

A warm welcome to the
West Midlands



Energy Capital Partnership Conference 2024

Sponsored by



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Together to Zero



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Welcome to Wolverhampton

Professor Andy Gibson

Dean of Science and Engineering, University of Wolverhampton



Welcome to the Conference

Jade Lewis, Chair of the Energy Capital Board

Thank you to our sponsors



West Midlands
Combined Authority

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WOLVERHAMPTON

Today's agenda

Time	Session	
08:45	Arrival	Sponsor Exhibition
09:30	Plenary	Welcome; Energy in the West Midlands; The changing politics of energy panel
11:00	Coffee Break	
11:30	Plenary	Smart Energy Systems: Keynote and Panel
12:45	Lunch and Partners Exhibition	
14:00	Breakouts	Panels: Net Zero Neighbourhoods, Heat Networks, Retrofit Delivery, Smart Systems Investment
15:30	Coffee Break	
15:50	Plenary	Keynote – Delivering a Just Transition; Endorsing the Regional Energy Strategy panel
17:00	Networking drinks reception	
18:00	Close	



Main sponsor keynote

New opportunities

Anthony Daly
Operations Director, Next Energy Solutions



NextEnergy
Your Solution to NetZero



WHO ARE NEXT ENERGY?

- Multi discipline Retrofit Contractor
- Currently a £80m+ turnover business
- Specialising in turnkey retrofit in domestic properties
- Injected millions into the green economy, creating over 250 jobs
- Strong local presence: Growing regional footprint
- Working with WMCA
- Installed over 20,000 energy efficiency measures.



Lee McNally
Managing Director



Michael Madigan
Managing Director

MEET THE DIRECTORS



Anthony Daly
Operations Director

Why West Midlands?



- Identified as a real growth area for the business, due to a lack of domestic renewable investment within the area.
- Establish ourselves in the region as the go to contractor for all Retrofit Services, sharing our knowledge and expertise
- Forge new partnerships and clients within the region and build on existing partnerships with current client base
- Delivering resilience for clients through strong relationships and continuity



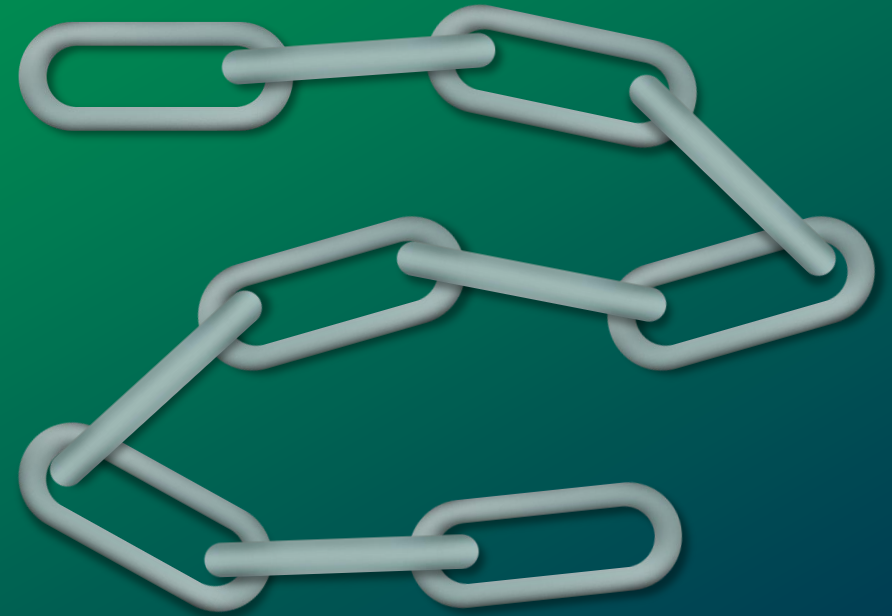
Contractors:

Catalysts for the Local Economy

- Contractors play a pivotal role in the growth of the local economy
- Establishing local supply chains fosters regional resilience and sustainability
- Passionate about job creation and inspiring local talent
- Delivering resilience for clients through strong relationships and continuity

Establishing Local Supply Chains

- Local contractors provide insight into regional needs, enabling faster project execution
- Going to market helps us source the best talent, with 7-day payment terms (no 60-to-90-day terms in comparison to others)
- Respect for partners builds stronger relationships and fosters growth
- Ability to offer every permissible energy efficiency measure



Delivering Value for Money Through Flexibility

- Competitive costs achieved through local sourcing and partnerships
- Value for money ensured through continuity, risk reduction, and consistent quality
- Flexibility: offering install-only, install + design, or full PAS2035 services
- Turnkey approach enables single accountability and transparency



Benefits of a Local Presence



- Local expertise leads to better outcomes and quicker responses
- Enables growth within the local economy
- Gets buy-in from local customers ensuring a smoother transition in project delivery
- Social value: generating jobs, supporting communities, and creating lasting impact
- Regional offices (Sandwell, Liverpool, Manchester) strengthen partnerships and project delivery

Creating Employment Opportunities

- Hiring locally: Operations Manager, CLO, Site Manager, and administrative staff in Sandwell
- Actively recruiting skilled trades to support retrofit programmes
- Strong subcontractor relationships foster shared growth
- Long-term employment opportunities to boost local economies



Training, Apprenticeships, and Skills Development



- Committed to training local talent through apprenticeships and skills development
- Partnering with colleges and councils to tackle skills shortages in the green economy
- Mentoring SMEs in PAS2035 compliance and processes to support regional growth

Social Value and Community Impact

- £1.2M in social value generated in 2023 through job creation, training, and donations
- Collaborating with local partners to enhance community impact
- Inspiring young people to join the green economy



Lessons Learnt:

Front and Back-End Are Equally Important

- Strong back-office team is essential for delivering projects at scale
- Started with 8 back-office staff, now over 150, with more than 200 employees total
- Back-office is key to ensuring compliance with utility providers and DESNZ reporting
- Our success owes as much to supply chain relationships as to our back-office team



Conclusions and Next Steps

- **Committed to growing local supply chains and creating job opportunities**
- **Continued focus on delivering high-quality, resilient retrofit solutions**
 - **Partner with us for your next energy retrofit project**



THANK YOU

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Energy in the West Midlands

Jade Lewis

Chair of the Energy Capital Partnership Board

Cheryl Hiles

Director of Energy Capital, West Midlands Combined Authority



West Midlands
Combined Authority

ENERGY
CAPITAL

Government plans to make Britain a clean energy superpower

Great British Energy
and Local Power
Plans

650,000 new high
quality jobs

Warmer homes to
tackle fuel poverty



“Today is an important opportunity to shape the future of energy and decarbonisation in the West Midlands and beyond. As we tackle the immense challenge of transitioning to a low-carbon economy, collaboration between industry, central and local government, and innovators is more urgent than ever.

Everyone here understands the scale of the challenge ahead. By uniting the best minds and boldest ideas, we can harness new technologies, drive investment, and create a sustainable energy future that sets a national standard. Our transition to net zero must be not just ambitious, but achievable, bringing tangible benefits. Your work today is crucial for securing a cleaner, more prosperous future for generations to come.”

Richard Parker, Mayor of the West Midlands



West Midlands Regional Energy Strategy

By 2041,
the West Midlands
will have trailblazed the route to a smarter UK energy system,
creating prosperity for the region and enabling a fairer net zero transition for our communities

Smart
Spatial
Planning

Local
Flexibility

Co-located
Clean
Generation

Skilled
Workforce and
Supply Chain

Commercial
and Financial
Innovation

Policy foundation

Project PRIDE success!



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Combined Authority

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Planning Regional Infrastructure
in a Digital Environment

£4 million awarded for final phase

Rollout of LAEP+ tool across wider
West Midlands region with our partner
local authorities

Aligning to the new Regional Energy
Strategic Planning function of the
National Energy System Operator



[wmca.org.uk/what-we-do/environment-energy/
energy-capital/local-area-energy-planning/](https://wmca.org.uk/what-we-do/environment-energy/energy-capital/local-area-energy-planning/)



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The Changing Politics of Energy

Panel chaired by Jade Lewis

**Cllr Stephen
Simkins**

City of
Wolverhampton
Council

**Cllr Andy
Mackiewicz**

Solihull
Metropolitan
Borough Council

**Cllr Peter
Hughes**

Sandwell
Metropolitan
Borough Council

**Luke
Strickland**

Mott
MacDonald

**Ed
Cox**

West Midlands
Combined
Authority



West Midlands
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NextEnergy
Your Solution to NetZero

Break 11.00 - 11.30

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Keynote speech

Smart Energy Systems

Guy Newey

Member of Energy Capital Partnership Board

CEO Energy Systems Catapult

Energy Capital conference: How do we get to a smarter, cleaner energy system?

