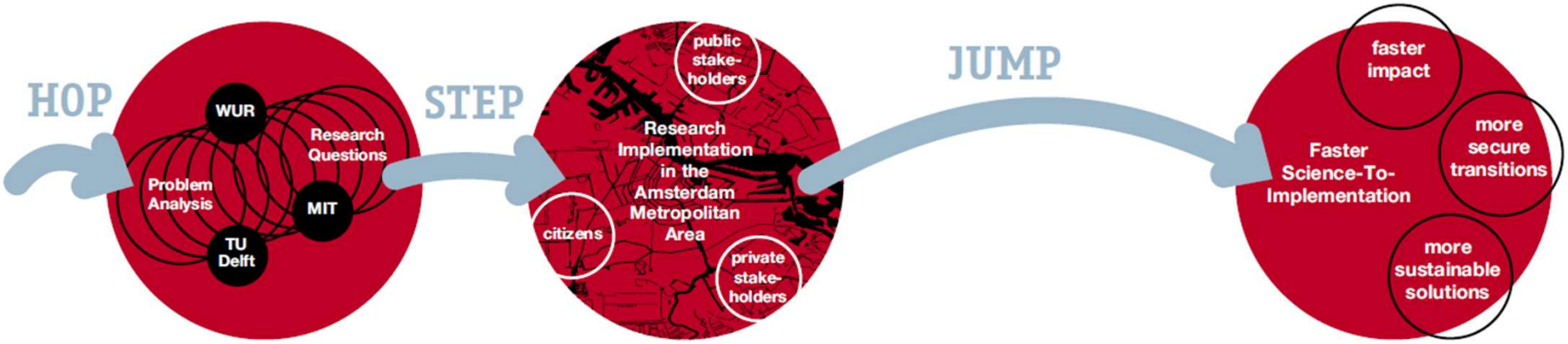
Planning the heat transition of Amsterdam historic city centre

Starwarm
20.06.2024

Image source: Google Earth (2024)



TU Delft · WAGENINGEN UNIVERSITY & RESEARCH · Gemeente Amsterdam

Working on metropolitan challenges

Smart Urban Mobility

Ensuring an accessible and liveable city by developing smart and sustainable and seamless mobility solutions that can be integrated into the urban fabric.

Urban Energy

Accelerating the urban energy transition, by combining integrated innovations in energy systems with urban (re-)development.

Circularity in Urban Regions

Redesigning resource flows that drive urban activities, whilst establishing integral sustainable urban ecosystems, supported by a new, resilient economic model.

Metropolitan Food Systems

Designing inspiring scenarios to make food systems more sustainable and future-proof, by focusing on core elements such as: economic development, health, mobility and regional attractiveness.

Responsible Urban Digitization

Mobilize new analytical tools to better use urban (big) data and improve city life, while strengthening and safeguarding the democratic values of citizens and society.

