

**Ecopower**  
cvba



## REScoop MECISE

# Citizens and Cities as responsible investors in the Energy Transition

Brussels, 18 February 2020

Karel Derveaux

**COVENANT OF MAYORS INVESTMENT FORUM  
ENERGY EFFICIENCY FINANCE MARKET PLACE**



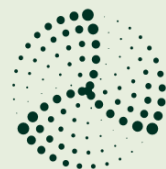
# MECISE Mobilising European Citizens to Invest in SE

- H2020 Project Development Assistance (PDA) project Ma2015-Febr2019
- Consortium of established REScoops (>150.000 EU citizens), building on experience and good practice:
  - Develop, finance, build and operate RES projects, as financing basis to foster EE investments
  - Facilitate citizens and local authorities to invest in RES and EE
  - Set up REScoop-dedicated financing structures for RES and EE investments

**Results**

•European citizens joining : 50.000

•Yearly 116 GWh RES generated - 16 GWh saved - 35.000t CO<sub>2</sub> avoided



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# Ecopower RES Developer & Investor



Founded 1991 Belgium (Flanders)

Situation 2020:

~ 60.000 cooperative members

~55 M€ equity

~ 62 M€ operational assets:

Wind:~45 MW

PV:~ 5,4 MW roof mounted, > 250 sites

Small hydro: < 1 MW (historic sites)

Wood pellet production : 40.000 t/y

~ 100 M€ assets in development, including **DH**  
District Heating and **EE** Energy Efficiency



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# Ecopower Supplier Green electricity & RE heat



Supply activity = service to cooperative members

~100 GWh/year electricity/~45.000 customers

5 stars in Greenpeace-ranking every year

Highest score customer satisfaction on the market

**Effectively linking RES with EE**

Linear tariff encouraging EE and installation of PV

=> Av. electricity. consumption dropped >50% in 10 years

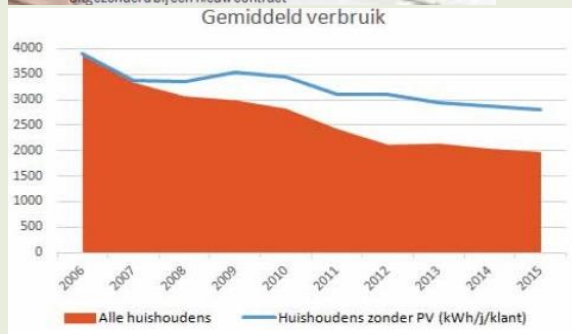
Facilitate deep energy renovation

Facilitate connection to DH

Facilitate shift to wood pellets domestic heating

Dienstverlening energieleveranciers

	Score Op basis van het aantal klachten	Aantal klachten	Telefoons beantwoord binnen 60 sec.	Kosten vervroegde stopzetting
Ecopower	★★★★★	1 op 23.800	98%	0 euro
Electrabel	★★★★★	1 op 4.900	80%	50 tot 75 euro
Luminus	★★★★	1 op 3.225	80%	50 tot 75 euro
Ebem	★★★★	1 op 1.875	95%	0 euro
Belpower	★★★	1 op 1.495	98,76%	50 tot 75 euro
Nuon	★★	1 op 980	onbekend	50 tot 75 euro
Lampiris	★★	1 op 775	98%	50 tot 75 euro*
Essent	★	1 op 525	onbekend	50 tot 75 euro



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# MECISE Municipality & REScoop – RES & EE

## Municipality - REScoop collaboration

- .same stakeholders : citizens
- .same goals for climate action
- .complementary skills and capacities



