



# Energy system aspects of positive energy districts



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AmsTERdam BiLbao citizen drivEn smaRt cities



atelier  
Positive Energy Districts

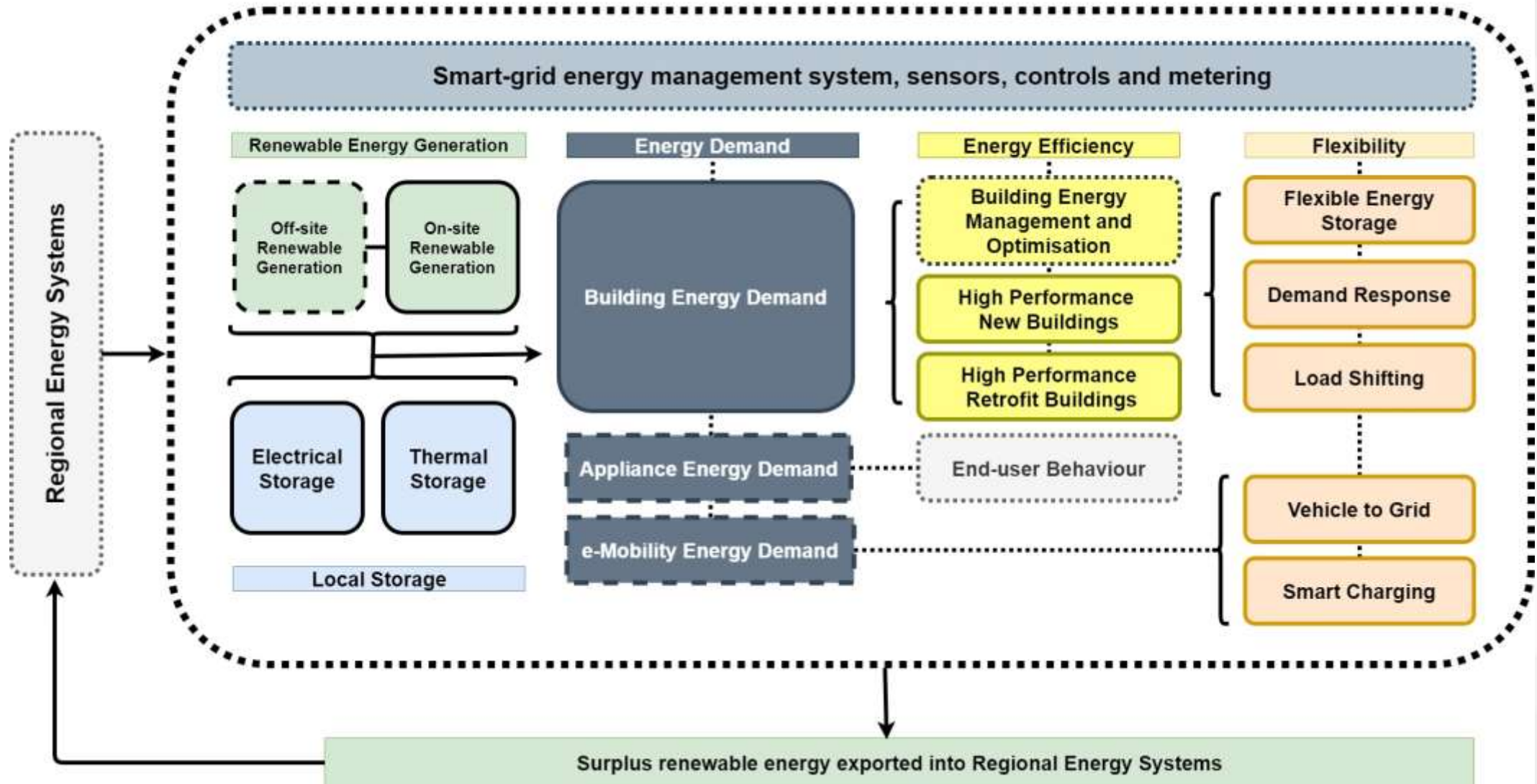


# PEDs are energy systems

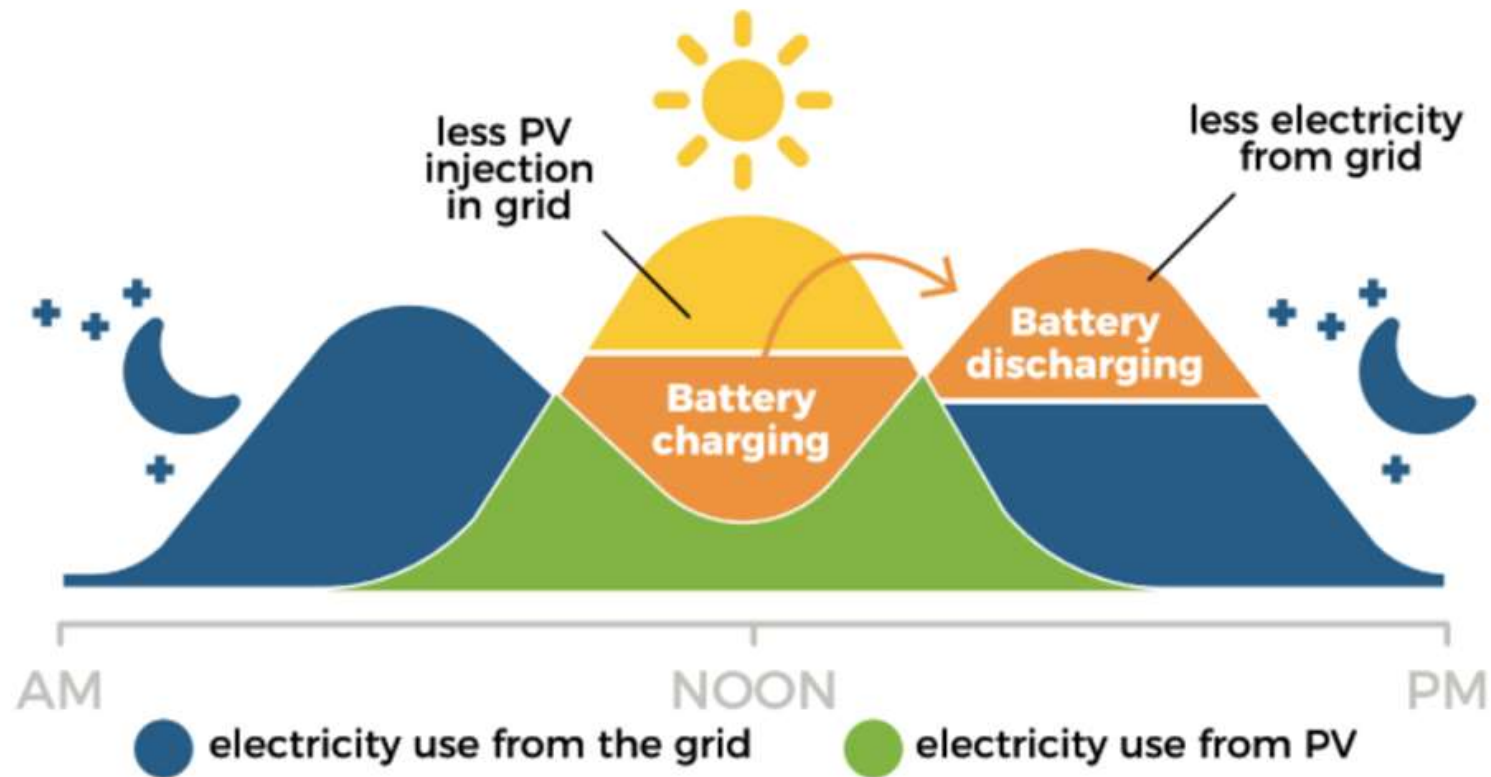
- Target: to be energy positive (and climate neutral)
- GHG emissions from the energy system
- From building energy systems to district systems
- Decentralisation of the energy system
- PED innovation relate to energy technologies (storage)
- Energy citizens use the options that the energy system provides
  
- **Important to understand the energy system**
- **Question: What is (to be) included in the PED energy system?**

