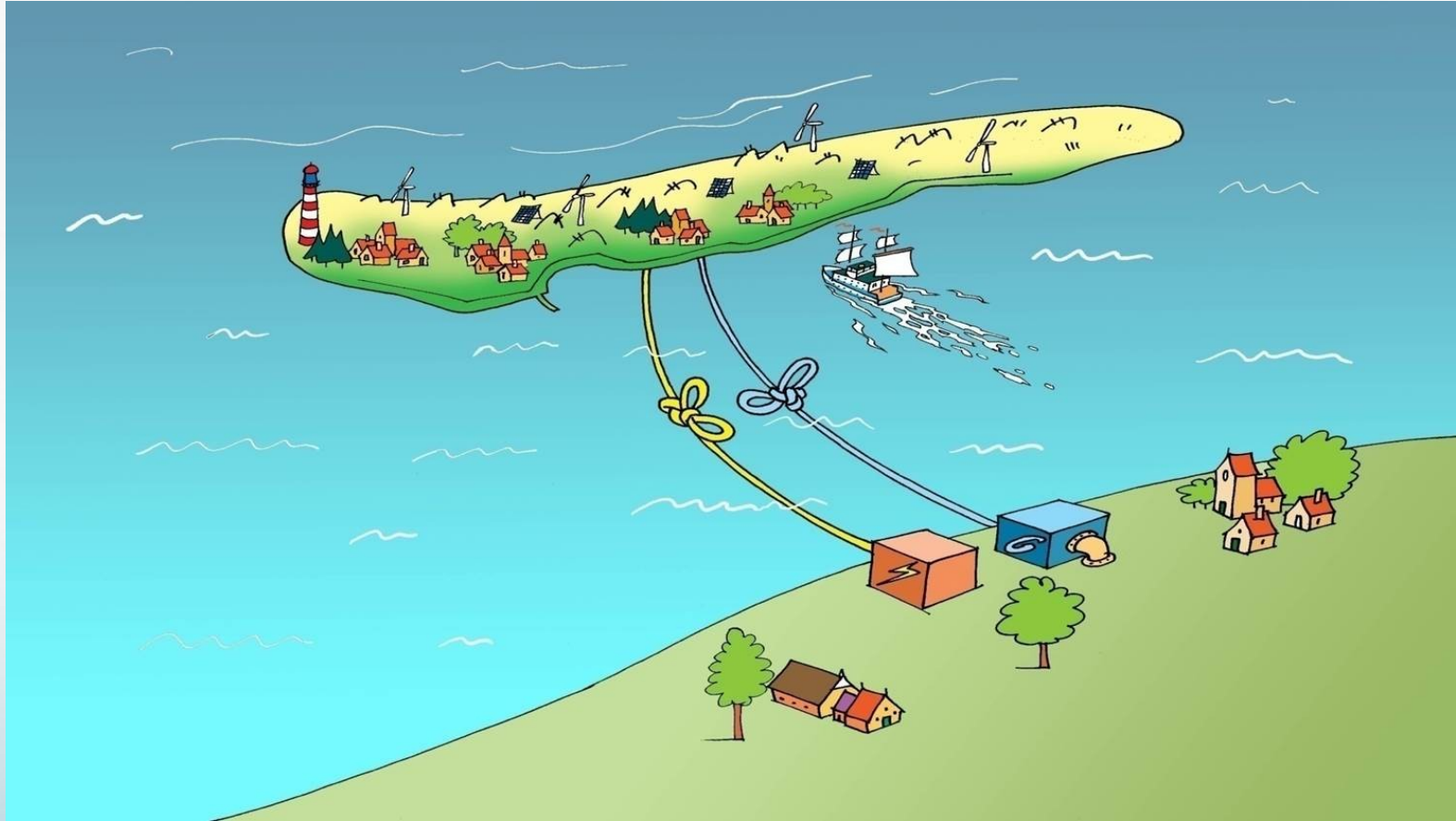
Jacob Dijkstra, on behalf of the municipality of Ameland
Zurich : 01-07-2019

