

A woman with dark hair, wearing a light blue shirt and a black backpack, is standing on a modern cable-stayed bridge. She is holding a smartphone up to take a photo. A bicycle is parked next to her. In the background, there is a large body of water and a city skyline with several tall buildings under a clear blue sky.

ENERGY TRANSITION AN OPPORTUNITY

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City of Rotterdam

**ROTTERDAM.
MAKE IT
HAPPEN.**



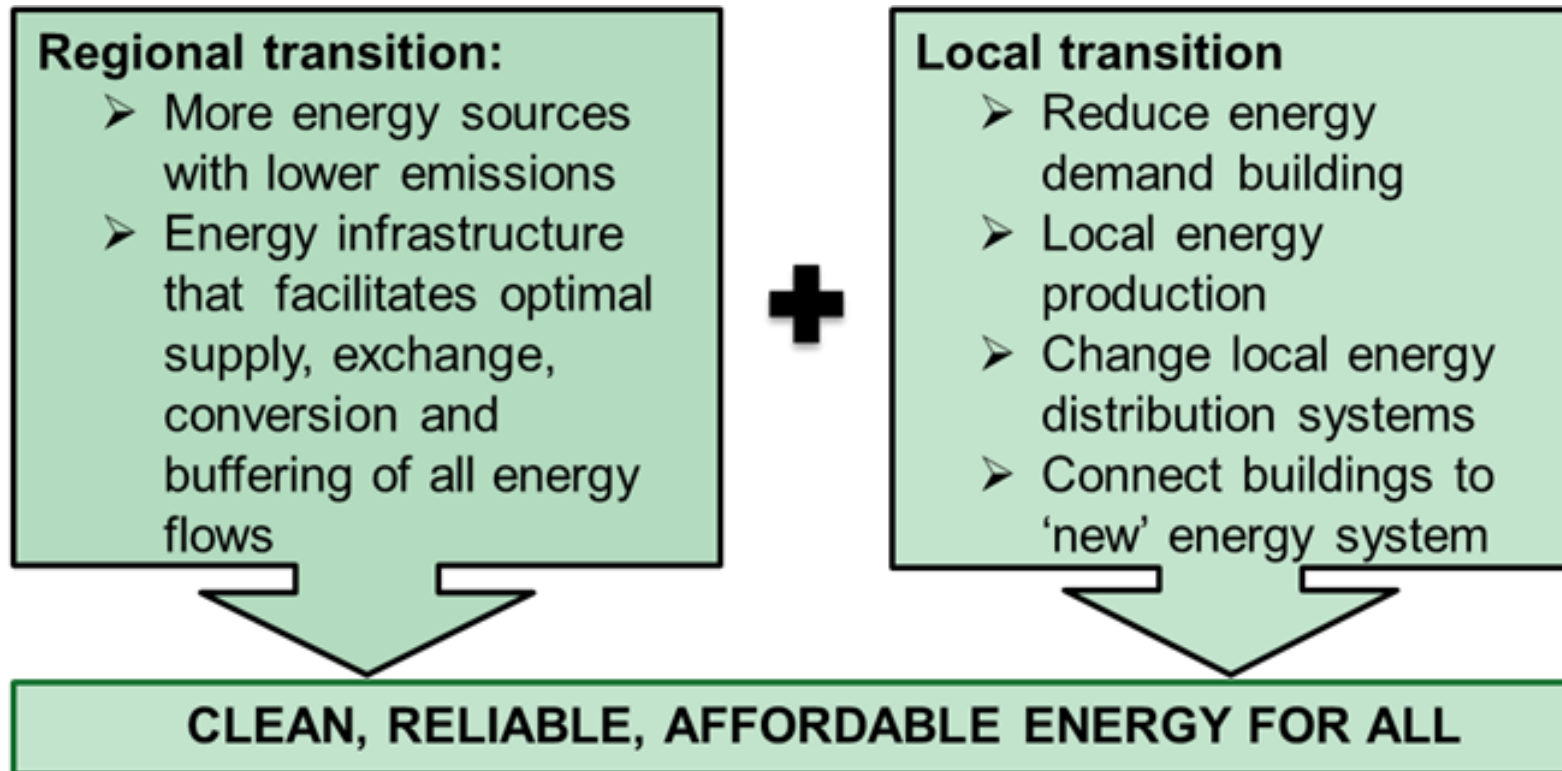
Gemeente Rotterdam

GOAL & OPPORTUNITY'S

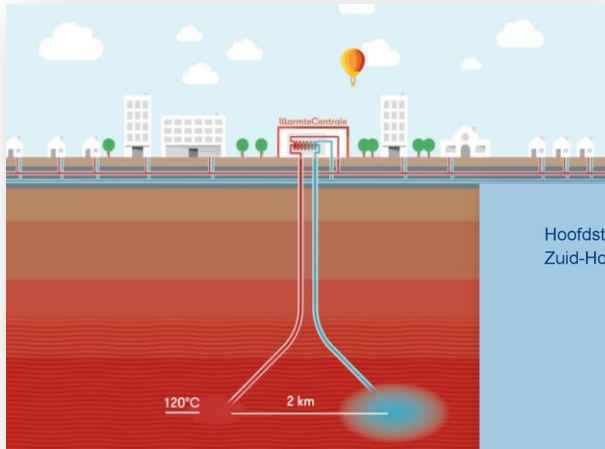
Clean, safe, reliable and affordable energy supply for everyone in 2050