Climate Resilient Cities

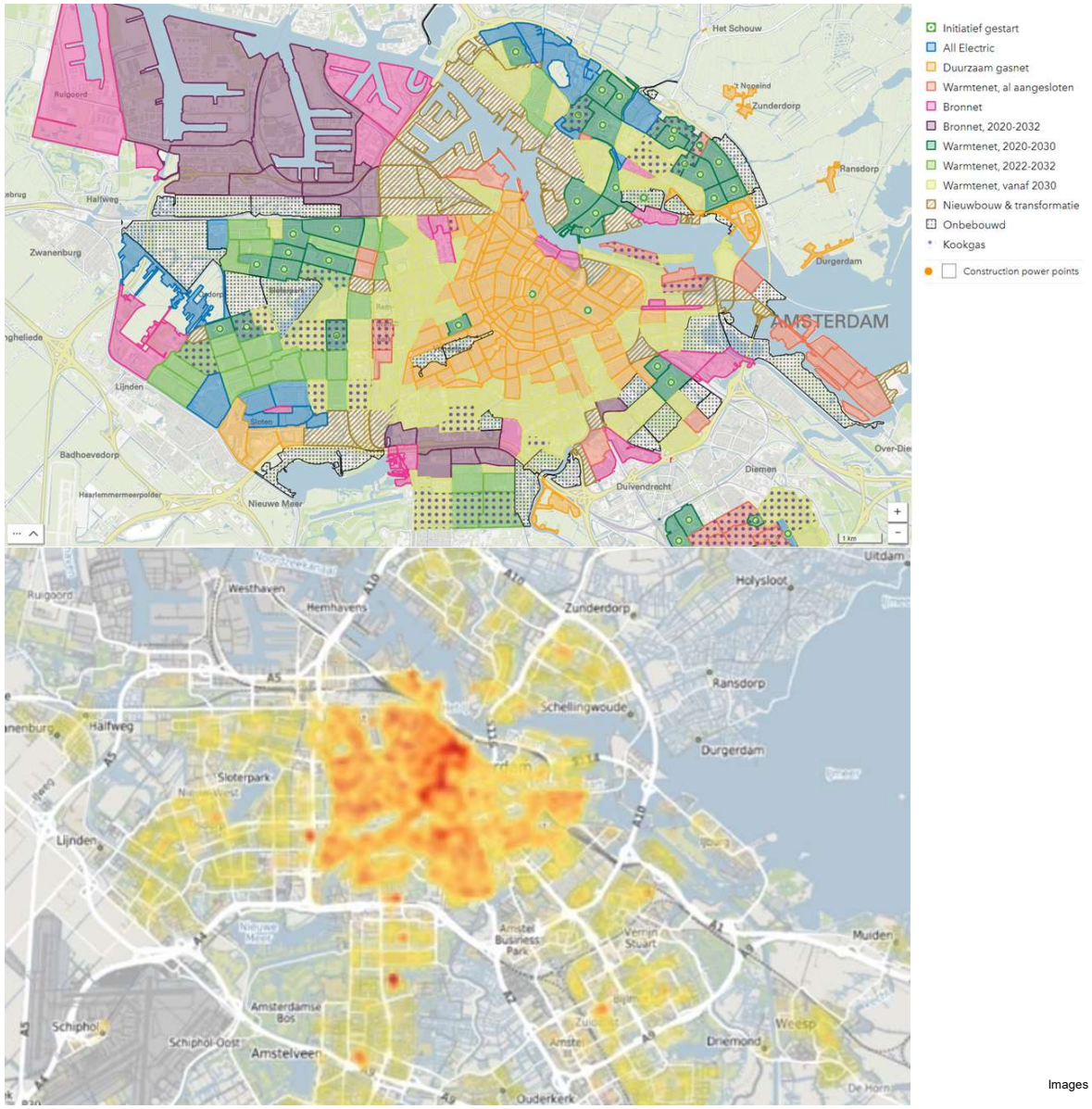
Building preparedness and resilience by reducing cities' weaknesses and the impact of climate change: environmental, health related and societal.

