

Accelerate Net Zero
energy innovation

Emerging innovation from supply chain and services

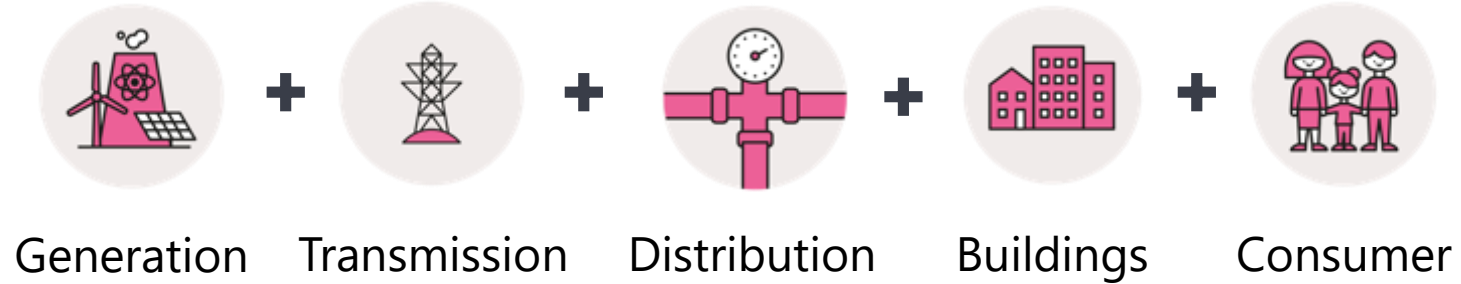
Guy Newey
Chief Executive Officer

October 2024



It's about the whole energy system, stupid...

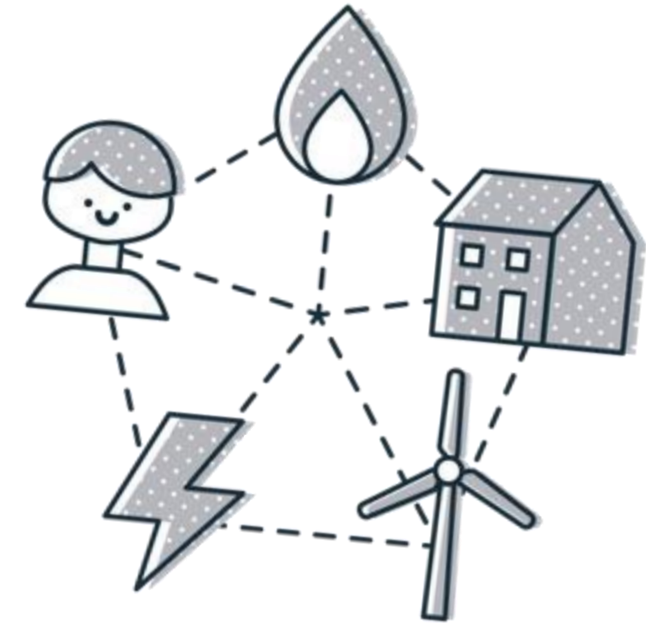
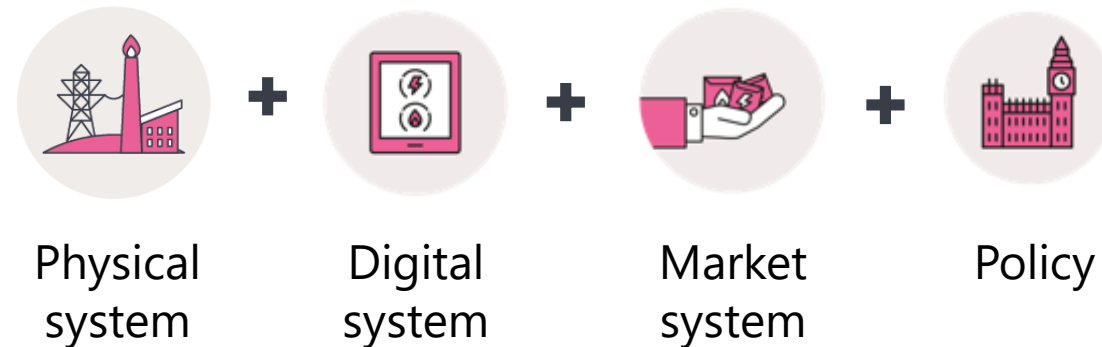
Joining up the system from sources of energy to the consumer



Breaking down silos between different parts of the energy system



Joining up physical requirements of the system, with policy, market and digital arrangements



To have a chance of meeting Net Zero we must implement, innovate and integrate low carbon technologies. Now...



