

# Rotterdam

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Advocating for national policy change and city-level action  
on ensuring system energy efficiency



# Outline

- About Rotterdam
- 4 principal starting points
- History of DHC in and around Rotterdam
- Next steps (national policy & city action)

## ROTTERDAM:

INHABITANTS CITY: 610.000, REGION: 1.200.000

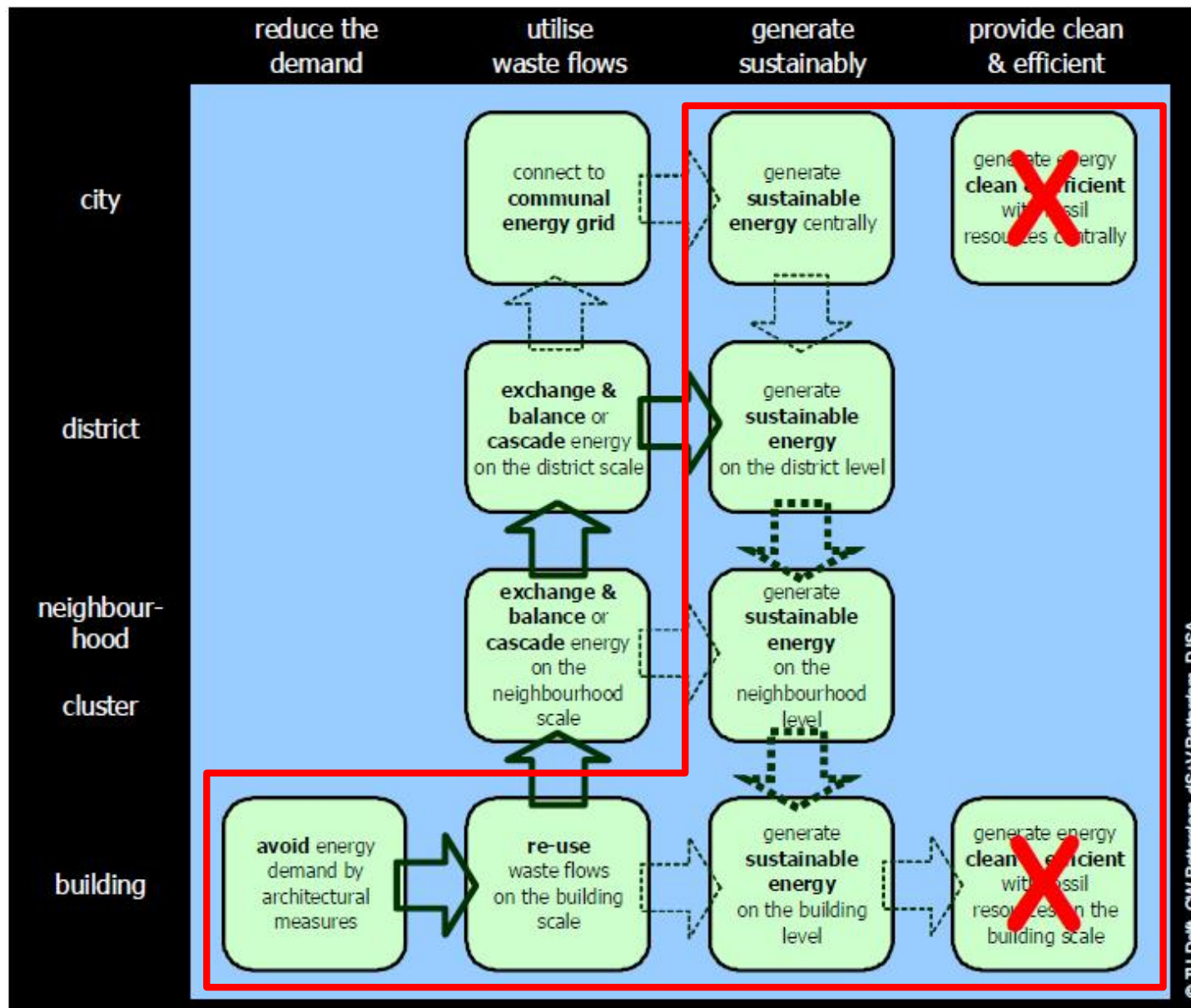
SURFACE AREA CITY: 320 sq km, REGION: 807 sq km

