

**ConnectHeat**  
Community engagement for clean heat

# HOW DRINKING WATER HEATS/COOLS A NEIGHBOURHOOD

Leiedal

13.11.2024



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# SITE DE VOERMAN



# HOW TO MAKE IT NATURAL GAS FREE?

Brownfield development:

- 1/3 park
- 1/3 housing
- 1/3 businesses

Energy users:

- 30 houses
- 10 micro/small businesses

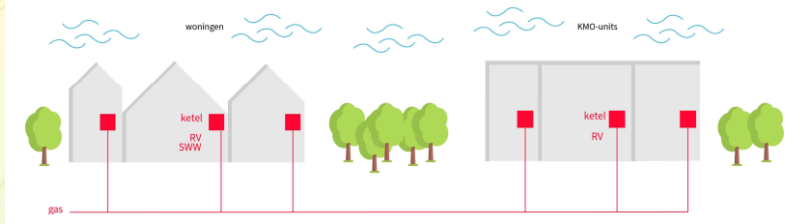
Small scale, plots of land sold to private owners (expected to be fully build over a period of 5-10 years; different architects and contractors)

Already a shared dimension: shared 'parking havens'

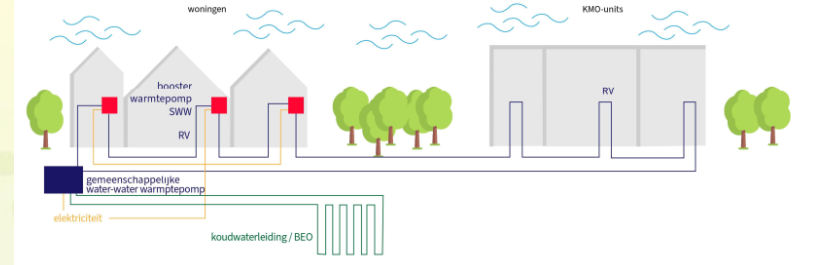


# FEASIBILITY CHECK 6 TECHNICAL CONCEPTS

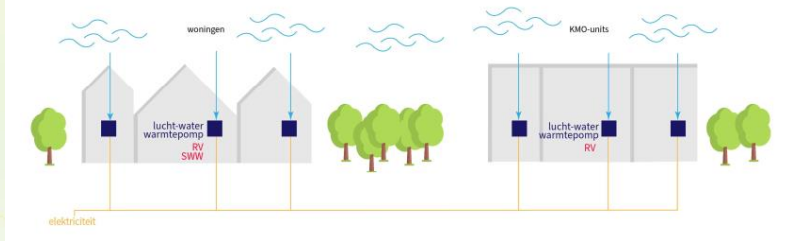
**CONDENSERENDE DOORSTROOM GASWANDKETEL RV (+ SWW), INDIVIDUEEL PER EPB-EENHEID = REFERENTIE**



