

# Towards municipal heat transition strategies

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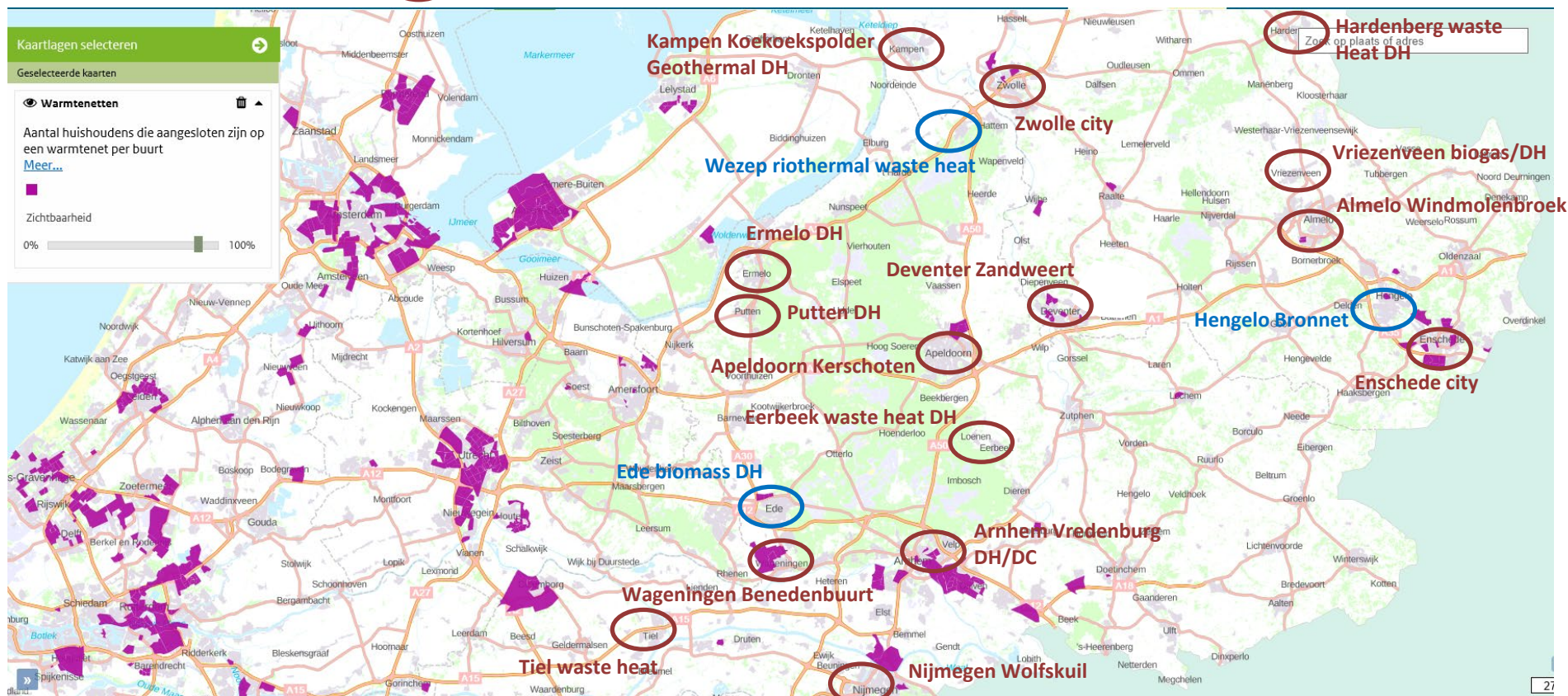
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# Dutch heat transition approach

- Present situation: 90% heating by natural gas
- 2030: 49% reduction of natural gas
- 2050: 100% reduction of natural gas
- RES: Regional Energy Strategy
- 2021: municipal heat transition strategies

# Experiences

- Existing DH networks
- WIEfm feasibility studies



# Problem statement

- High complexity of heat transition project for existing buildings & districts.
- Feasible exploitation of a single heat source often dominates.
- Limited time is given for heat transition planning.
- Municipalities often have insufficient coordination experience, technical and organizational knowledge.
- Insufficient source heat capacity with sufficient temperature levels for district heating projects.
- Insufficient insight into critical success factors.
- Lack of stakeholder and citizen involvement.
- Lack of an integral approach, supporting methods and experience with available tools.

# Changing role of government

- In the past: limited role for municipalities.
- New roles:
  - Coordination (in organisation and time)
  - Defend public interest within local energy projects
  - Co-financer of additional costs for futureproof infrastructure (e.g. backbone).
  - Managing uncertainty within the project.
- Authority for underground infrastructure, permit regulation (heat facility building permit, permit for streetwork).