Guy Newey
CEO, Energy Systems Catapult

September 2024



Key points

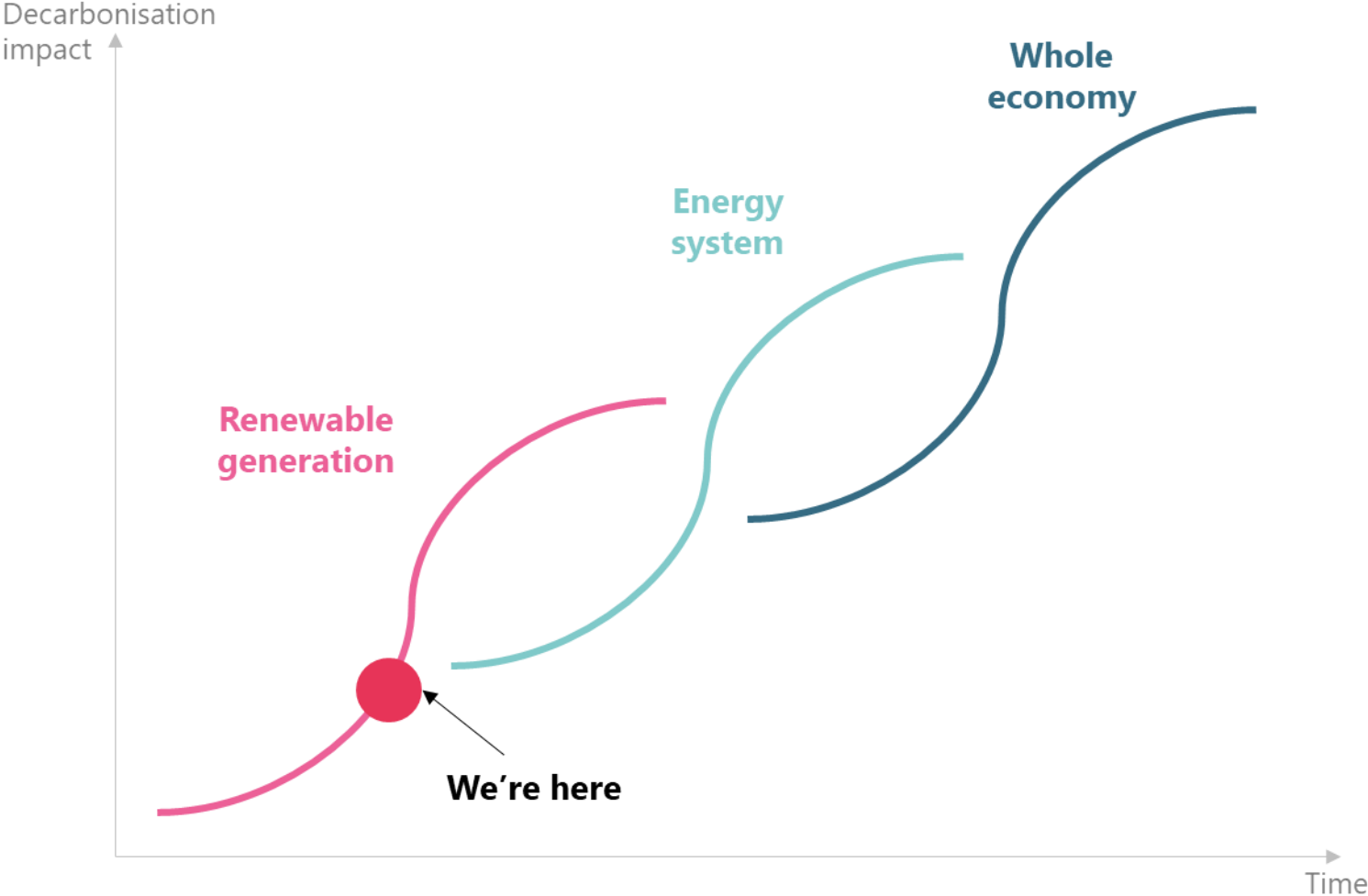
- The energy system is changing – fast
- Needs to change even faster, particularly if we want a chance of meeting 2030 targets
- There is a need to think whole system
- Key policy changes are essential to enable the transition to a smart, flexible, digitalised energy system
- West Midlands ideally placed to prosper from this transition