**GEMEENSCHAPPELIJKE WATER-WATER WARMTEPOMP RV + INDIVIDUELE BOOSTER WARMTEPOMP SWW, WARMTENET.**



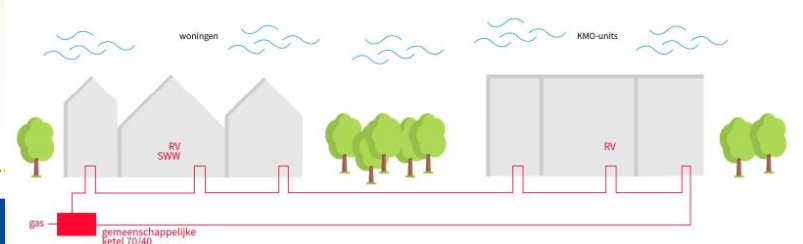
**LUCHT-WATER WARMTEPOMP RV (+ SWW), INDIVIDUEEL PER EPB-EENHEID.**



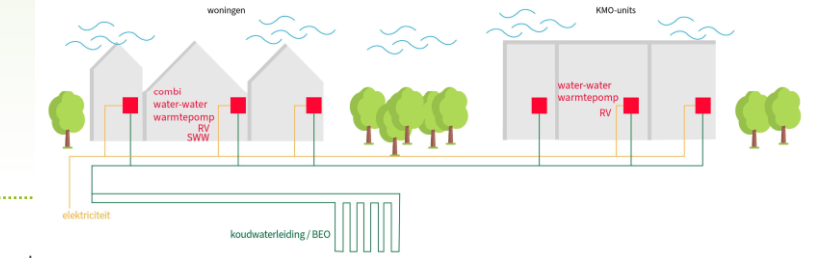