# PED Energy System

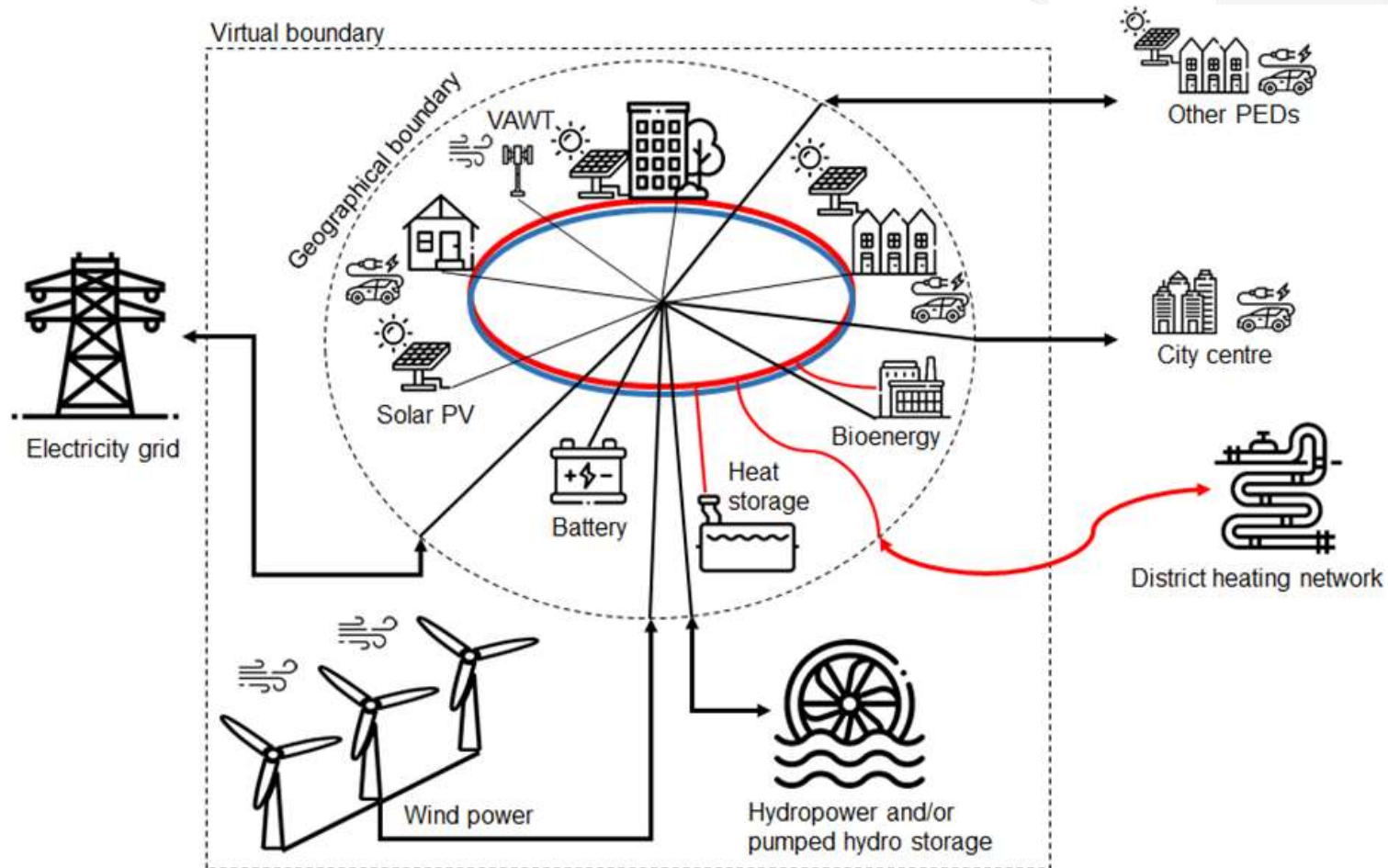
## Positive Energy District Energy System



# Balancing supply and demand



# Geographical and virtual boundaries



# Amsterdam PED

- Positive energy buildings
- PV plant
- Smart mobility
- Smart micro-grids
- Local energy communities
- Sewage energy recovery



