



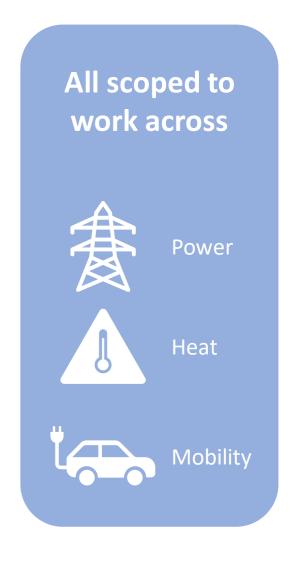
# Prospering from the Energy Revolution Challenge Insights from 5 years of innovation in energy-smart places

Sophie Kempthorne, Innovation Lead



# Prospering from the Energy Revolution: Developing the potential of energy-smart places





## Energy smart places: what are they?



- intelligently join up and balance local energy supply and demand
- making the most of local resources, needs and opportunities
- enabling new services for users, cutting emissions and costs, and creating efficiency.







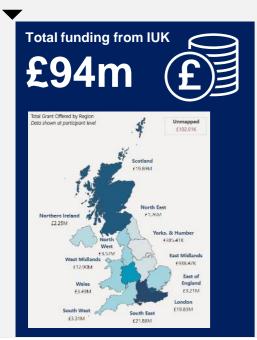


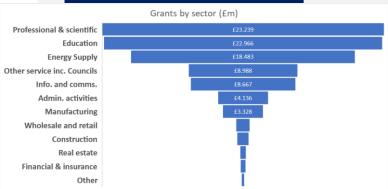


## Delivery – in numbers



#### Since April 2018 there has been





#### Which has generated

# 93 projects 301 participants

4
Demonstrators
£35.1m

10
Detailed designs
£22.3m

Key Technology
Components
£4.8m

Data
Digitisation
£7.5m

...and 40 other projects.

#### Which has resulted in

326

Jobs retained and

Jobs retained and created

**52** 

Journal Publications and Policy Papers from EnergyREV

271

LAs and other organisations on Net Zero Go Platform

23

Intellectual Property
Registrations

All Data as at 28.09.22

418 kt eCO<sub>2</sub> £9m

Savings projected for 2035 from 8 completed DDs

£782.6m

Realised co-investment from match funding, equity investments and others.

**72** 

new methods, products & services

# And delivering levelling-up in practice

#### **Project Locations:**



#### Demonstrators

- Project LEO
- Energy Superhub Oxford (ESO)
- 3. ReFLEX Orkney

#### Detailed Designs

- 1. Multi-Vector Energy Exchange
- 2. Greater Manchester Local Energy Market
- GIRONA
- 4. Zero Carbon Rugeley
- West Midlands RESO
- Peterborough Integrated Renewables Infrastructure (PIRI)
- 7. Milford Haven: Energy Kingdom
- 8. Project REMeDY
- REWIRE-NW
- GreenSCIES 2

#### **Key Technology Components**

- Open Protocol Cloud Metering for Heat Networks
- Domestic Infrastructure & Network Optimisation (DINO)
- URBAN-X
- v-powerChain
- Seasonal Storage
- BankEnergi
- Rail-Charge
- 8. Hypervolt
- CODES
- 10. Port Energy Systems Optimisation (PESO)



- Maximising Grid Services from Electric Vehicles (M-GSEV)
- Heat Networks as Flexible Grid Assets
- EV Fleet-centred Local Energy System (EFLES)
- 14. SHOCENSI
- 15. ADVENT
- Guru Engage

#### Concept Designs

- 1. WESLID
- E-Port Energy
- 3. Greater Manchester Local Energy Market
- 4. Bristol Energy Smart System Transformation
- BankEnergi
- Intelligent Bridgend Energy System Designs
- GreenSCIES
- 8. Energy Autonomous Community (Isle of Wight)
- 9 LEMDEx
- 10. DLT Micro-grid Management Platform
- 11. An Energy Revolution for Caldicot

#### There are also:

3 projects for modernising energy data access (MEDA)

9 projects for modernising energy data applications (MEDApps)

