Interreg
2 Seas Mers Zeeën
SOLARISE
European Regional Development Fund

Heerhugowaard
Stad van kansen

# Local Energy Strategy

Municipality of Heerhugowaard

Amiens, 14th May 2019

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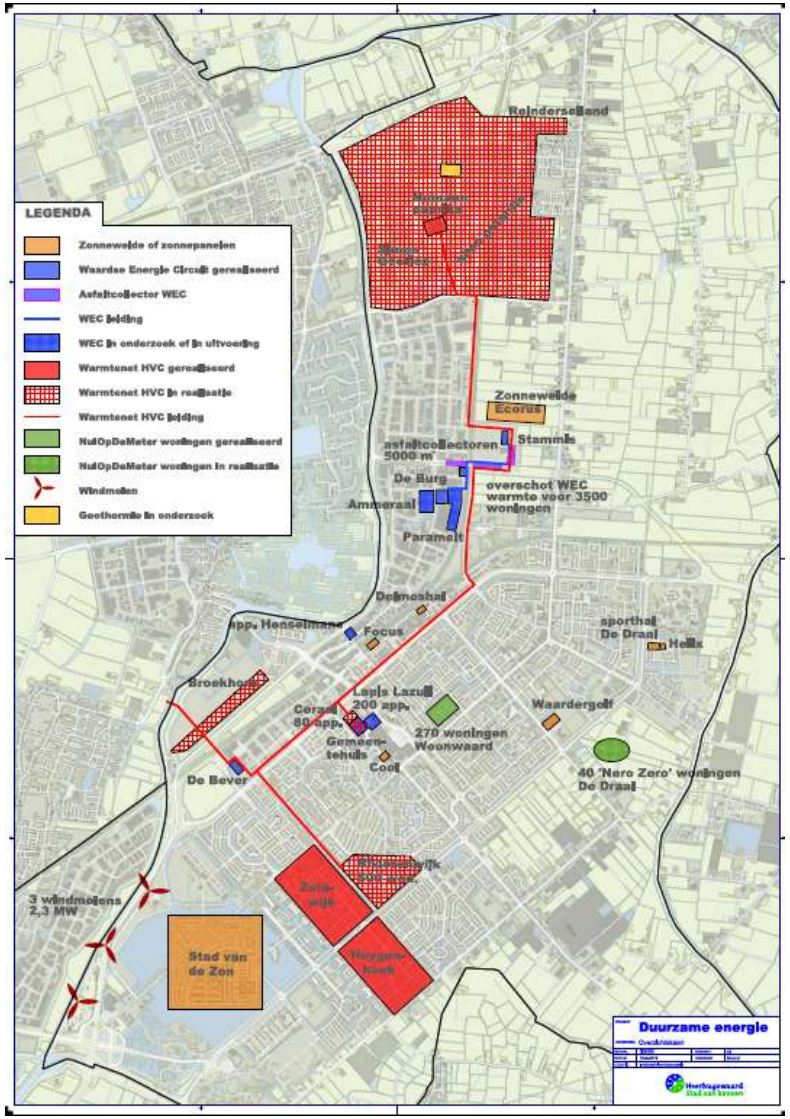
# Local ambitions




Heerhugowaard has the ambition to be ‘energy neutral’ in 2030 and has already made significant progress in several projects:

- ‘City of the sun’.
- a solar park.
- two different heat-networks.
- potential for a geothermal installation.

# Developments in Heerhugowaard

***Stad van de Zon (2001-2008)***

+3,000 homes.
25,000 PV panels.
3.75 MW, reduction CO2 vs. normal: 2,500 tonnes p/yr.
3 wind turbines (2,3 MW).

***Smart energy net***

Cooperation with several partners

- Energy Ring': distribution system for residual heat (EU/EFRO project)
- warmth collection in asphalt pavement near De Vaandel (1,500 m2)

***Solar fields (to be ready Sep/Oct. 2018)***

35,000 PV panels.
9.6 MW (+/- 3,000 households).

***Sustainable housing ('0' on the energy meter; 2015)***

Experiment with 55 social houses social housing corporation

- 'second layer' over walls and roofs.
- gas connection removal.
- PV on roof front and back side.

contract: energy in = out (5.984 KWh per year).
90% tenants reached goals in 2015, project overall success!

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# Influence municipality

- Legislation
  - Permits (environment)
  - Strategy on energy
  - Organization regional municipal consent
- Stakeholder management
  - Energy providers
  - Users
  - Prosumers….

