

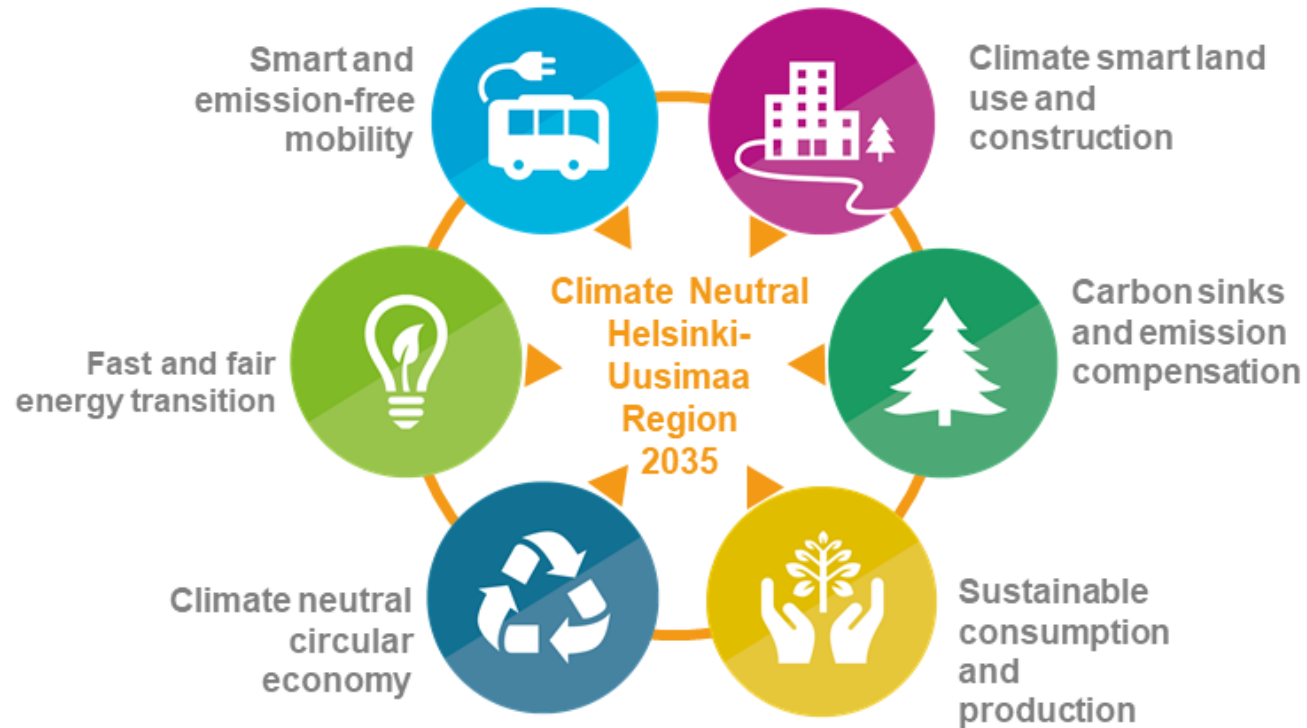
# Energy transition from fossils to renewable in Metropolitan area

The European Week of Regions and Cities side event:  
U!REKA Urban Universities contributing to the sustainable  
and green recovery of cities 03/11/2021

Antti Tohka, Principal Lecturer (sustainability) School of Real Estate and  
Construction, Metropolia UAS, FREE project