Amsterdam ambities

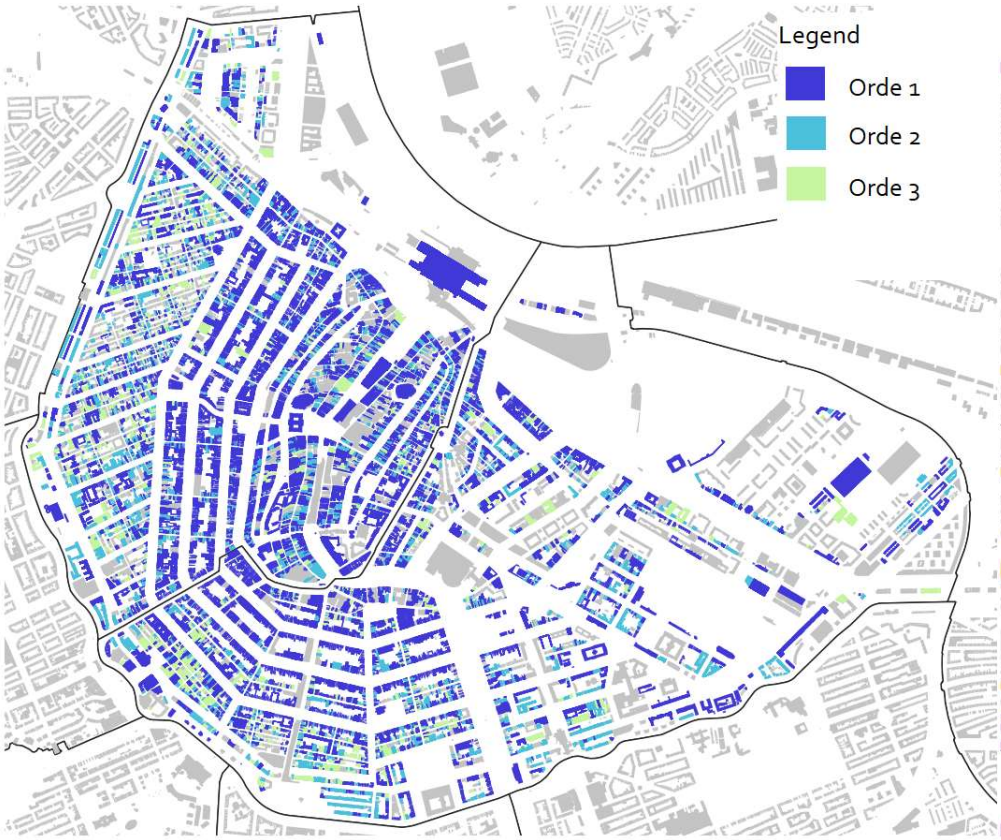
In 2040 > aardgasvrij

In 2050 > energie neutraal*

*per saldo gebruikt het pand in 1 jaar evenveel energie als dat het opwekt.



Images sources: (Gemeente Amsterdam, 2020), (Dobbelsteen et al., 2008)