## RES as “engine” for EE investments

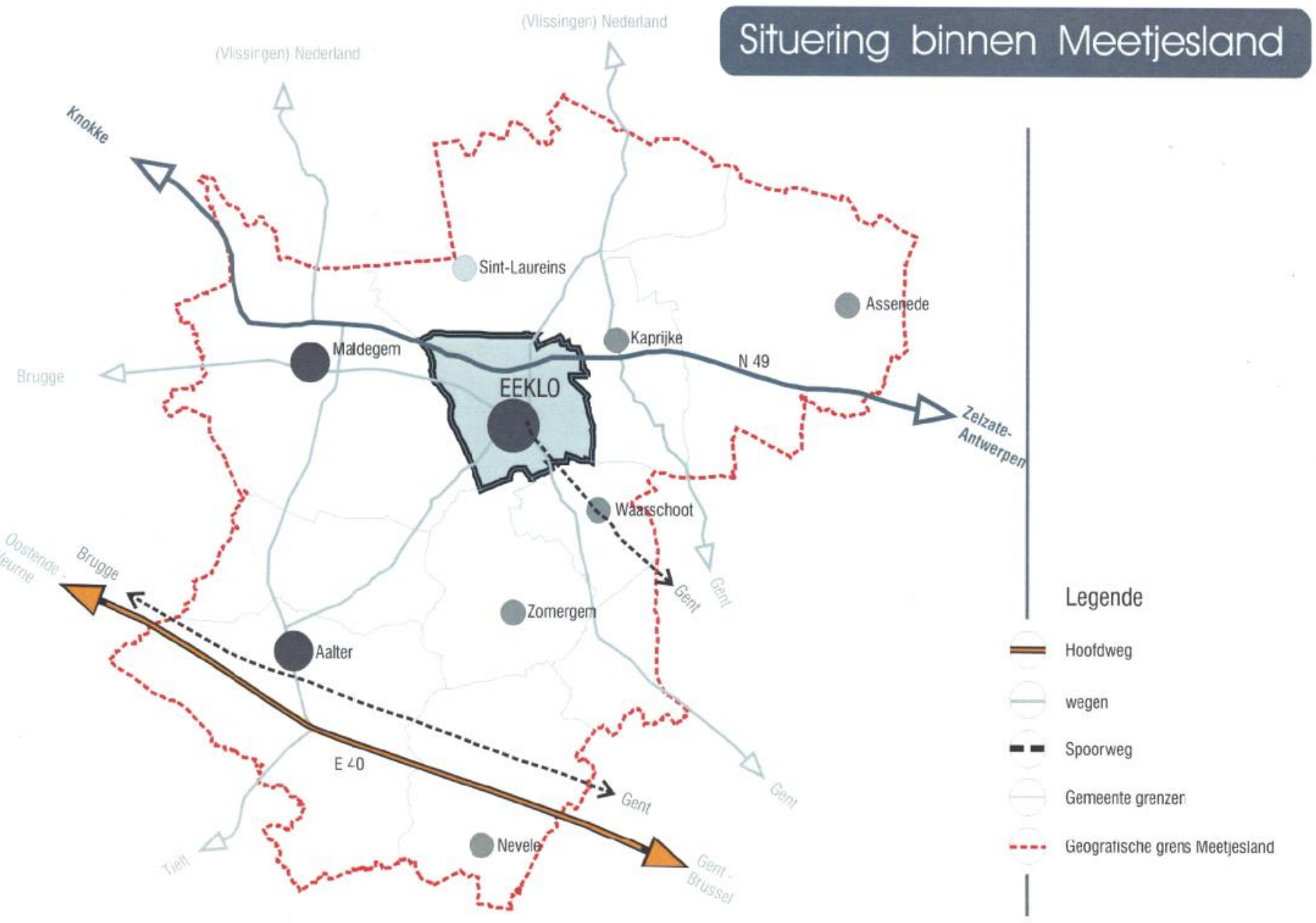
- .RES projects generating stable cash flows
- .allow EE investments with low profitability
- .lifetime RES = EPC contract duration



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# Energiek – Eigenzinnig – Echt

## Situering binnen Meetjesland



# Collaboration REScoop Ecopower-City Eeklo



- Start: 2 wind turbines in 2001
- Additional RES (~10 M€) and EE (~800 k€) investments : a.o. PV (public) buildings, rapeseed oil CHP, wood pellet heating, boiler house renovation, 4 more WT, ...
- **Now launched:** District Heating using wasted heat, replace fossile fuels, trigger EE measures (Phase 1: ~30 GWh/y, ~15 M€ investment)



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The current  
searching process...