About Ameland

- One of the Dutch Wadden Sea isles
- 3,600 inhabitants
- 27 kilometres of sandy beaches
- 550,000 – 600,000 visitors per annum
- Quality of life is driver for ambitions on sustainability
- 2,200,000 overnight stays
- Self sufficiency second nature



How it started in 2007



Partners then and now

Then



Now



Some early projects

- Mixing hydrogen with natural gas in existing grid
- Natural gas fueling station for public transportation
- 30 HRe furnaces installed in local homes

Some later projects

- Energy neutral high school
- Solarpark Ameland (6 Mw)
- 45 Fuel cell units installed
- Innovative Led Public lighting
- 100 Hybrid heat pumps installed (and counting) on the island

(and many more)

CLIENT

council, municipal executive, management, employees

GUESTS

tourists, home owners, holiday home owners, commuters

RESIDENTS

residents, companies, associations/foundations

CENTRAL GOVERNMENT

ministries

RVO

AEC

VILLAGE INTERESTS

PROVINCE/STREEKWERK

AMELAND SUSTAINABLE ENERGY AMBITION

WEST FRISIAN ISLANDS

WADDEN CAMPUS

VNG

energy region

Portfolio holders consultation

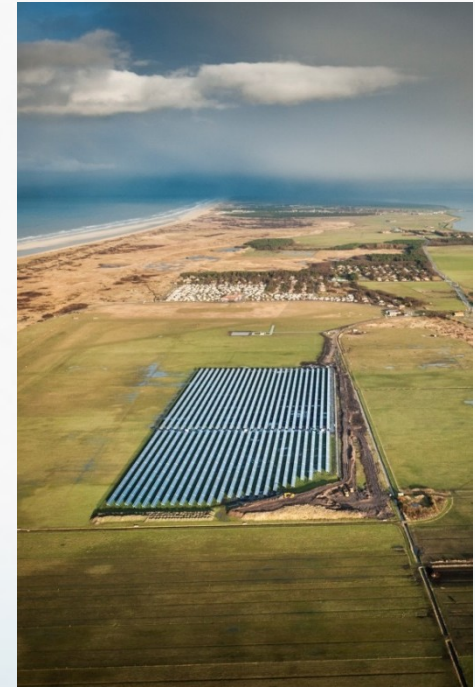
EnTranCe

Wetterskip

SUSTAINABLE AMELAND COVENANT

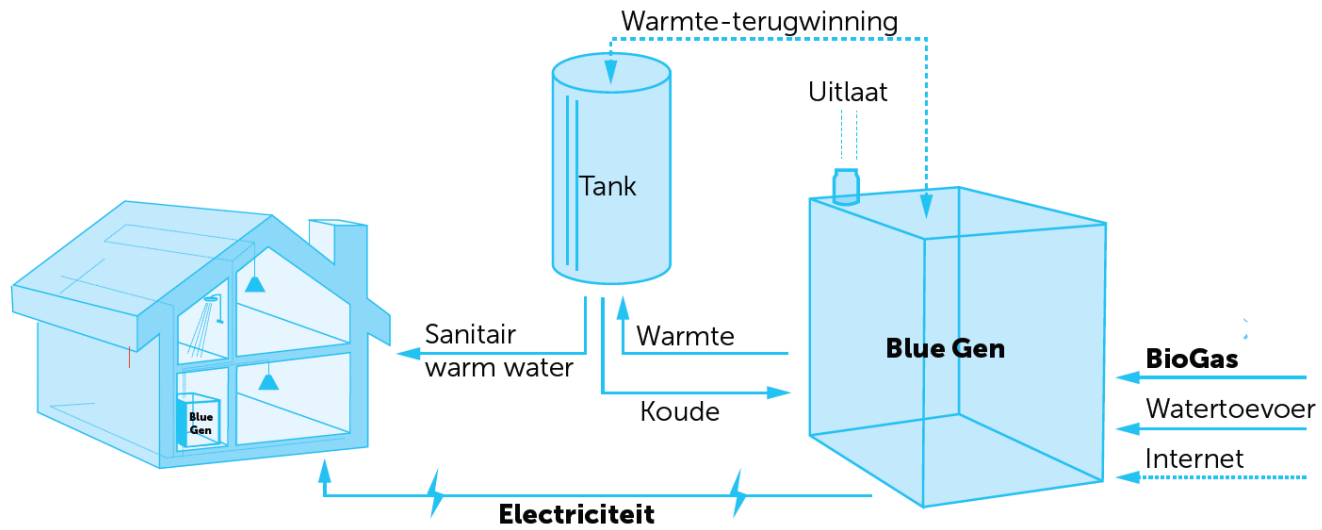
Site managers

Some projects in pictures



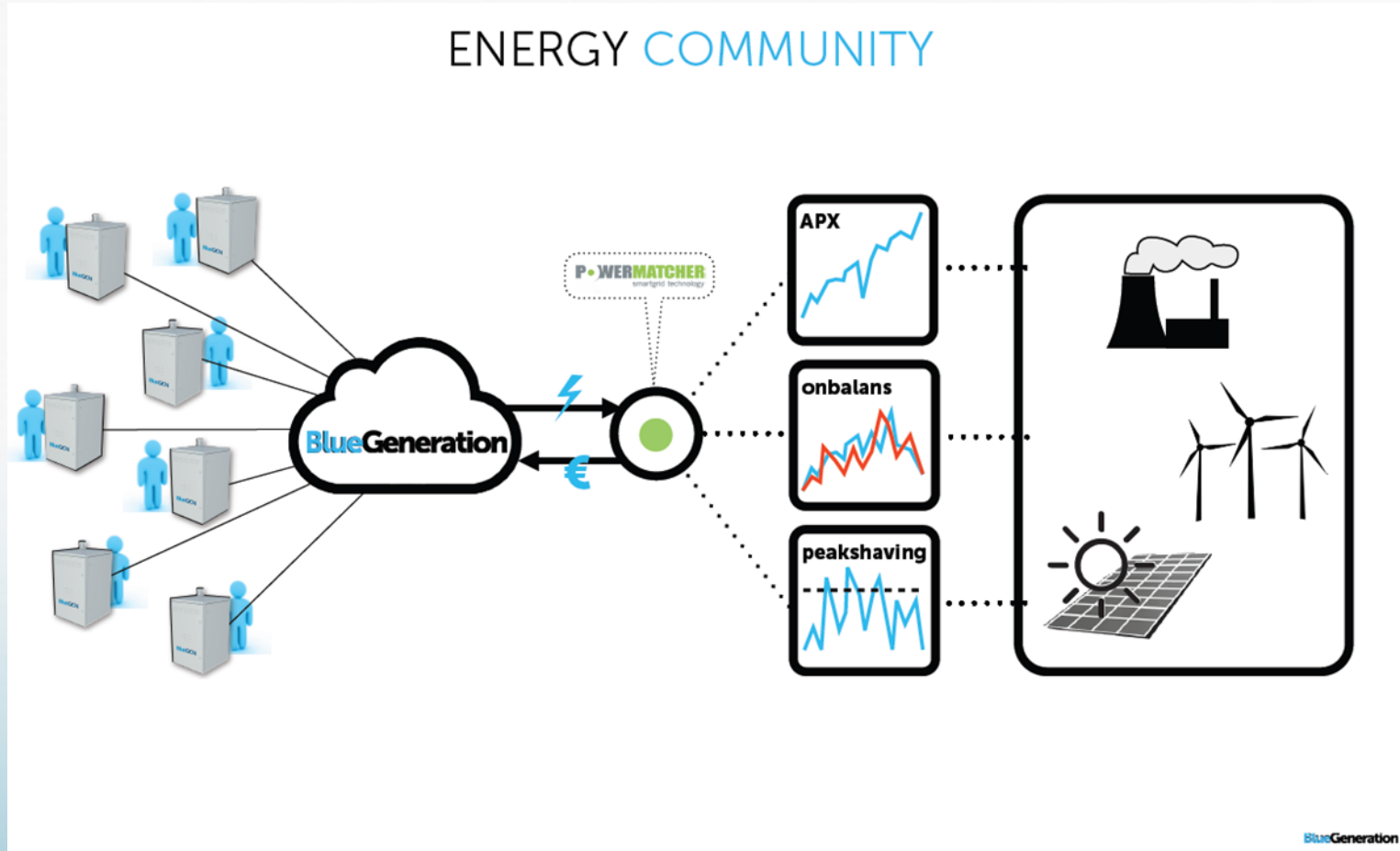
From Fuel cells to Energy Transition

Stysteemopstelling



With the completion of our solar park, Ameland reached the maximum feed-in capacity of the local grid. The ability to keep the local grid stable was at its limit.
(All with just 1 project!)

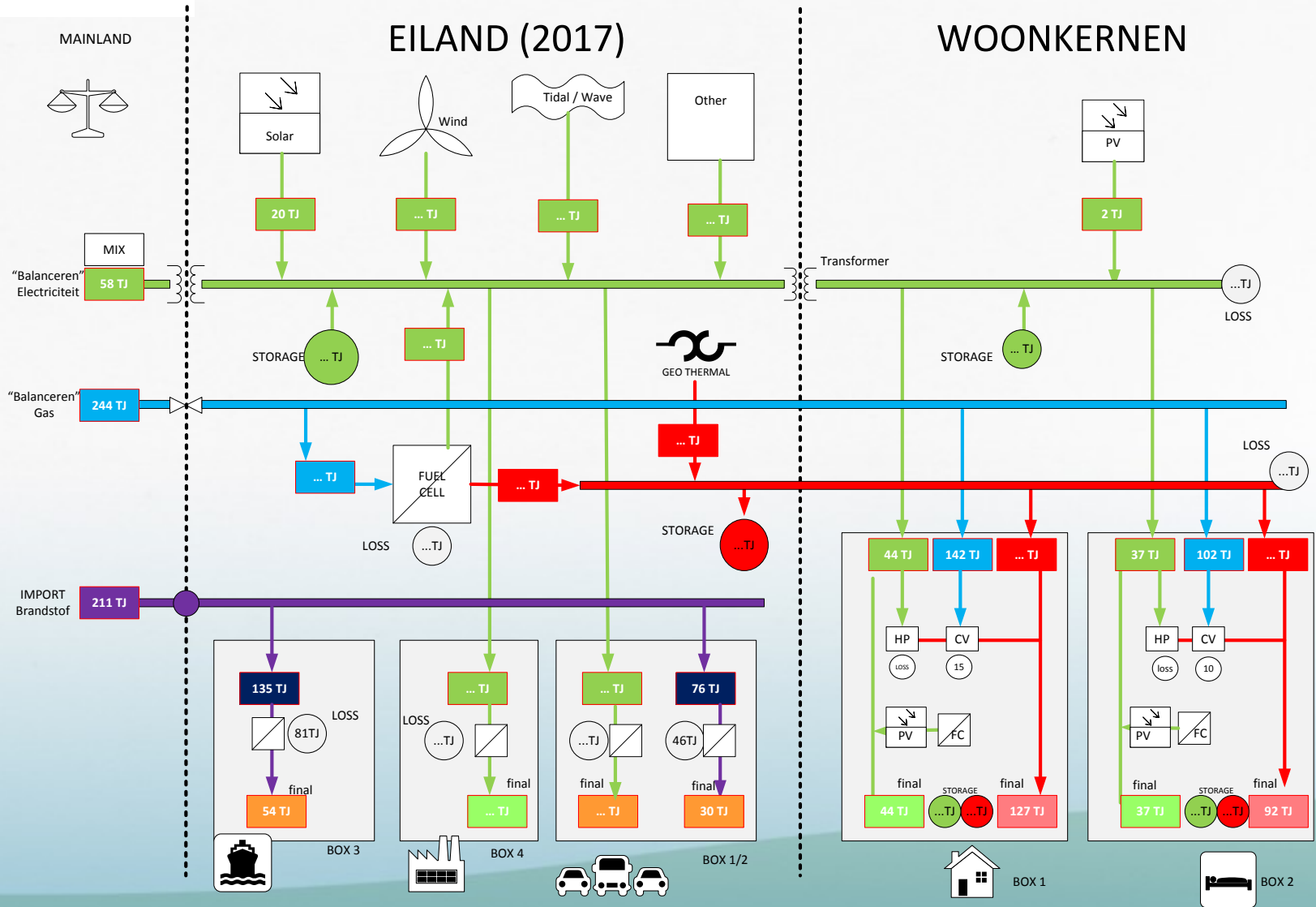
From Sustainable Energy to Energy Transition because of the VPP Fuel Cells