Architectural heritage

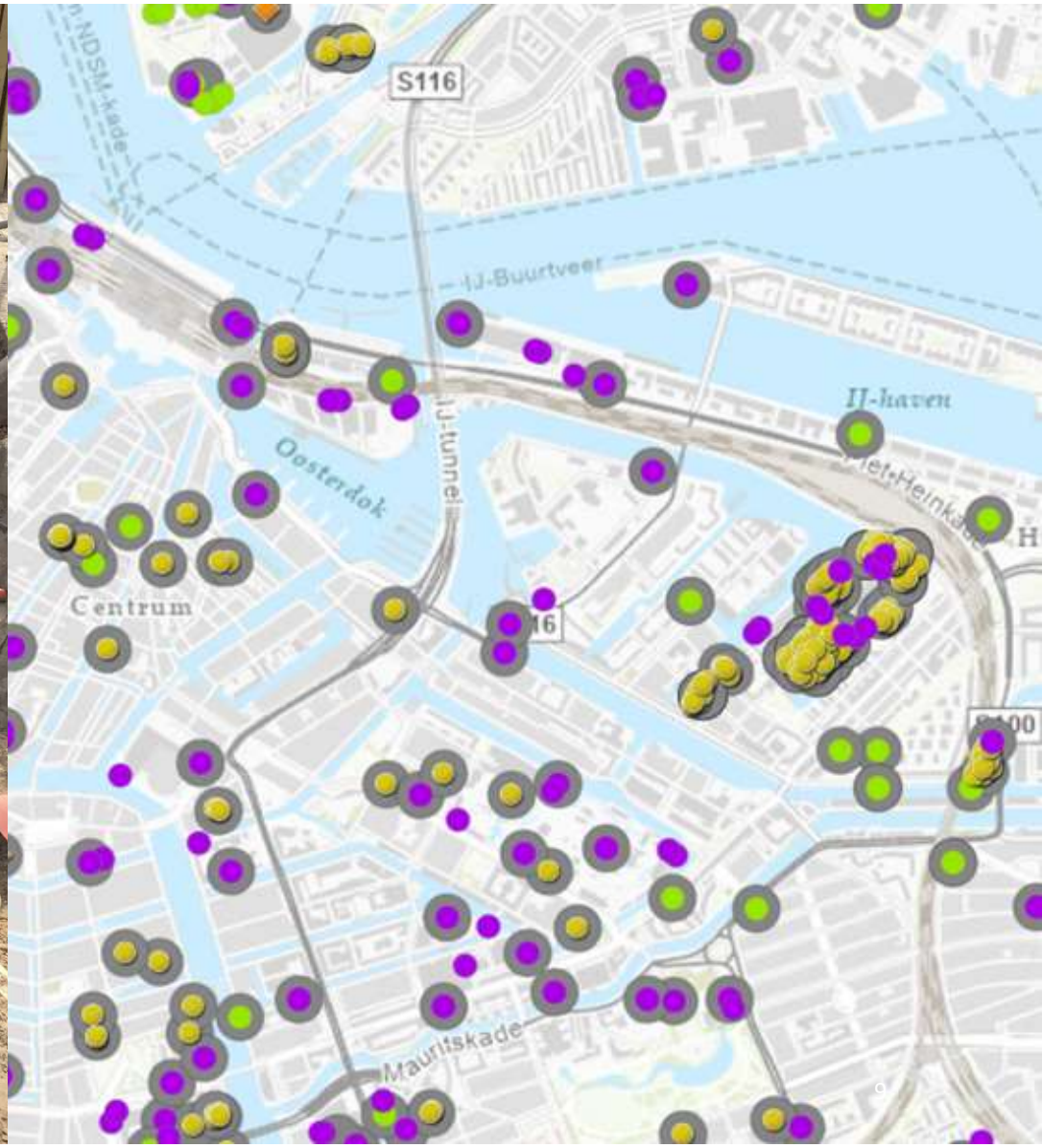
Images sources: Own work based on maps from Amsterdam.nl (2023)