EUROPE'S NR. 1 PORT, WORLD'S NR. 4 PORT



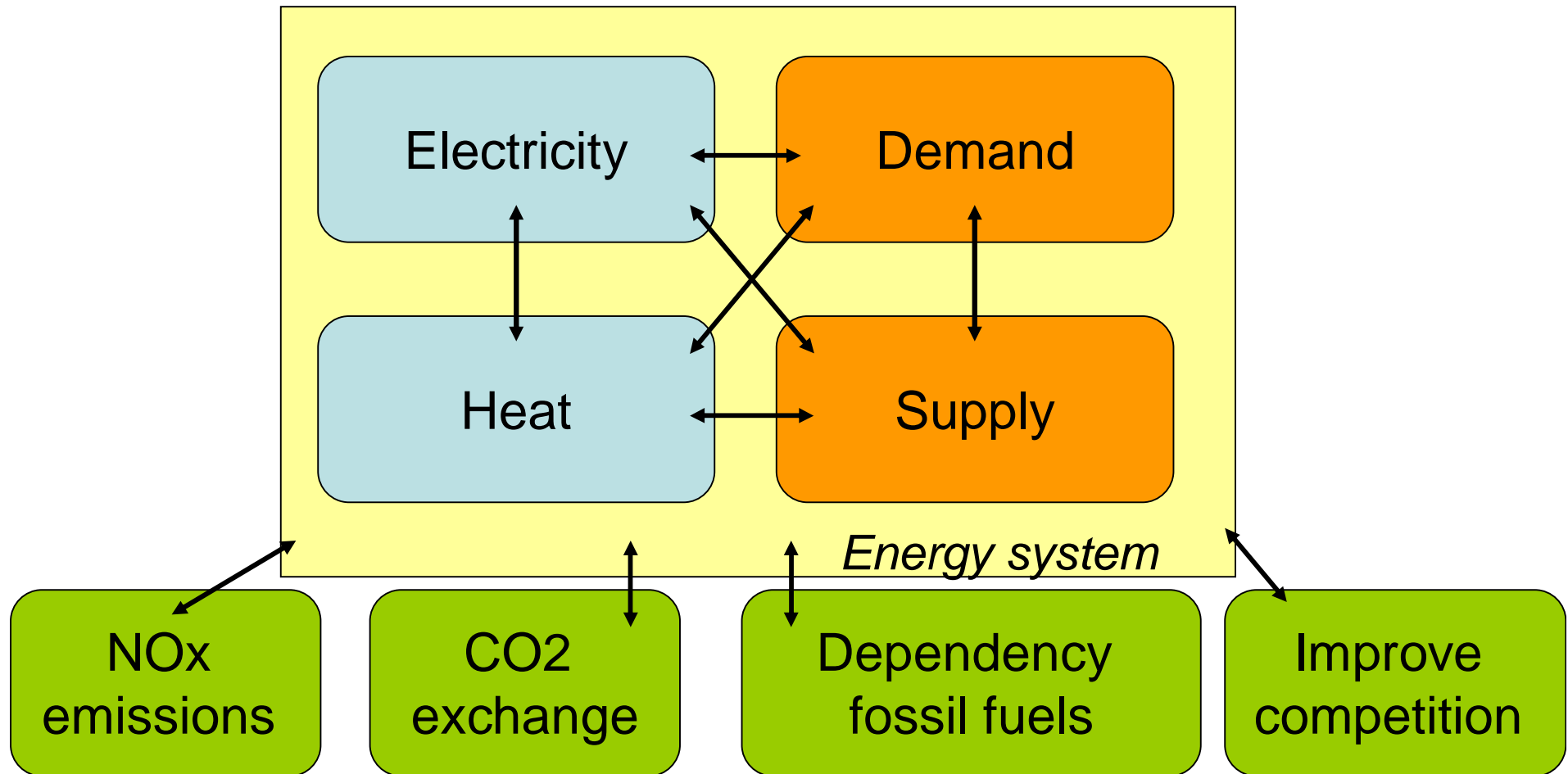
About Rotterdam

# 1: reduce > re-use > produce



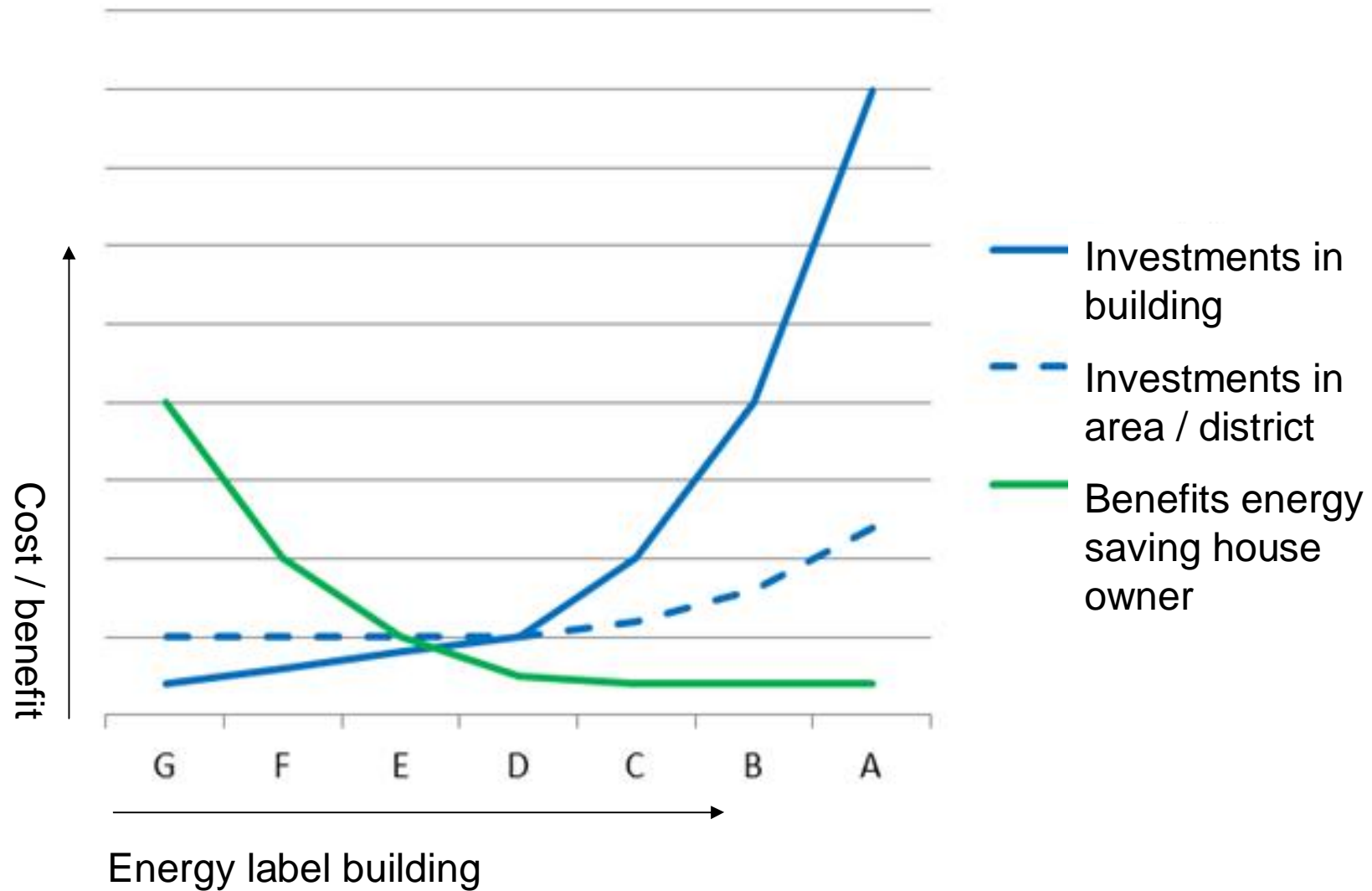
4 principal starting points

## 2: Total energy system approach



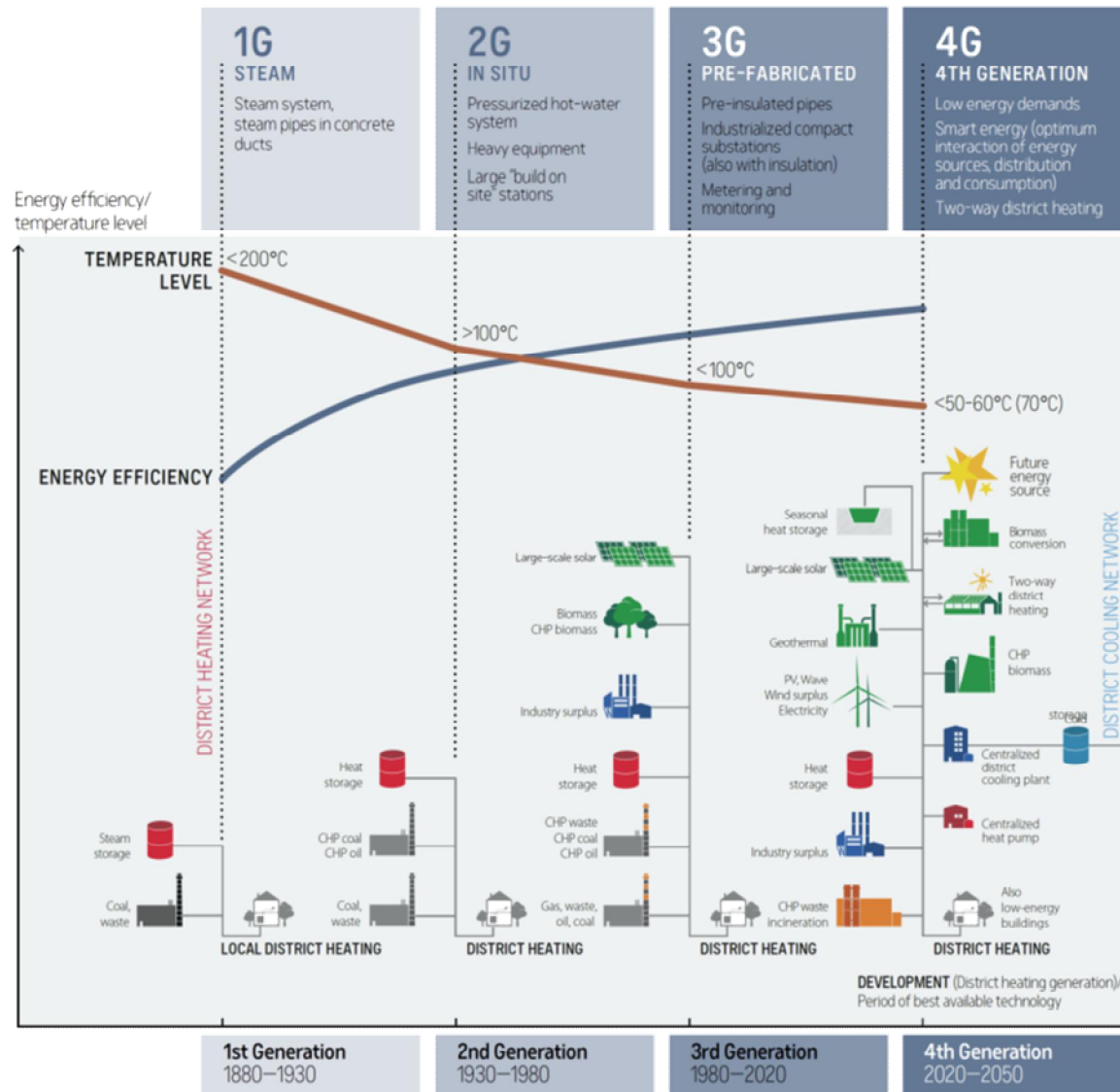