**GEMEENSCHAPPELIJKE WATER-WATER WARMTEPOMP RV + INDIVIDUELE ELEKTRISCHE BOILER SWW, WARMTENET.**



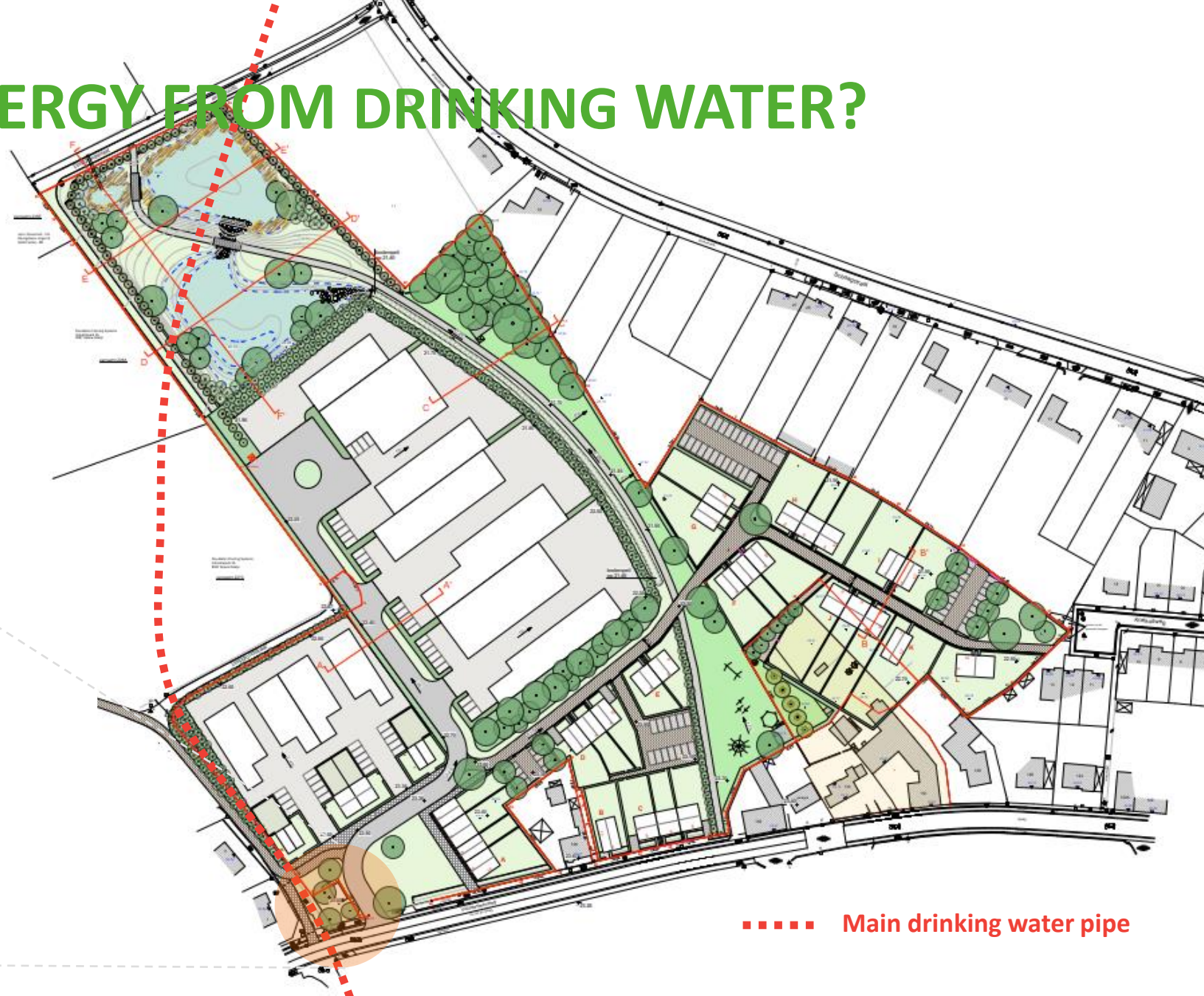
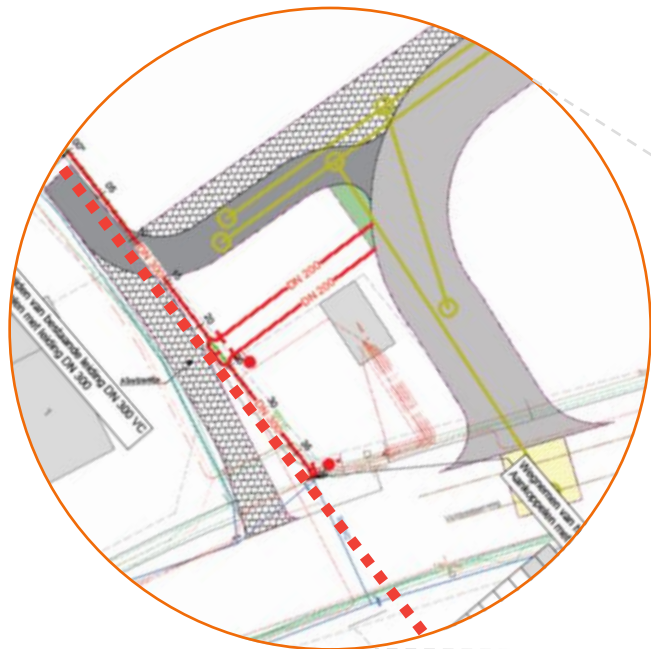
**GEMEENSCHAPPELIJKE CONDENSERENDE GASKETEL RV (+ SWW), WARMTENET.**



