



€ 24M
EU
Funding

€ 71M
Triggered
investment

€ 527M potential investment
(above € 500M target)

PLATFORM



3
city-wide open
data platforms



3
city-wide sustainable
energy management
systems



PEOPLE



2,000
users on digital
social
markets

PLACE



2,000
planned e-bikes



855
e-bikes
operational



2,400
smart
lampposts

167
e-logistics
vehicles



343
smart
parking
spaces



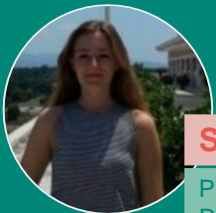
113
e-cars



311
e-charge
points



6,125,000
kWh/y
reduction
in energy

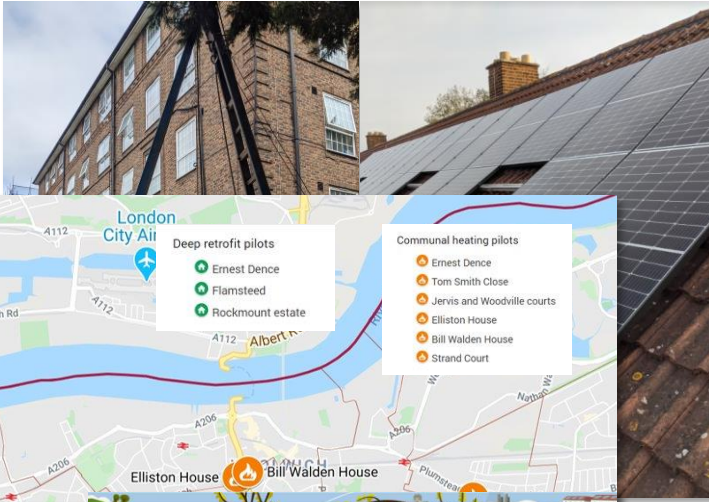


SARAH BUTLER

PROGRAMME COORDINATOR
ROYAL BOROUGH OF GREENWICH

Royal Borough of Greenwich





Examples of low carbon technologies

Transition

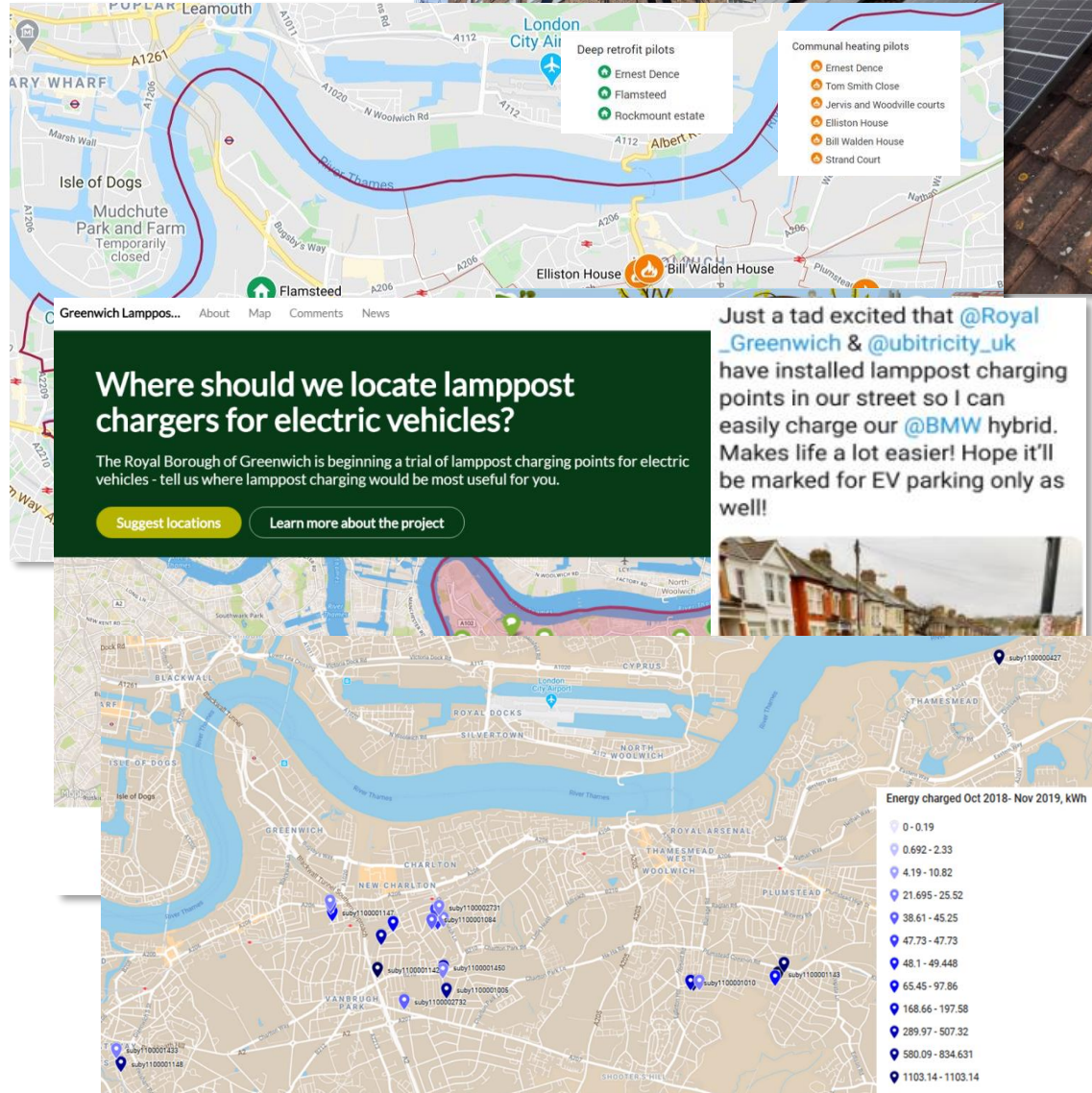
- Encouraging shift to EVs
- Low carbon communal heating
- Solar PV generation