EnTranCe Movie

Energy consumption on the island

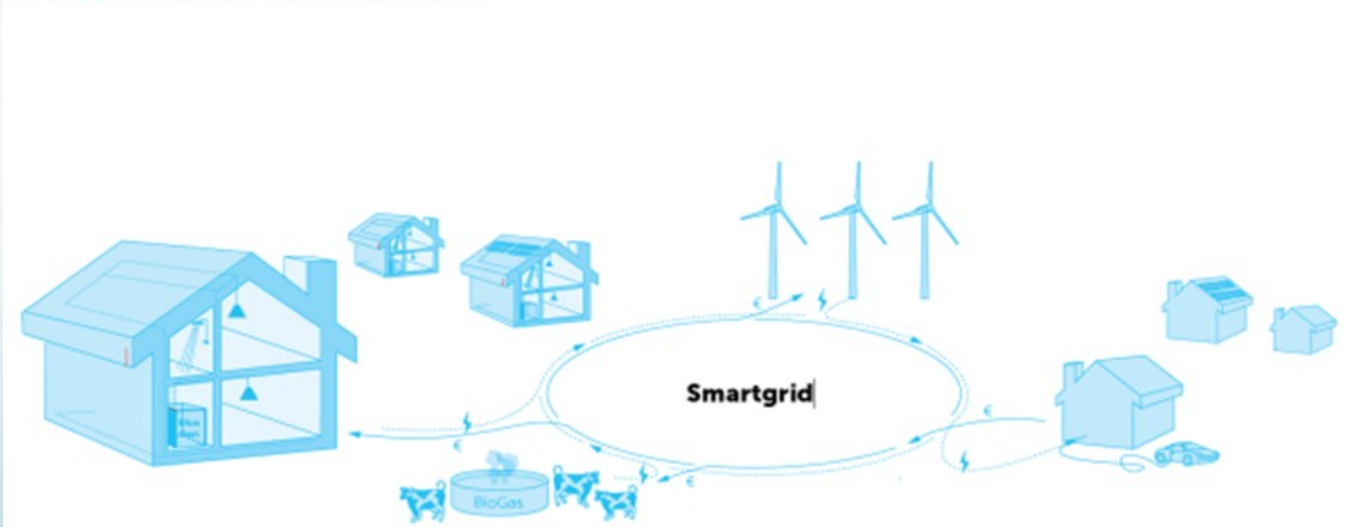
Gebruikers		kerngetallen	gebruik	aardgas	elektriciteit	brandstof
	Islanders 3.600 Inhabitants Public buildings Local Transport	300 TJ	50%	20%	30%	
	Tourists 2,2 Overnight stays 1300 Trailers / chalets 1600 Recreational houses 38 Swimming pools Companies targeting tourist	200 TJ	75%	25%		
	Transport 620.000 Ferry passengers per Year	200 TJ				100%
	Industry 3 production locations Natural gas production equals the use in the province of Friesland	450 TJ	100%			



Ameland EnergyNet:

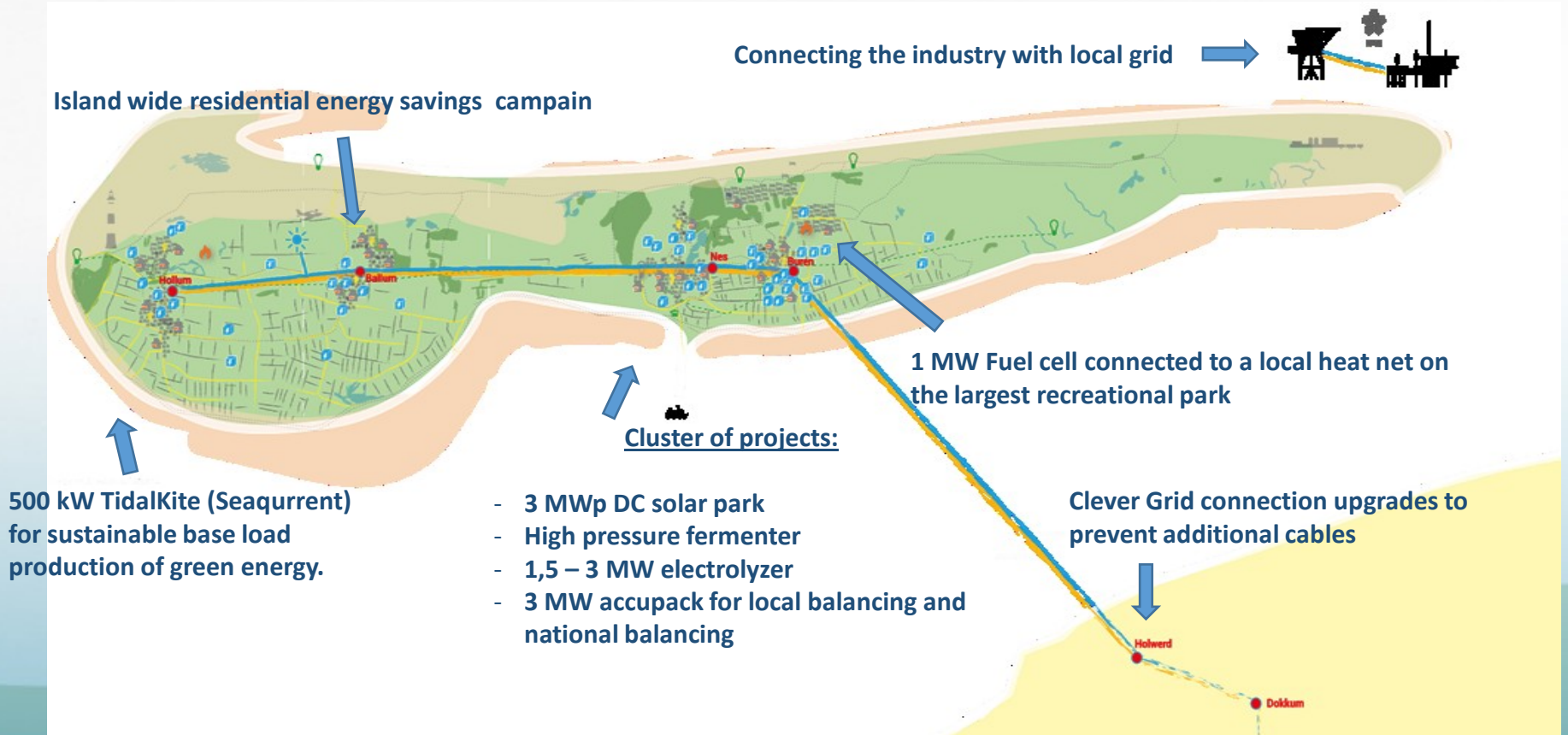
Futureproof, reproducible energy network with supply and demand in near balance by smart management and flexible infrastructure

Decentrale netwerken



EnergyNet Ameland

- Ambition is to be 15 years ahead in the Energy transition: Reduce the CO2 emissions with 95% by 2030
- Works hard on an affordable and reliant, CO2 neutral energy system
- Leads by example in the Netherlands and Europe