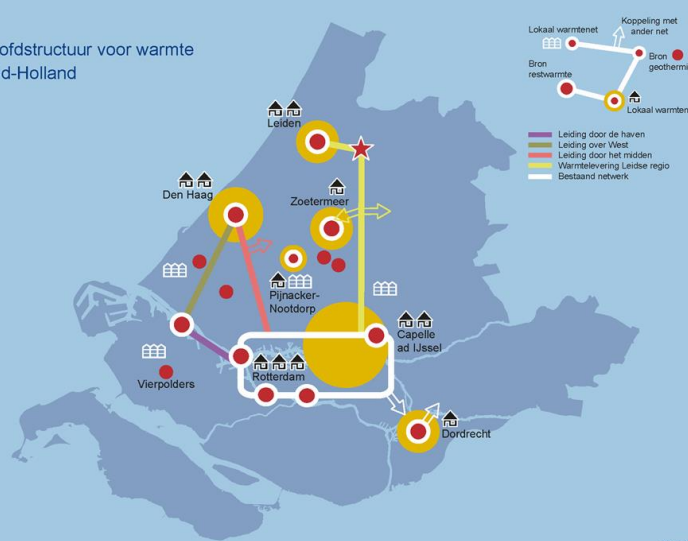
TWO LEVEL APPROACH



REGIONAL SUPPLY - DEMAND

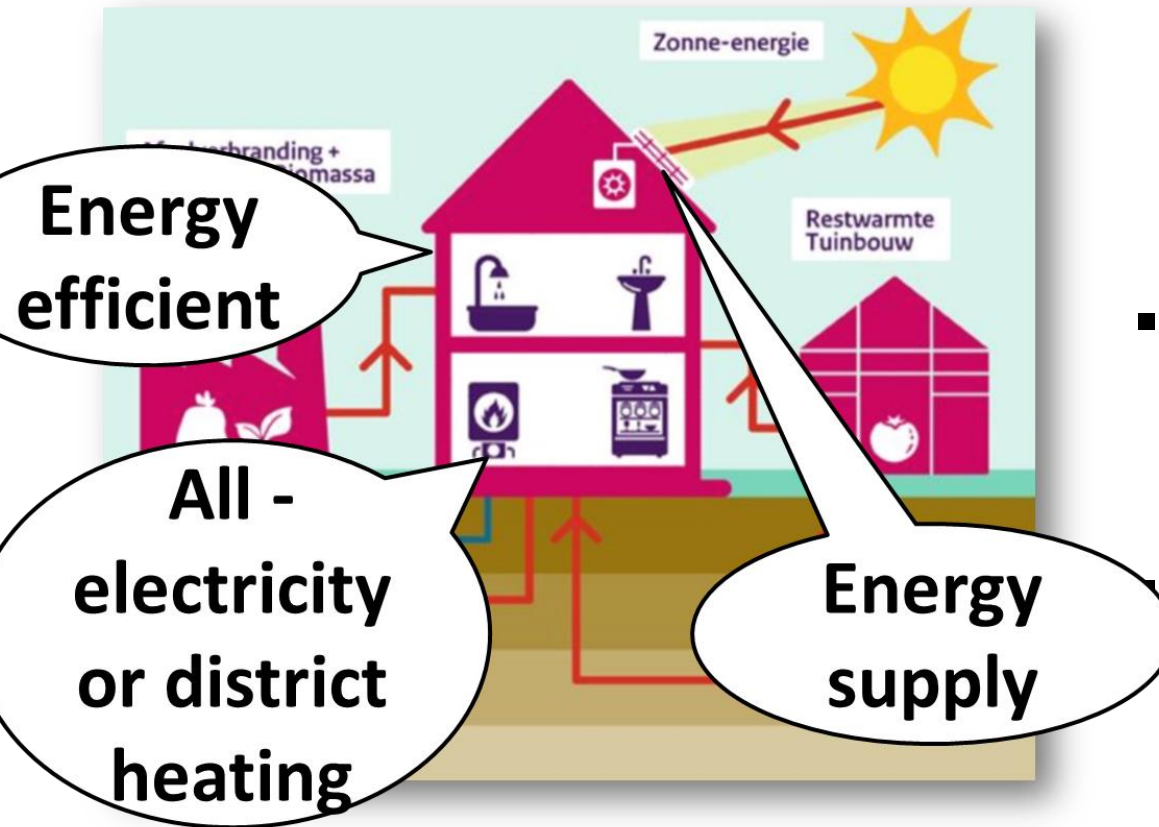


Hoofdstructuur voor warmte
Zuid-Holland



ROTTERDAM.
MAKE IT
HAPPEN.