4 principal starting points

### 3: Best combination of solutions



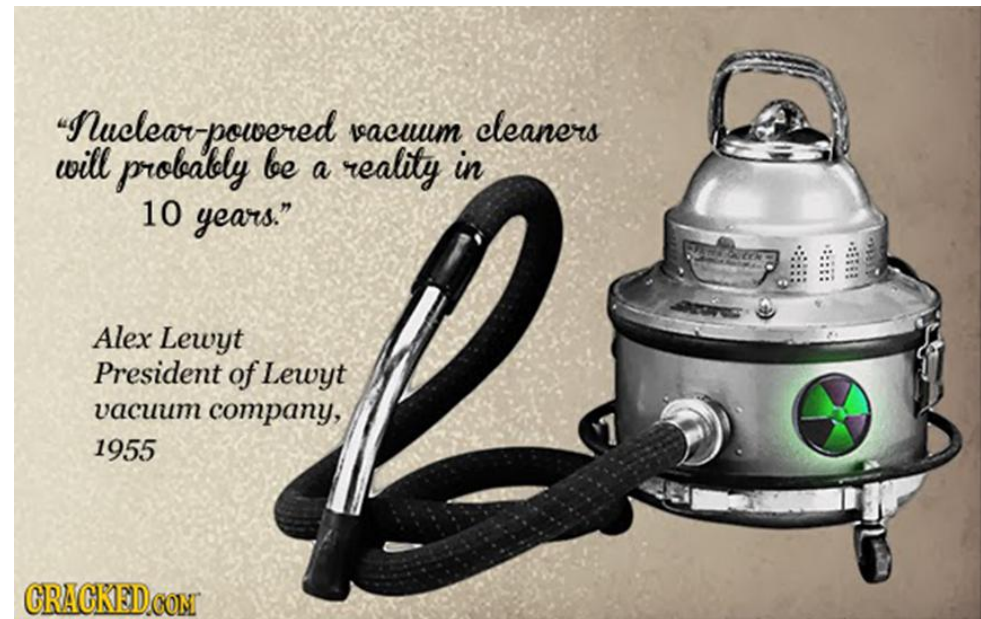
4 principal starting points

# 4: Smart grid



4 principal starting points

# Back to the beginning...



History of DHC in and around Rotterdam