Context

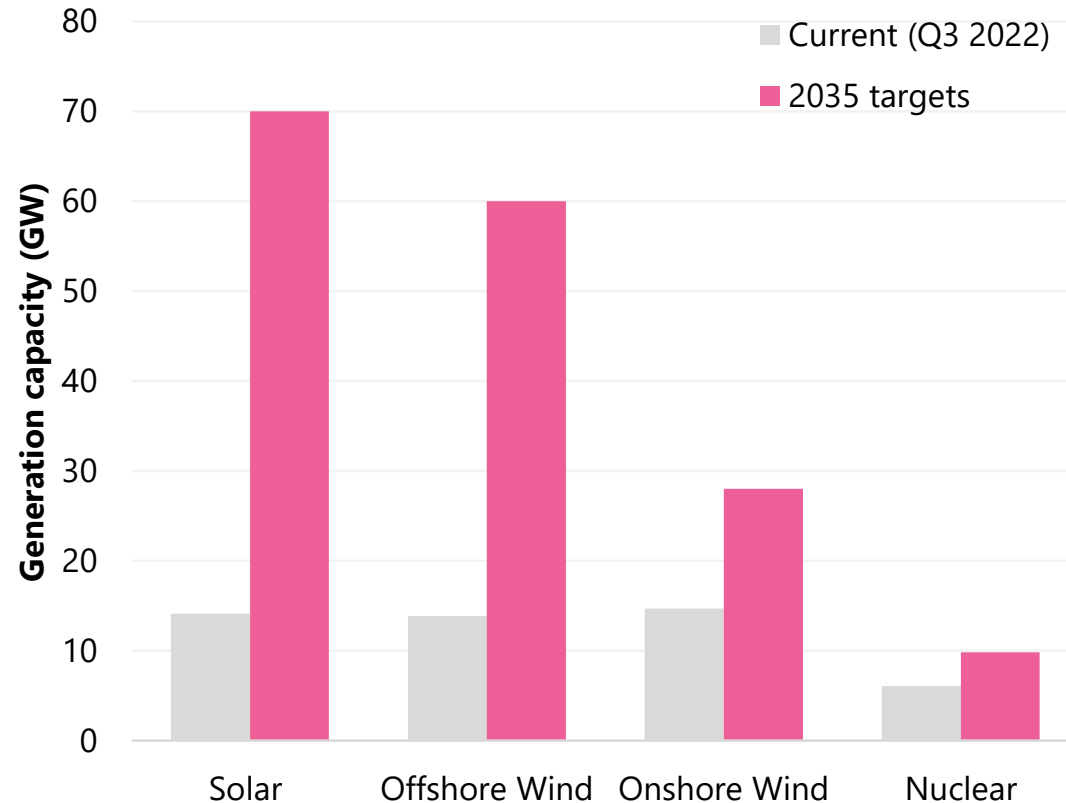


Net Zero is a three-stage transformation



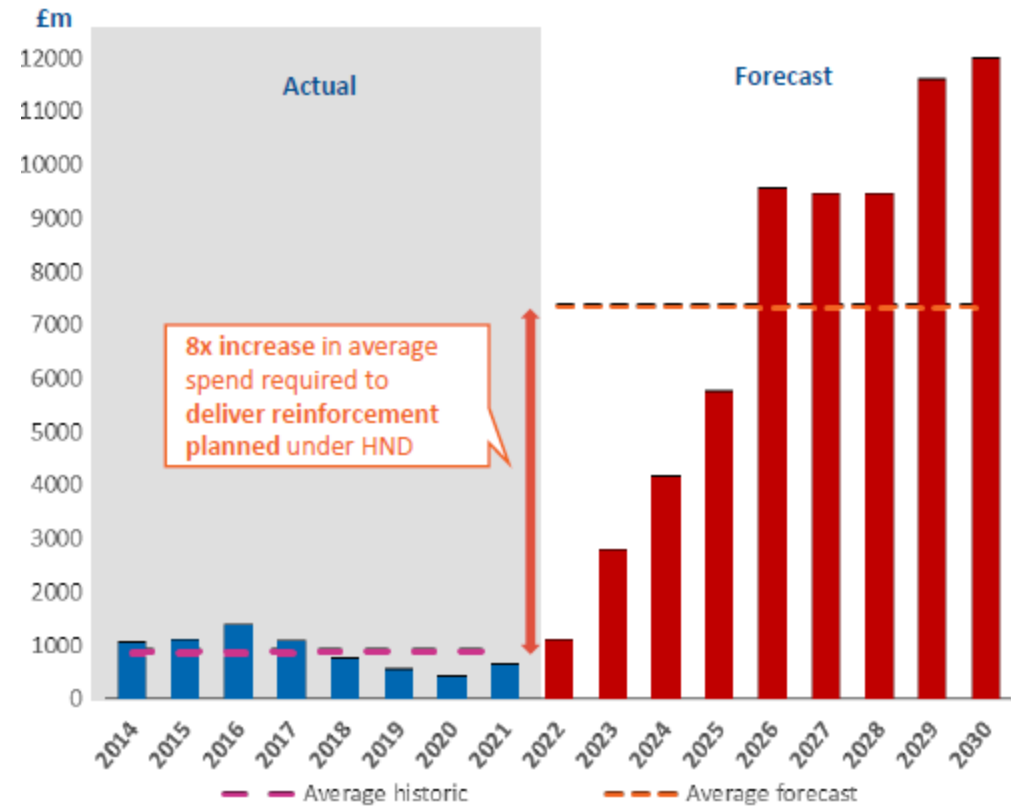
The investment needed to meet Carbon Budget 6 is huge

Renewables capacity needs to increase 4x current levels...



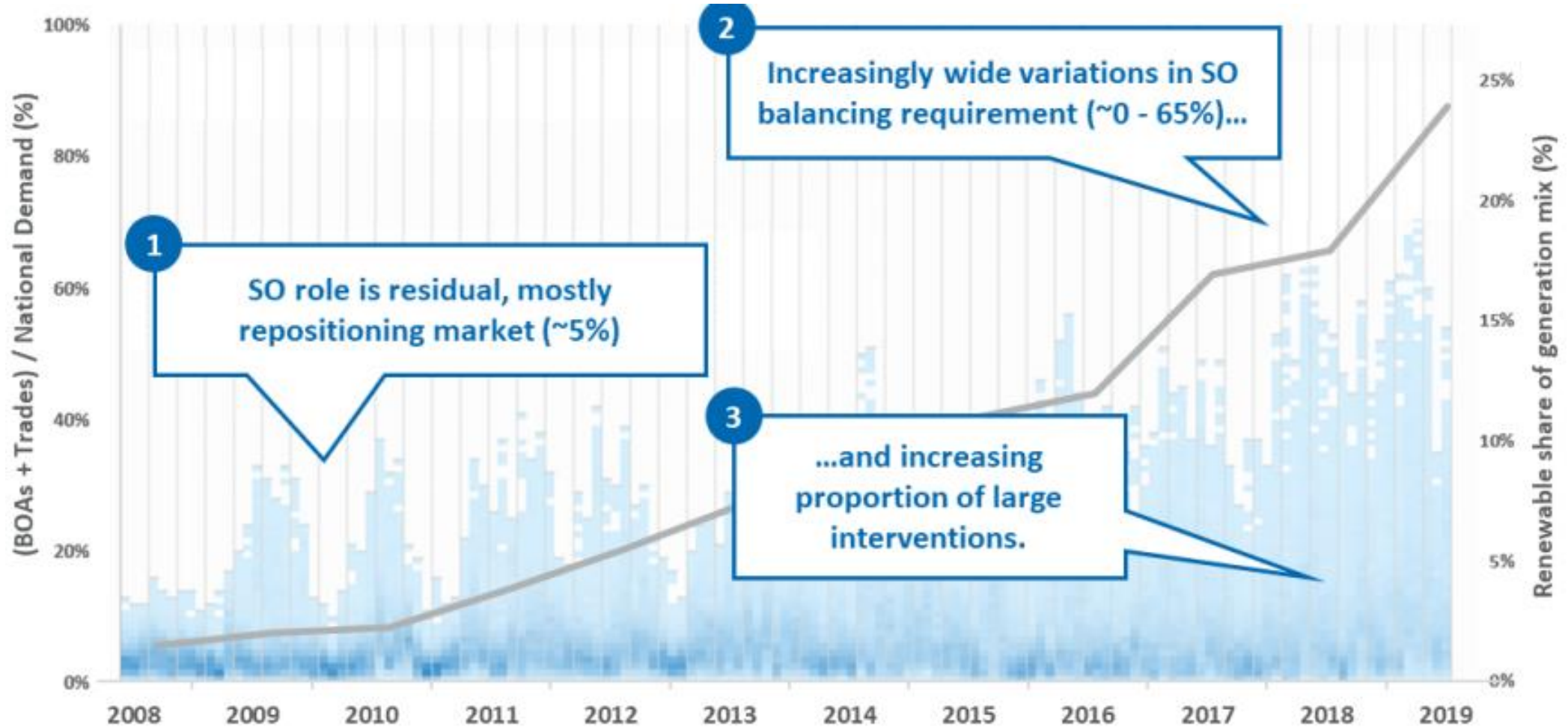
Solar and offshore wind targets are from the British Energy Security Strategy, onshore wind and nuclear targets are from the 6th Carbon Budget.
Source: BEIS Energy Trends (December 2022)

Supported by an 8x increase in transmission investment



Source: FTI presentation at Ofgem workshop (20/10/2022), based on data from Ofgem and National Grid ESO

And the system is starting to creak – the system operator is having to increasingly intervene

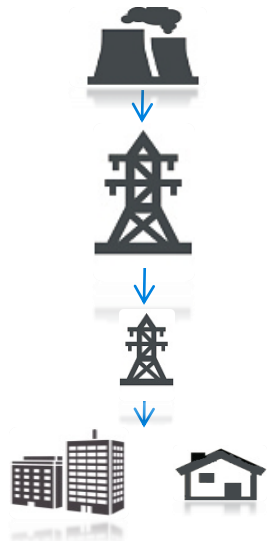


1) ESO balancing actions shown as a heatmap, with darker areas representing a higher frequency of actions of a given size.

Source: National Grid ESO (22/3/2022)

A smarter more flexible system is emerging...

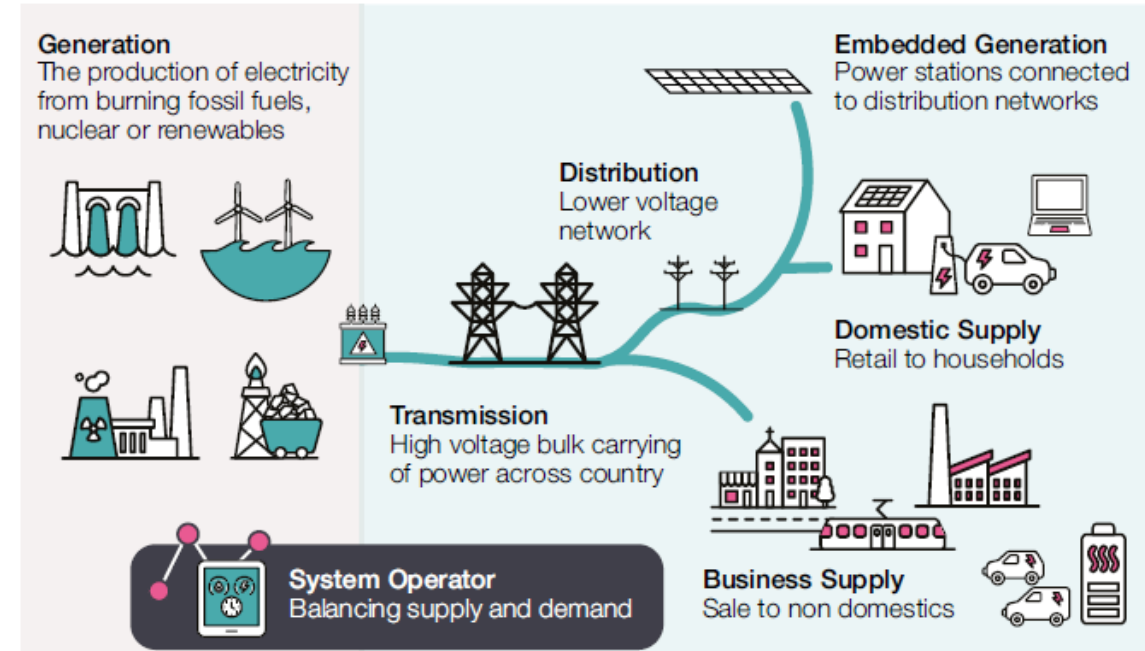
Yesterday



- Carbon intensive
- Centralised generation
- Predictable demand
- Steady increase in generation/demand
- ‘One-way’ flow of electricity
- Limited role at ‘distribution’



Emerging System – increased interactions



- Low carbon
- Interconnectors
- More distributed
- Storage
- Demand-side response
- Electric vehicles/heat
- Smart grids
- A smart system

So what needs to happen?