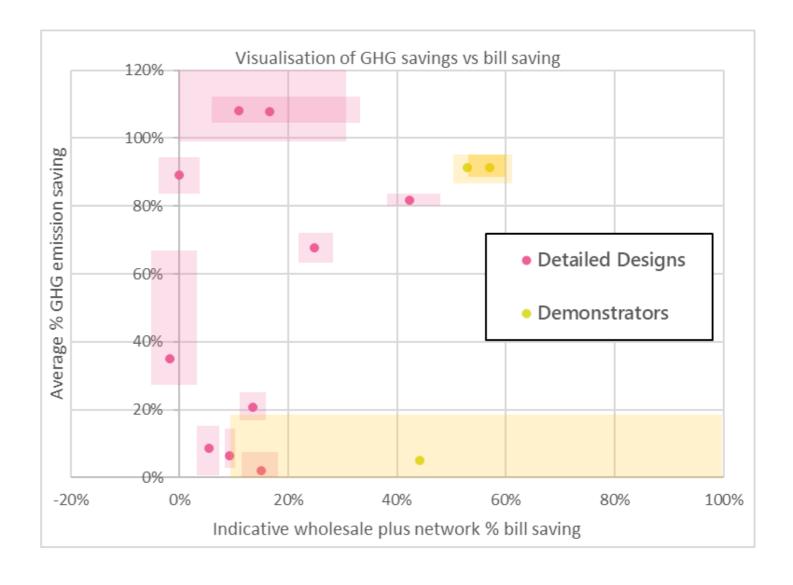
18 earlier 'fast start' projects





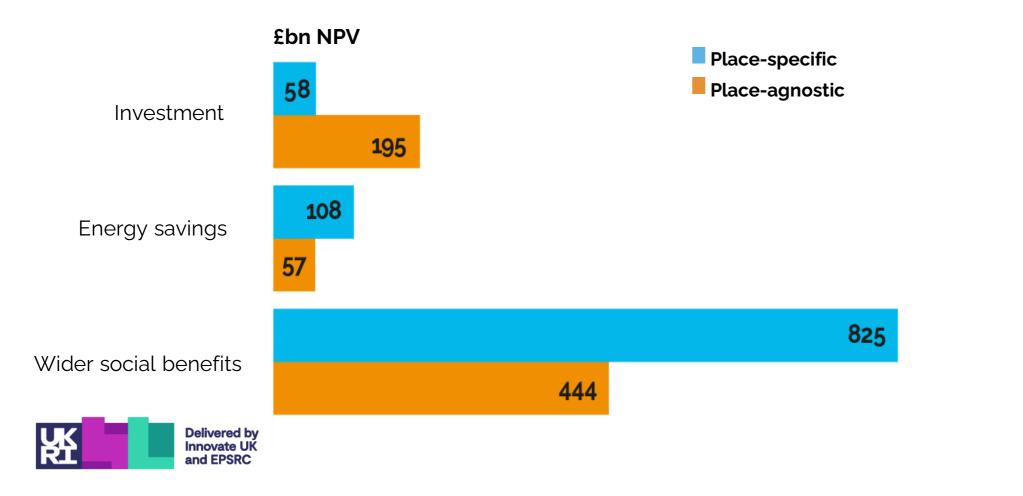
## 1. Yes we can!



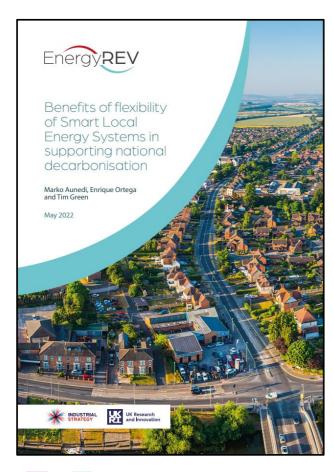


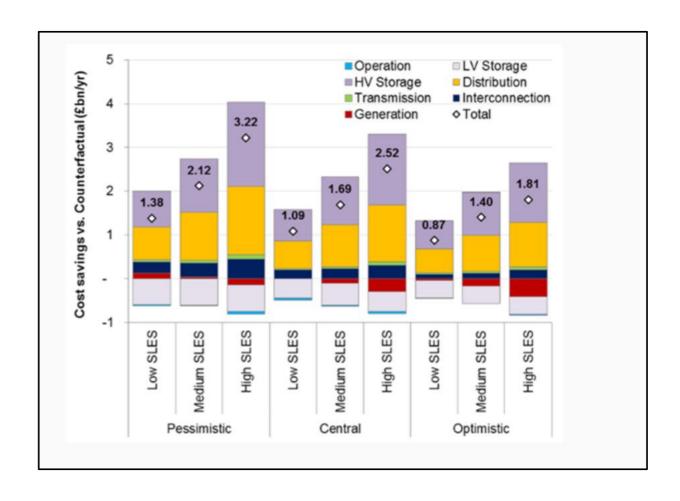
## 2. Creates huge benefits locally

Place-based approaches could save **£137bn** in investment cost and generate an additional **£431bn** in energy savings and wider social benefits



# ...and nationally everything else is harder and expensive without local action







But we've also learnt that securing these benefits needs concerted action from across the landscape.

Incrementality and delay will not deliver the best net zero outcomes for the UK.























Local – National Public - Private











Skills & Capability







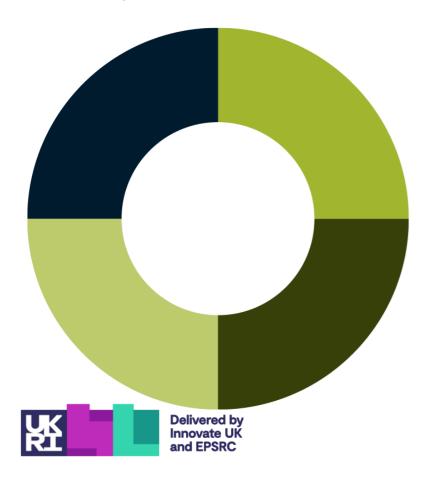






## At the heart of enabling change: A national framework for local net zero delivery

#### **Delivery Framework**



#### **System Governance**

Building on the foundations of the Net Zero Strategy, clarify the respective roles of delivery ecosystem actors so that each role is attributed to the most effective level and with appropriate authority and accountability.

#### **Portfolio Management**

Building on the momentum of climate action and local area energy planning by UK places, bring a consistent methodology to integrated LCM portfolio design, management, implementation and reporting.

#### **Capacity & Skills**

Building on the Local Net Zero hub infrastructure, enhance their capabilities and services to support multi'-level local portfolios develop their plans and pipelines with Technical Assistance in parallel to national skills programme.

#### **Funding & Financing**

Building on the local mandate of the UKIB, furnish portfolio investment needs with a local Net Zero financing framework including core, borrowing, private and innovative investment instruments.