# SOLARISE

14th May 2019

- WP1: market analysis:
  - part of LES project -> concept 7th May.
  - info partners.
- WP2: feasibility study:
  - partially part of LES project.
  - info partners.
- WP3: planned to start after regional analysis, awaiting national climate agreement (appr. Sep. 2019).
- WP6: development and strengthening involvement users (quadruple helix) partly communication.

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Paris agreement (UNFCCC)

Sustainable Development Goals (SDGs)/Global Goals

UN Goals

Europe 2020 strategy

Climate agreement “climate tables”

Regional Energy Strategy (RES)

Focus on generation (electricity, heat) and infrastructure

Local Energy Strategy (LES)

# The Dutch climate agreement

Dutch government has asked 30 regions to make a ‘bid’ to contribute to the nationwide goals in the climate agreement.

# Task Heerhugowaard

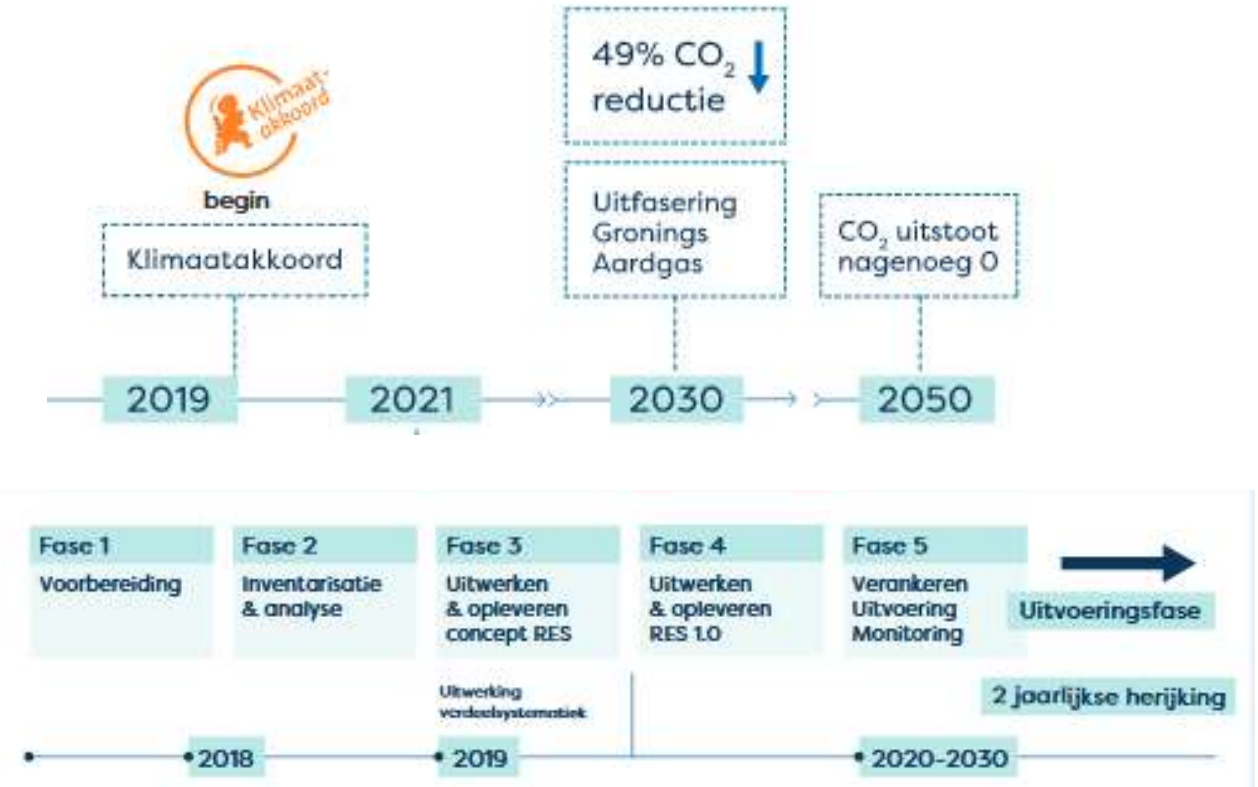
| starting point 2017 | electricity | heat | vehicle fuels | sum | Impact CO2 |
|---|---|---|---|---|---|
| built environment | 143 GWh | 31 M m3 a.e.<br>90 TJ city heat | | 1650 TJ | 127 kton |
| traffic / transport | | | 986 TJ | 986 TJ | 72 kton |
| industry | 40 GWh | 9 M m3 a.e. | | 455 TJ | 36 kton |
| agri | 29 GWh | 35 M m3 a.e. | | 1210 TJ | 76 kton |
| energy | -22 GWh | -135 TJ | -29TJ | -242 TJ | |
| total needed | 949 TJ | 2159 | 957 TJ | -4060 TJ | 310 kton |

# Regional plans

Heerhugowaard is part of the region Noord Holland Noord along with 17 other municipalities.