Implement

Implement **low regret investment decisions** and technology choices.



Innovate

Reaching Net Zero at least cost to consumers now requires significant deployment of unproven technologies. **We need to fast track innovation now.**



Integrate

Our energy system design and operation must be integrated across space, time, scale, energy vectors and systems.

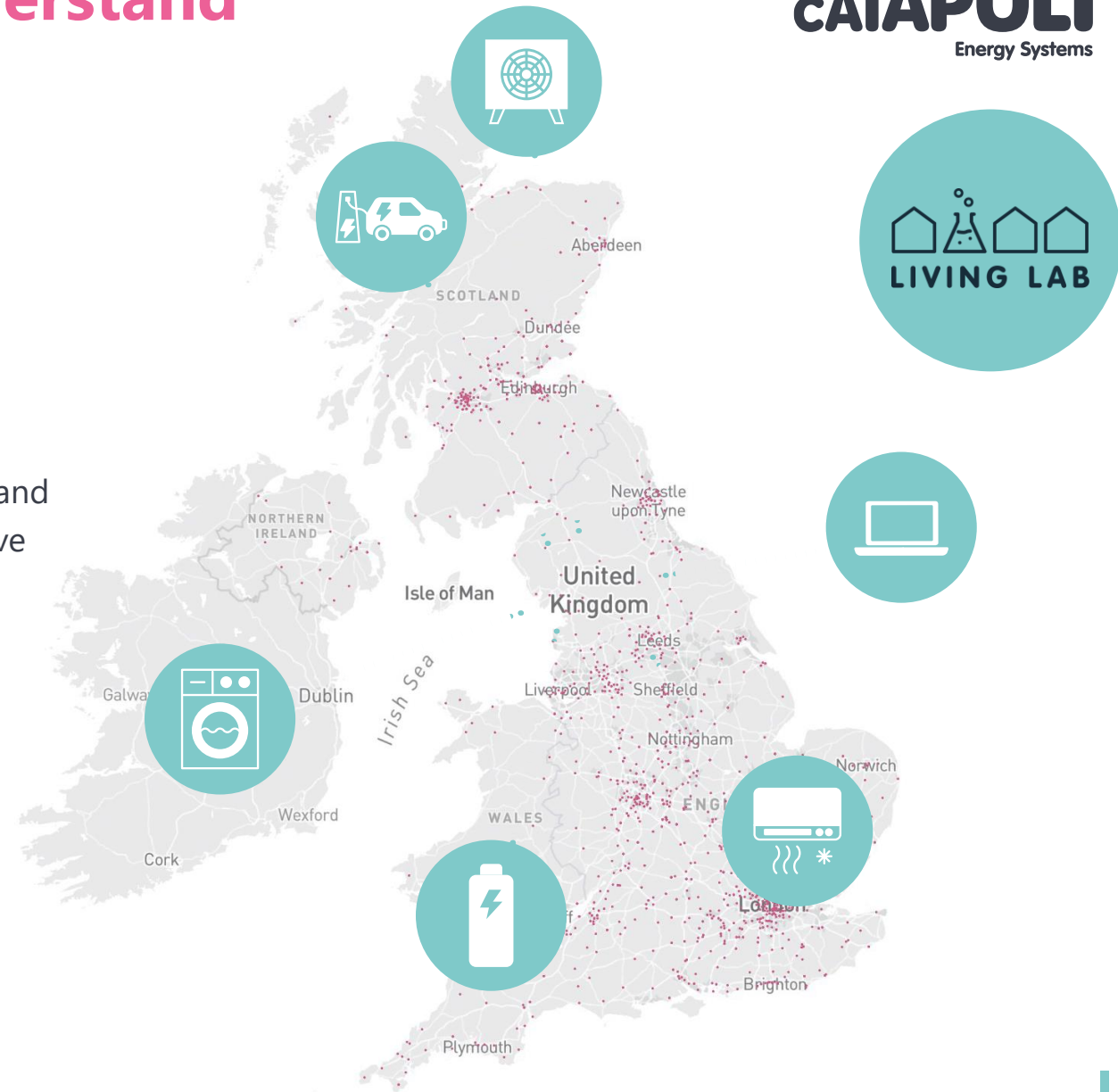
1. The energy sector needs to understand future consumers...