**INDIVIDUELE COMBI WATER-WATER WARMTEPOMP RV (+ SWW).**

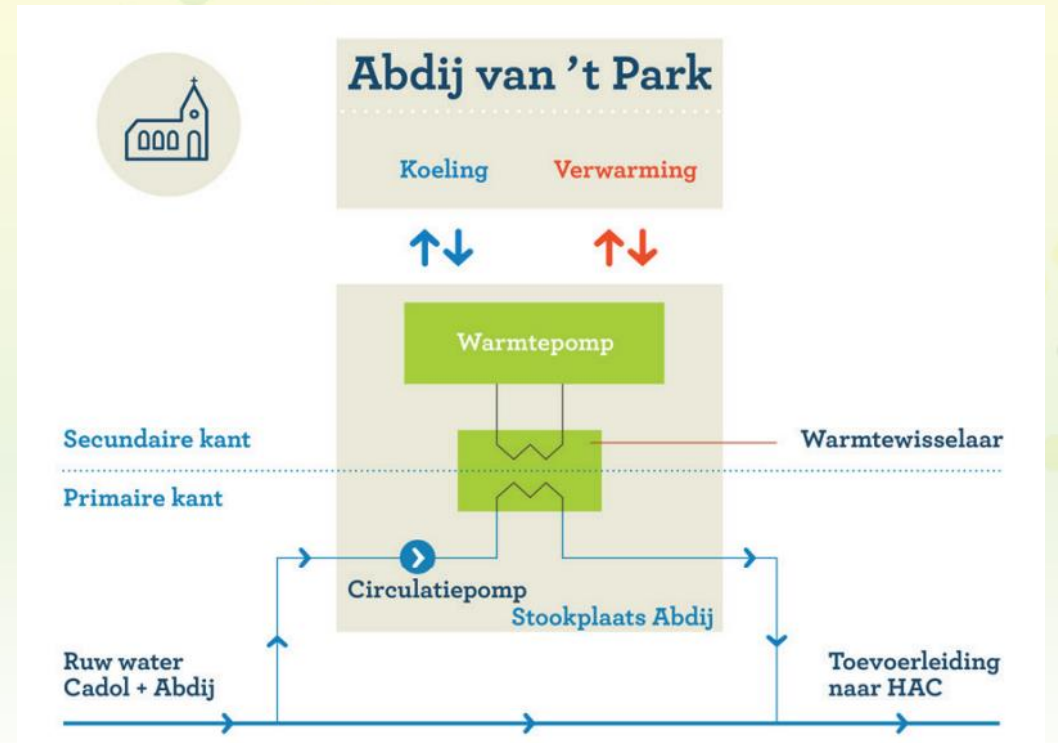


# THERMAL ENERGY FROM DRINKING WATER?



..... Main drinking water pipe

# REFERENCE: ABDIJ VAN HET PARK, LEUVEN



©-Visitleuven

©-De Watergroep

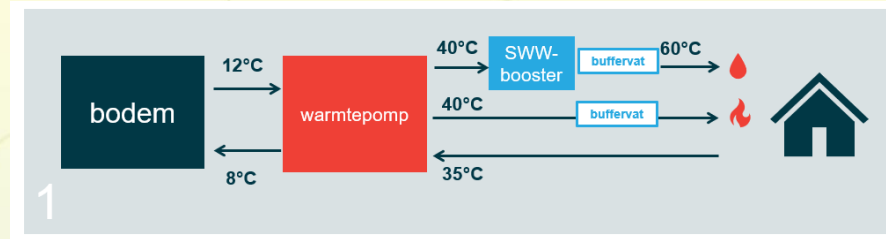


The LIFE21-CET-ENERCOM-CONNECTHEAT project has received funding from the European Union's LIFE Programme under grant agreement N°101076258