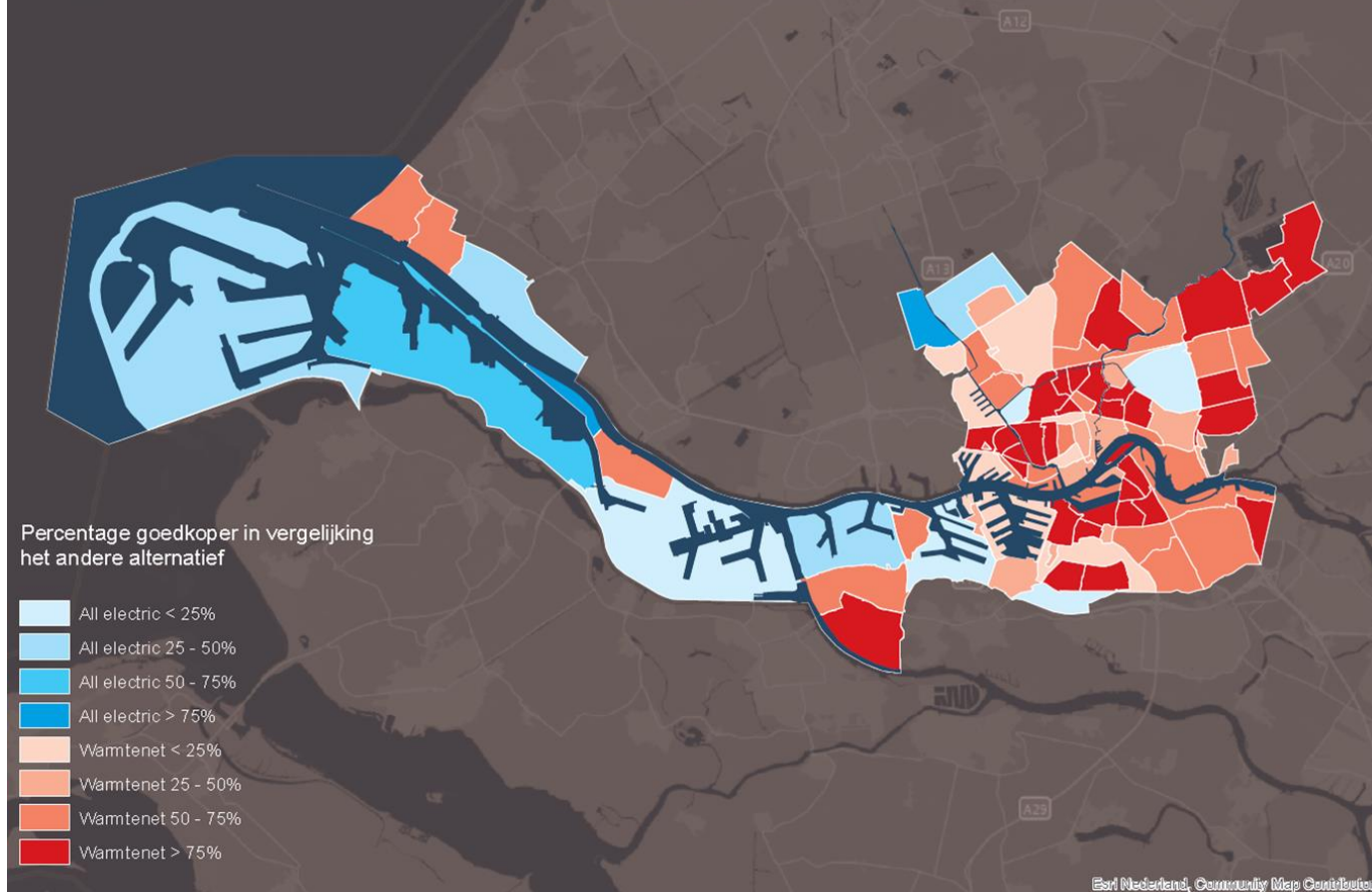
LOCAL TRANSITION



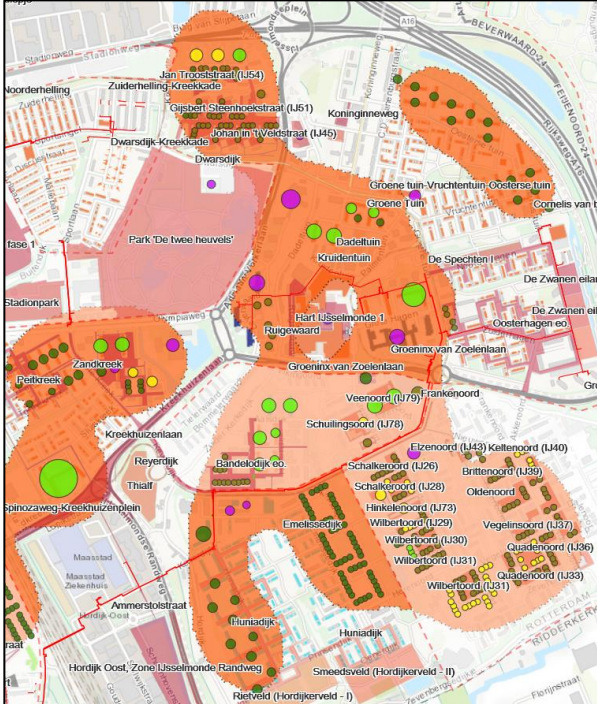
- **WHAT** – what combination of measures is where economically most optimal?
- **WHEN** – when is the most optimal moment in time to start the transformation?
- **HOW** – how can we optimise the transformation and cash in on opportunities?