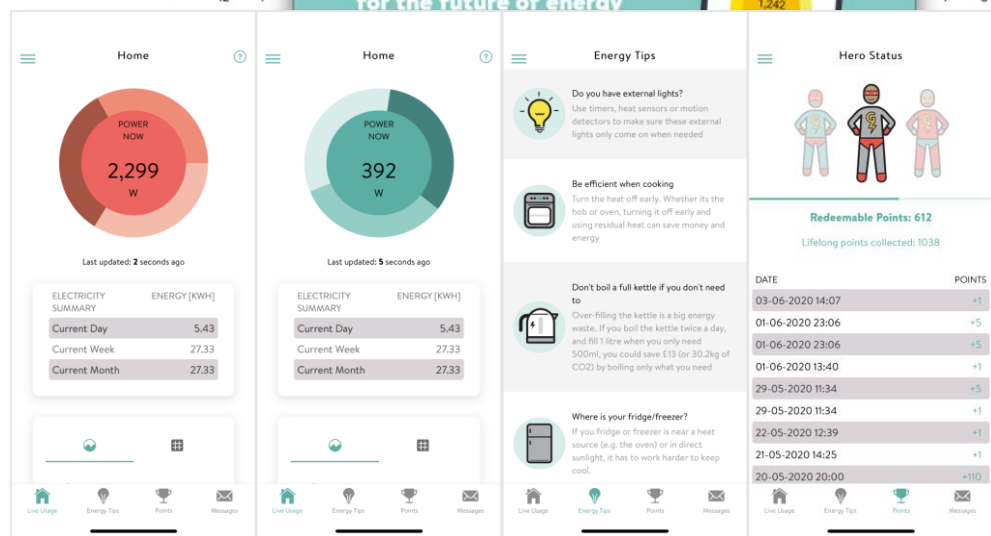
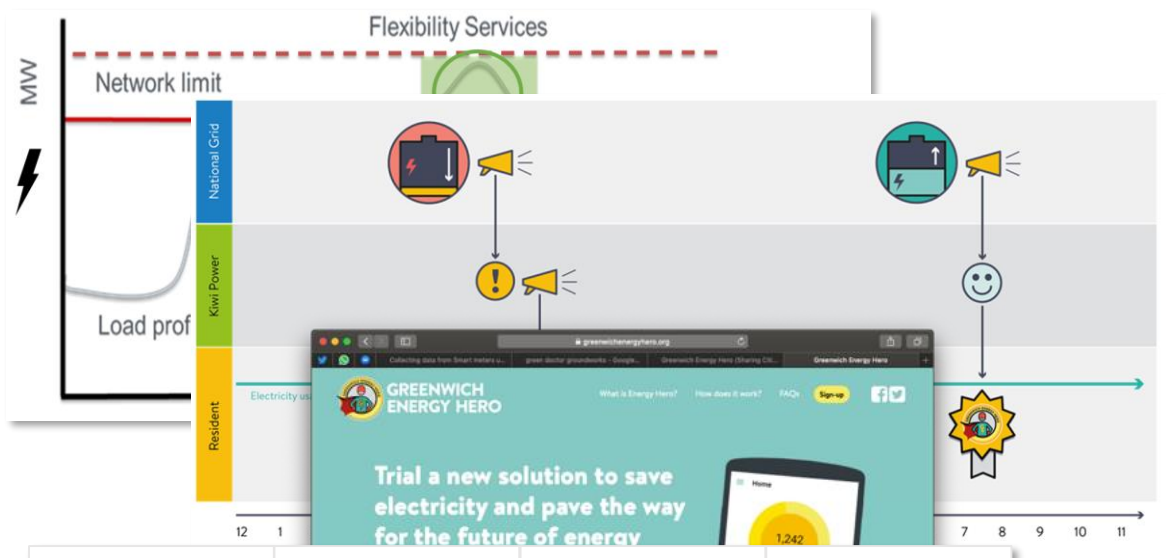
Heat pumps