Our Living Lab is a community of over 4,800 diverse households who want to help the UK get to Net Zero

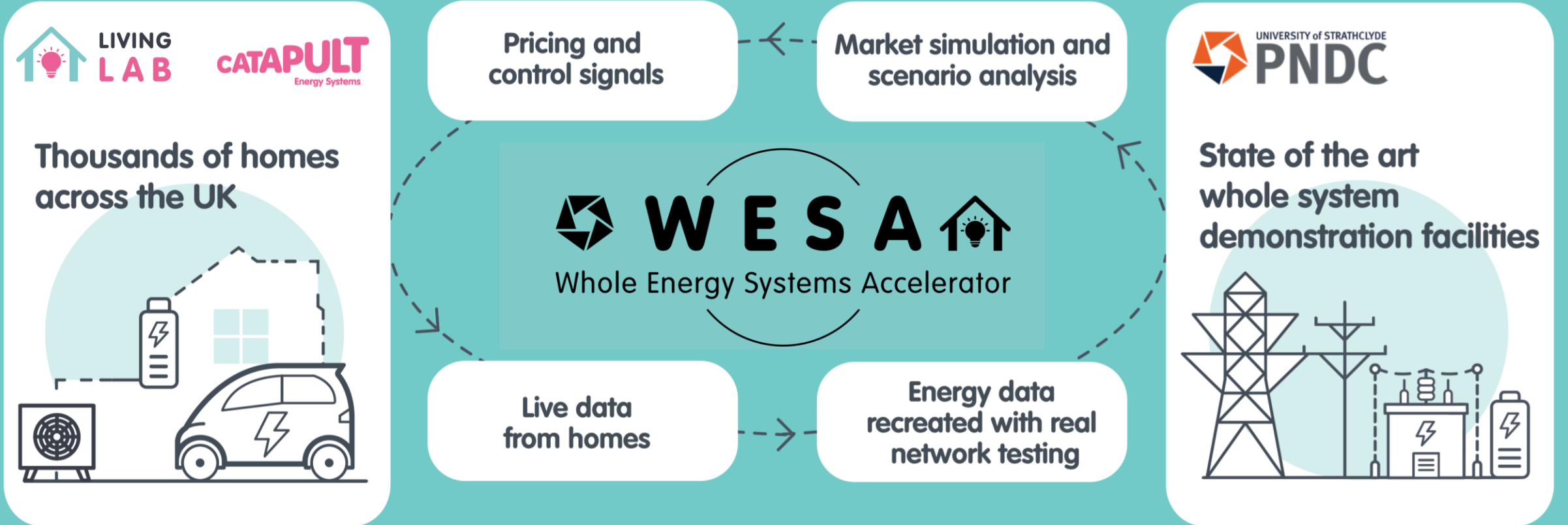
Supporting innovators, networks and Government to better understand home energy use and test new products and services in order to drive innovation in the domestic sector.

We help our customers derisk innovations by understanding:

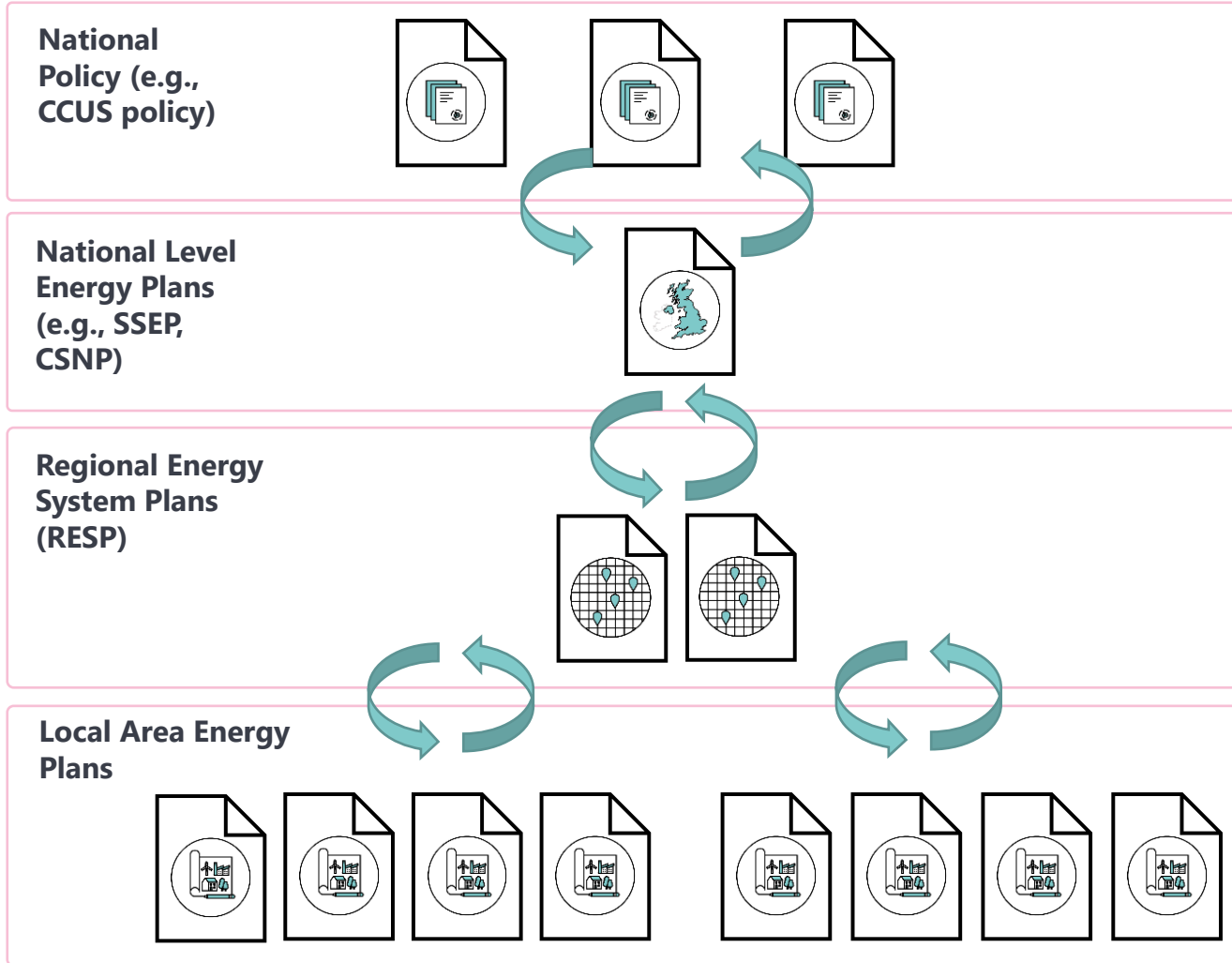
- How well they work in the real world
- What consumers need and want from them
- Whether their business model is viable; and
- Whether they work for the energy system



... but we also need to join up consumers with networks (and markets and data) to ensure the system is robust.