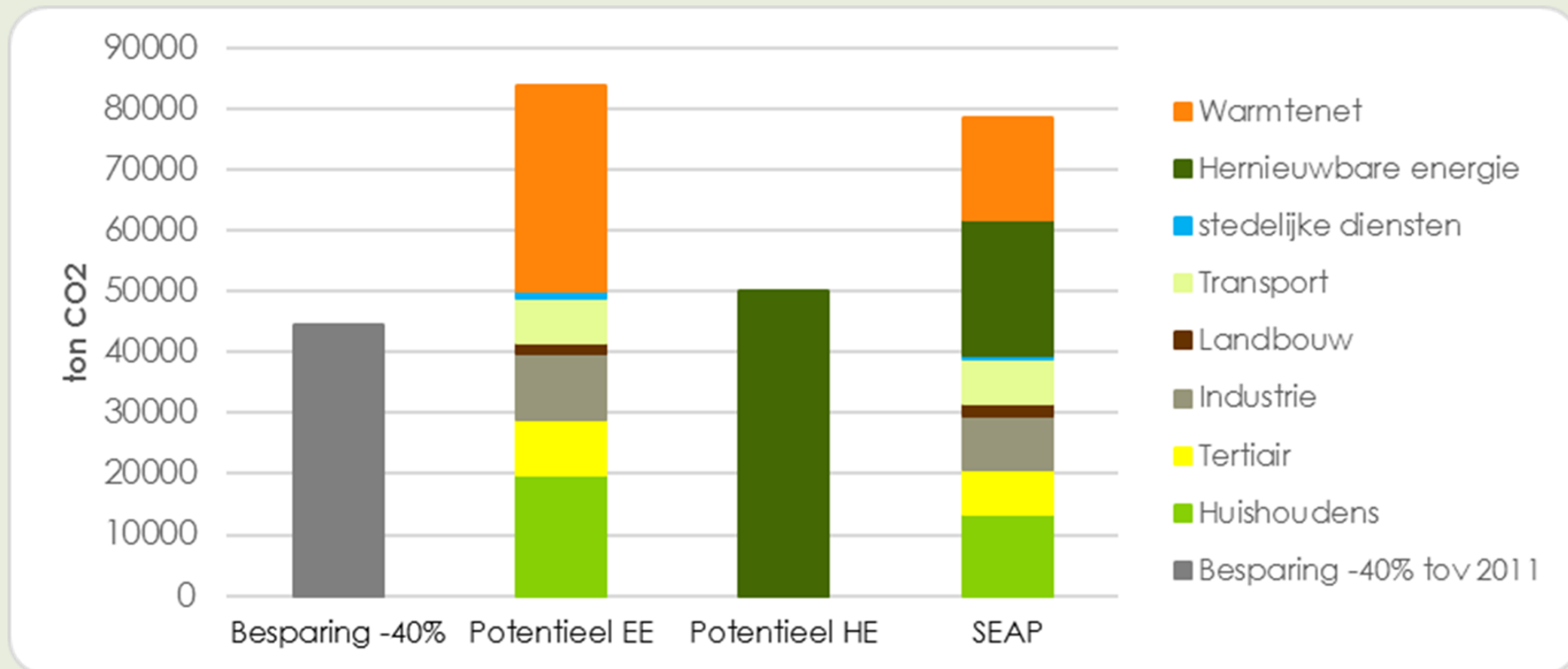


...en de bredere context

Heat



# Sustainable Energy & Climate Action Plan



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# Impact on local community

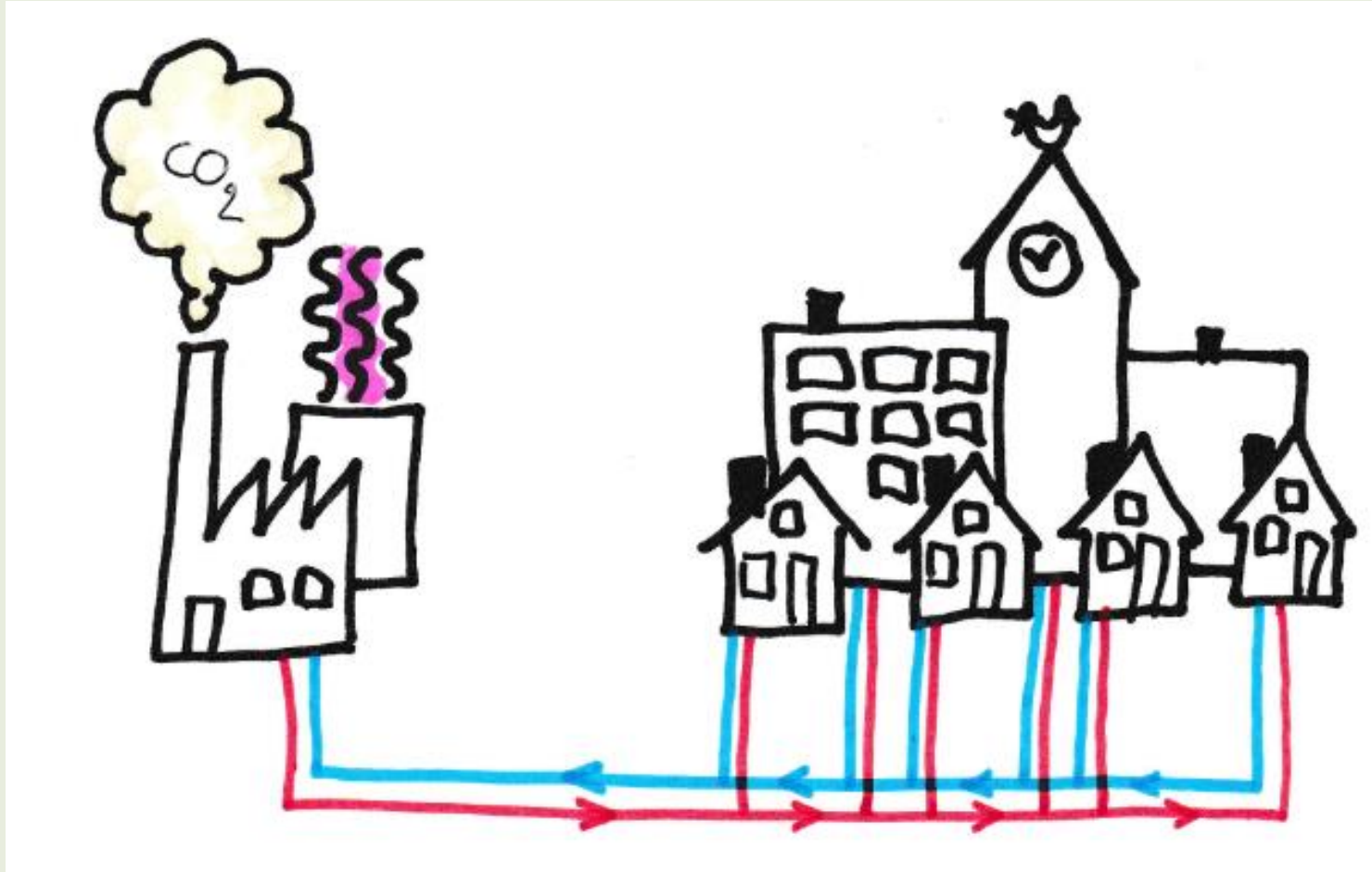
## convenant of mayors



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# Impact on local community