Building envelope

Heterogeneity

Image source: amsterdamsetaxiservice.nl

Overcrowded



Ageing infrastructure

Image source: Telegraaf

Citizen groups

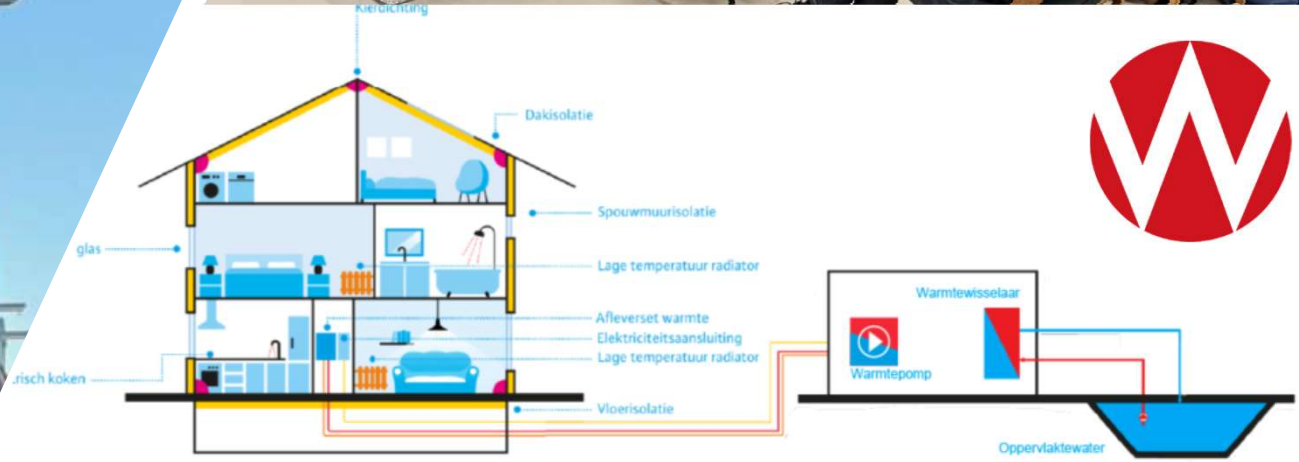


Image sources: https://warmereus.eco/ (2023)

Nieuws

Amsterdam versoepelt regels voor zonnepanelen en isolatie monumenten

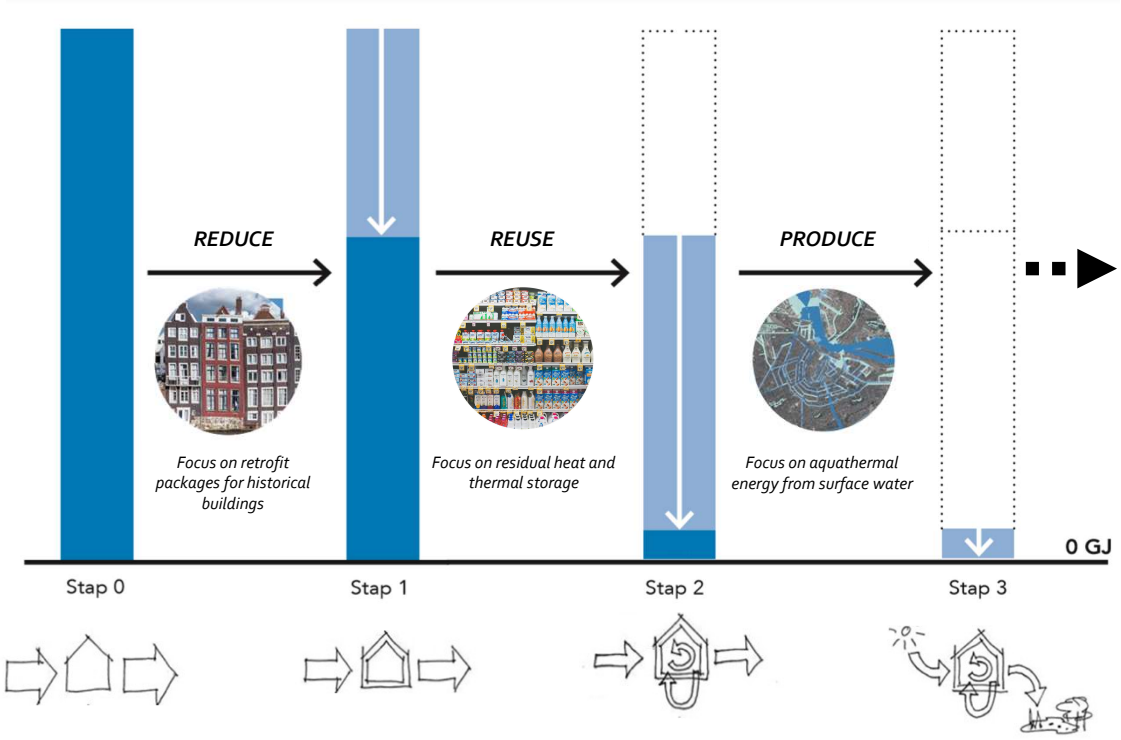
Zonnepanelen en warmtepompen mogen vanaf volgend jaar op monumenten vol in het zicht worden geplaatst. De gemeente Amsterdam versoepelt de regels voor monumenten en het beschermd stadsgezicht.

Bart van Zoelen 13 juni 2024, 16:39

vergunningsvrij, maar niet regelvrij!

