

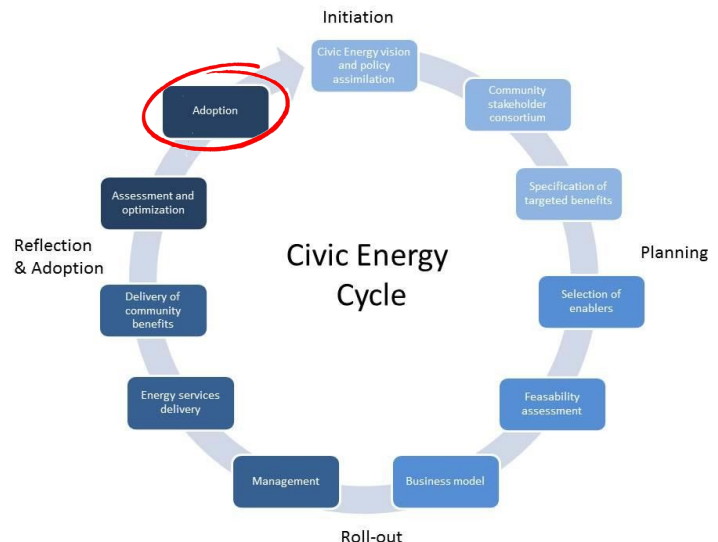
EEKLO - District heating network

Region: Belgium - Flanders

We have currently conducted an agreement with ION on a second DHN for a new development in Eeklo. This installation will run on solar energy in order to supply electricity. The heat will be produced via gas combustion units as well with heat pumps.

Current stage of pilot with respect to Civic Energy Cycle

- Adoption



Targeted benefits

- Create a flexible energy mix system for the users
- Incorporate as well solar as an alternative power source
- Produce a future proof DHN with a minimum 45% renewable source
- Reduce carbon dioxides emissions
- Increase acces to green energy by an affordable way
- Reduce energy poverty by reduce the price for energy
- An active role in the broader energy transition
- Financial benefits for all stakeholders
- Social cohesian between the different companies
- Public acceptance
- Increased employment in the local area
- Improved comfort and indoor climate
- Protecting the natural environment and living conditions
- More reliable acces to resources
- Optimalization of business processes
- avoid energy dependence

Delivered benefits

- Create a flexible energy mix system for the users
- Incorporate as well solar as an alternative power source
- Produce a future proof DHN with a minimum 45% renewable source
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Stakeholders involved

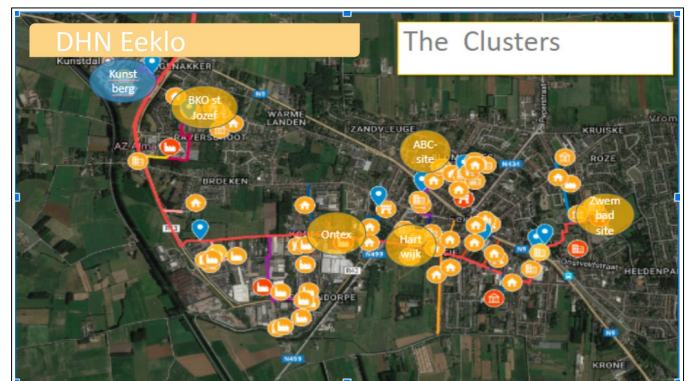
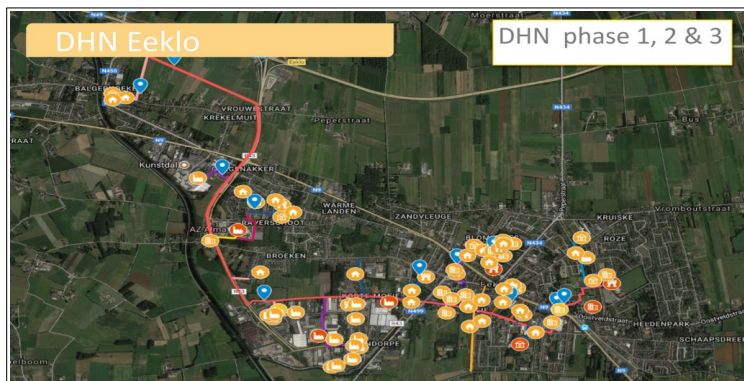
- Citizen
- local politician
- Ecopower
- local companies
- local project developers (residential houses)

Capacities for improvement

- not defined yet

Risks and barriers

- political framework
- demand



DHN EKMOS ION	
Description	Financial KPIs
Client: ION	Start date: 1/1/2023
Market Type: Project Devt.	Duration: 30 year
Segment: Energy Utilities	CAPEX (k€): 506K€
Description	Risks and remarks
DBFMO for a new DHN of a new heat network with as production heat pump, gas condensing boilers and solar panels for the electricity.	New installations with new technology for the teams.

Project Ekmos - Consumers	
Location : Molenstraat, Eeklo	
<ul style="list-style-type: none"> • 5 different building blocks (A, B, C, D1 and D2) with a total of 77 flat units • 2 stores (Block A and B) • Underground parking places (under buildings B and C) • 13 terraced houses (Block E and F) 	
→ an overall total of 92 units	

Project Ekmos - Heat production and distribution proposal	
<ul style="list-style-type: none"> • 1 air/water heat pump of +/-120 kW (A2/W35) on the roof <ul style="list-style-type: none"> → pre-heating of the return water to 50°C • 2 condensing gas boilers of 450 to 500 kW <ul style="list-style-type: none"> → heats the water from 50°C to 70°C → 1 gas boiler as back-up installation • 1 buffer of 5 m³ (or equivalent) <ul style="list-style-type: none"> → for smoothing out peak demands → during minimal heat demands → maximisation of the production units used depending on the weather (cf. PV panels) • 3 substations in the large residential blocks + 92 smaller delivery units per residential unit • Heat network of +/- 250 m in length • Photovoltaic installation of 66 kWp <ul style="list-style-type: none"> → electricity produced to power heat pump + circulation pumps when possible → remaining electricity is injected into the grid 	
<p>Important condition for heat pump functionality :</p> <p>Return temperature secondary side substations</p> <p>maximum 40°C</p>	