- Need to think whole system
- Policy needs to change
- Including Local Area Energy Planning
- And West Midlands well-placed to lead us into a smart energy future

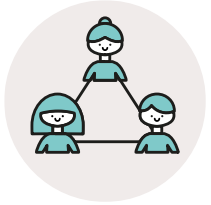


About Energy Systems Catapult

Mission: Accelerating Net Zero Energy Innovation



We help energy innovators launch new products and services



Independent
Not for Profit



Based in Birmingham
250+ experts



Part of the Innovate UK
Catapult Network



SME support



Consumer insight and
proposition design



Whole system
modelling



Delivering trials and
demonstrations



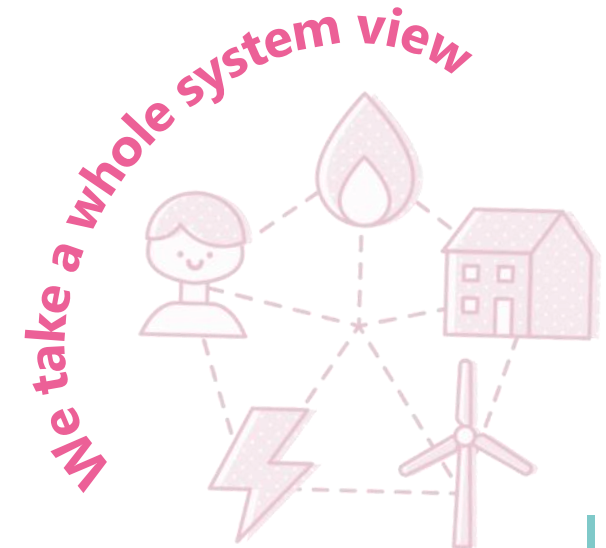
System and clean
technology
engineering



Digital and
data expertise

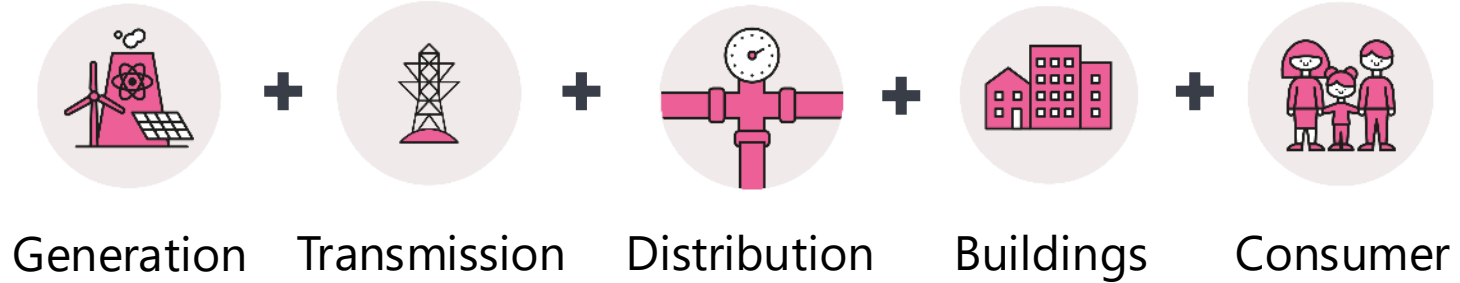


Markets, policy
and regulation

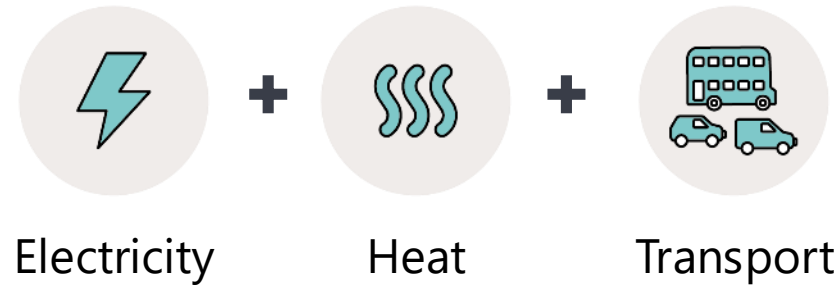


Our Expertise – Whole Systems Thinking

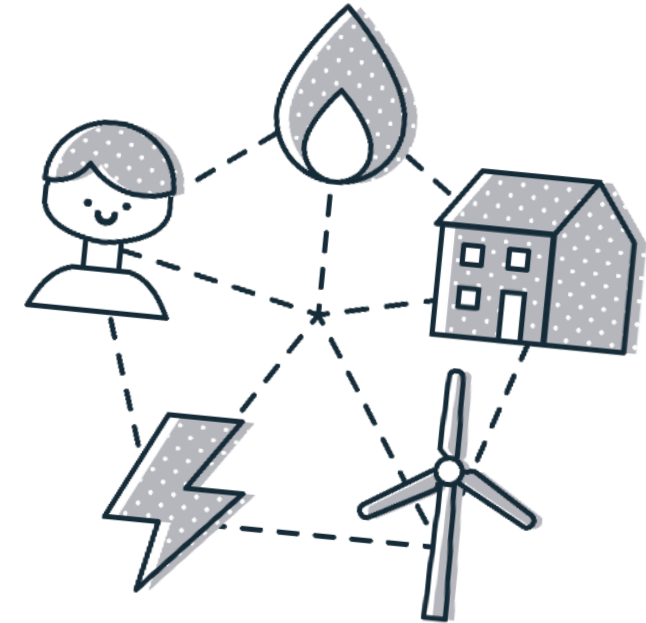
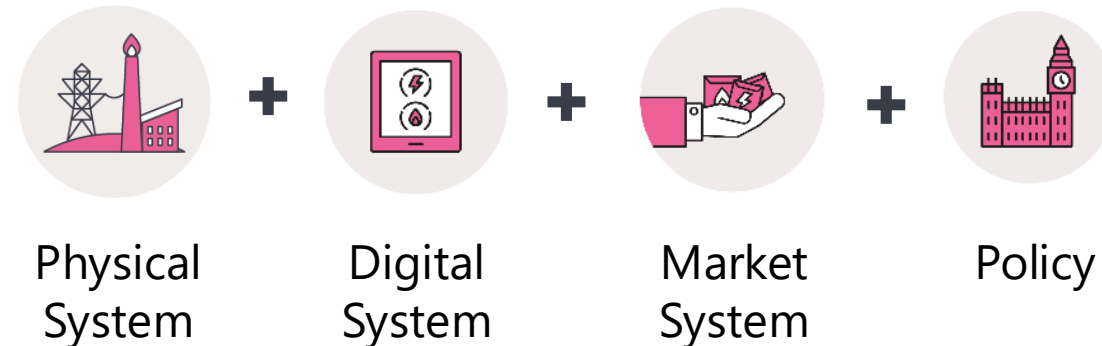
Joining up the system from sources of energy to the consumer