WHAT: LOW COST SOLUTIONS

Het goedkoopste alternatief voor aardgas op buurtniveau voor bestaande bouw



WHEN: SELECTION CRITERIA



- High density of heat demand, potency islands

Technique



- Gas replacement / renovation

Investments natural gas



- Maintenance sewerage system
- Renovation public space

Investments underground and public space



- Renovation social housing

Investment social housing



- Difference between all electric solution and district heating

Economic robustness



- Social projects
- New developments

others

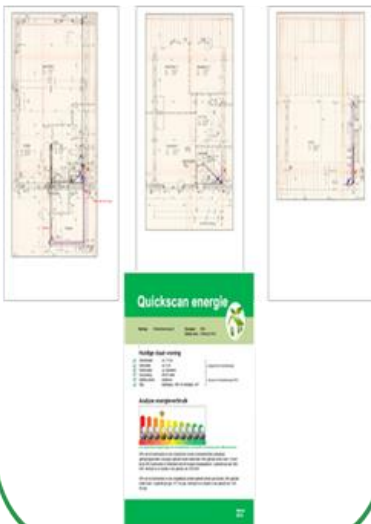


HOW: DISTRICT ORIENTED AGREEMENT



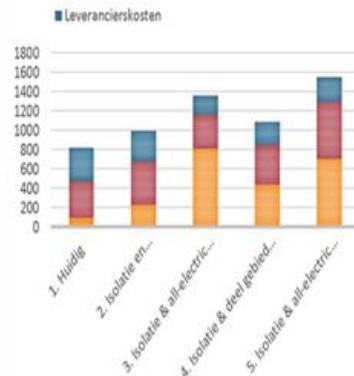
Technique

What is possible? And needed?



Financial

What are the total costs of the scenarios?



Social

What do people think?
What do people want?