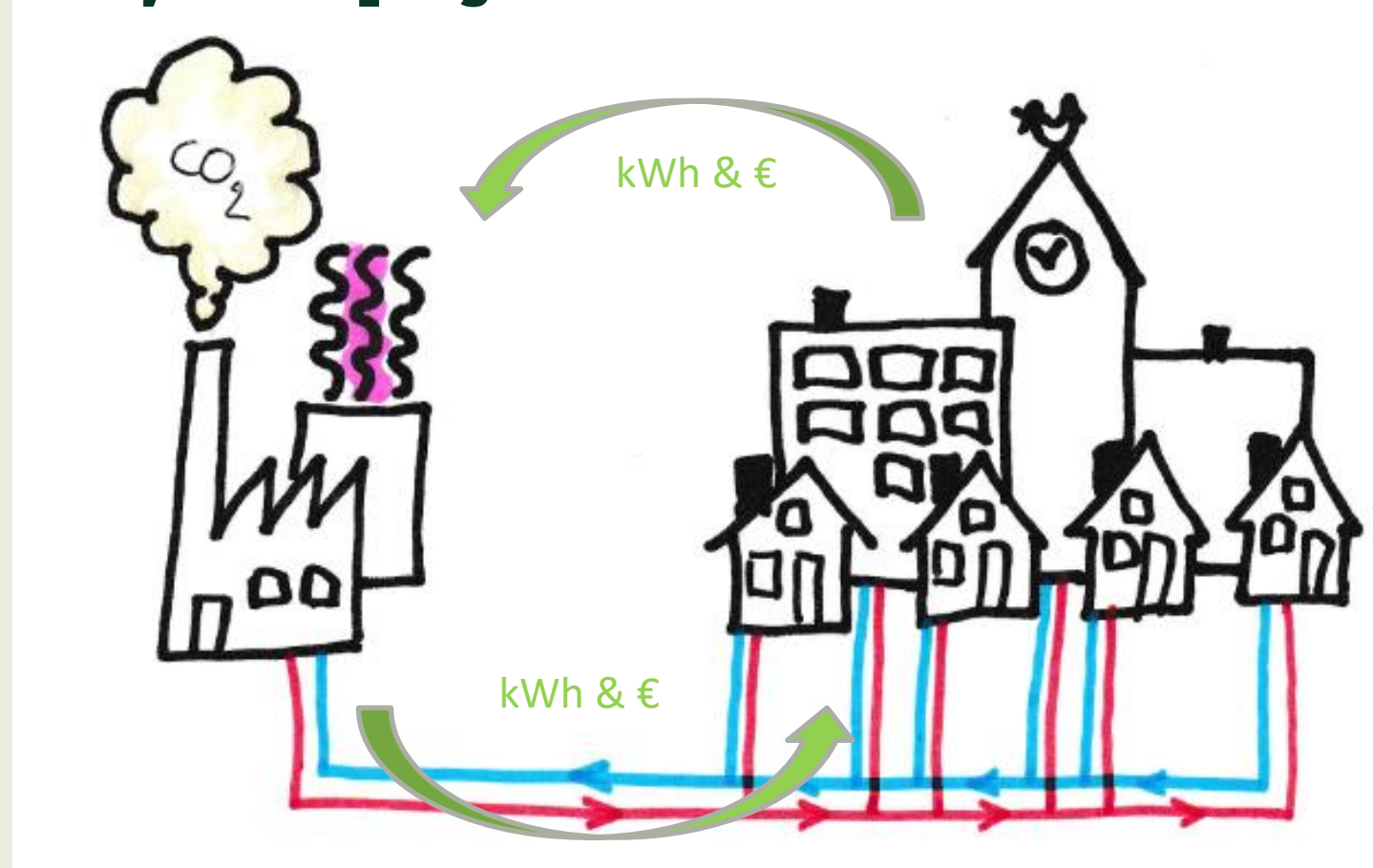
## from waste heat to district heating



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# Impact on local community (3P)

circular economy & keeping added value in the community



Transition to  
100% renewable  
energy sources  
before 2036



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# DH tender : Award criteria?



- > 30% direct participation of the citizens
- Market conformity heat price - NMDA
- Commitment EE-projects
- Use of renewable energy
- Evolution to 100% renewable district heating
- Other projects...