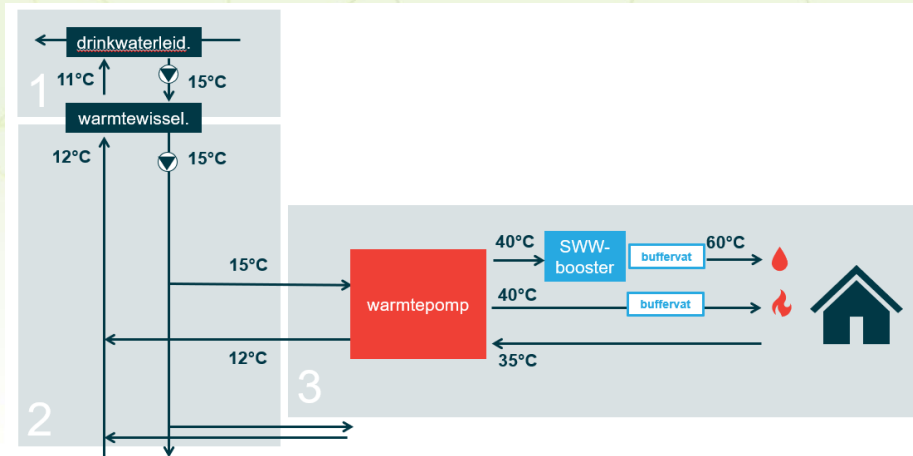


# SCENARIO'S DETAILED STUDY

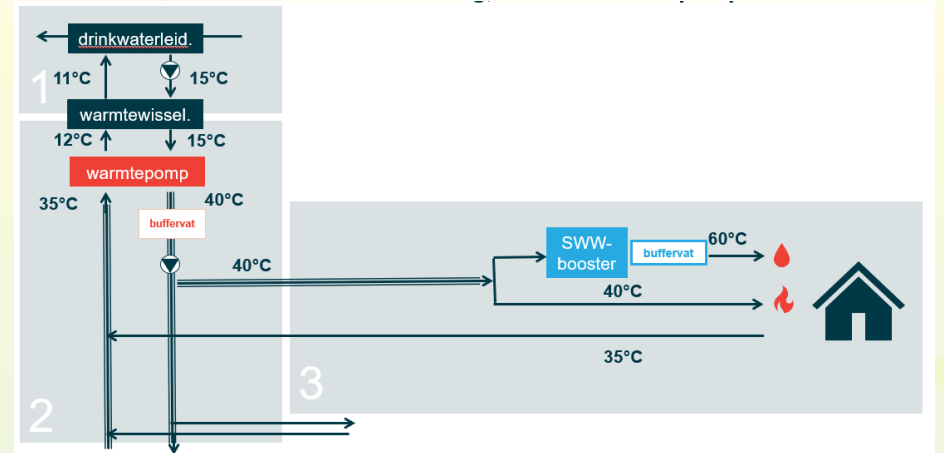
## 1 Individual geothermia and individual heat pump



