

# Aquathermie: voor elk wat wils



**EXTRAQT**



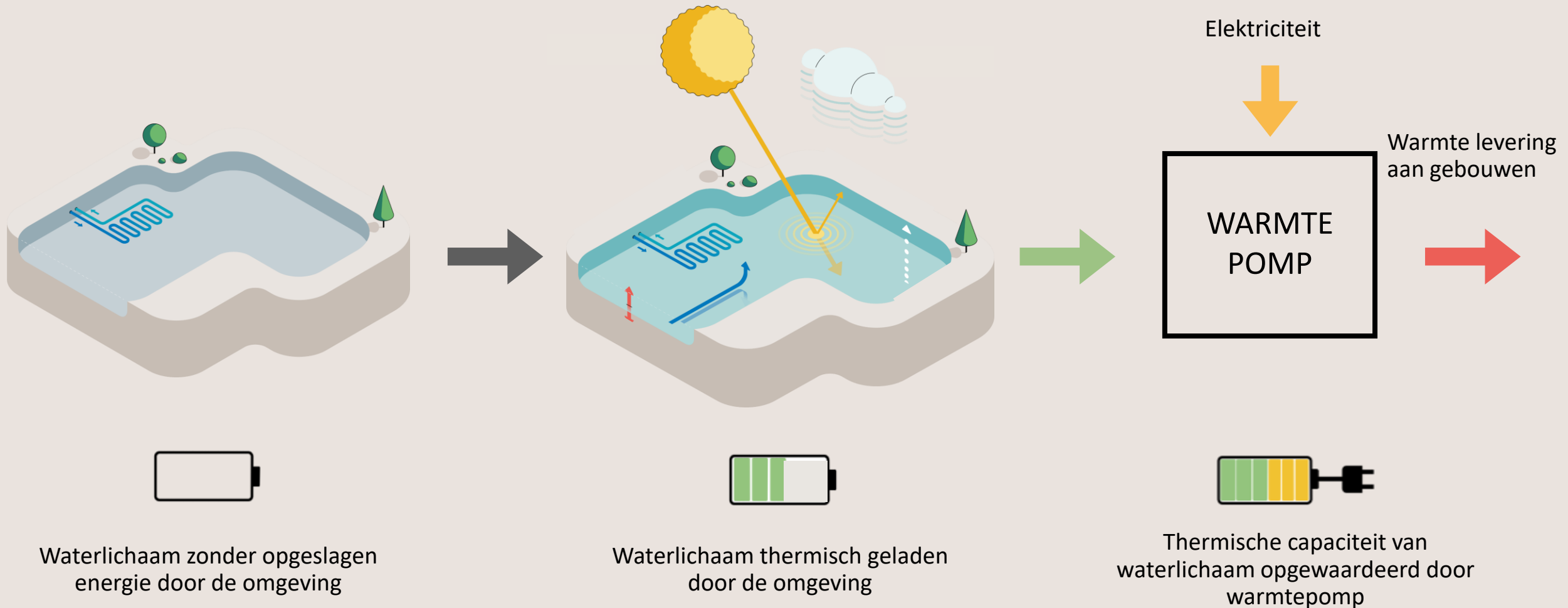
## EXTRAQT

Jonge start-up uit Leuven

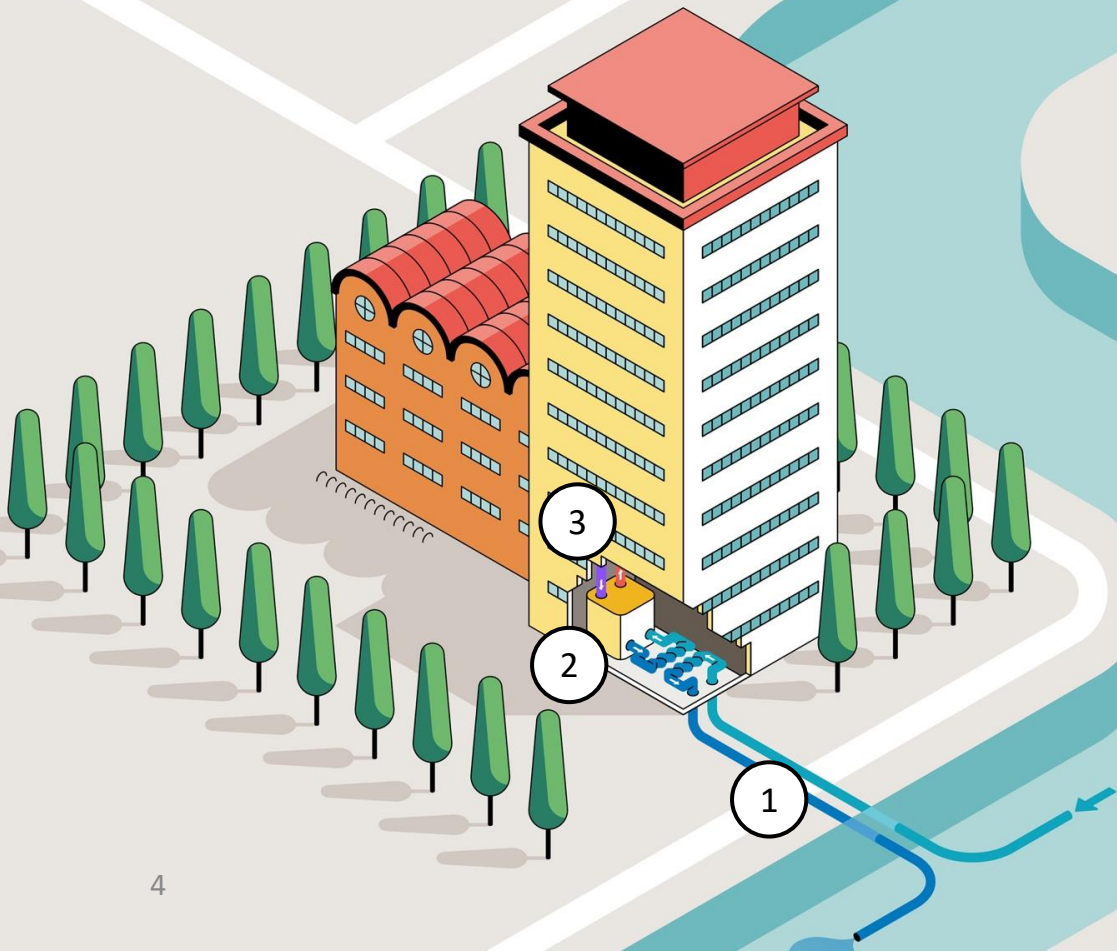
Ingenieursbureau gespecialiseerd in aquathermie

Actief in het domein van modelleren en ontwerpen

# Oppervlaktewater als thermische batterij ...



# ... verbonden aan gekende technologie

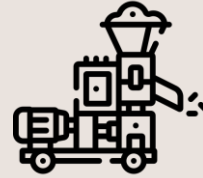


- 1 AQ bron-skid**  
Water oppompen en filteren , warmte onttrekken via warmtewisselaar en opnieuw lozen
- 2 Warmtepomp**  
De warmte in het water gecombineerd met elektriciteit zorgt voor de levering van warm water aan het gebouw.
- 3 Intern verwarmingssysteem**  
Warm water wordt geleverd aan het gebouw via het intern distributiesysteem.

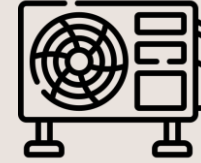
# Warmte-oplossingen



Ketel



Biomassa



Lucht



Geothermie



Aquathermie

- Onafhankelijke voorziening
- Duurzaamheid
- Efficiëntie / Comfort
- Temperatuurbereik
- Investeringskost
- Operationele kost
- Koeling
- Esthetische oplossing
- Levensduur

Onafhankelijke voorziening	✗	—	✓	✓	✓
Duurzaamheid	✗	—	✓	✓	✓
Efficiëntie / Comfort	—	✗	—	✓	✓
Temperatuurbereik	✓	✓	✗	✗	✗
Investeringskost	✓	✓	✓	✗	—
Operationele kost	✗	—	—	✓	✓
Koeling	✗	✗	✓	✓	—
Esthetische oplossing	—	—	✗	✓	✓
Levensduur	—	—	✗	✓	✓