Breaking down silos between different parts of the energy system



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



Priority policy areas

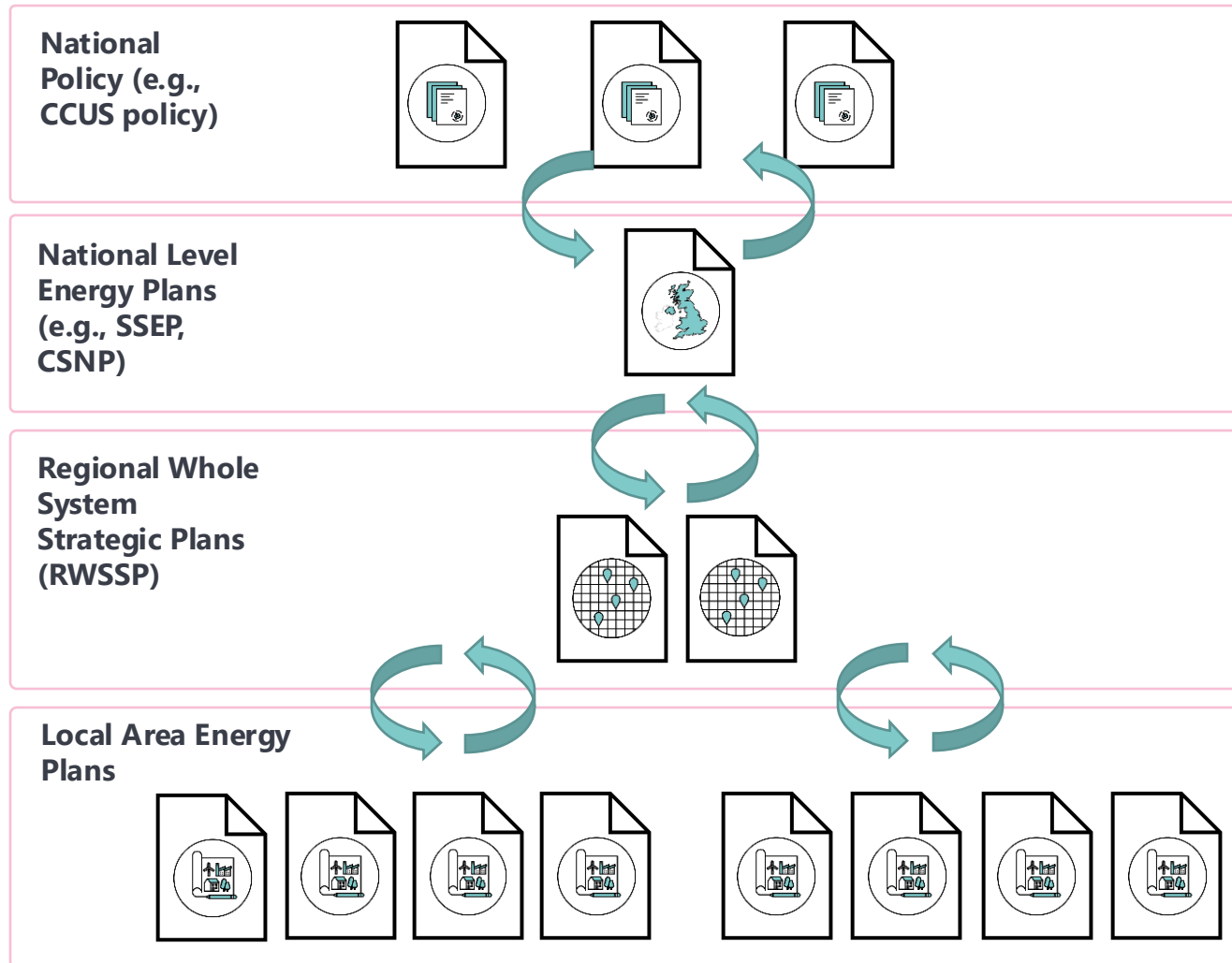
- Digitalisation
- More granular locational pricing
- Half-hourly settlement
- Rebalancing of electricity levies
- Planning, including Local Area Energy Planning



The role of local planning in net zero transition



The planning regime for energy is changing rapidly - different levels will need to interface seamlessly



Emerging system design questions:

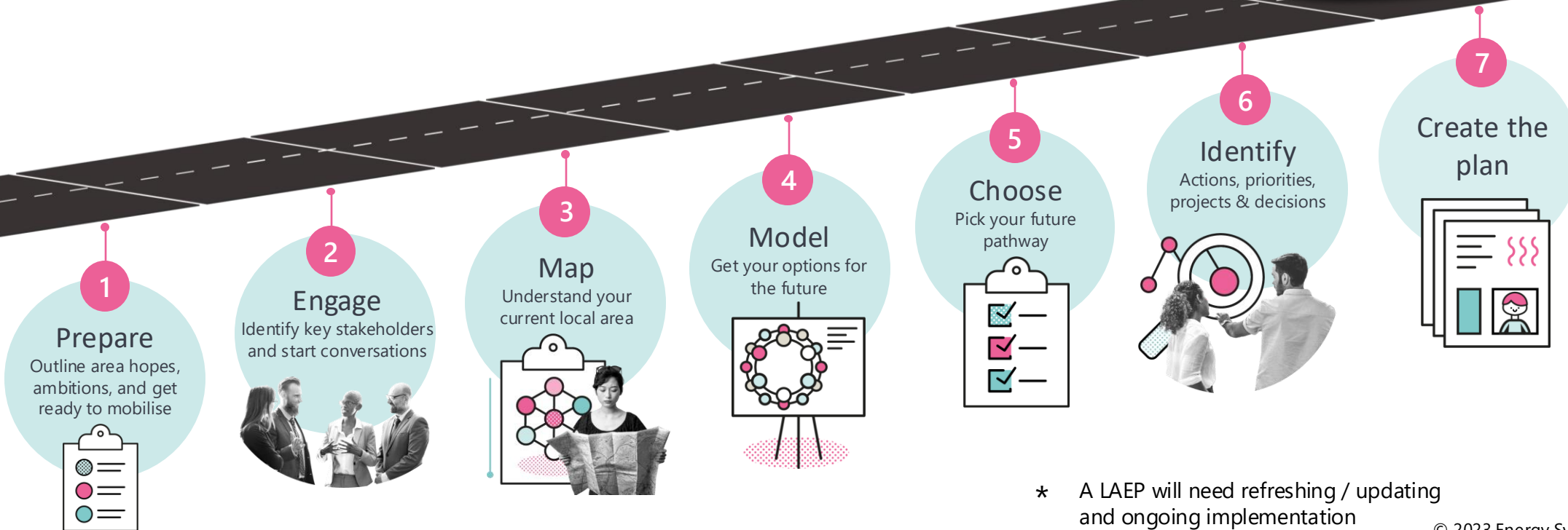
- How do the plans interface and interact with one another?
- Does the planning system need to align to price controls?
- What are the common strategic planning principles?
- How do you maintain democratic legitimacy of the plans as they pass up and down the hierarchy (e.g., LAEP to RESP to SSEP/CSNP)?
- 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?

What is a Local Area Energy Plan (LAEP)?

// A **whole energy system** approach led by local government, with key stakeholders.

A **cost-effective integrated plan** for the place to contribute to timebound local & national net zero targets.

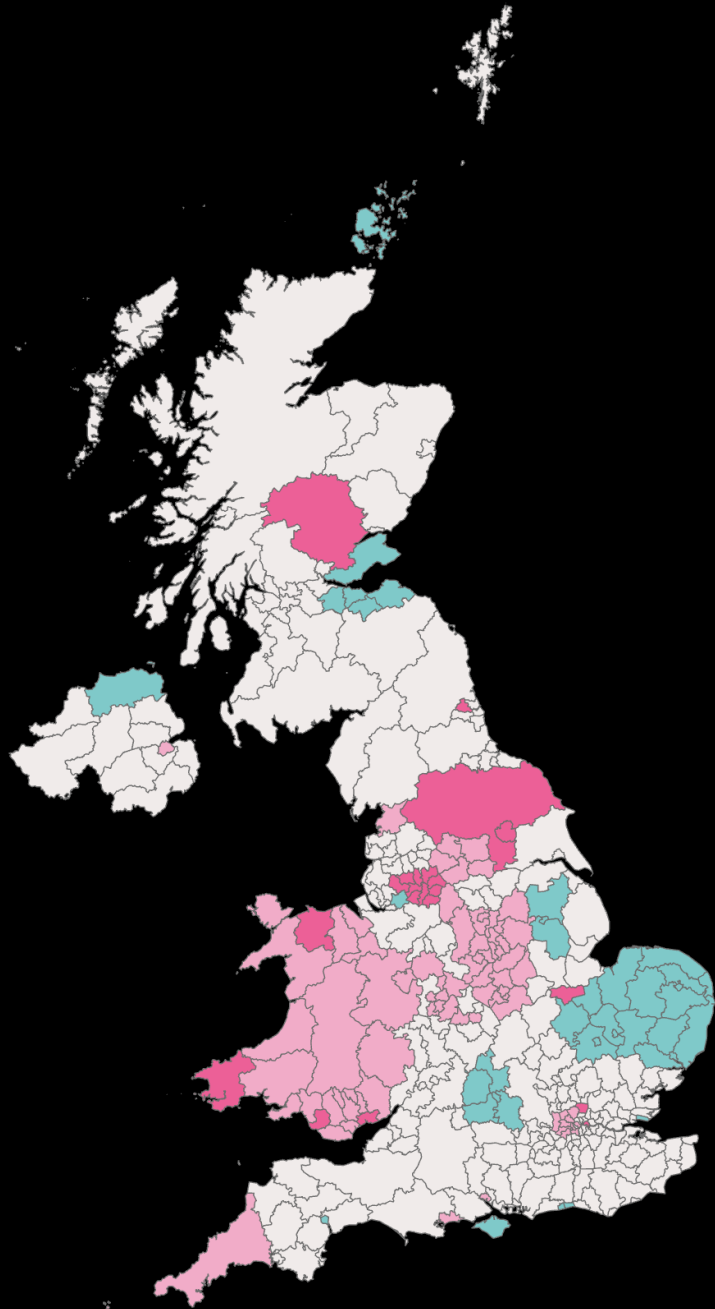
What, where, when, how many and how much!