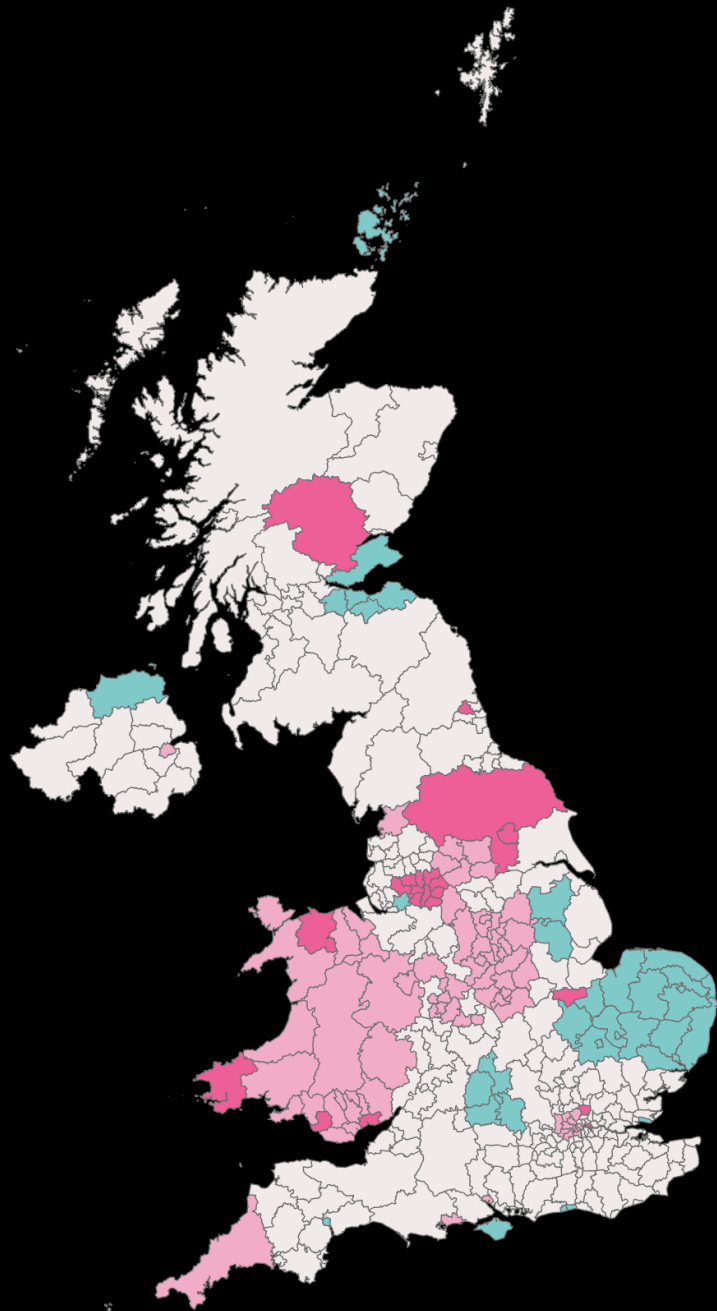


2. We need to make sure the planning regime for energy at different levels interfaces seamlessly...



Emerging system design questions:

- How do the plans interface and interact with one another?
- Does the planning system need to align to price controls?
- What are the common strategic planning principles?
- How do you maintain democratic legitimacy of the plans as they pass up and down the hierarchy (e.g., LAEP to RESP to SSEP/CSNP)?
- Which planning systems design choices need to align (e.g., planning horizon; planning frequency)?
- What is the role of different actors and different stakeholders at each level of the system?