**Financial reward <<< community benefits**



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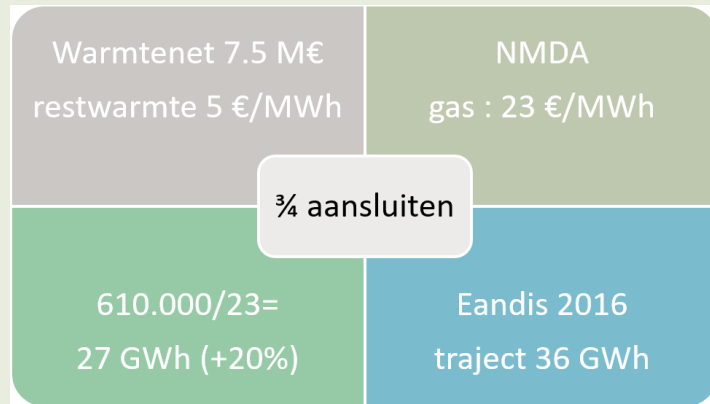
# Timeline warmtenet Eeklo

- 2009: Eeklo tender **windturbines** - fixed fee – competition with climate actions and community added value
- 2009: Ecopower offer including study DH on **waste heat** incinerator
- 2012: Core & Ecopower feasibility study DH positive
- 2016: Eeklo tender **concession** DHN – citizen participation
- 2016: IVM renewal environmental permit waste incineration
- 2018: Concession to **consortium Ecopower & Veolia**
- 2018-2019: **project development**
  - masterplan 3 phases & 4 heat clusters
  - Negotiations waste heat IVM
  - Customers: contracting > 2/3 needed
  - Request for subsidies (cfr Oostende & Antwerpen)
- Summer 2020: **first heat delivered** - cluster sports park & childcare & new apartments
- **Autumn 2022**: phase 1 DHN operational ?





# Conflicting interests in any DH system



Heat **consumers** <-> DH network operator:

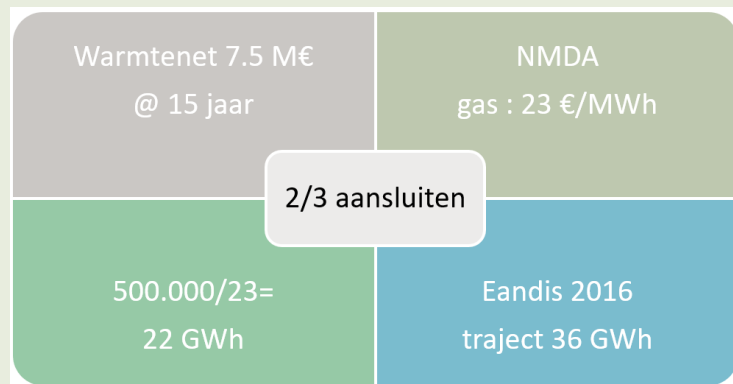
- all heating needs met (space heating + SHW)
- at the lowest total costs
- at any moment

Heat **producers** <-> DH network operator

- sell heat at the highest possible price,
- with the minimum of commitments (availability, peak heat power)

DH **network operator**:

- has invested in the network infrastructure and operates it.
- sell as much as possible heat, at the highest price, with minimum obligations towards their customers.
- buy heat as cheap as possible, with maximum requirements for the producer



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# Bilateral Contracts blocking transition



Business models build on **maximizing heat supply** and **fixed roles** of stakeholders do not allow:

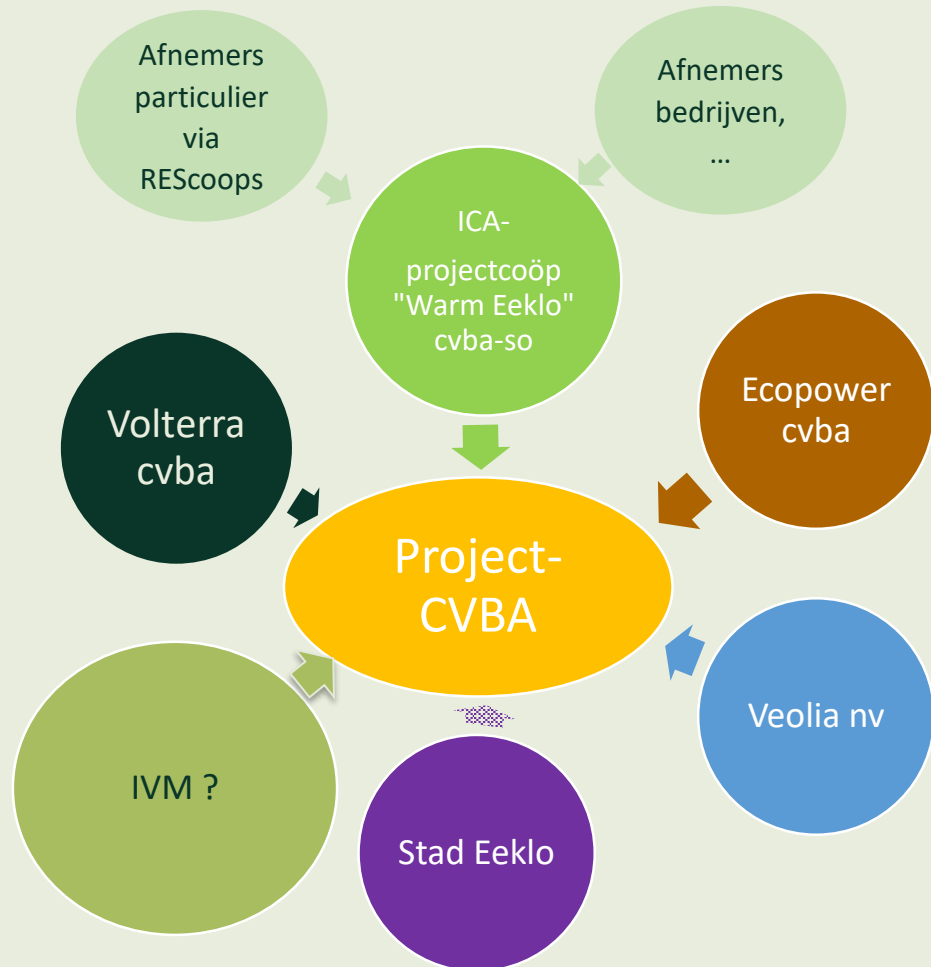
- EE investments reducing heat consumption
- “Prosumers” of heat
- Introduction of renewable heat sources

=> **Blocking sustainable energy transition**



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# Participative DH concept & joint investment



Participation and joint investment by all stakeholders in DH Eeklo :

- Every stakeholder can **have a say** in every aspect of investment and operation
- **Transparent sharing of all cost and benefits.** All actors have the same return on investment, independent of their role and the amount they have invested
- **Common goal is optimal ROI for the project as a whole**
- **Reducing heat demand** of consumers, as well as **greening heat inputs**, becomes part of the project as a whole



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# EE embedded in DH concept & business plan



Continuous EE investments for **reduction of building heating demand** through **active guidance and investment support**

- **Lower annual heat demand**, **lower peaks**, **lower temperatures**
- Sufficient capacity of existing root infrastructure
- DH network **extension**, connecting additional clients,
- **Low-temperature heat sources** become feasible: dump heat solar heat, storage, biomass fired sources, etc. leading to **100% green heat**,
- **Operation modes** taking into account electricity market aspects become possible



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# DH Eeklo Fase 1



## Waste heat

- $\sim 16$  MW
- $\sim 10$  million  $m^3$  gas

## District heating

- Existing buildings
- Industrial & residential
- 70/40 °C
- Fase 1  $\sim 27$  GWh/jaar, operational 2022
- Balancing BP



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# Transition towards zero emission city



RES investments started in 2001 have lead to this DH project, for Eeklo the transition to zero emission

- Main infrastructures first 5 years
- DH extensions following EE investments and greening heat sources throughout the 50 y lifetime



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# Thank you for your attention



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