* A LAEP will need refreshing / updating and ongoing implementation

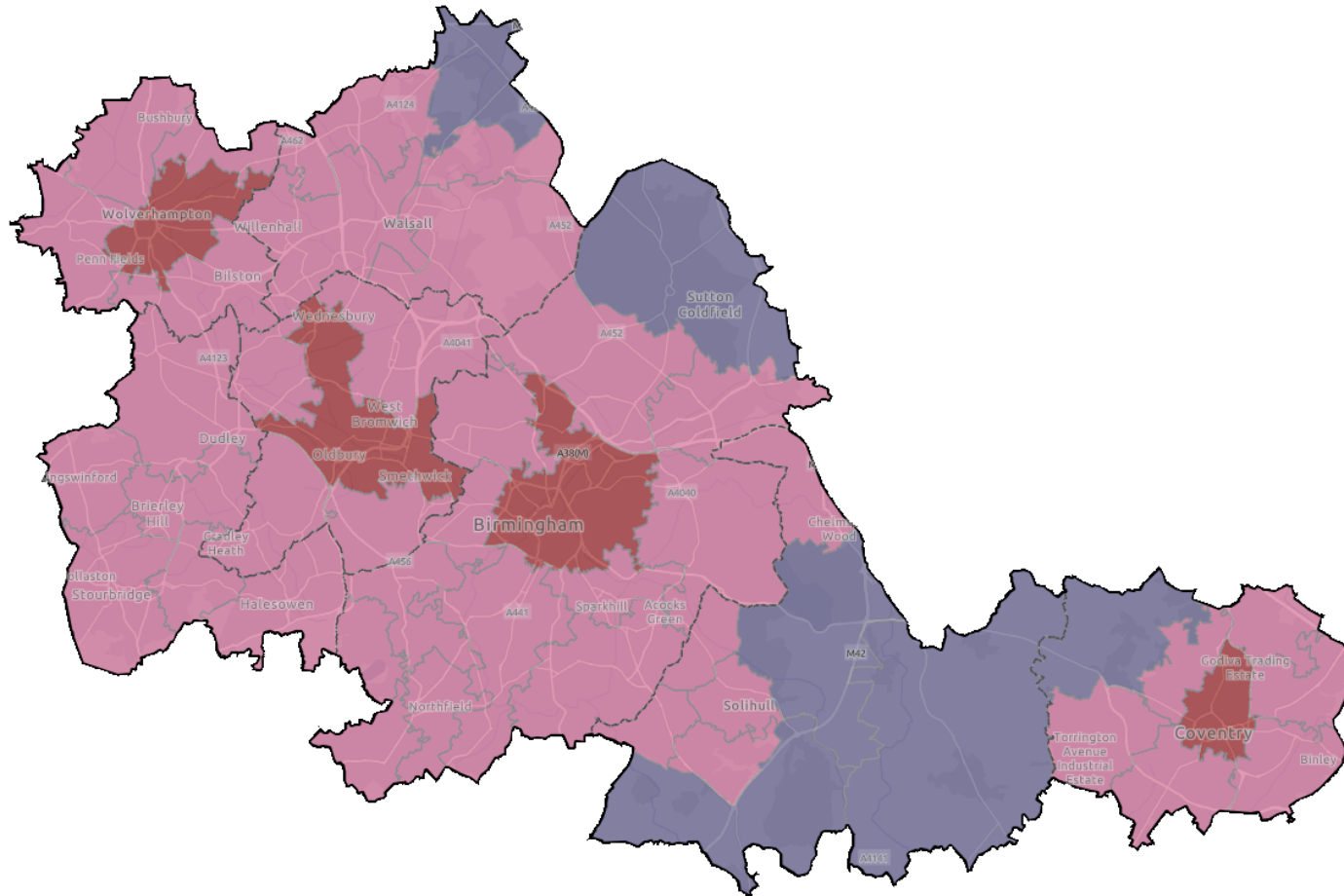
80% of local authorities in the UK have declared a climate emergency.

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 (mock-up)



Number of homes: 763,426

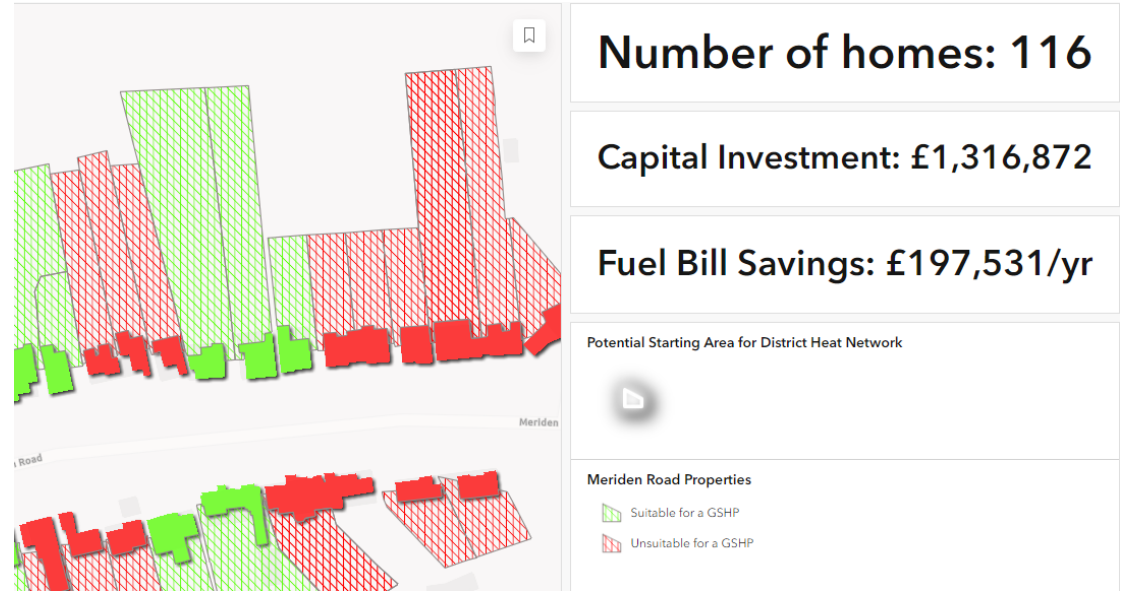
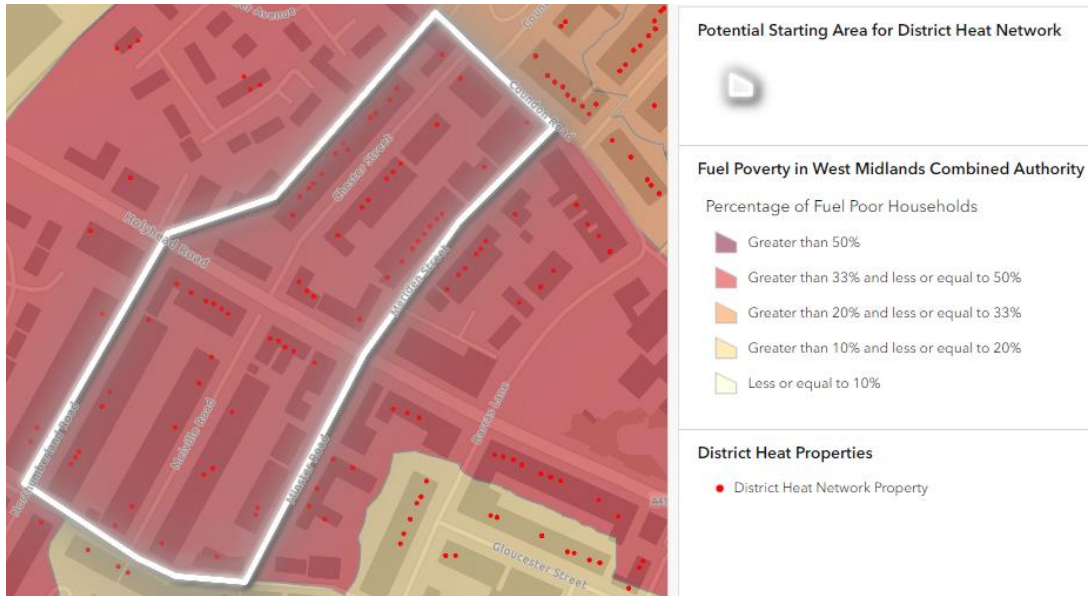
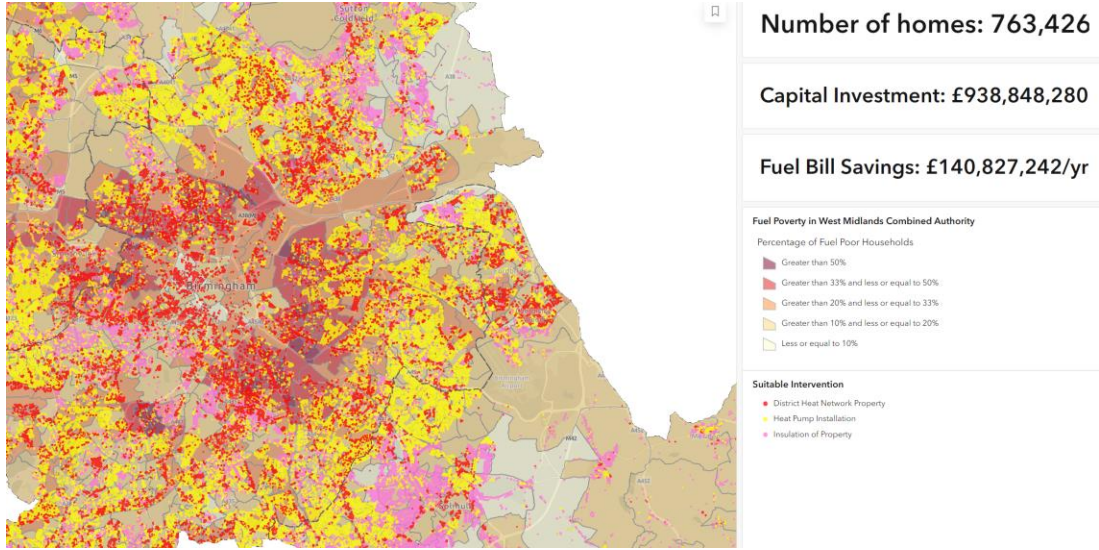
Capital Investment: £1,865,233,792