- Ground source for 95 homes, 350kW capacity
- Scale up- 5 systems, 290 homes

EV lamp post charging

- 4153 kWh charged
- ~2,460 kg CO2e emissions saved
- Diverse charging use profiles
- Roll out of 80 further points





DSM: Greenwich Energy Hero

Context

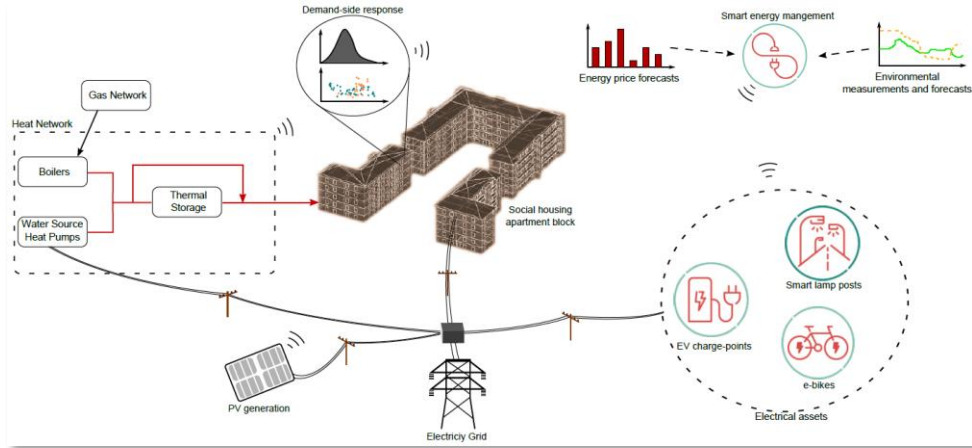
- Balancing a complex energy system
- Involving the consumer
- Demonstrating a residential market

Innovation

- First residential DSR service
- Co-designing new service and app
- Rewards mechanism

Impact

- Peak energy alerts:
 - 95% response rate
 - 78% average energy reduction/ turn down
- Can achieve flexibility through behavioural DSR
- Models of user response



SEMS: control of decentralised low carbon energy assets

Context

- Local decentralised assets
- Understanding opportunity and feasibility
- Fabric retrofit of existing homes

Innovation

- Control- **Sustainable Energy Management System**

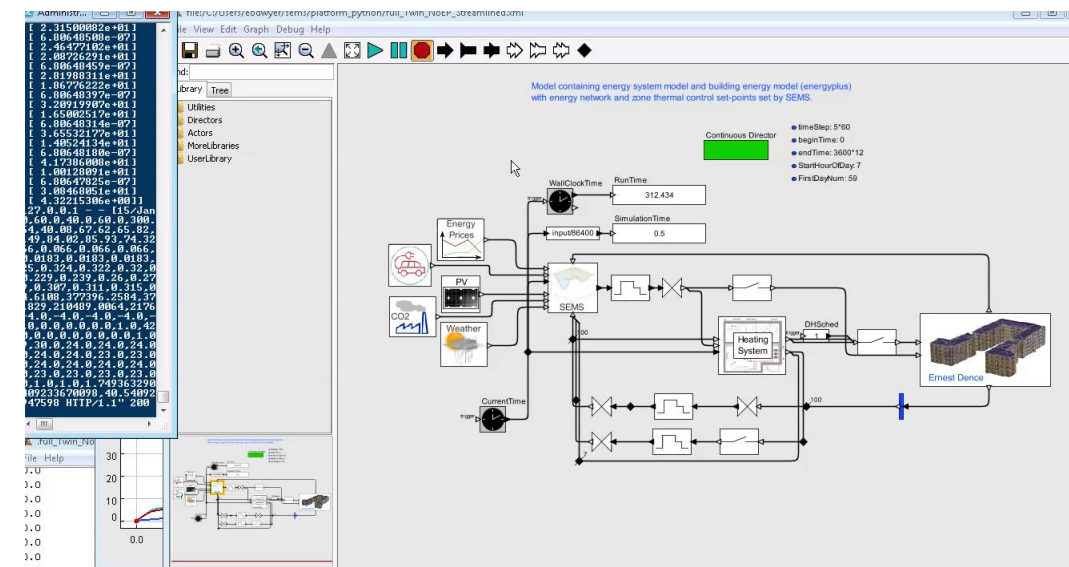
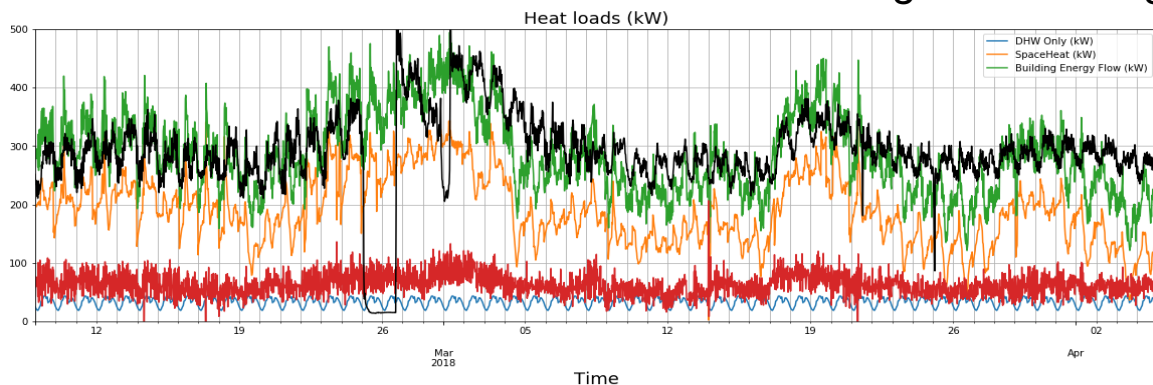
Impact

