

G-DH

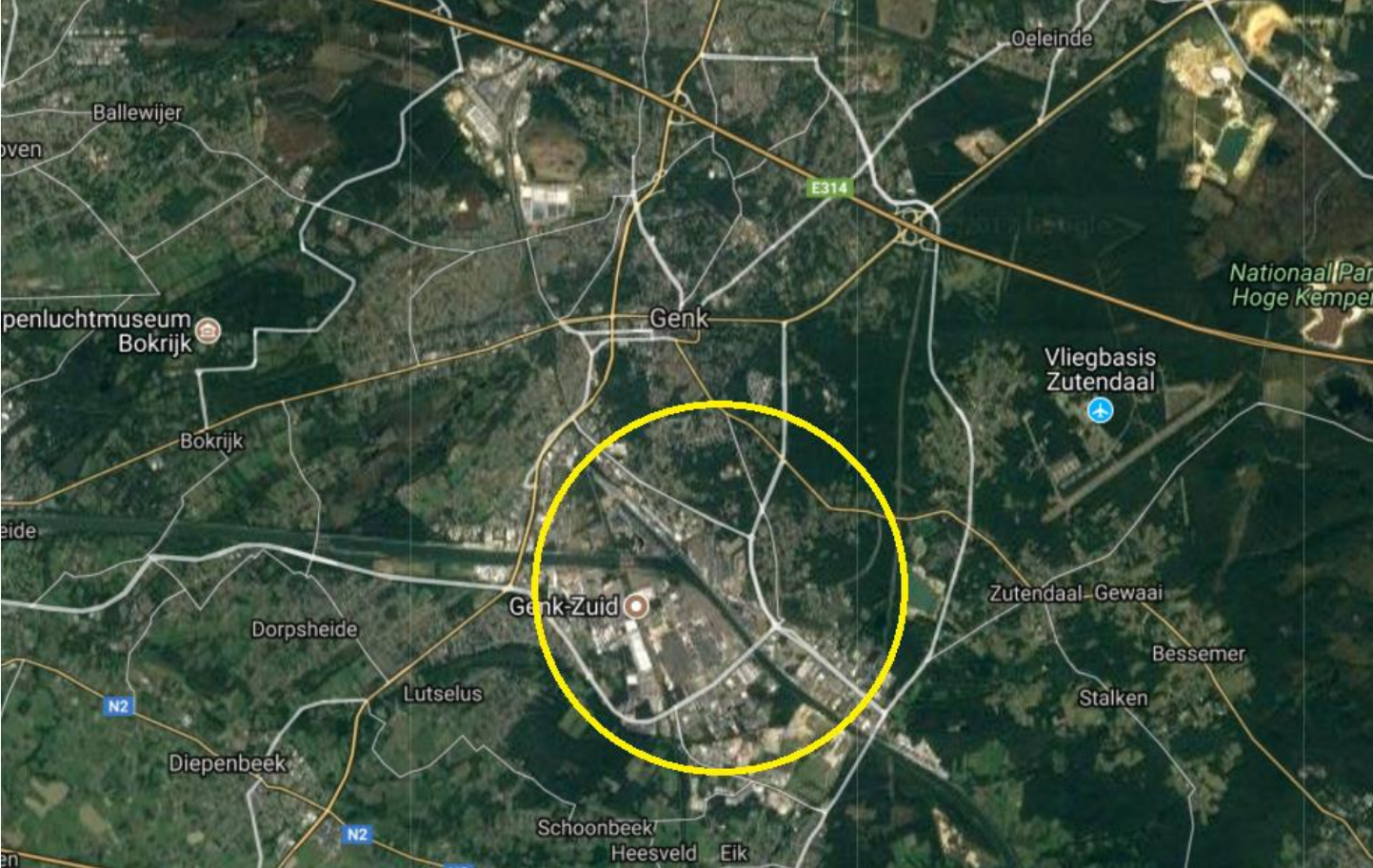
Group 1

Jevgenjis Shulga, Sara Maansson,
Alexandre Canet, Imgmar Moes

Objectives

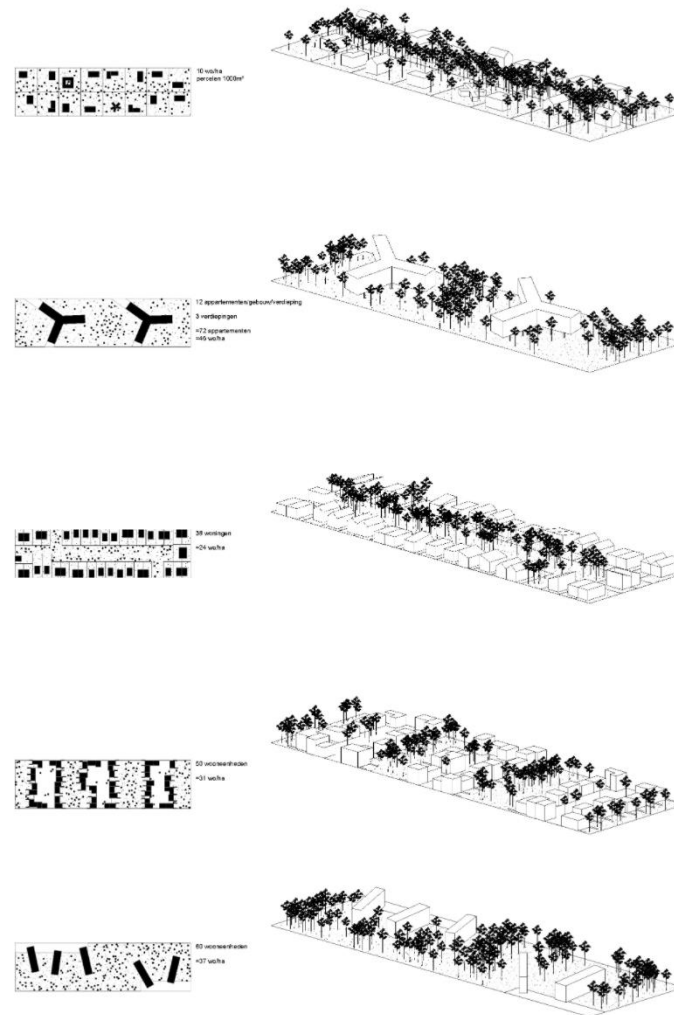
- Scalable
- Use excess heat - low variable costs
- Additional income for industries
- Security of supply
- Local profit and work opportunities

The target area



Step 1: Initial

- Two district heating grids: high and low temperature
- Two clusters of demand
- Enough excess heat to cover heat demand
- Heat storage: 3000 m³
- Length of pipes: 7 km

