

Rotterdam's Heart of
South

RUGGEDISED, September 2022

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IMPLEMENTING SMART CITY SOLUTIONS IN THE HEART OF SOUTH, ROTTERDAM

HART
VAN
ZUID





PARTNERS

ROTTERDAM.
MAKE IT
HAPPEN.



ROTTERDAM
AHOY

RET
AARDIG ONDERWEG



Eneco

heijmans

Ballast Nedom



NPRZ



HET NIEUWE OORPLEIN
Z Het
zuider
terras

UHRIG
energie

VATTENFALL
DURAVERMEER

Q PARK

kpn

ING
BANK

CONSULTANTS

**KARRES
BRANDS**

KRAAUVANGER



adviseurs
mobiliteit
**Goudappel
Coffeng**

DeZwarteHond.

Witteveen + Bos

PEUTZ

DCMR
milieudienst
Rijnmond

etp energie totaal
projecten

buro loo

TNO innovation
for life

FUTURE INSIGHT

NL GREEN LABEL

Erasmus
ERASMUS UNIVERSITEIT ROTTERDAM

RET

TNO



RSM
ERASMUS
UNIVERSITEIT



kpn



Eneco



**HART
VAN
ZUID**



Figures & facts HoS



PPP => 20 years Ballast Nedam / Heijmans & Municipality

500 million => 22 million Sustainability

Social program => creating jobs locally

120.000 m² new & renovated buildings

250 e-busses => 4000 bus movements

PV panels 2500 MWh => 1200 ton CO₂ annual reduction

15.500 m² are realized

21.700 m² PV panels in total, to be finished in Q4 2023

Smart Thermal Grid 1200 MWh decrease energy use => 300 CO₂ reduction annually

nZEB (BENG) => 2000 ton CO₂ annual reduction

Smart light poles & smart waste management

RUGGEDISED GOAL:

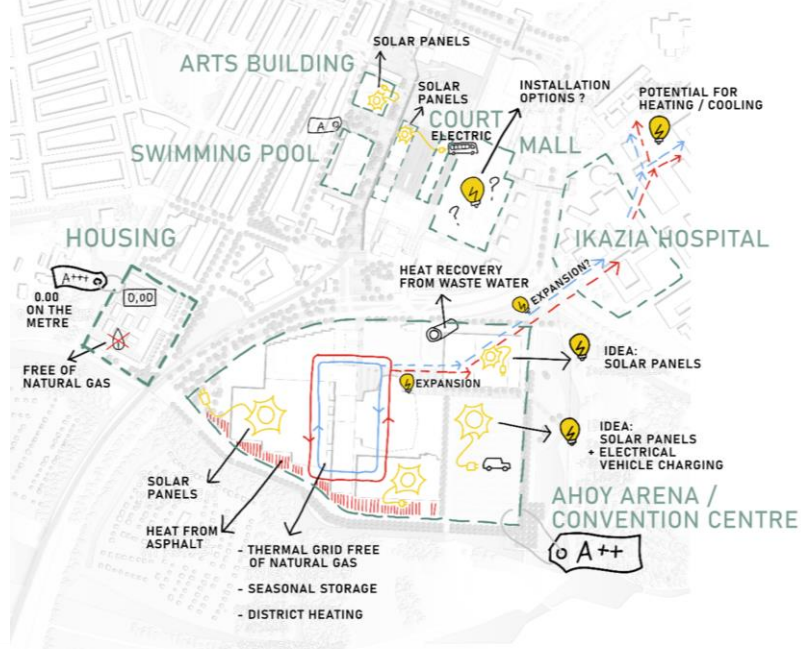
GENERATE AND REUSE AS MUCH AS POSSIBLE ENERGY WITHIN THE PROJECT AREA

	ICT	Energie	Mobiliteit
Seasonal Aquifer		✓	
Thermal energy: wastewater		✓	
Thermal energy: surface water		✓	
Thermal energy: asphalt collector		✓	
DC grid: PV panels, storage & E-mobility	✓	✓	✓
Smart charging parking	✓	✓	✓
Optimalising E-bus fleet RET	✓	✓	✓
District energy management system	✓	✓	
3-D city operations model	✓		
LoRa netwerk	✓		
Efficient & intelligent street lights	✓	✓	
Nerdalize E-radiator	✓	✓	
Smart Waste Management	✓		✓