- Way to manage at district level
- ~15% savings above retrofit



Testing the digital twin

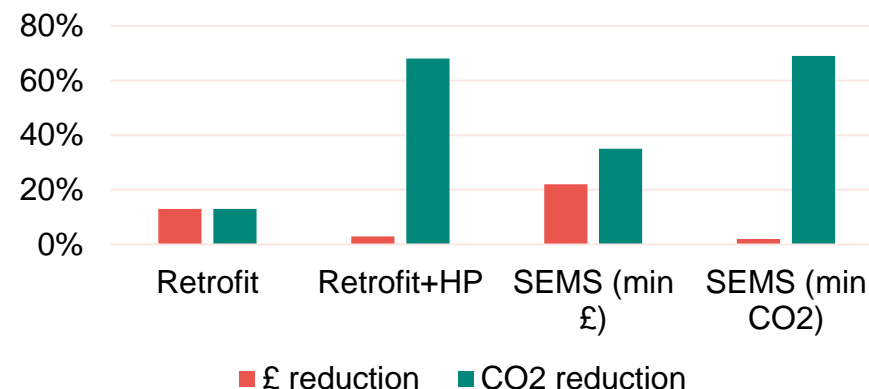
Modelled Case Vs Measured Case: No changes to building



Testing the impact of the SEEMS control strategy

Difference in cost and CO2 of running system with and without control strategy

| | Cost | CO2 |
|-----------------------------|------|-----|
| Retrofit | 13% | 13% |
| Retrofit + Heat Pump | 3% | 68% |
| SEMS (min £) | 22% | 35% |
| SEMS (min CO2) | 2% | 69% |



Challenges and learnings

- Involving the consumer
- Governance and the local role
- Assessing and capturing opportunity
- Fabric retrofit of existing homes
- Data
- Funding and payment models

Sharing Cities Playbooks:

<http://www.sharingcities.eu/sharingcities/resources>



Improving urban mobility: E-bike sharing

A SHARING CITIES PLAYBOOK

The vital parts of an e-bike scheme

E-bike sharing schemes come in many shapes and forms. They also vary, depending on the specific urban challenges and needs of different cities. However, there are some common components of all e-bike sharing schemes. You'll find more on the technical details of these in **Section 4 (How to rollout an e-bike scheme)**. All e-bike sharing schemes include:



2020 V.1

Engaging communities to encourage behaviour change: Digital Social Market

We tested the digital social market (DSM) in our three lighthouse cities of Lisbon, London and Milan. The DSM is a new way to engage citizens, developed by Future Cities Catapult. It has both online and offline components – so online is used to trigger different behaviour offline using rewards. The overall aim is to increase uptake of sustainable smart city services.

Why should you care?

To solve problems around air quality, material consumption, transport and energy use, cities must change. They need to lead on green issues and bring their citizens with them. As such, it's vital for city authorities, businesses and citizens to have a closer dialogue. The DSM is one way to enable this.

Benefits of the DSM

The DSM allows cities to explore and experiment with citizen participation. The benefits include:

- Raise awareness of and enable smart city services (like cycling and EV use)
- Harness citizens' enthusiasm to drive change
- Increase positive behaviour
- Environmental, economic, social and health benefits
- Improve inclusion through information sharing



Thank you



pmo@sharingcities.eu



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