## 2 Collective main drinking water pipe and individual heat pump 2\* Collective geothermia and individual heat pump



## 3 Collective main drinking water pipe and collective heat pump

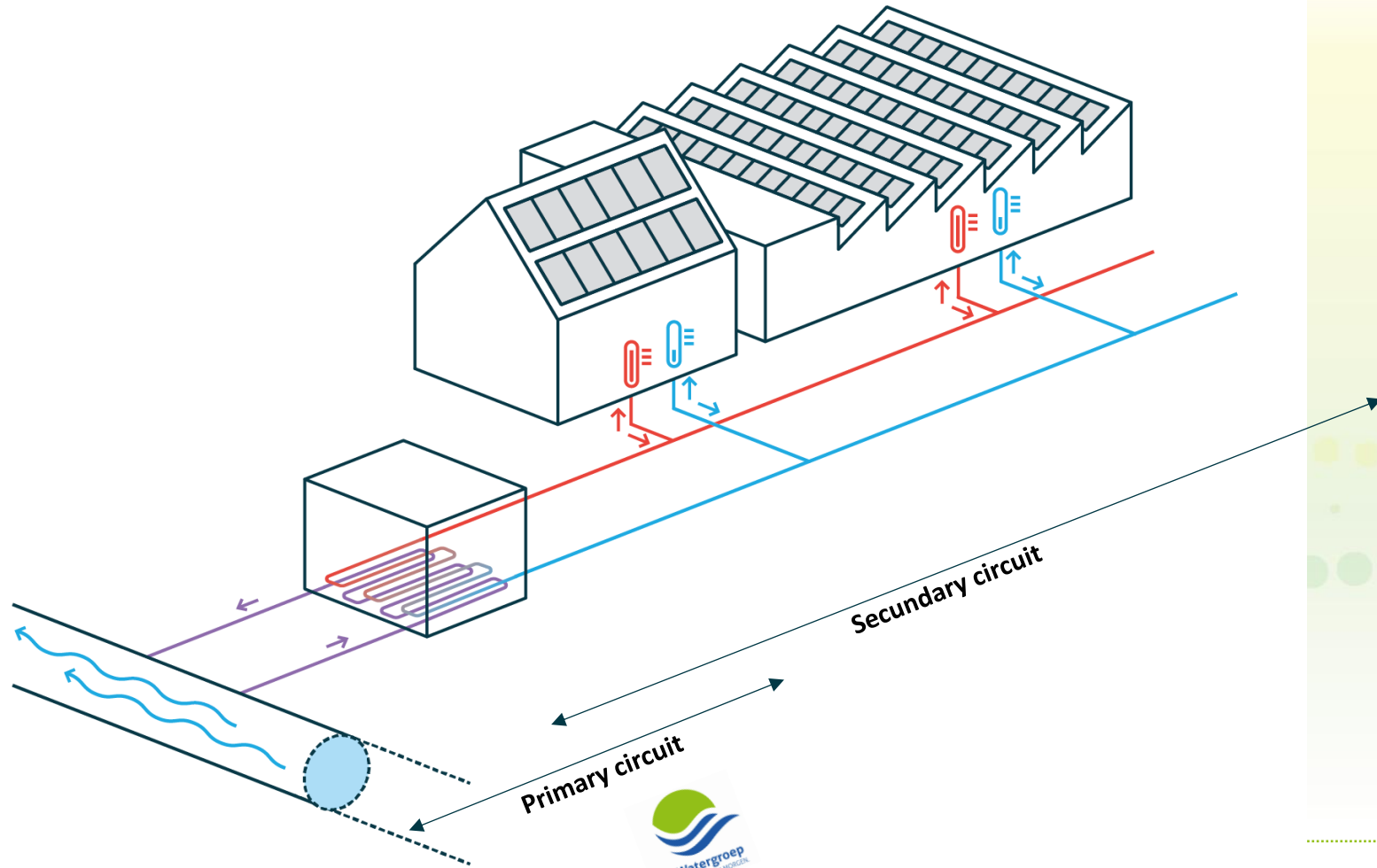


# ASSESSMENT OF THE SCENARIOS

	1 Individual geothermia and individual heat pump	2 Collective main drinking water pipe and individual heat pump	2* Collective geothermia and individual heat pump	3 Collective main drinking water pipe and collective heat pump
Comfort for end user	+	+	+	++
Risics relatet to timing	0	0	-	0
Ease for phased development (5-10y)	+	0	0	-
Extendability of energy system	0	+	0	+
Operational complexity	0	-	-	--
Future-proofness	-	+	+	++
CO2-emissions	0	0	0	-