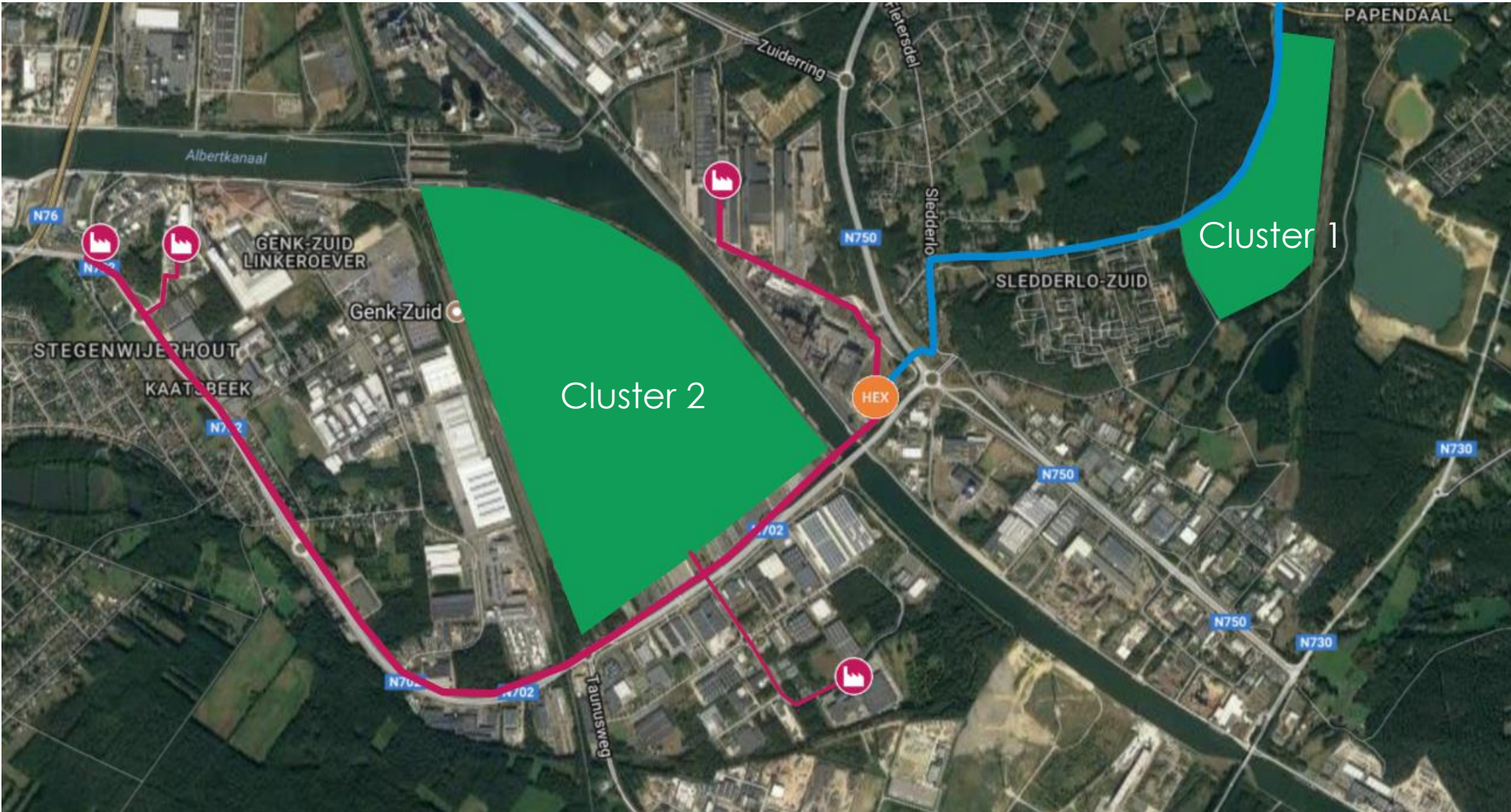


2020:
Step 1 finished

2025:
Step 2 finished

2035:
Step 3 finished

Step 1: Initial

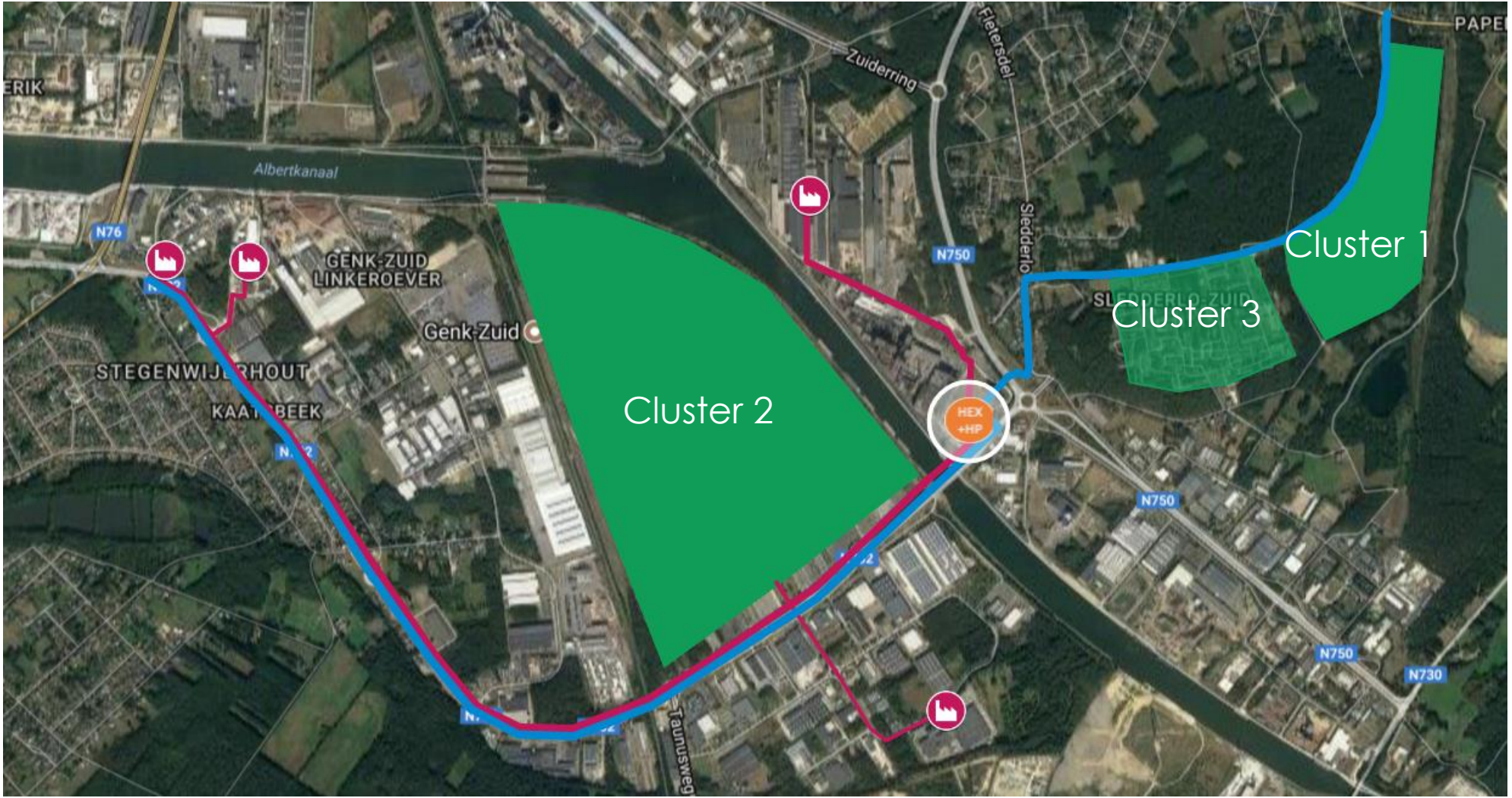


Step 2: Expansion

- Expand collection of excess heat
- Connect with refurbished area (Cluster 3)
- Add heat pumps to cover peak demand using water from the canal
- Add additional storage