Fuel Bill Savings: £279,785,069/yr

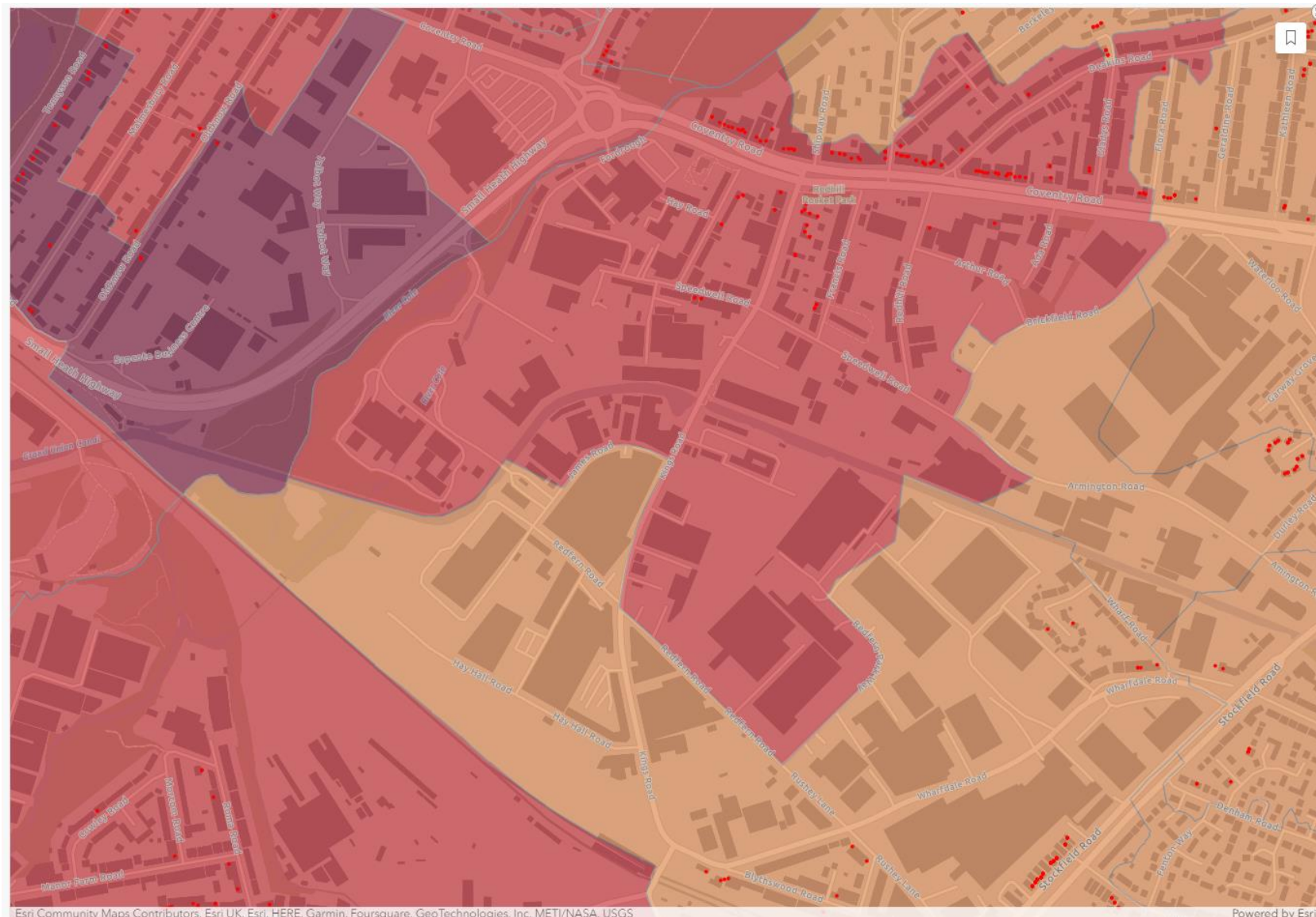
Heating Systems Zones

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

LAEP Outputs (mock-up)



Tyseley Energy Park (mock-up)