→ Op de rode pannendaken in het beschermde stadsgezicht van Tuindorp Oostzaan zijn bijpassende zonnepanelen geplaatst. Beeld Koosje Koolbergen

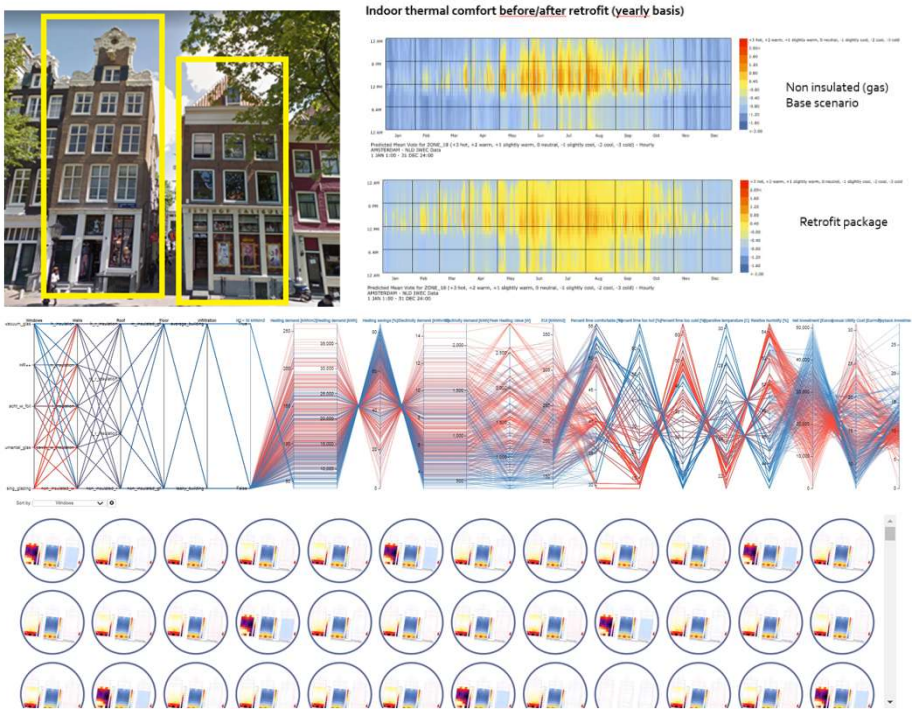
How can the heat transition be shaped (planned, designed, engineered…) for Amsterdam's historic inner city?



Images sources: (LES, 2019), (Dobbelsteen et al., 2008)

question

High-hanging fruit: How can the heat and cold transition be shaped for Amsterdam’s inner city?



Parametric modelling

based on a multi-parametric analysis as a first step towards a standardized method to conducting historic buildings energy retrofits;