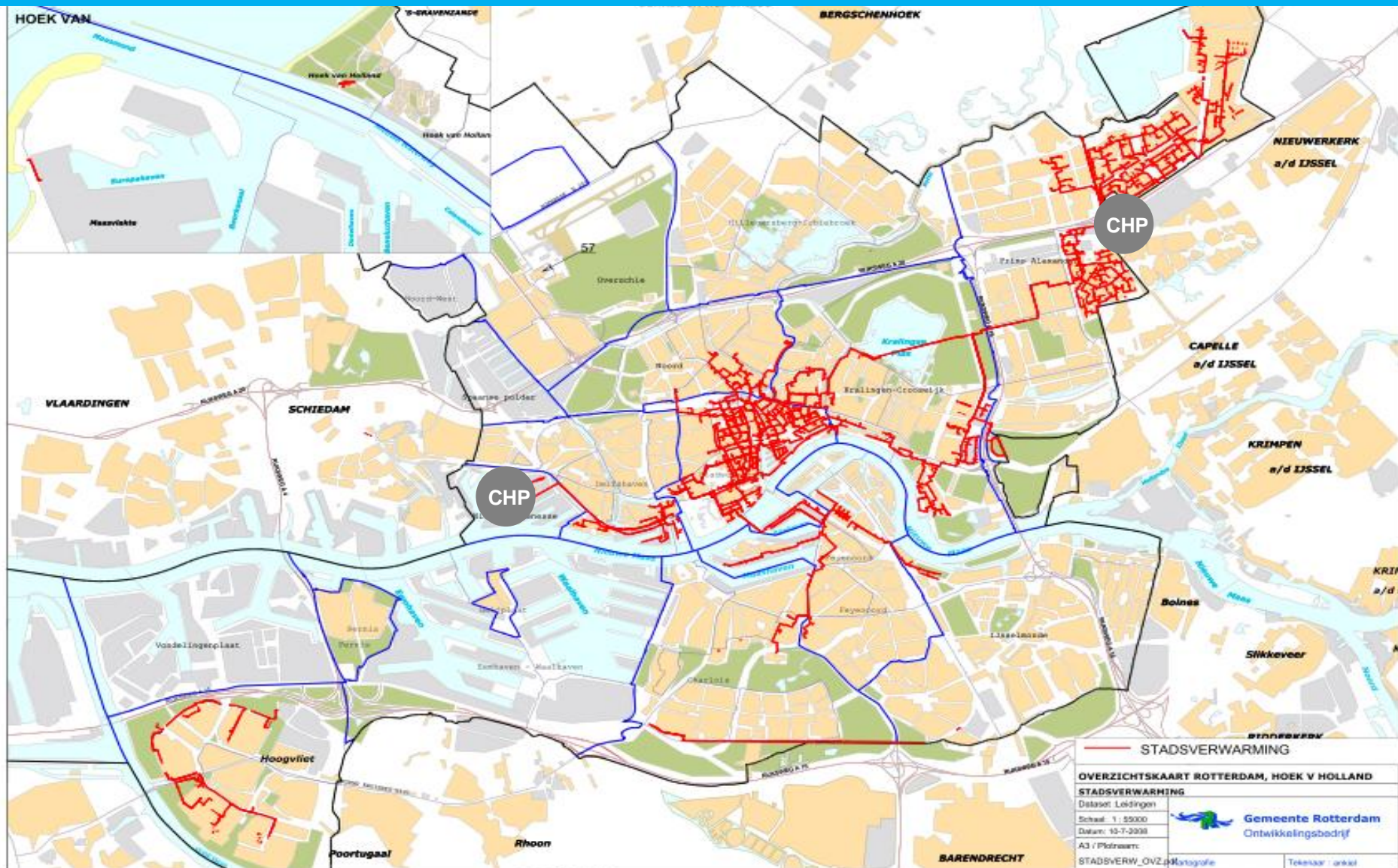


# First District Heating - 1948



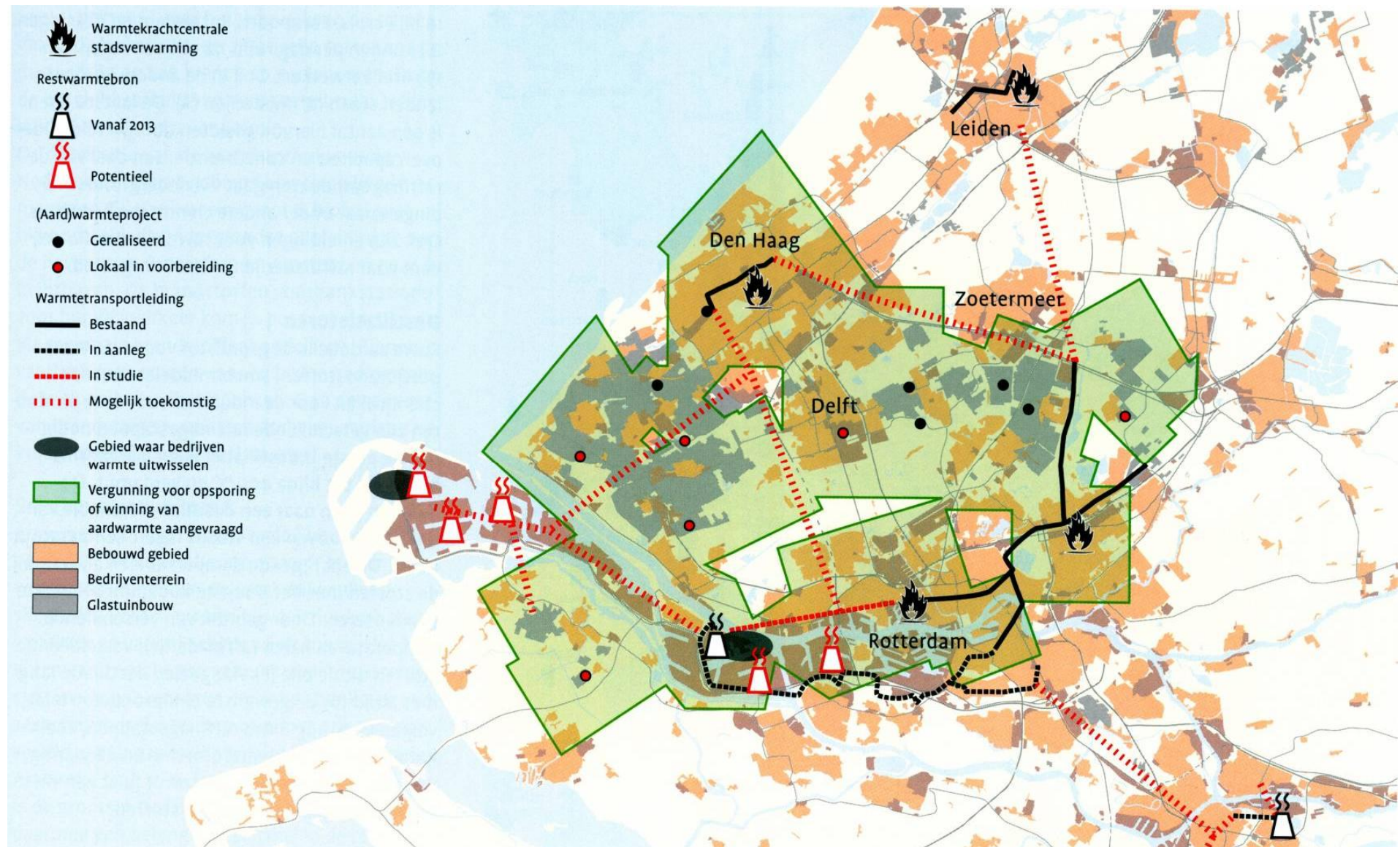
History of DHC in and around Rotterdam

# District Heating - 2010



History of DHC in and around Rotterdam