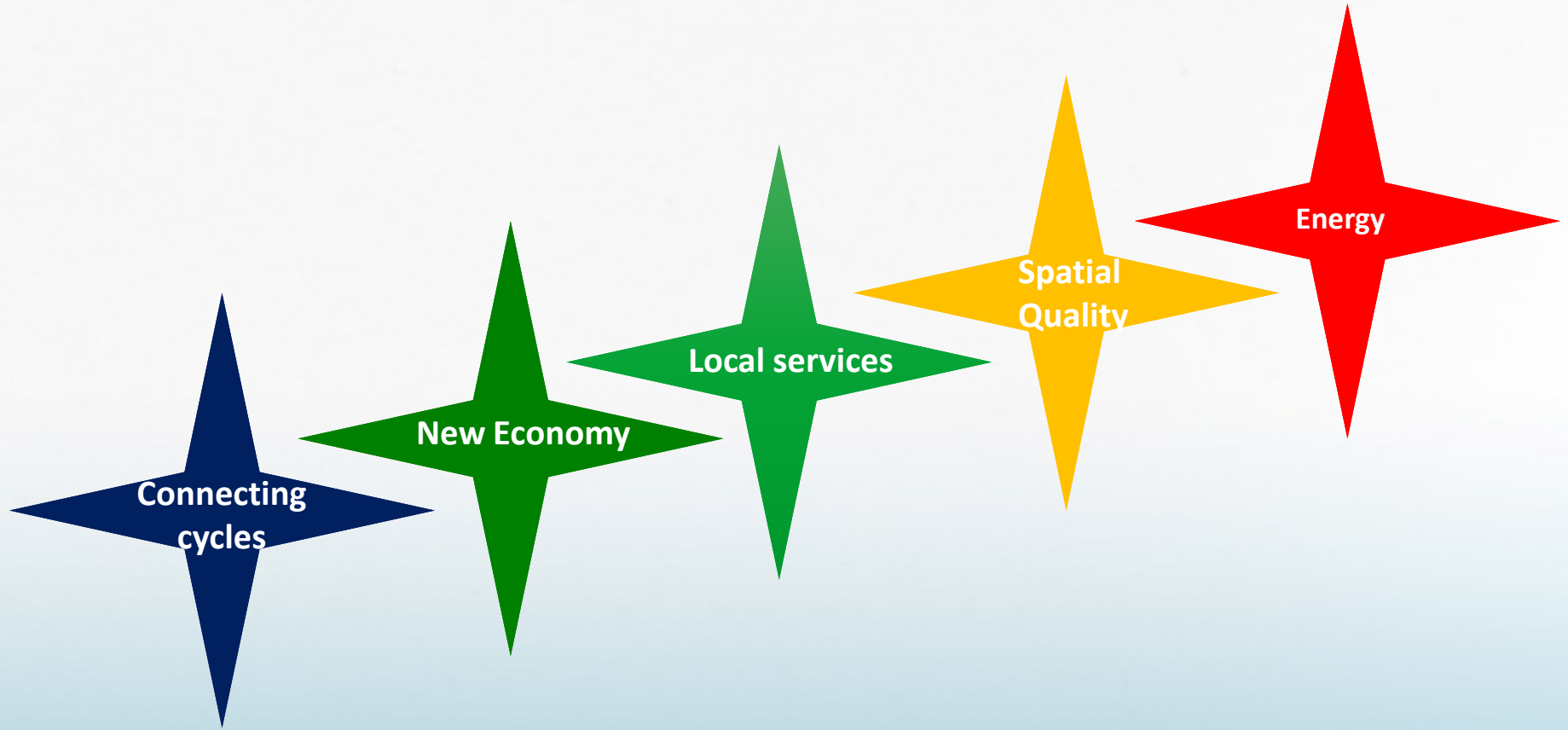
How do we involve the residents

Households/families/companies reached with projects:

- 80 bondholders of Zonnepark Ameland BV;
- 45 methane fuel cells installed;
- 140 recommendations provided to households from the Sustainable Construction Desk;
- 95 saving/generation measures for dwellings – municipal subsidies;
- 35 saving/generation measures for dwellings – provincial subsidies;
- 120 saving measures for municipal rented accommodation;
- 133 hybrid heat pumps installed in dwellings;
- 60 participants in energy charrettes;
- 300 members and 1,000 customers of the Ameland Energy Cooperative.

Of the island's 1,600 households, we have had talks at their kitchentable with over 1000 !

Energy; but a lot more...



Questions ?



Or Remarks