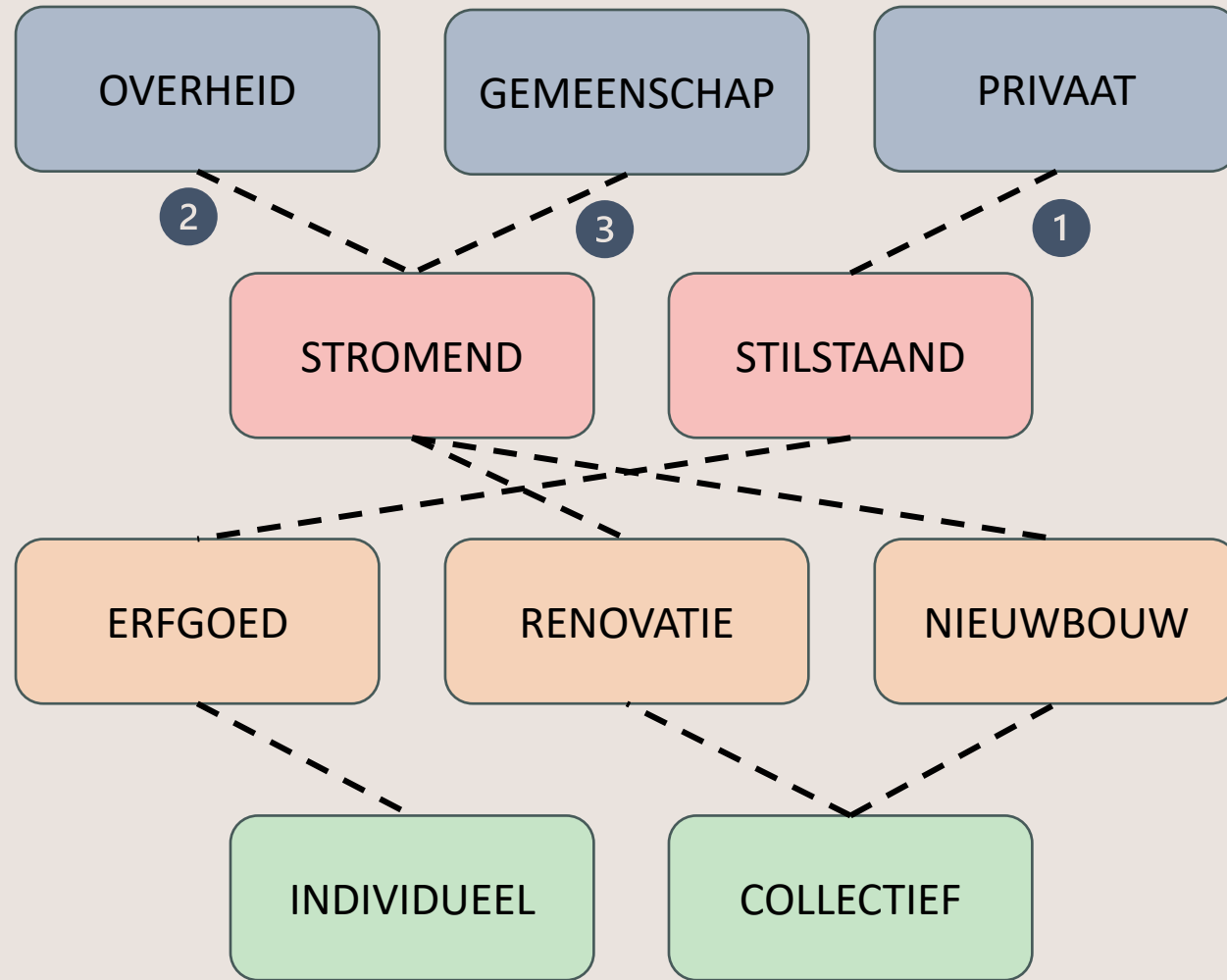
# Aquathermie menukaart

EIGENAAR

BRON

GEBOUW

AFGIFTEMETHODE



# Jardins d'eau d'Annevoie

PRIVAAT

STILSTAAND

ERFGOED

INDIVIDUEEL

- Eigenaar:
  - Privé klant
- Bron:
  - Spiegelvijver verbonden met een bron
- Gebouw:
  - Erfgoed gebouw grondig gerenoveerd
- Afgiftemethode:
  - Individuele verwarming via 2 warmtepompen
- Type:
  - Closed loop systeem
- Warmtevraag:
  - 100 kW afgifte via convectoren
  - 40 kW afgifte via vloerverwarming