# DISTRICT HEATING AQUATHERMIA



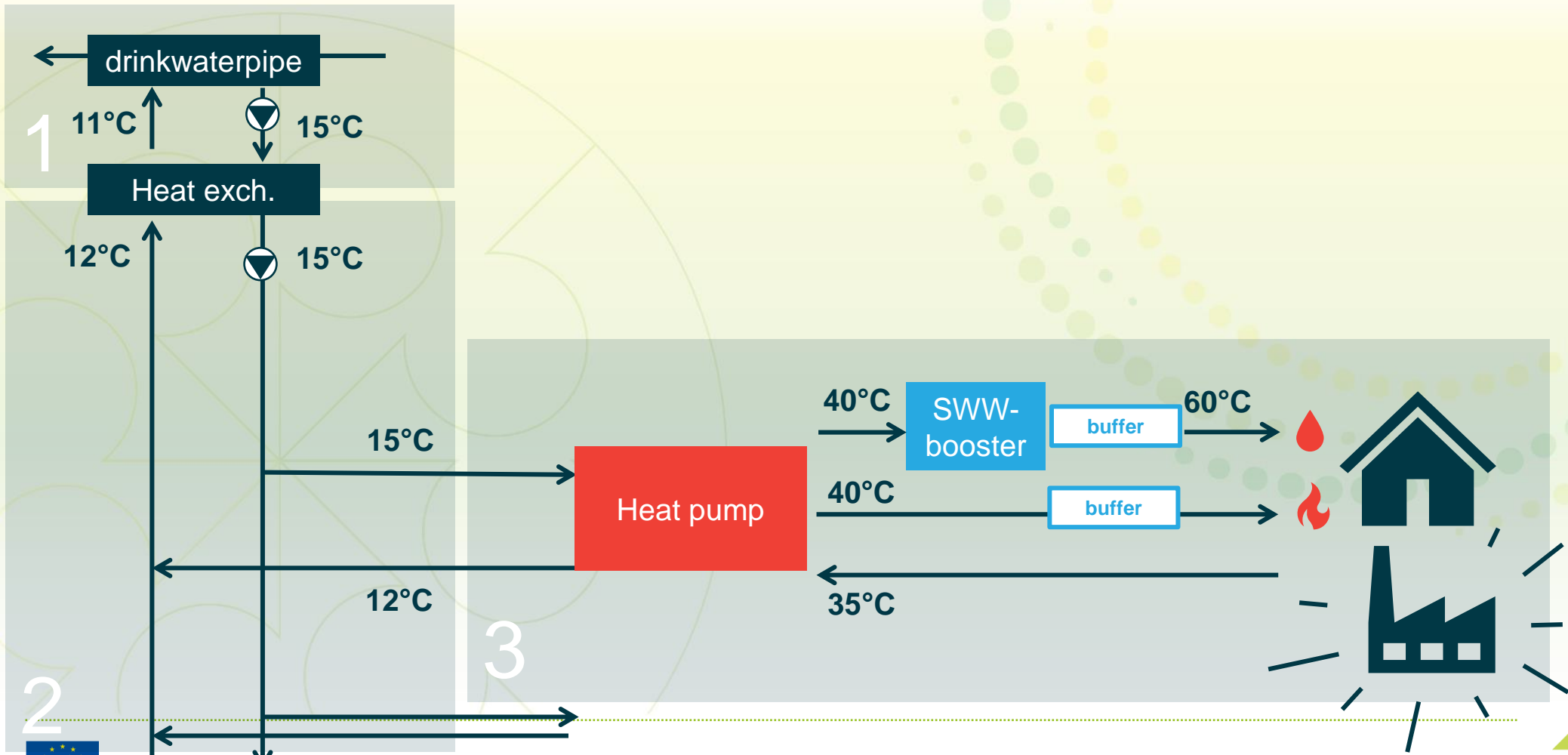
The LIFE21-0



De Watergroep  
WATER. VANDAAG. EN MORGEN.