Step 2: Expansion 1st phase



Step 3: Expansion 2nd Phase

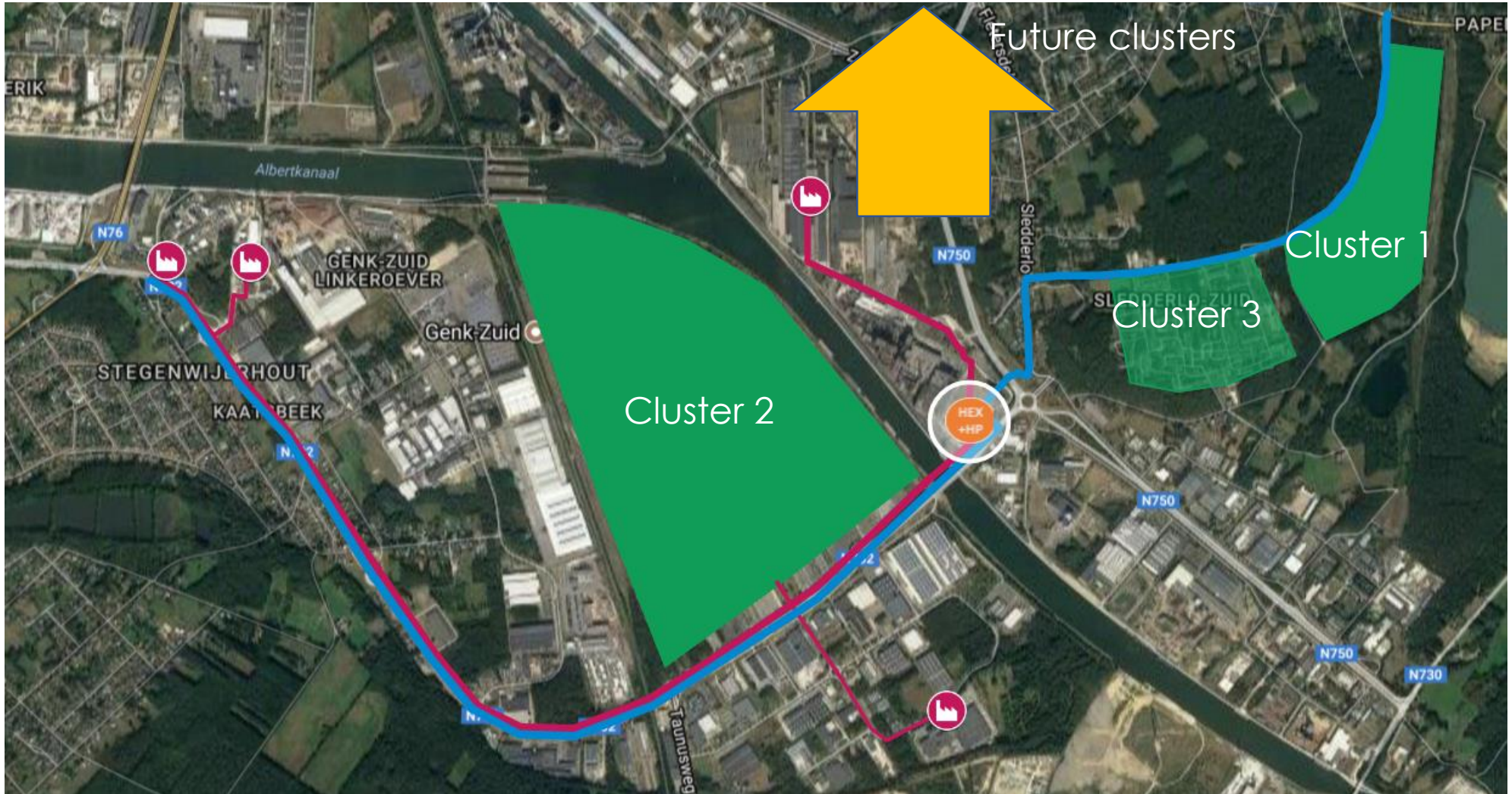
Enable consumers to become prosumers

Expansion to the north with ultra low temperature:

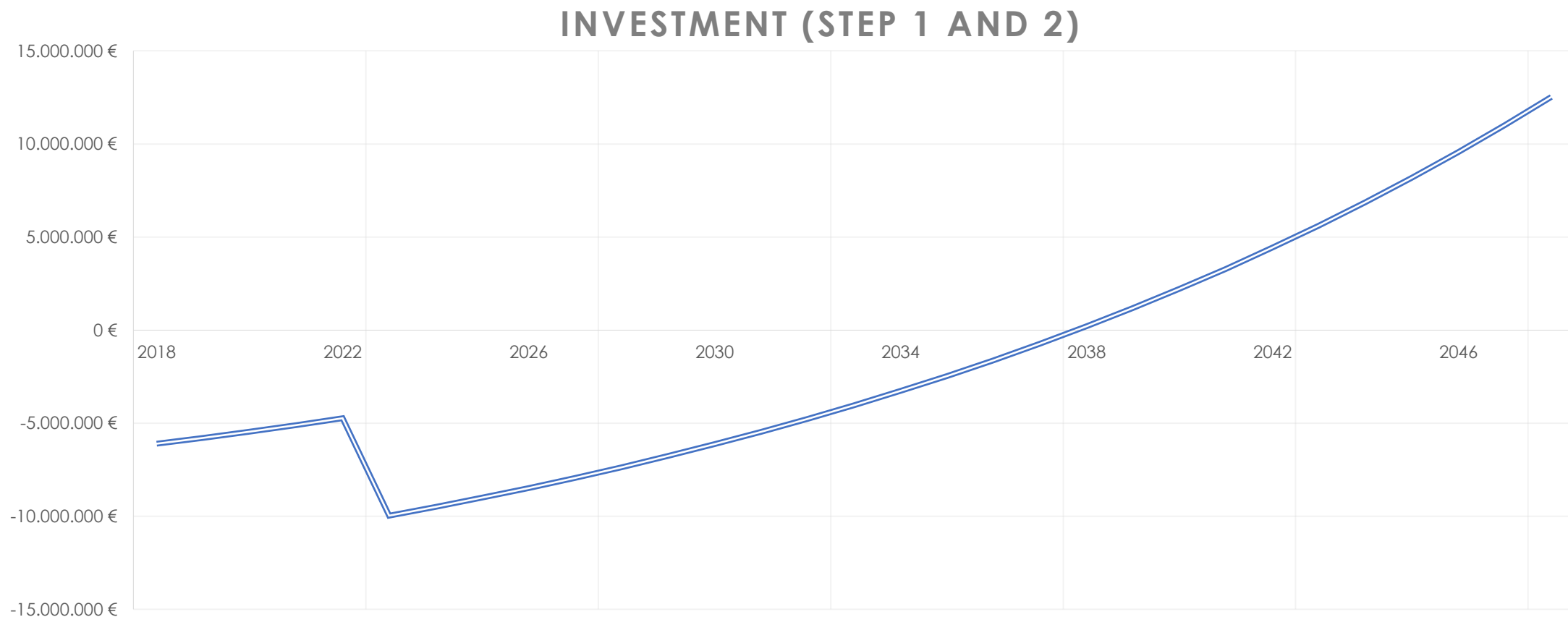
- Substations with heat pumps and heat pumps at each new cluster/customer
- Potential connection with the mine water in the north
- Give potential for district cooling



Step 3: Expansion 2nd Phase



Investment



IRR: 4.85%

Funding

- Long term contract for excess heat with industry
- ESCO between Genk municipality and energy companies

Thank you!