# Buda eiland Kortrijk

- Eigenaar:
  - Stad Kortrijk
- Bron:
  - Leie
  - Thermische impact  $-0.25^{\circ}\text{C}$
- Gebouw:
  - Stedelijke gebouwen, verzorgingstehuis, privé woningen
- Afgiftemethode:
  - Collectieve energiecentrale verbonden met warmtenet (concept)
- Type:
  - Hybride met open loop aquathermie
- Warmtevraag:
  - 1 MW afgigte aquathermie
  - 0.5 MW afgifte geothermie
  - Back-up/Top-up aerothermie

OVERHEID

STROMEND

NIEUWBOUW

COLLECTIEF





# Dijlemolens Leuven

GEMEENSCHAP

STROMEND

RENOVATIE

COLLECTIEF

- Eigenaar:
  - VME Dijlemolens
- Bron:
  - Dijle
  - Thermische impact  $-0.01^{\circ}\text{C}$
- Gebouw:
  - 35 appartementen, kantoorgebouwen en handelszaken
- Afgiftemethode:
  - Centraal energiesysteem voor CV
- Type:
  - Open loop systeem basislast
- Warmtevraag:
  - 90 kW afgifte warmtepomp (80% piekvraag)
  - Aanvoertemperatuur maximum  $55^{\circ}\text{C}$



# Quick Scan

## AQUATHERMAL ENERGY QUICKSCAN

### INTRODUCTION



v 0.82 OK  
0.82

WORKFLOW: USE THE TABS →→→

Which country is your project in?

#### INTRODUCTION

Surface waters act as a huge solar collector and store thermal energy in quantities that exceeds by far the energy requirements for H/C. However, the vast majority of people and energy communities (ECs) is unaware of this omni-present energy source. WaterWarmth develops and implements aquathermal energy (AE) concepts in which this source is used for efficient and zero-carbon H/C. As AE and other renewable energy sources (RES) are local in nature, they provide a great opportunity for ECs to take ownership of energy production and delivery. This stimulates local economic activities, keeps profits in the region, and enables a socially just and inclusive energy transition.

#### WHAT THIS TOOL DOES

This tool helps consider aquathermal energy (AE) application in a nearby surface water body for a project. The focus is on the built environment. Although a very basic comparison of demand and AE supply is included, the focus is on identifying identify barriers and opportunities in four categories: demand, water body, infrastructure and restrictions & permits.

#### UNDER CONSTRUCTION

As the tool is still under development, we are evaluating its ease of use and the answers and related status it gives for as wide a range of projects in the Interreg North Sea Region. We therefore welcome suggestions and feedback!

#### HOW TO USE

Each category has its own tab, where questions are asked. If your choices result in a question not being relevant, it is hidden (and given answers will be ignored).

**1000** Light blue fields with blue text are **input** fields. Pull-down menus sometimes provide options.

Further information on questions can be found while hovering over each question. The status of each category is indicated with a traffic light: **green** is OK, **yellow** means attention is required and **red** means there may be serious issues. Each question will additionally provide feedback based on the answer given. If sufficient answers get the yellow status, the category itself will also get a yellow status light. Answers with a red status are considered deal breakers and will flag an entire category red. These are rare though.

#### WHAT THIS TOOL DOESN'T

Energy potential calculations are very basic, and mostly meant to rule out extreme imbalances between demand and supply. The quickscan tool is intended to provide quick answers on opportunities and potential issues to address, however it is not a replacement for a feasibility study. Neither the creators of this tool, nor the funder for the project, accept any liability as a result of using this tool. This tool was developed for research purposes only. Its use is entirely at your own risk and liability.

# EXTRAQT



[www.extraqt.be](http://www.extraqt.be)