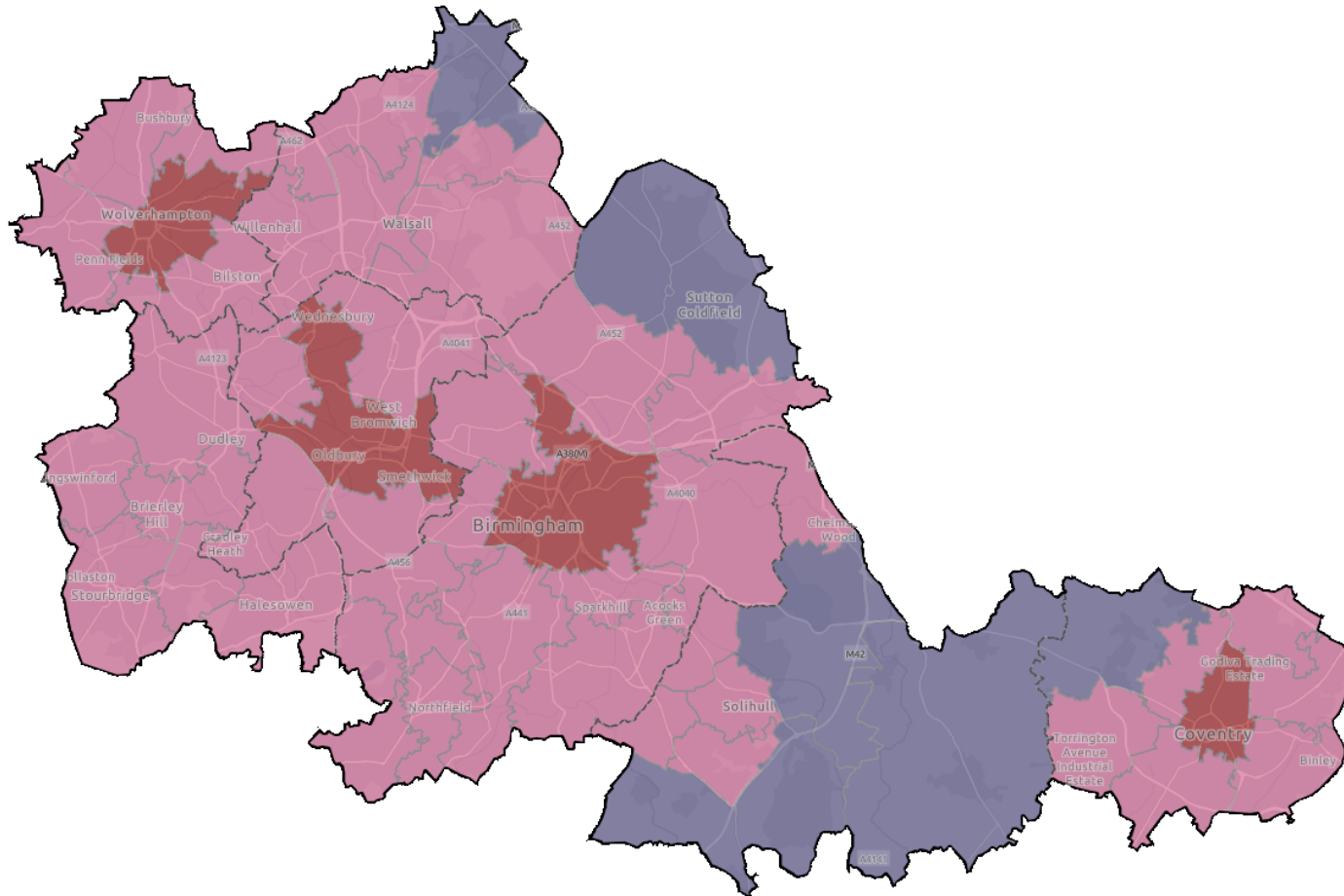


80% of local authorities in the UK have declared a climate emergency.

30% of local authorities in the UK have, or are developing, a Local Area Energy Plan*.

- Local Area Energy Plan - Completed
- Local Area Energy Plan – Working towards
- Local Energy Asset Representation (a LAEP building block) - Completed

WMCA heating systems



Number of homes: 763,426

Capital Investment: £1,865,233,792

Fuel Bill Savings: £279,785,069/yr

Heating Systems Zones

- Air Source Heat Pumps
- District Heat
- Ground Source Heat Pump

Birmingham City Council fuel poverty



Number of homes: 181,111

Capital Investment: £191,380,872

Fuel Bill Savings: £28,707,131/yr

Fuel Poverty in West Midlands Combined Authority

Percentage of Fuel Poor Households

- Greater than 50%
- Greater than 33% and less or equal to 50%
- Greater than 20% and less or equal to 33%
- Greater than 10% and less or equal to 20%
- Less or equal to 10%