# Opportunities & ambitions

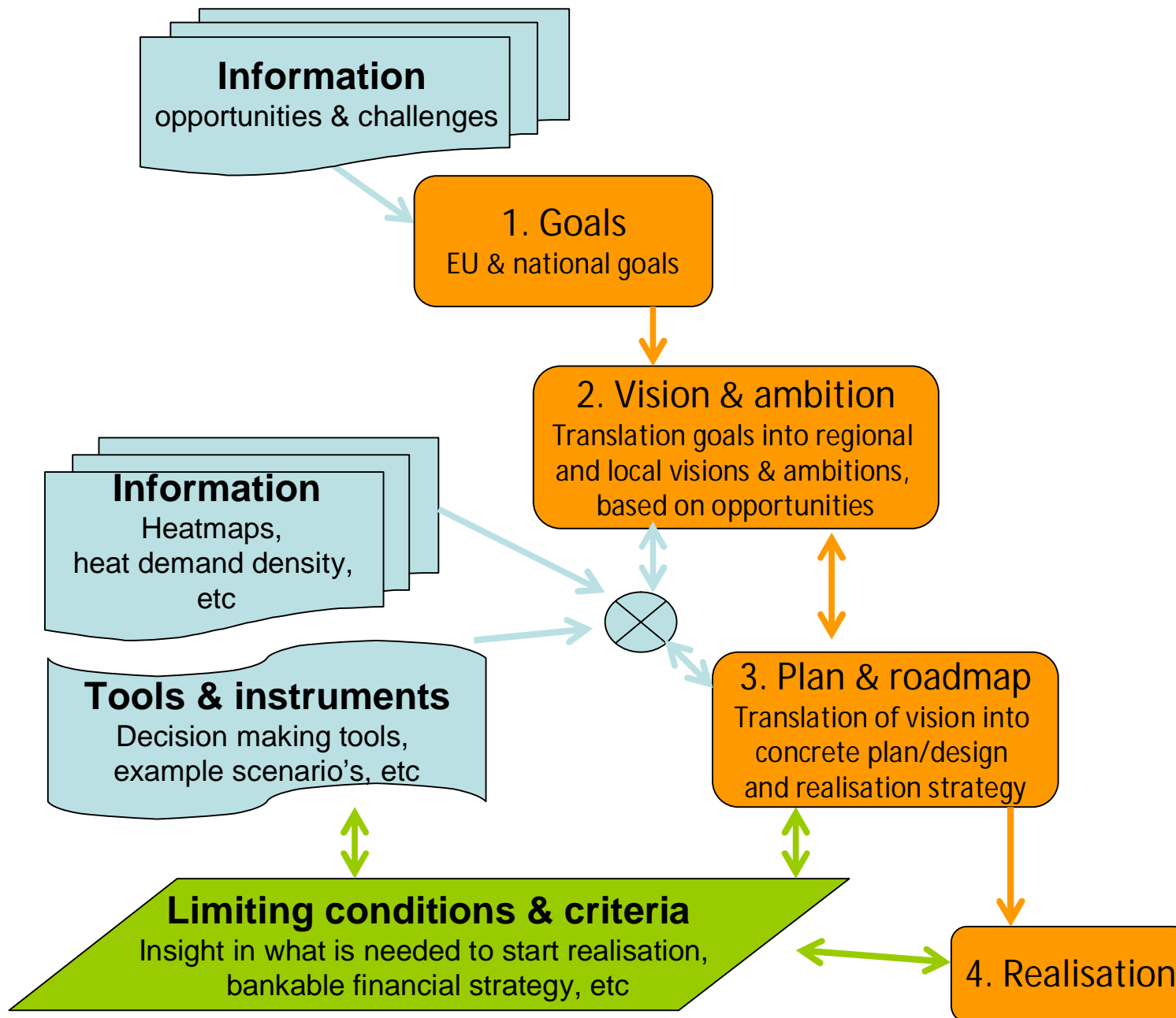


History of DHC in and around Rotterdam

# Current situation

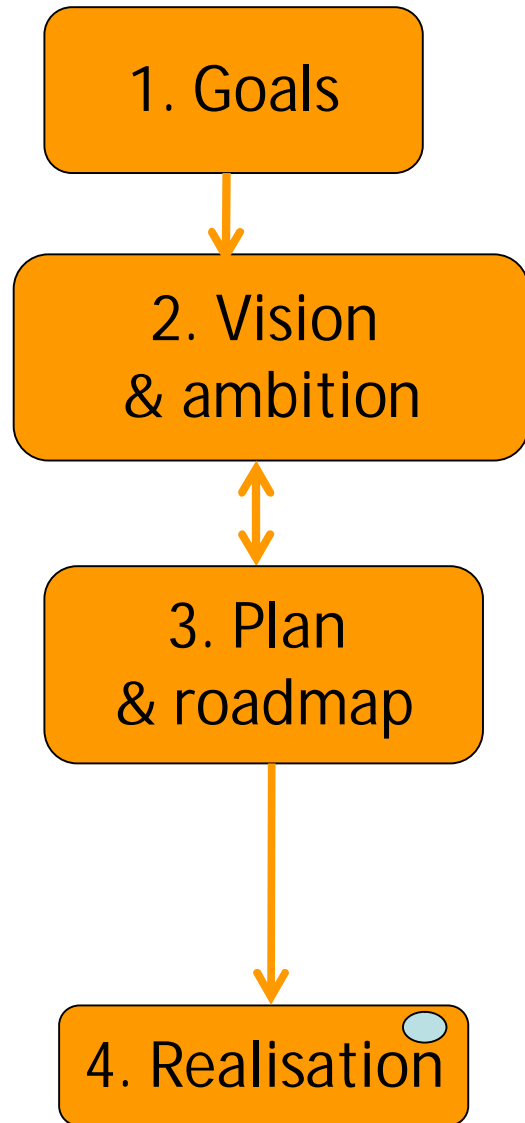


History of DHC in and around Rotterdam



Next steps

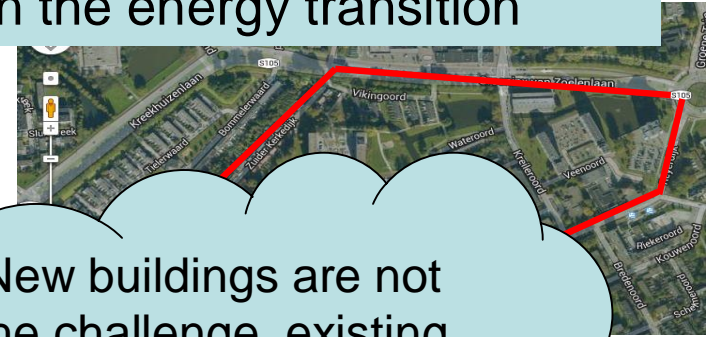
# Local approach



## Sustainability

### Pilot projects

- Bottom up
- Combination of projects and goals
- Insight in the social drivers and barriers in the energy transition



New buildings are not the challenge, existing buildings are...

