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Project name: Decarb Garden city



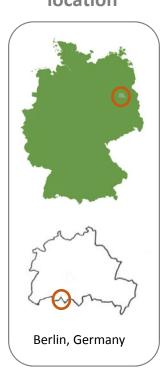


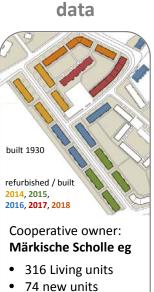
Decarbing the heat for the 99%



decarbonization has to include buildings for the middle and lower class - efficient heat pump systems make it possible renewable

location da

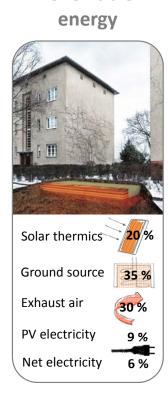


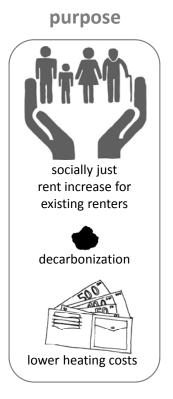


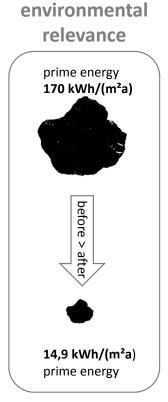
3 different Systems 2 local heat nets

• 1 smart grid

• 2 new buildings











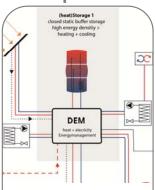
Laying together the groundwork for decarbing heat



Covering research, development, manufacturing, installation and maintenance in one project with outstanding results

component

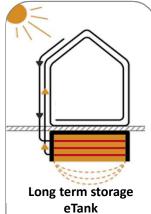
1st



Dynamic **E**nergy **M**anager

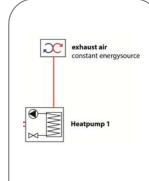
Management and distribution of energy sources into storage and usage according to temperature need and efficiency

2nd component



Usage and storage of surplus and low temperature yields from the solar panels as well as geothermal energy Further potential: control energy

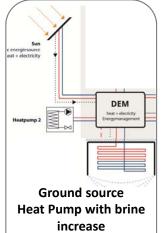
3rd component



Exhaust air Heat Pump A++

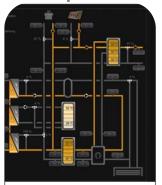
- run time 6-7.000 h p.a.
- COP: 4,3 (12°/45°C),
 COP 6 (12°/35°C).
- Constant source temperature 12°C
- vapor recovery

4th component



- SCOP: 5,9
- source temperature in eTank 2° - 25 °C
- vapor recovery
- 719 kWh/m²a solar thermal harvest

5th component



Monitoring /maintenance

- Increasing efficiency
- detecting and correcting discrepancies
- Proving theoretical assumptions

6st component



Learning by doing

enhancing the ongoing project each year making it more cost and energy efficient and developing new solutions





DECARB HEAT? YES, WE CAN! usage of 85 % usage Reaching the 2050 GOALS of Germany today! renewable of energy as renewable "much as Low energy -50 % 2 heat nets, -90 % possible " temperature primary including heat nets primary including energy renewable energy renewable consumption consumption energy energy **Decarb Garden City** The vague German **Primary** Optimized direct usage **Climate protection Primary Climate Protection** energy direct usage of in action energy Plan demand of renewable renewable demand $<40 \text{ kWh/m}^2$ for 2050 energy via <15 kWh/m² energy (average) DEM Minimal Efficiency increase rent "Socially just" Efficiency through building increase for monitoring and

"increase"

refurbishment

ajustments

20 %

existing

renters

IF WE CAN - EVERYBODY CAN





Possibility of

different

system

combinations

replicable hotter

Applicable in new and old buildings

in cooler or climates

> No building restrictions

Decarbing heat now

includes all kinds of renewable energy

Overall SCOP 6

WHAT IT NEEDS

efficiency fundings rather than insulation fundings



open minds

Reaching

the 99%

provides

energy'

Quality control

break up of monopolies in electricity and heat nets

Reaching **Possibility** 2050 of heating

and goals cooling now

Efficiency proven

Award winning

Forward looking owner with open mind

KNOW HOW

LET'S TALK ABOUT IT MORE

