

# Endona Heeten Energy Cooperative



# Energie Park Heeten (EPH)

- 7752 solar panels; South
- Production capacity: 2.3 GWh/year (~ 600 households)
- 100% owned by Endona cooperative
- Investment:
  - Total 2M€
  - 90% by “Energie Fonds Overijssel” (Mortgage loan)
  - 10% by local residents (bond loan)
    - Bonds of €250, so all residents can join
    - Fixed rate of 3%, 3.5% and 4%, depending on duration (5y, 10y and 15y resp.)
    - 0.5% more if also customer of Endona Energie
- Electricity is sold via the grid in cooperation with “Energie van Ons”, which is a cooperative energy supplier owned by local energy cooperatives
  - Guaranteed price (0,106€/KWh) through SDE++ subsidy
- Profits are used for
  - Development of new PV installations
  - Local fund for community initiatives, e.g. supporting the community center, benches at local hiking trails, classical concerts, local food cooperative etc.



# Innovative activities

## aFFR Pilot

Pilot project of TenneT, owner of the the Dutch high-voltage grid

Lead by our partners: Escozon and Energie Samen

Goal is to offer local (sustainable) electricity generation capacity on the market for balance maintenance in the Dutch high-voltage grid

Battery storage: 1MWh

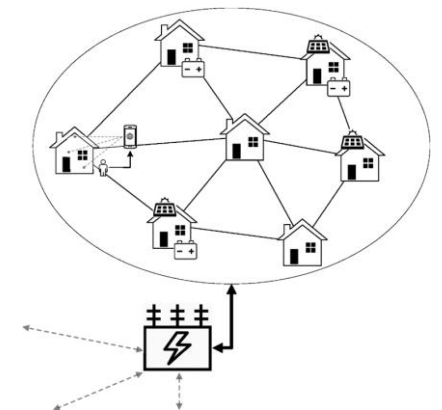
## GridFlex Heeten (finished in 2020)

A TKI Urban Energy project

Partners: Enexis, Enpuls, Buurkracht, Universiteit Twente, ICT Groep, DrTen, Escozon

Goal is to optimize energy transport and limit peaks by local storage, using sea salt batteries, and flexible pricing strategies.

Uses the “experimeteer regeling” of the Dutch Electricity law as owned by the Endona Energy cooperative



# New PV Installations

## Energie Park Torenallee, Raalte

6624 solar panels; East-West

Production capacity: 2,9 GWh/year

100% owned by Endona Cooperative

Investment:

Total 1.8M€; 90% mortgage loan; 10% bonds by residents

Status: in final stage of realization; production starts end 2021

## Energie Park Kanaaldijk-Zuid, Heino

Production capacity: 8GWh/year

100% owned by Endona Cooperative

Development done by commercial developer (PowerField); Total PV is split in two technical and legal entities, 8GWh/year each;

Investment

Total 3.3M€; 90% mortgage loan; 10% bonds by residents

Status: awaiting SDE++ subsidy decision



# Challenges

- Finding suitable locations for future initiatives; NIMBY issues
- Severe limitations on connecting to the grid
- Dutch government has set a goal of > 50% local ownership, e.g. by cooperatives.
  - How to organize this legally
- Strict regulations for integration of Solar fields within environment
  - This is good, but subsidies are not available for this
  - SDE++ subsidy is lower each year; 2H 2021: 0,059€ / KWh
- Responsibilities of local initiatives versus local government (municipality)
  - Who confronts local residents,
- How to grow and make the cooperative more professional, but maintain its character of local organization started by volunteers