# Bilbao PED

Geothermal energy

Positive energy blocks

E-mobility hub

Smart storage,

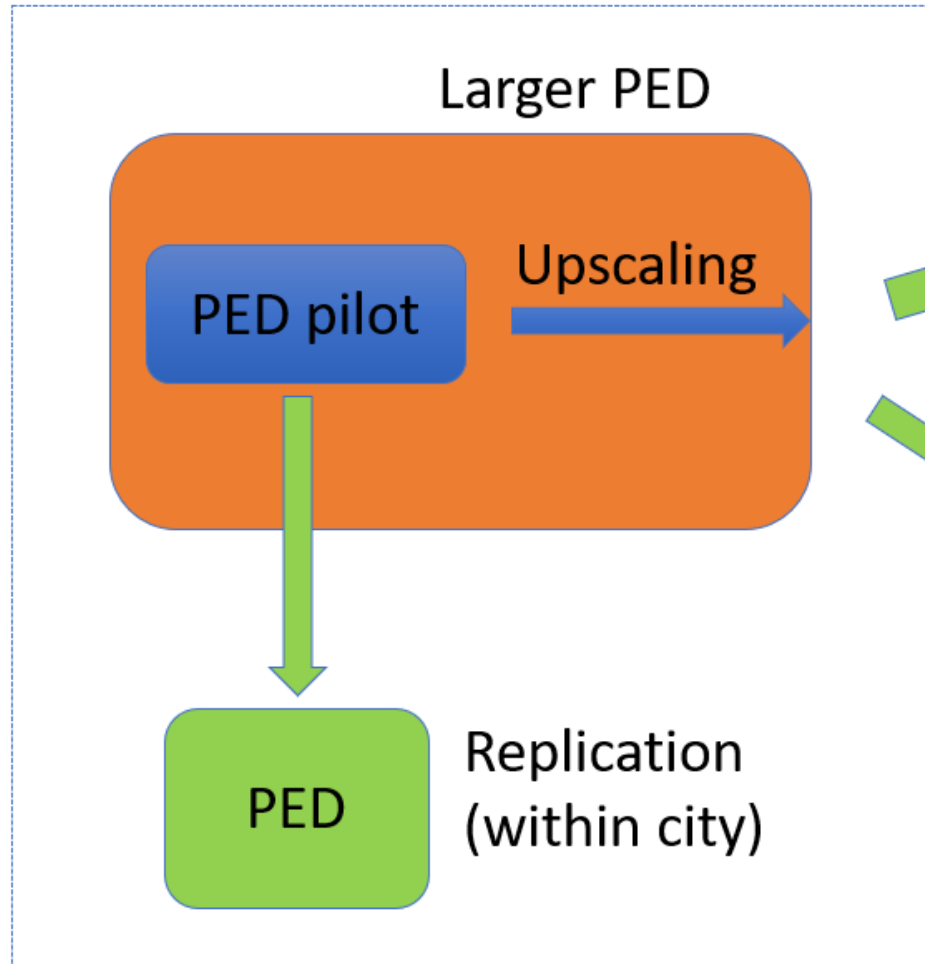
Local renewable energy production

Development of a smart grid and demand/response offers

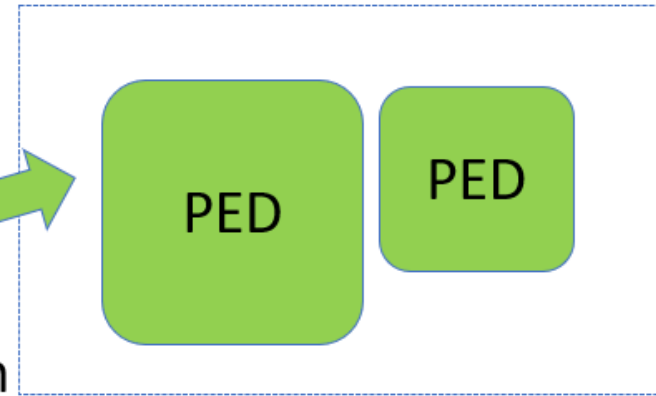


# Upscaling and replication

City A with PED pilot



City B



City C