- R  
Pla
- Top
  - Insight in regist.
  - governmental and financial barriers and opportunities.

# Rotterdam Energy Infrastructure Plan

- A map of the Energy Infrastructure, needed to facilitate the energy transition
  - What energy solutions are effective & efficient in which area's, and what kind of infrastructure is needed for these solutions?
- A workable realistic roadmap
  - Insight in which steps should be taken, by whom, when and what criteria should be met
  - Insight in different approaches / scenarios and their set of (limiting) conditions and criteria

# Regional approach

1. Goals

2. Vision  
& ambition

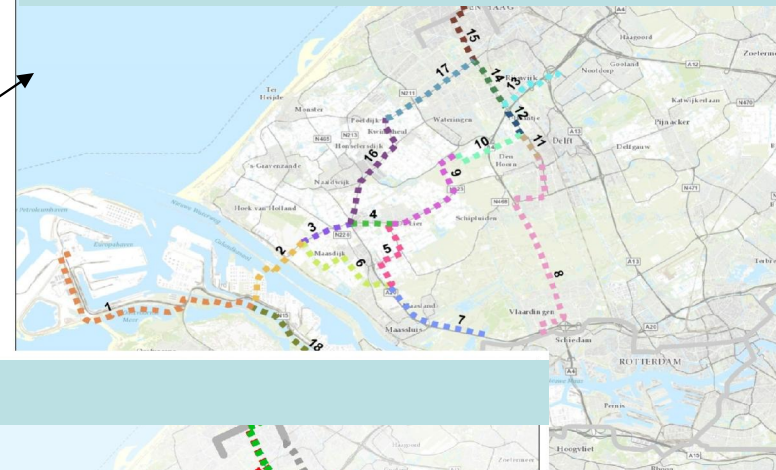
3. Plan  
& roadmap

4. Realisation

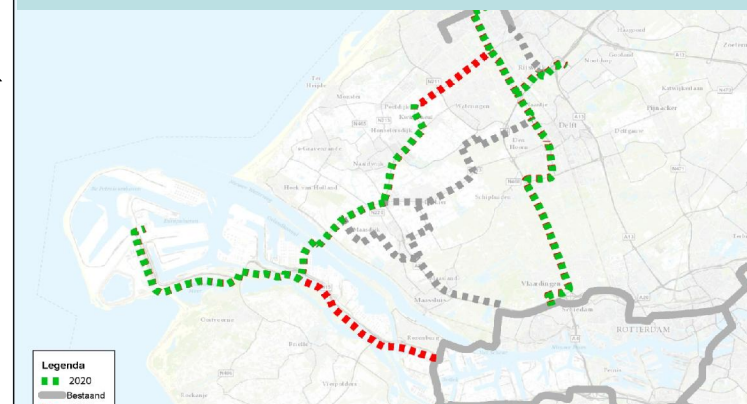
## Heat Roundabout



## Design Cluster West: possible trajectories western part heat roundabout



## Planning



Next steps



# International approach: CELSIUS

## Approach

- District heating and cooling (dhc) are tools for reaching energy efficiency targets
- Transfer knowledge and experience
- Replicability of dhc concepts
- Roll-out of smart dhc by presenting 'best practice'

## Results (so far)

Instruments:  
CELSIUS toolbox (technical and social)

Early adopters:  
7 replication cities

## Collaboration

5 partner cities & 20 partners:

- Gothenburg
- London
- Genoa
- Cologne
- Rotterdam
- Universities
- Knowledge institutes
- Energy companies