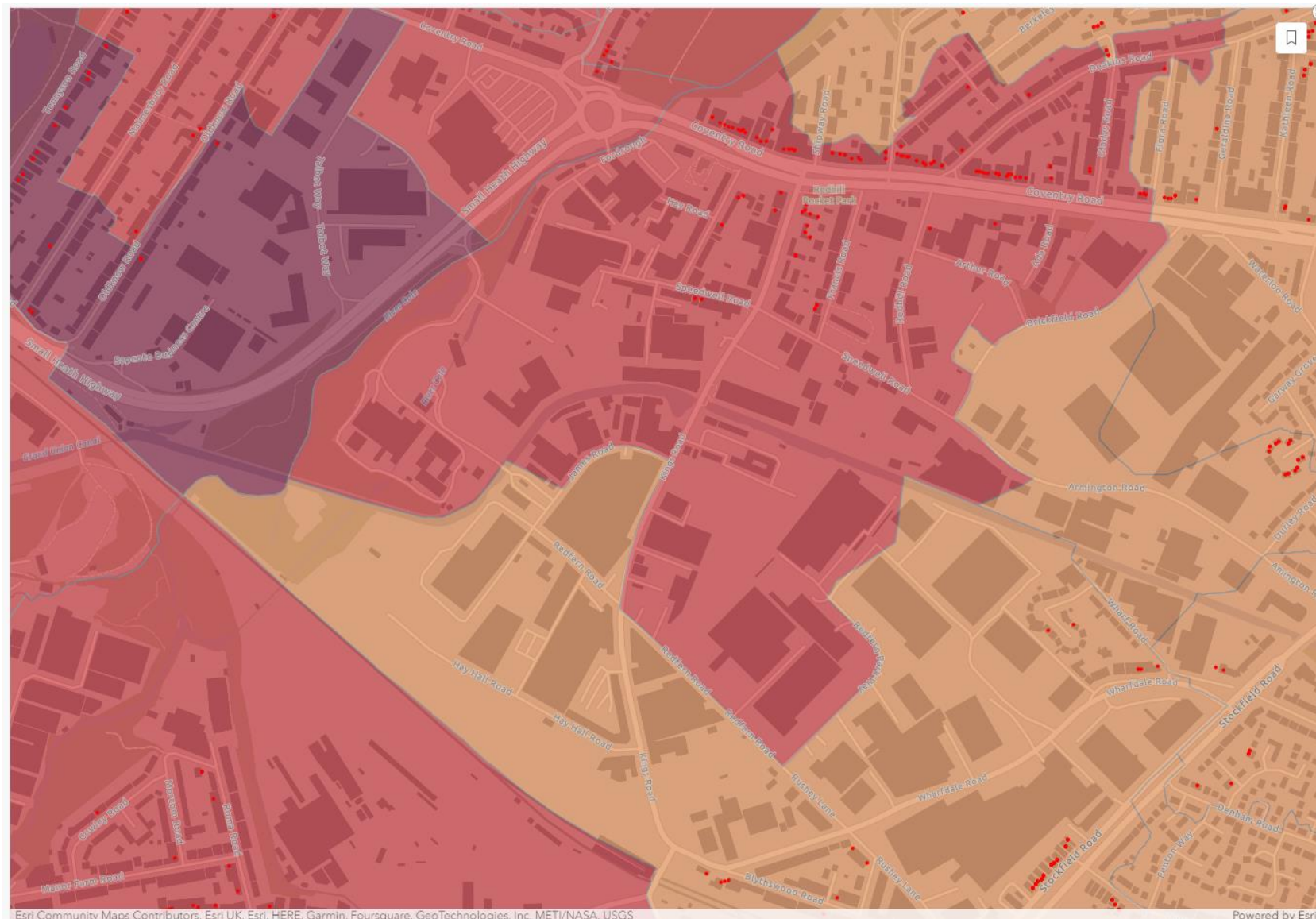
Suitable Intervention

- District Heat Network Property
- Heat Pump Installation
- Insulation of Property

Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS

Powered by Esri

Tyseley Energy Park



Esri Community Maps Contributors, Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS

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Number of homes: 757

Capital Investment: £285,096

Fuel Bill Savings: £42,764/yr

Potential Starting Area for District Heat Network



Fuel Poverty in West Midlands Combined Authority

Percentage of Fuel Poor Households

- Greater than 50%
- Greater than 33% and less or equal to 50%
- Greater than 20% and less or equal to 33%
- Greater than 10% and less or equal to 20%
- Less or equal to 10%