Waste heat mapping

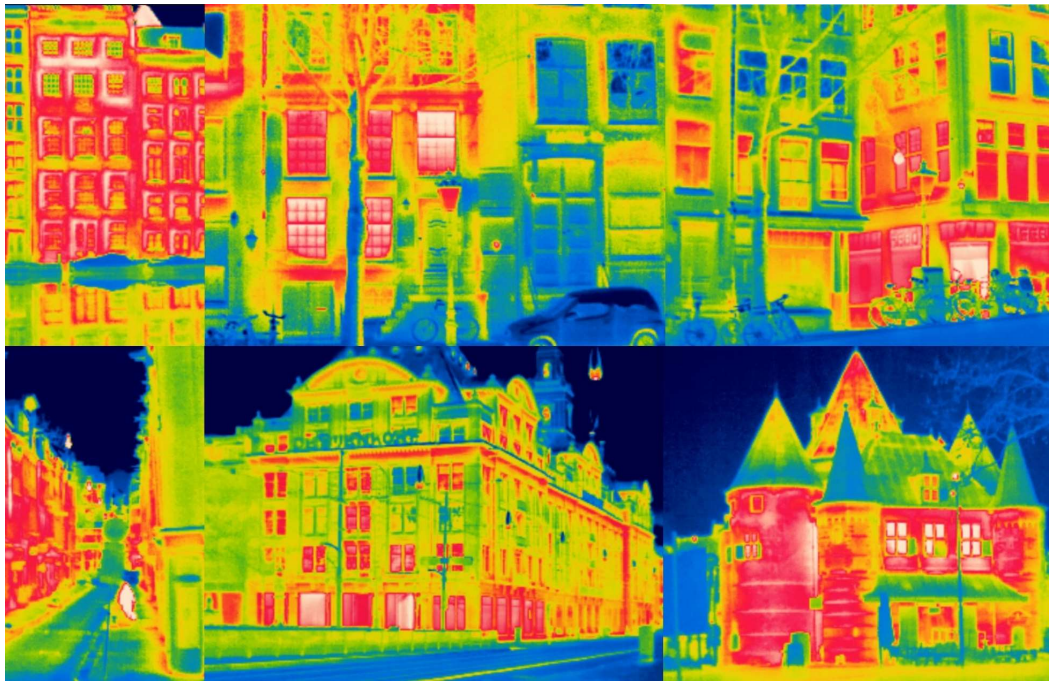
Connecting small-scale solutions for historic buildings to existing opportunities of exchanging heat and cold on a neighbourhood scale;

Citizen involvement

Collecting insights on decision-making in community investment

Energy quay walls

Investigating how canals could help cool off or warm up Amsterdam's built heritage



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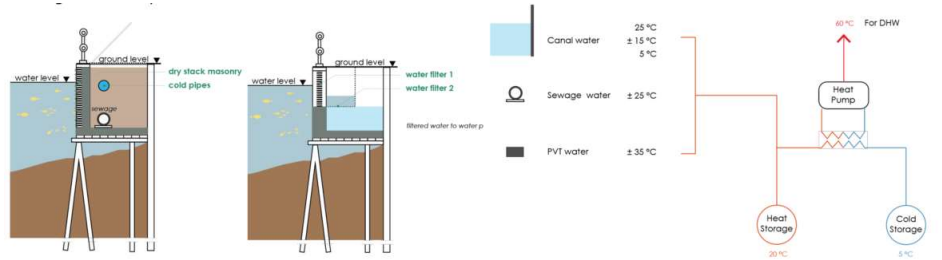

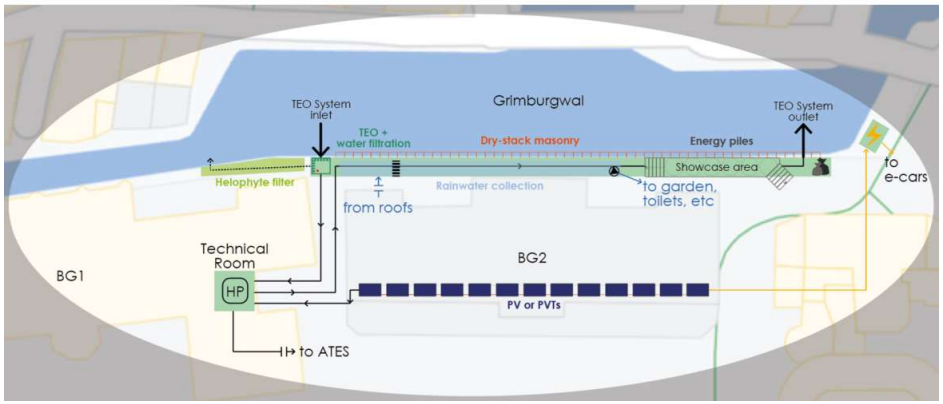

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High-hanging fruit team

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Thank you for your interest!

Questions or suggestions?

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Image source: Buck. N. (2023)