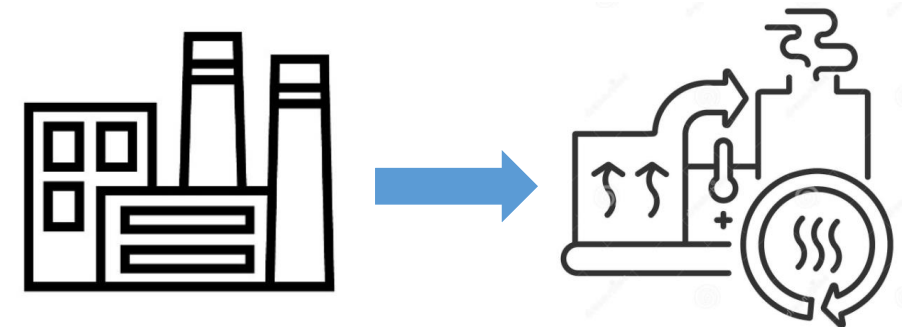


# Some key numbers for Helsinki-Uusimaa region



- 27% of all inhabitants in Finland live in Great Helsinki Metropolitan area and 30% all together in Uusimaa region
- 78% households connected to district heating in Great Helsinki Metropolitan area

Figure source: Helsinki-Uusimaa Regional Council Carbon neutral Helsinki-Uusimaa region 2035 -roadmap (2020)



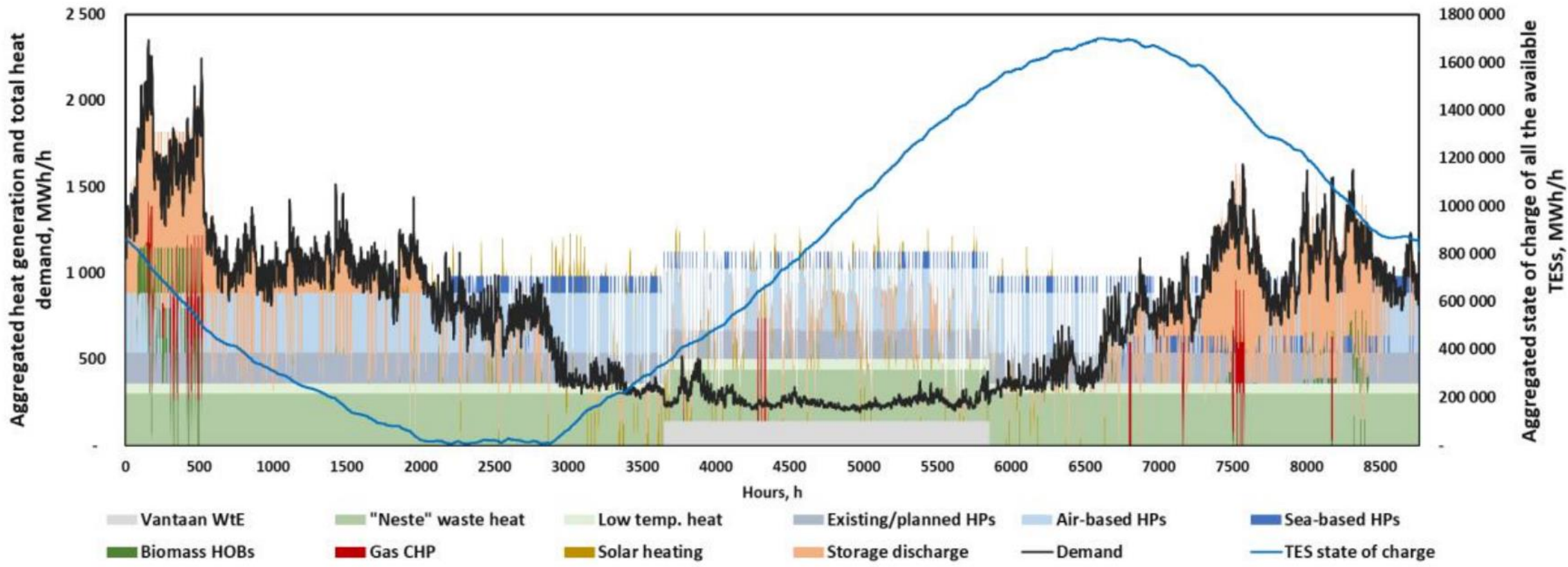
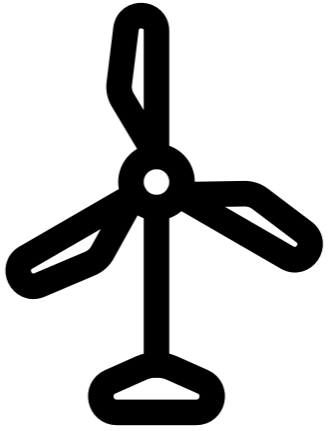