District Heat Properties

- District Heat Network Property

Hampton in Arden



Number of homes: 33

Capital Investment: £420,856

Fuel Bill Savings: £63,128/yr

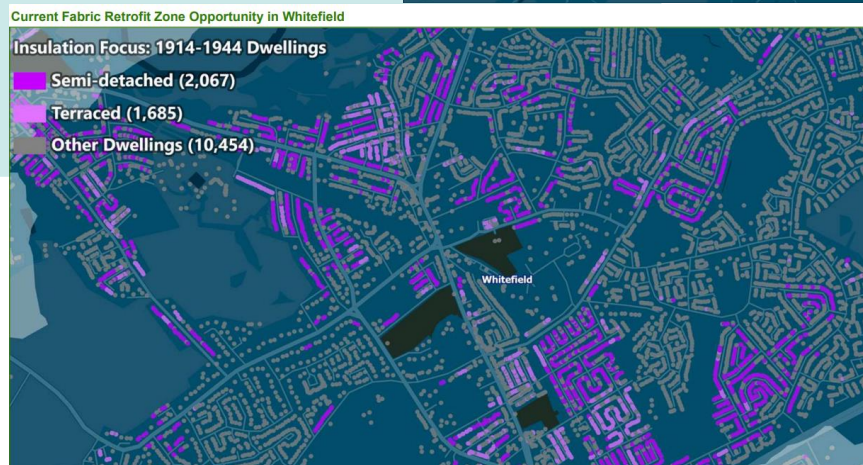
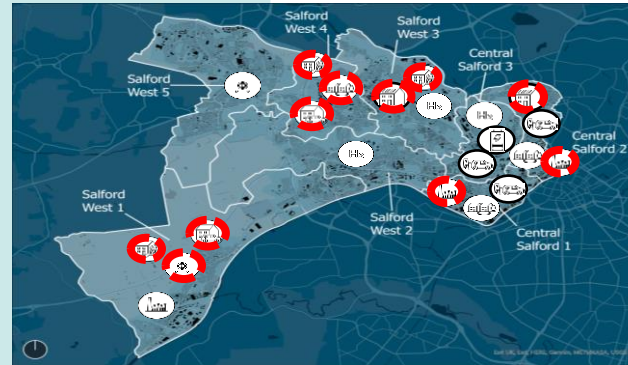
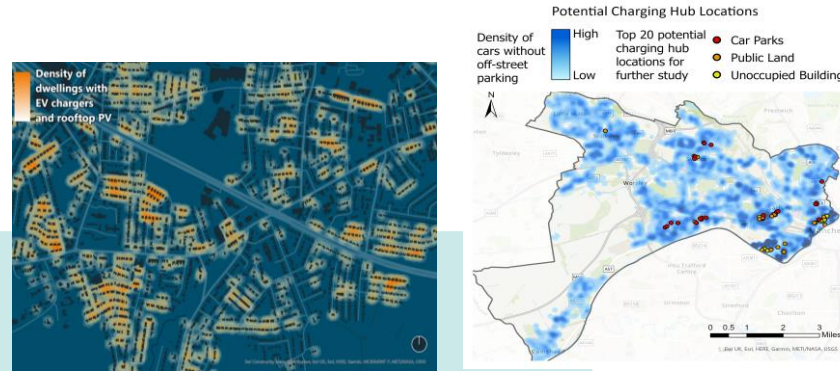
Meriden Road Properties

- Suitable for a GSHP
- Unsuitable for a GSHP

Plans are progressing into action...

“These plans provide a clear roadmap for everyone to support the Net Zero carbon transition, and help us make a greener and fairer Greater Manchester.”

Andy Burnham
Mayor of Greater Manchester



- **10 LAEPs** for GMCA boroughs for 2038 carbon neutrality
- **Scale of investment £70bn**; Over £12bn needed after business as usual
- **Coming to market with Strategic Outline Business Case** including district heat & public sector estate
- Catalysing **private sector** funder and developer interest e.g. renewable generation & storage assets
- Informing the **trailblazer devolution** deal, skills and social housing strategy and creation of in-house capacity

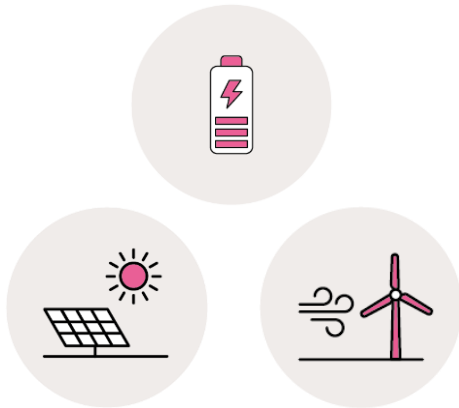
And that we have the right energy system data easily available....



Open and paid for datasets to accelerate the delivery of local net zero projects

Potential for:

Renewables and Storage



- Large Scale Wind Potential - Standalone
- Solar PV Ground Mount Potential - Standalone
- Battery Storage - Domestic
- Solar PV Potential - Domestic
- Solar PV Potential - Non-Domestic

Potential for:

Heat



- Air Source Heat Pump Potential - Domestic
- Air Source Heat Pump Potential - Non-Domestic
- Ground Source Heat Pump Potential - Domestic
- Ground Source Heat Pump Potential - Non-Domestic

Potential for:

Transport



- Off Street Parking Potential - Domestic
- Existing Chargepoint locations - Standalone
- Potential locations for EV Hubs

Buildings and Energy



- EPC Actual & Inferred - Domestic
- Buildings & Modelled Energy Demand - Domestic
- Buildings & Modelled Energy Demand - Non-Domestic
- Non-Building Energy Demand
- DNO demand headroom & capacity

You can find more details at www.netzeromarket.org.uk

Thank you

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