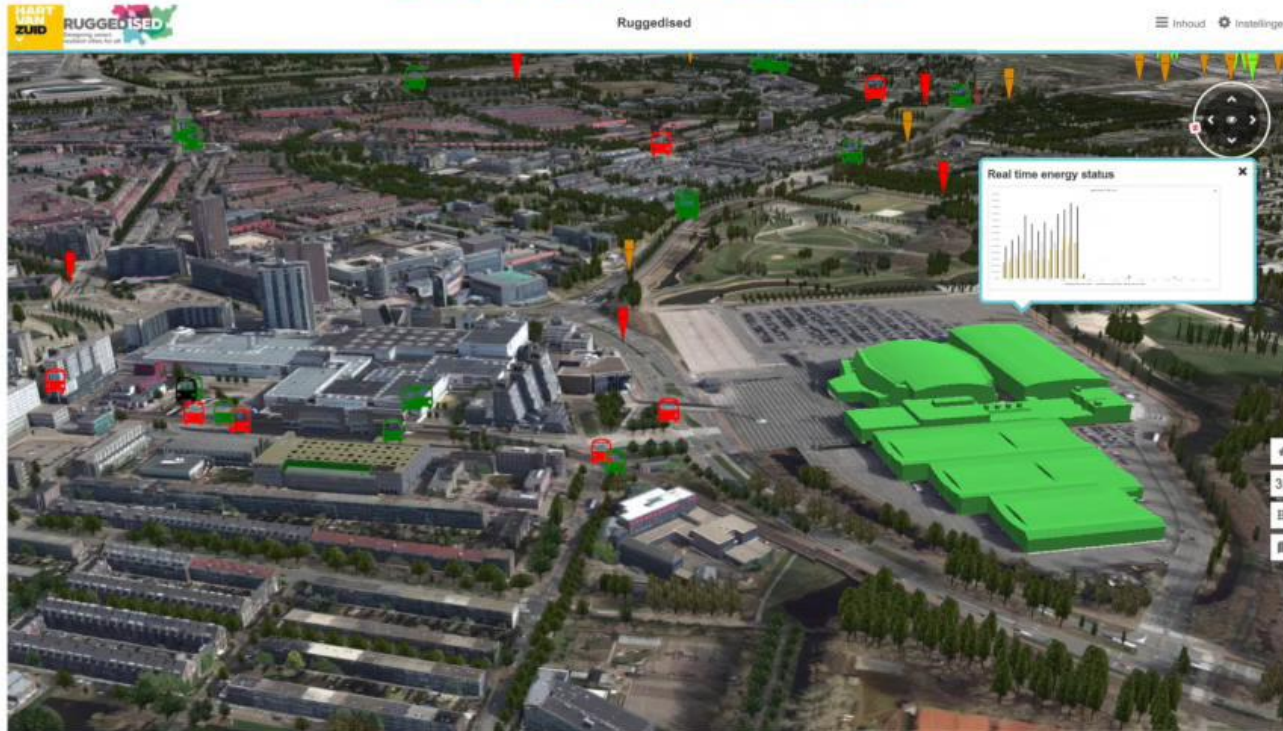


SUSTAINABILITY IN THE SOUTH OF ROTTERDAM ENERGY



Smart Thermal Grid

Smart Electric Grid



ICT on City Level

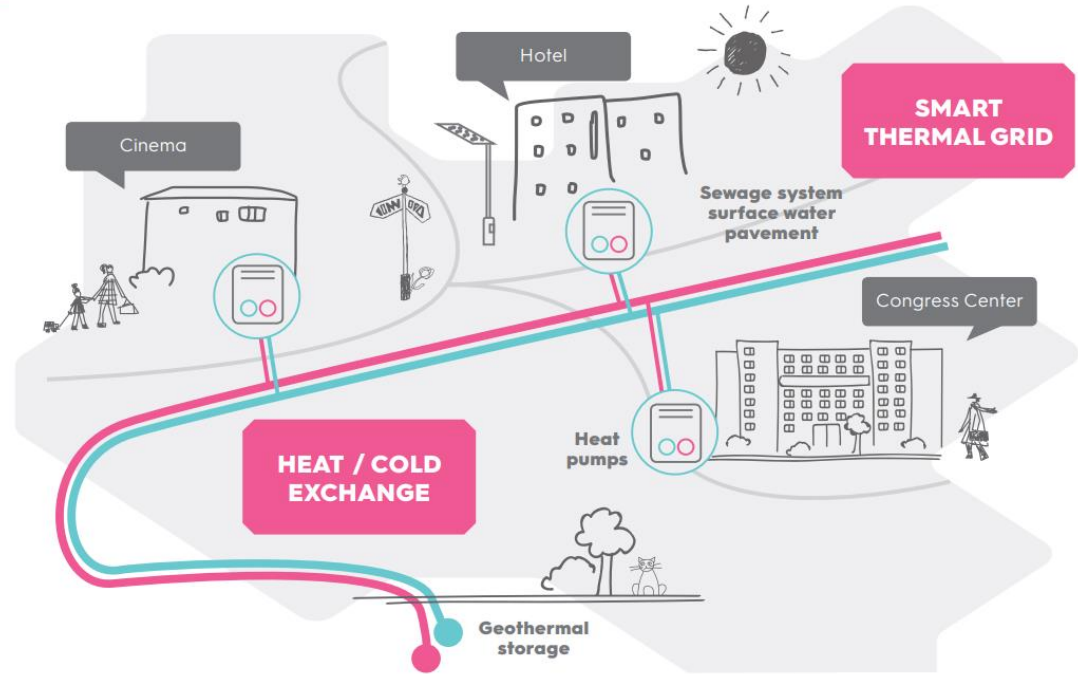
www.3drotterdam.nl/ruggedised/



Challenges



- Complex system change
- Needs up-front investments users
- Classic users, with classic contract demands
- non classic energy contracts.
- Not 1 to 1 collaboration, but collaboration with all the stakeholders





'Ambassador' approach





CLIMATE CHANGE IS EVERYONE'S PROBLEM, BUT NO-ONE'S TASK TO SOLVE IT

- Energy transition is essential to fight climate change
- The Climate goals are political and social goals, not necessarily business goals
- Overall in the project: awareness of the climate change
we know we have to tackle it,
when it comes down to it, we wait for others to take action and ownership
of the solutions we all know will help
- Ruggedised created awareness within the PPP and stimulated more additional sustainable projects



Urban development => still pionering

nZEB => Cooling

- System change
- imbed it upfront
- legislation to challenge the energy provider and project developers
- STG one owner, different providers
- SEG is still not possible / changing => helps net congestion





www.allesisopzuid.nl

www.ruggedised.eu



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