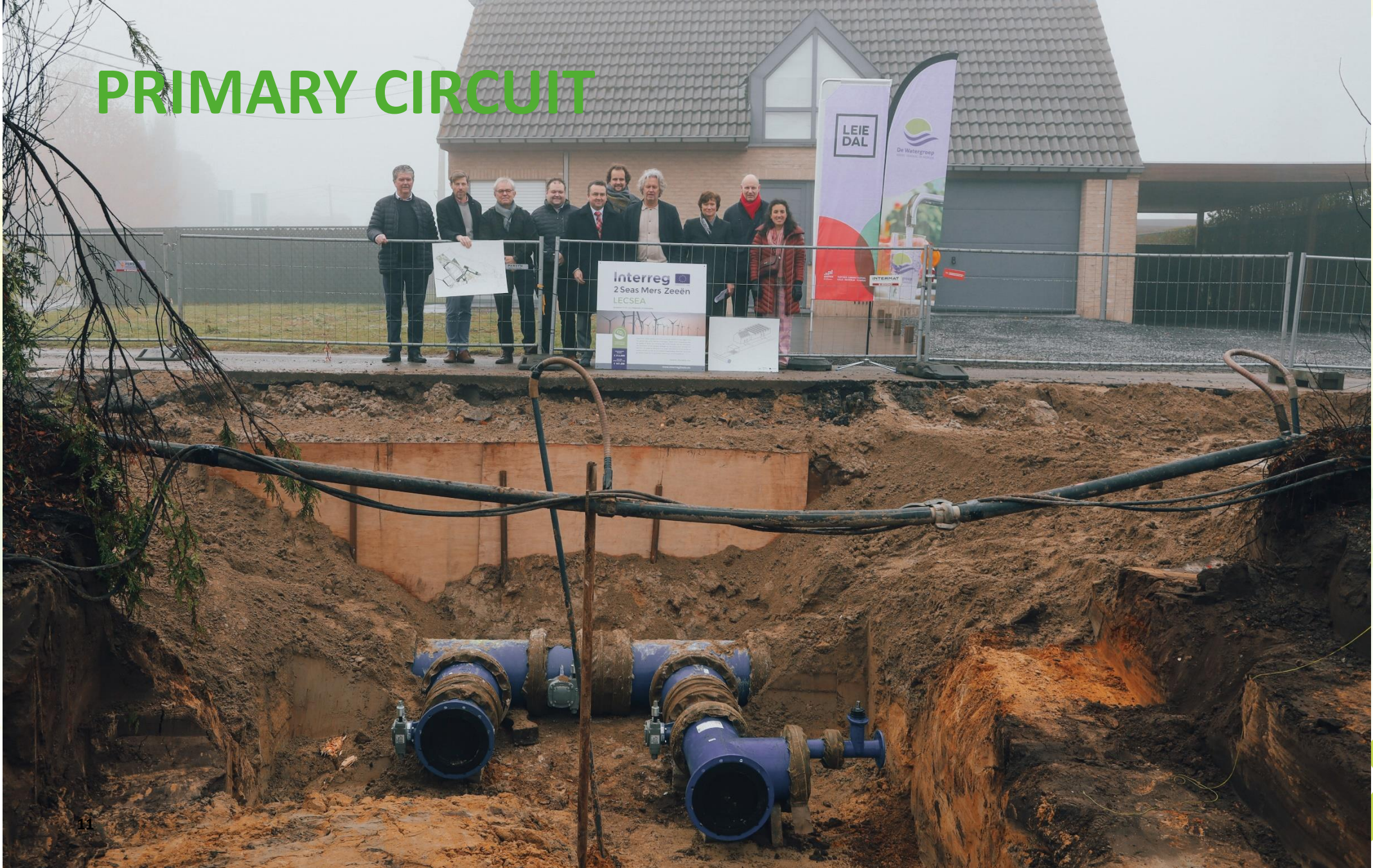
# DISTRICT HEATING AQUATHERMIA



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# PRIMARY CIRCUIT



# EXPLOITATION AGREEMENT

Goal: management of primary circuit

Between Leiedal and De Watergroep (2022)

- **Capacity:** 230kWth
- **Duration and termination**
  - Duration: 30 y from date of first connection
    - < 30 y: every 10 year: transparant evaluation of the systeem + termination if mutual agreement
    - > 30 y: every 3 year: unilateral termination is possible
- **Easement for pipeline route**
  - Free of charge and to be provided by notarial deed by Leiedal (at the latest 6 m after construction of the bypass)



# SECONDARY CIRCUIT



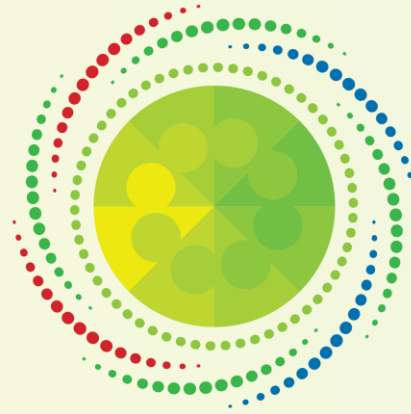
HVAC 00 gelijkvloers  
1 : 500



# THERMAL ENERGY COMMUNITY

- Members:
  - 30 homeowners
  - 10 owners of the small businesses
- Concept: make it LEAN!
  - Align with existing governance structure (for co-ownership of the parking havens)
  - Minimize the operational costs for the collective system => little overhead
  - Real cost sharing based model (split the invoices), no 3rd party overhaed
- Engagement of members of energy community:
  - From the moment the owners are known (2025 +)
  - Formal engagement via design of management structure of energy community by Leiedal, incl. finetuning of the concept of the thermal energy community
  - When purchasing a lot, becoming member of the energy community and the union of co-owners.





# ConnectHeat

Community engagement for clean heat

<https://connectheat.ambienteitalia.it/>

Els Ghyselen, Leiedal



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