Figure source: Helsinki Energy Challenge- Contribution from team CarbonHelSinki <https://www.hel.fi/static/kanslia/energy-challenge/carbonhelsinki-final-entry-public.pdf>



WIND



COMMUNITY  
CO-  
OPERATION



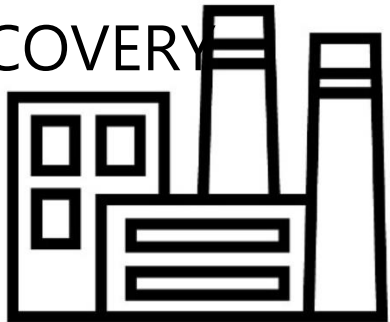
DIGITAL SOLUTIONS



SOLAR



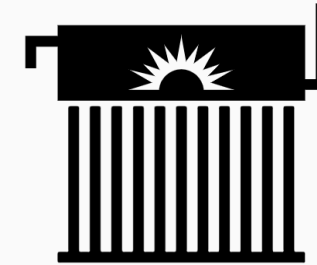
WASTE HEAT  
RECOVERY



POWER PLANTS



INNOVATIVE  
SOLUTIONS



THERMAL HEAT  
STORAGES



HEAT PUMPS



# University campus as a living lab "Energy Hub for Green Transition"

## FOCAL POINT FOR GREEN TRANSITION

Attached Houses Student Apartments Block houses House of Residents Old-Age Center Shopping Centers Metro Station



MYLLYPURO NEIGHBORHOOD - AUTHENTIC ENVIRONMENT LINKED TO MYLLYPURO CAMPUS



FOR  
STUDENTS  
CLIENTS  
COMPANIES  
NETWORKS



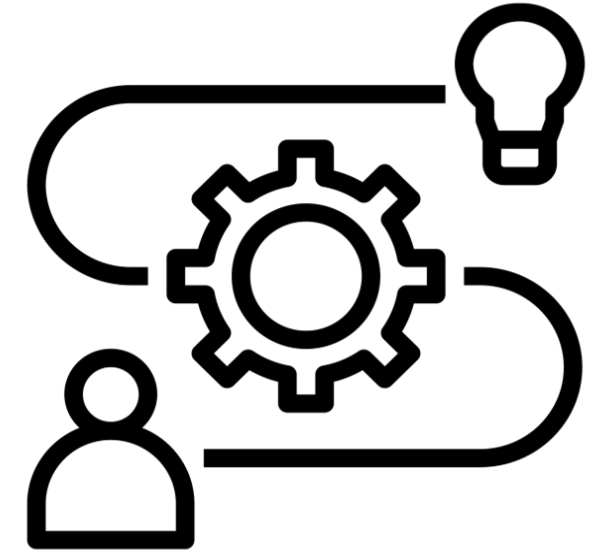
**MetroCloud**  
Data Collection

ANALYZED DATA TO SUPPORT  
GREEN TRANSITION

- DECISION MAKING
- DEVELOPMENT OF PRODUCTS AND SERVICES
- ADAPTATION TO CLIMATE CHANGE
- WELLBEING

Metropolia Myllypuuro Campus – SMART ENERGY LIVING LAB – SIMULATION SPACES

DATA - MULTIDISCIPLINARY INTELLIGENCE – IDEAS – INVENTIONS - INNOVATIONS



# Thank you!

- FREE – Capacity for Carbon Free Sustainable Growth – project:
- Will create a learning platform and a roadmap to produce new, multidisciplinary learning packets for decreasing knowledge gap in energy transition and strength knowledge and knowhow of the future technologies and services. One of the key aspects of the FREE project is to enhance and facilitate the **use of common resources**, and **find effective solutions for increasing of knowledge via common methods and mechanisms**.
- Please contact [antti.tohka@metropolia.fi](mailto:antti.tohka@metropolia.fi) for more details
- Together we can do this!