## Goals

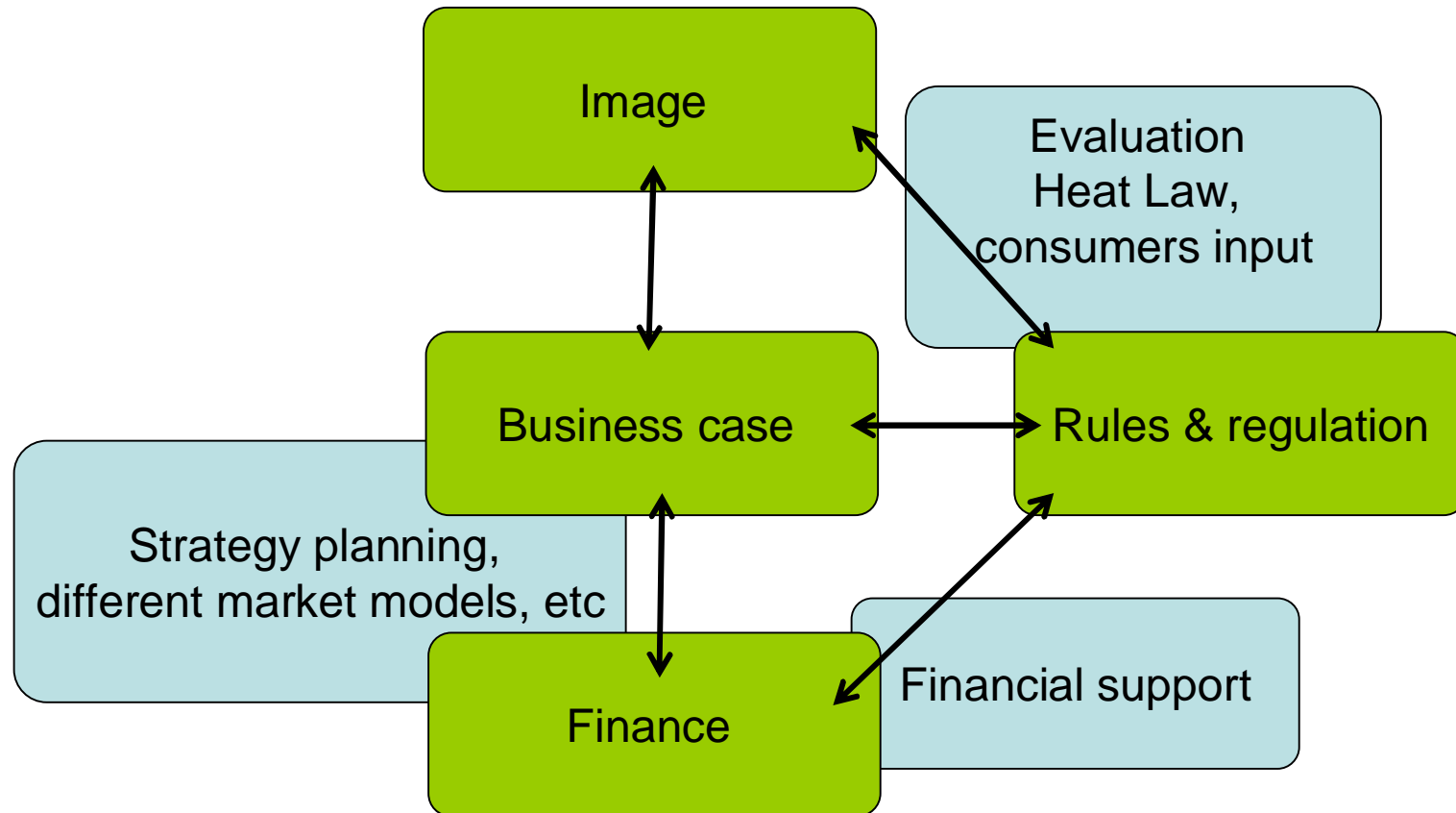
10 new demonstrators  
20 existing demonstrators  
50 Celsius Cities



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 314441.



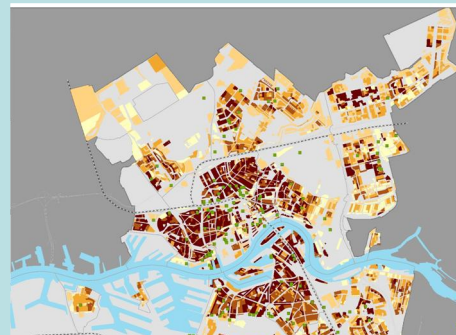
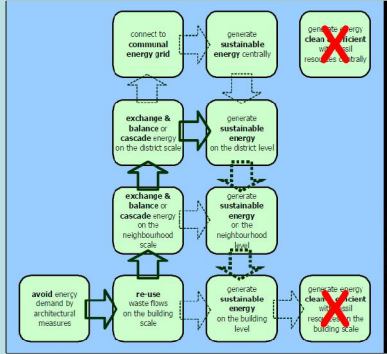
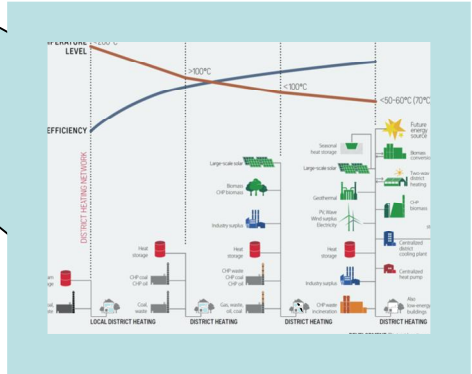
# Challenges & solutions



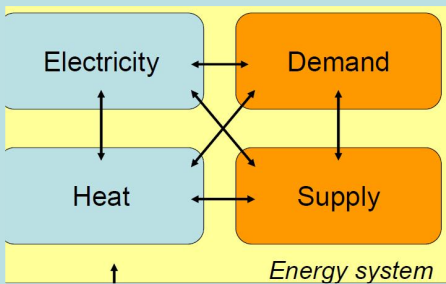
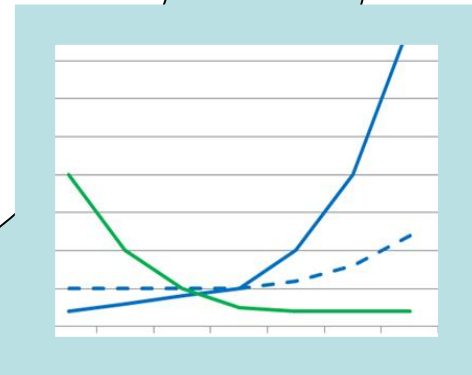
Next steps

# national policy change & city-level action

National policy change



City level action



Next steps

# Questions?