Changing Citizen Behaviors
Education • Marketing • Law

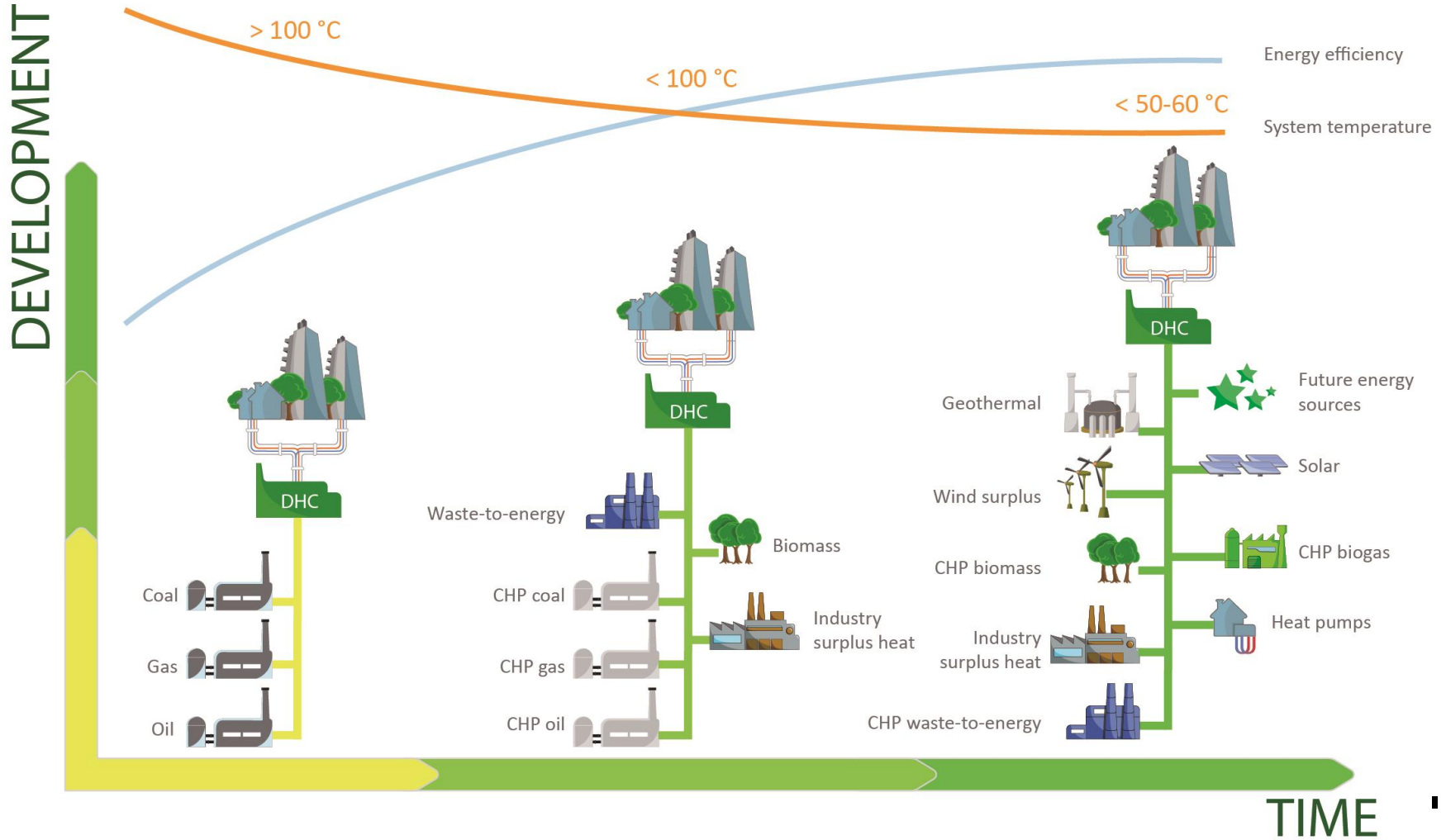


Opportunity

How to make transition easier and add value?

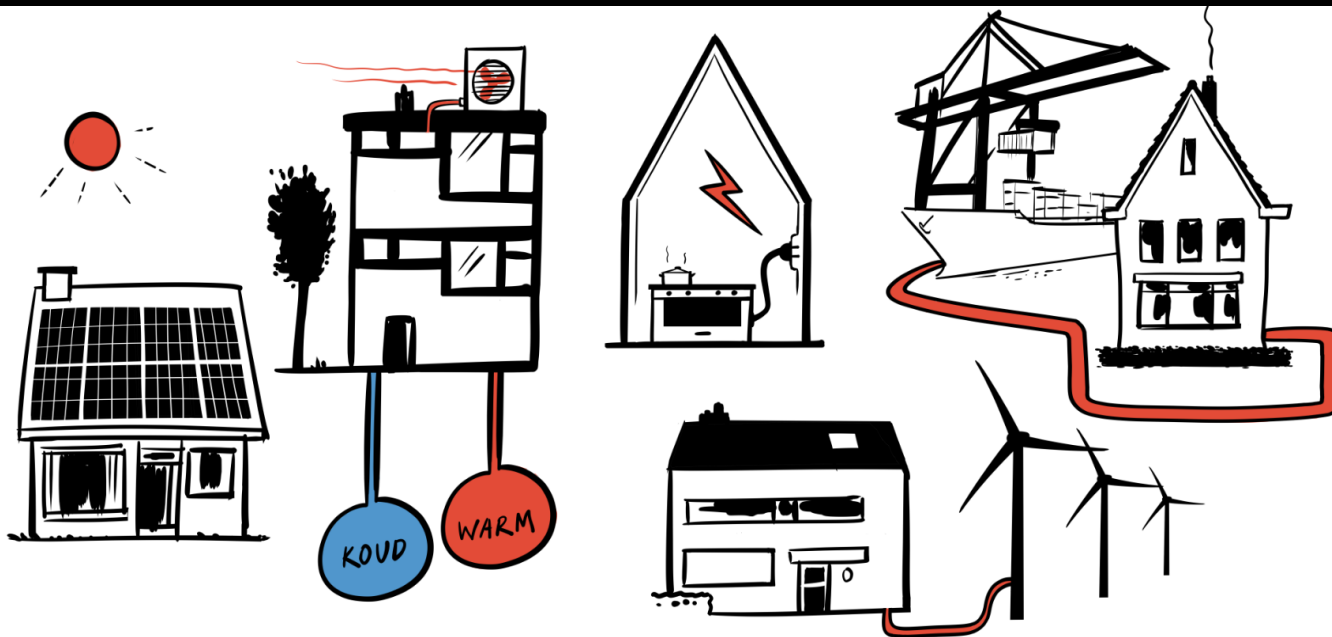


OPTIMALISATION



PRECONDITIONS

- Energy system has to transform to low emission sources
- Everybody participates and are willing to:
 - distribute all cost & benefits
 - cash in on opportunities
- Willingness to rethink and change governance and financing of (new) energy system



MAKE IT HAPPEN.

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