Focus is on the generation of enery and warmth for the urban environment and the infrastructure needed.

# Planning and scope




VNG. (2018). *Handreiking: Regionale Energiestrategieën*. https://vng.nl/files/vng/handreiking_res_versie_21-12-2018.pdf

LES should be finished by the municipality and ENGIE before the summer 2019

This LES forms then the base for negotiations around the RES that ought to begin in September 2019

National government decides on the climate agreement in September 2019

6 months later: first concept of the RES for the region Noord-Holland Noord, based on contributions of municipal LES

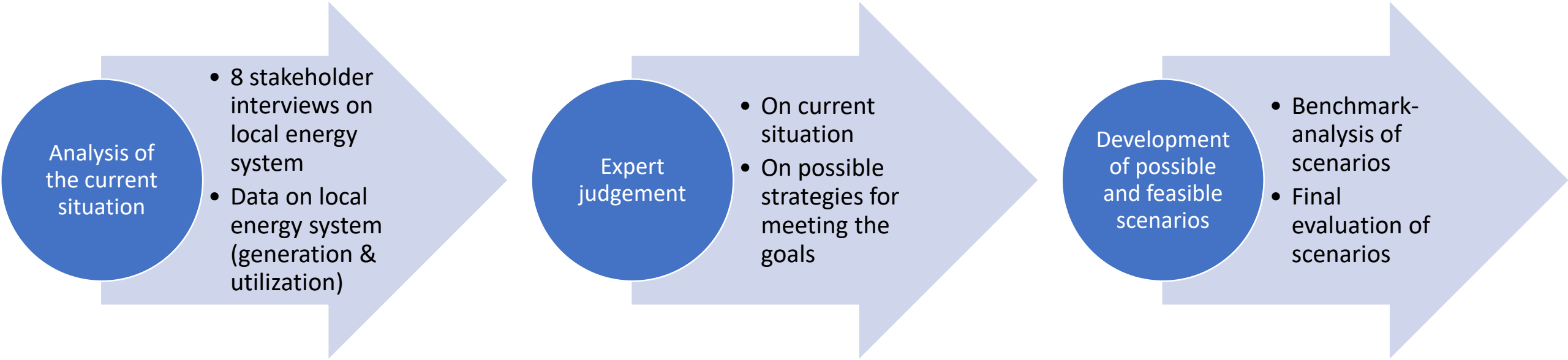
# Development of the LES


The Local Energy Strategy (LES) will focus some strategic choices in energy and heat and be the local 'bid' to the regional goals in the Regional Energy Strategy (RES)

7th May: external advisor ENGIE produced a draft of the LES

In co-development with the municipality this first version focusses on built environment and local energy generation, and how this transition towards a sustainable local energy system affects various parts of the society

# Development process of the LES



# Scenario-analysis

Based on the analysis of the current situation and various stakeholder interviews are several possible scenarios developed

Analysis and judgement of these scenarios based on benchmarks according people-planet-purpose principles

| People | Planet | Purpose |
|---|---|---|
| Costs for stakeholders | CO2 reduction | Societal costs |
| Impact on stakeholders | Circularity | Nuisance from stench |
| Freedom of choice | Impact on the horizon | Exclusion from stakeholders |
| Independence from scarce fossil fuels | Spatial impacts | Short term / long term |
| | Emissions of pollutants | |

# Draft outlook from scenarios

2 main scenario outlooks:

1) 49% CO2 reduction in 2030 and 100% in 2050;
2) 100% CO2 reduction in 2030

- Built environment
  - between 152-609 flats per year to be insulated to reach on average energy-label A by 2030
  - 19,5% reduction in consumption of heat by 2030, if insulation successful
  - Heat production: mix of waste incineration, geothermal heat, electric heating systems
  - Expected challenge: financing insulation of privately owned houses
  - 49% CO2 reduction by 2030 possible; 100% by 2030 not possible with 100% renewable electricity
- Highest score for the following scenario:
  - A combination of waste incineration, utilization of process-heat from industry, geothermal heat production, electric heat production
- Main challenge:
  - Sufficient heat generation from renewable sources
  - Sufficient electricity generation within the municipality

# Future

- Local energy transition plan 2020/2021
- Stakeholder involvement
- Guide energy users/prosumers –> training energy coaches