# Heat transition options

## Individual heat production

Home heat pumps

*Infrastructure: electricity grid*

## Collective heat production

District heating

*Infrastructure: DH network*

Hybrid solution: 4th/5th generation DH  
& heat pumps

*Infrastructure: low cost DH & electricity  
grid*

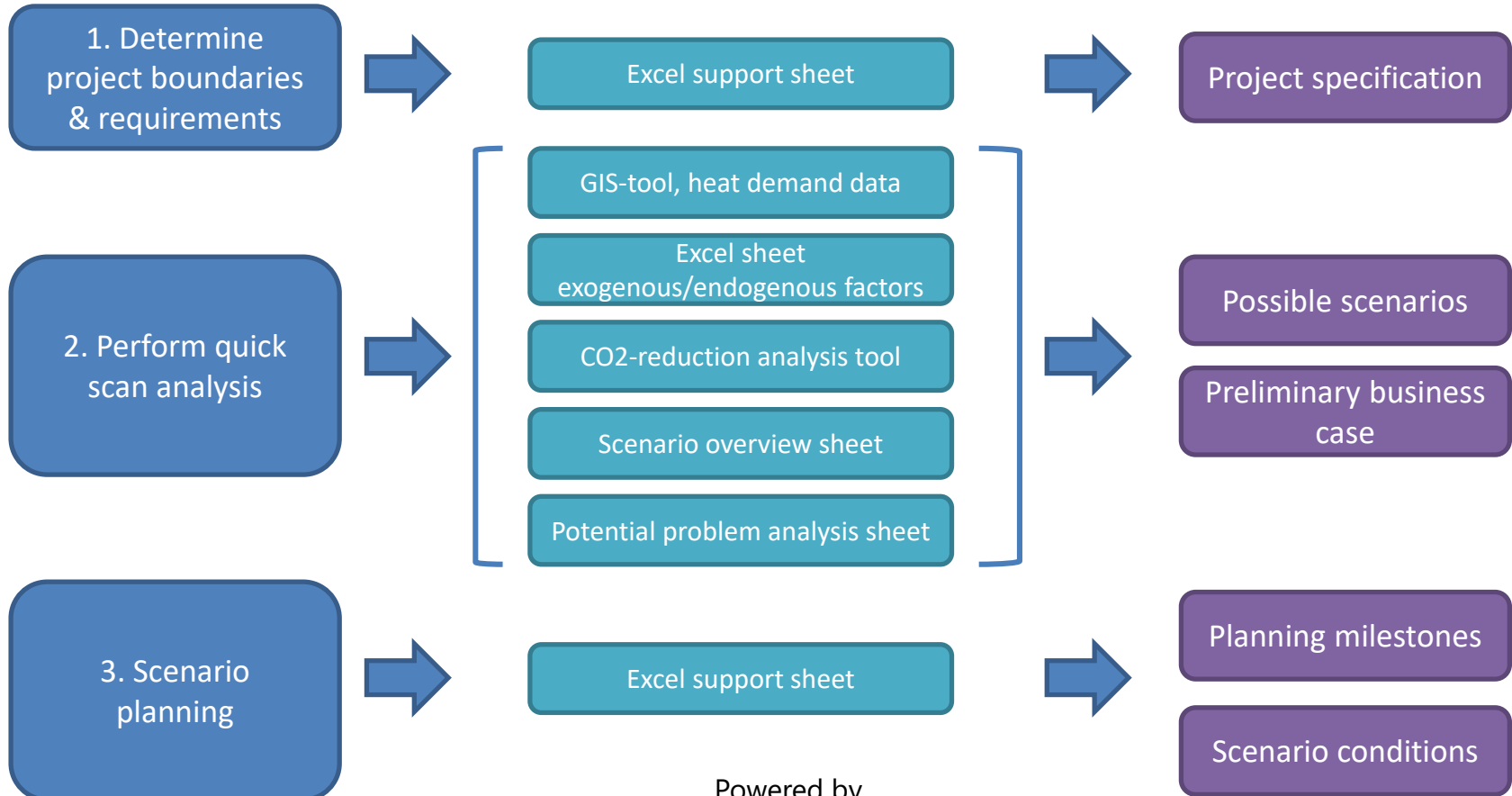
Home hydrogen boiler

*infrastructure: existing natural  
gas network*

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# Comprehensive methodology



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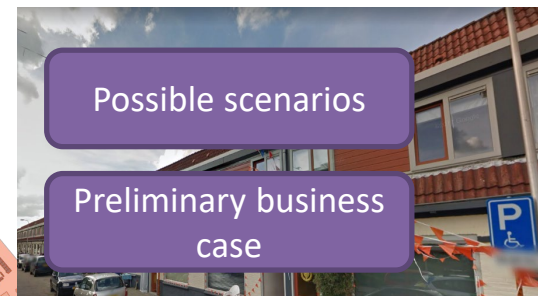
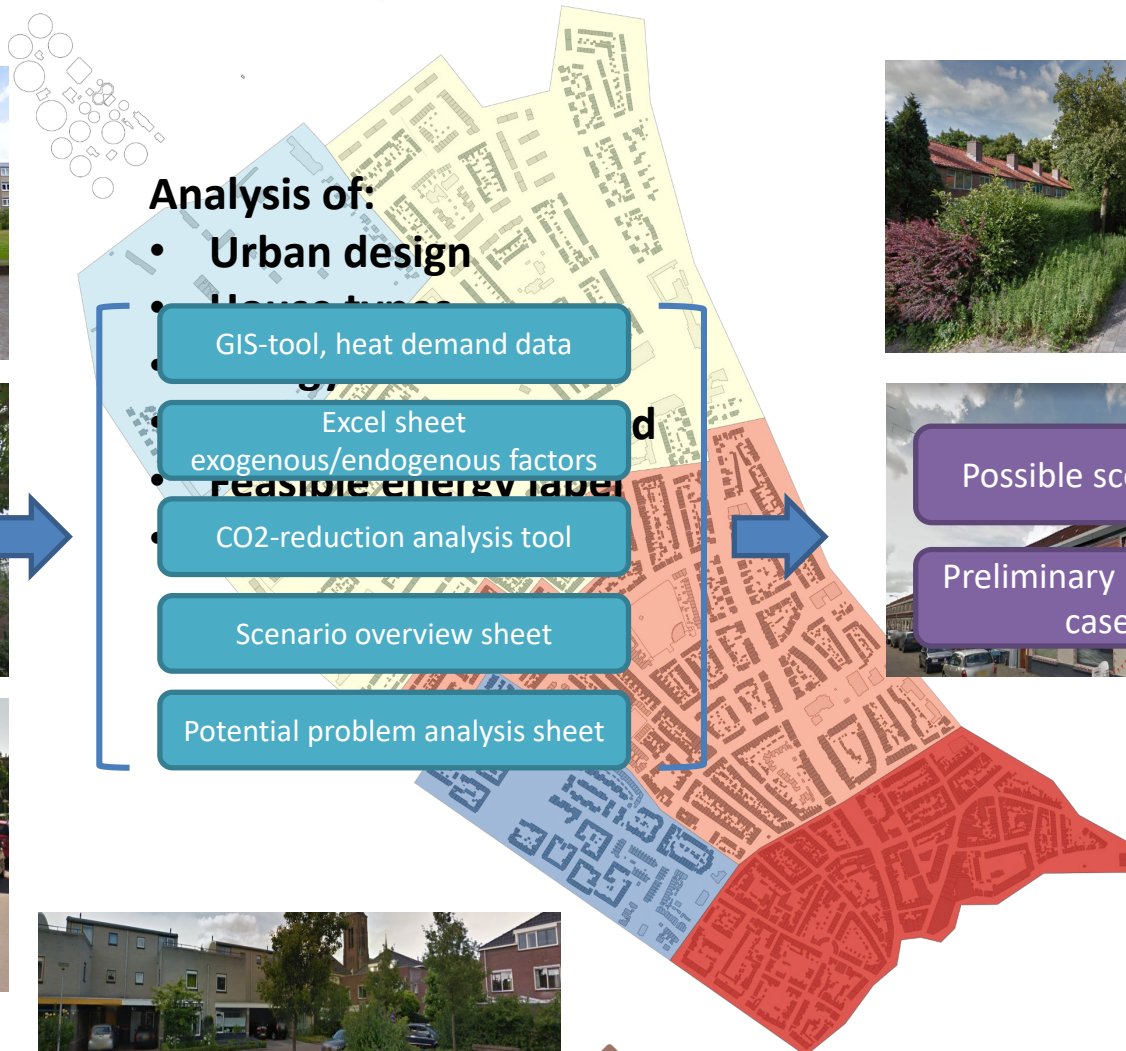
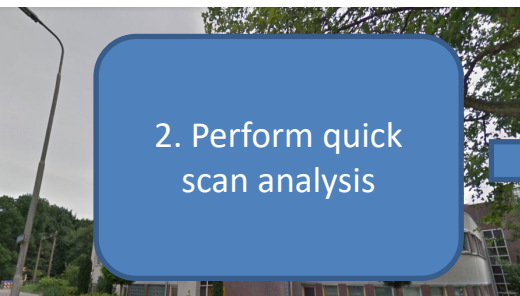




# Comprehensive methodology



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# Conclusions & outlook

- Saxion develops a comprehensive heat transition methodology with partners
- Experience so far is promising
- To do: further development of tools & models: improve user interaction, whole system analysis, understandable inputs & overviews
- To do: more elaborate experience with step 4 & 5

Questions for SES-conference audience:

1. Which succesful heat transition examples do you know in your country?
2. Which approach was followed?
3. Do you have suggestions to improve our methodolody?





# THANK YOU FOR YOUR ATTENTION

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