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

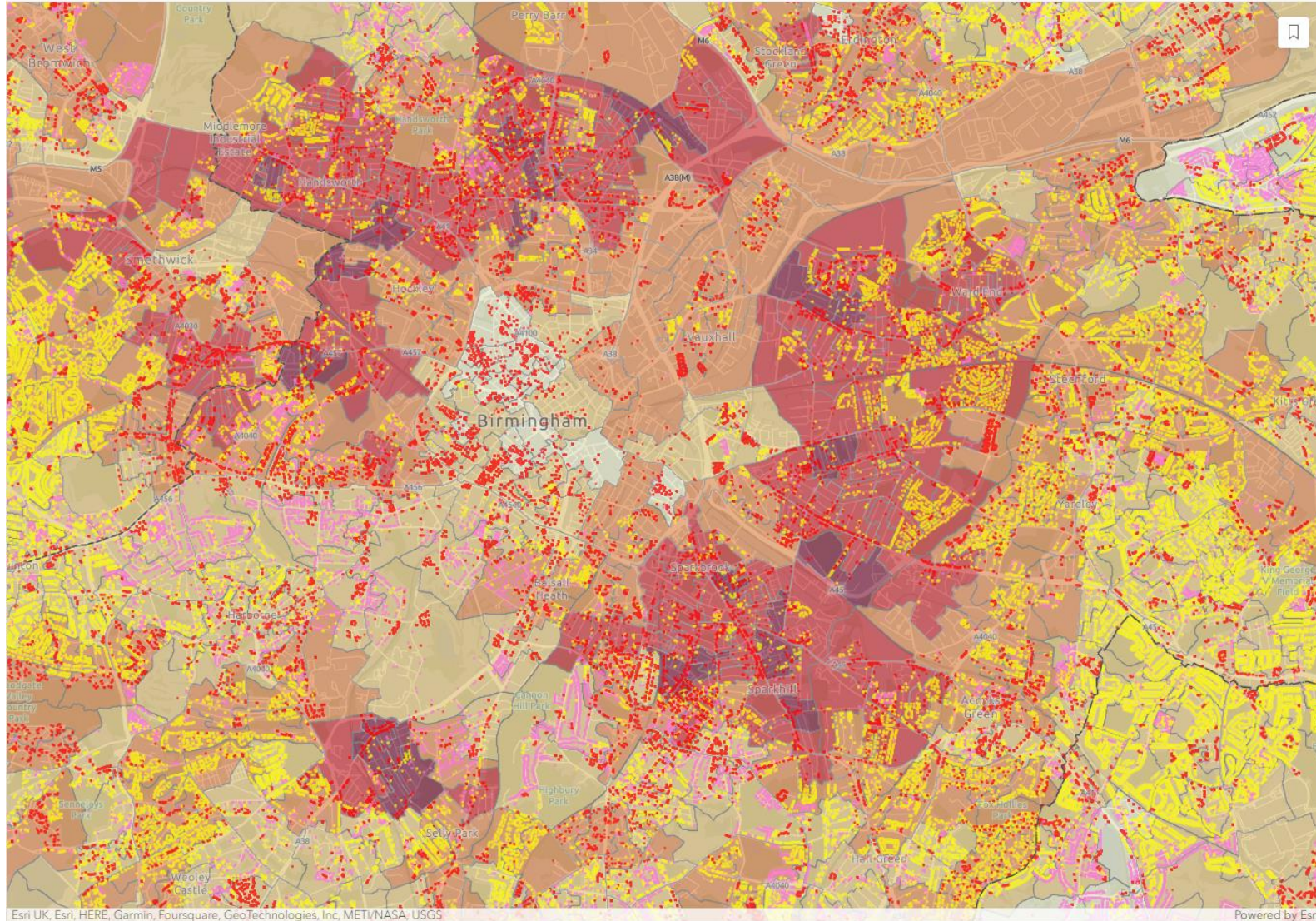
Percentage of Fuel Poor Households

- 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

Birmingham City Council fuel poverty (mock-up)



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

Hampton in Arden



Number of homes: 33

Capital Investment: £420,856

Fuel Bill Savings: £63,128/yr

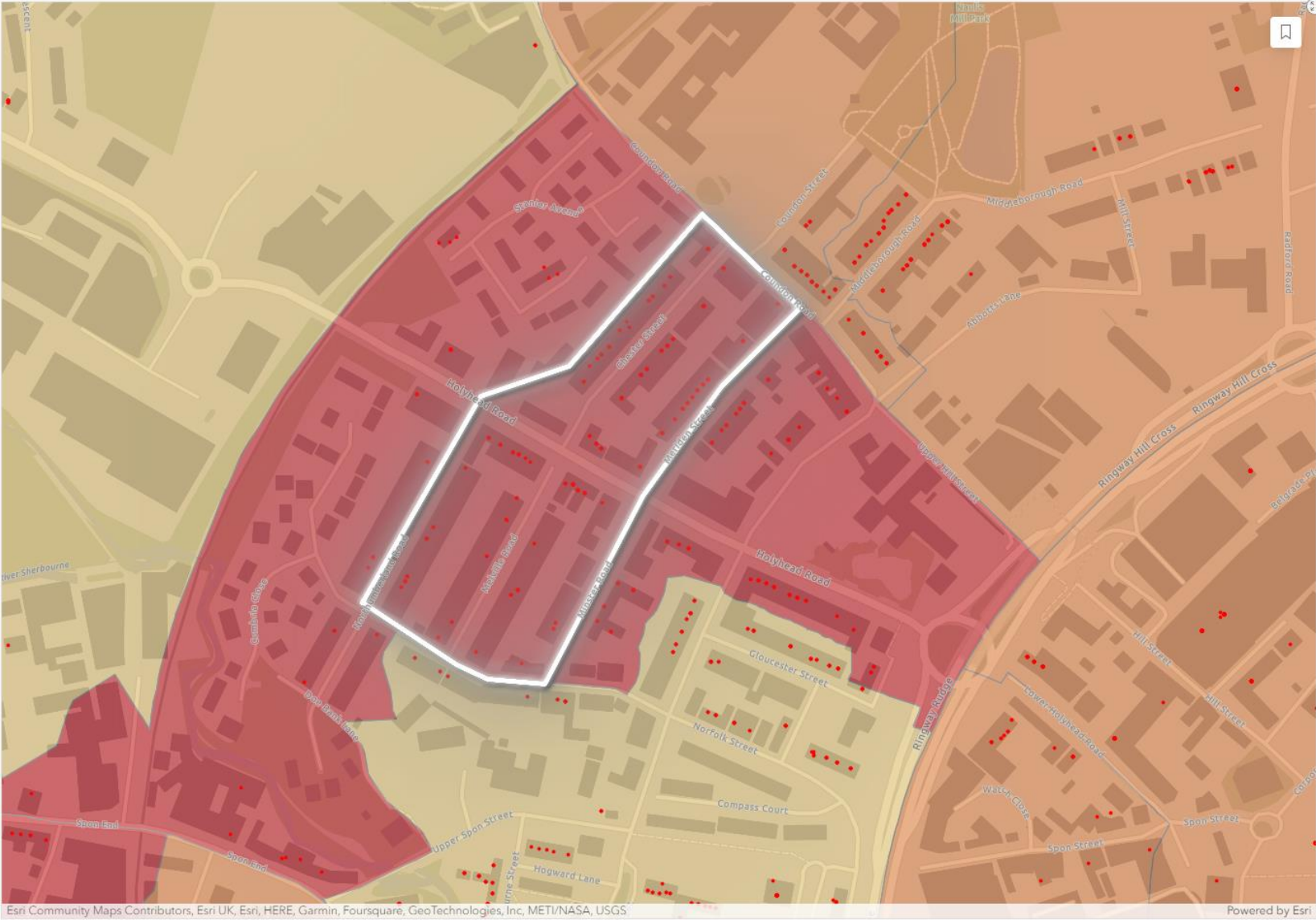
Meriden Road Properties

- Suitable for a GSHP
- Unsuitable for a GSHP

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

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Coventry District Heat



Number of homes: 1,894

Capital Investment: £203,640

Fuel Bill Savings: £30,546/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%
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District Heat Properties

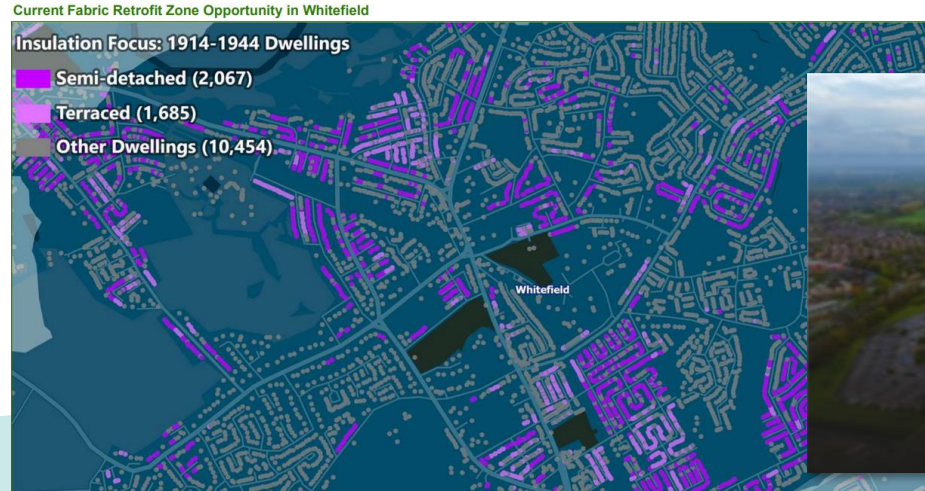
- District Heat Network Property

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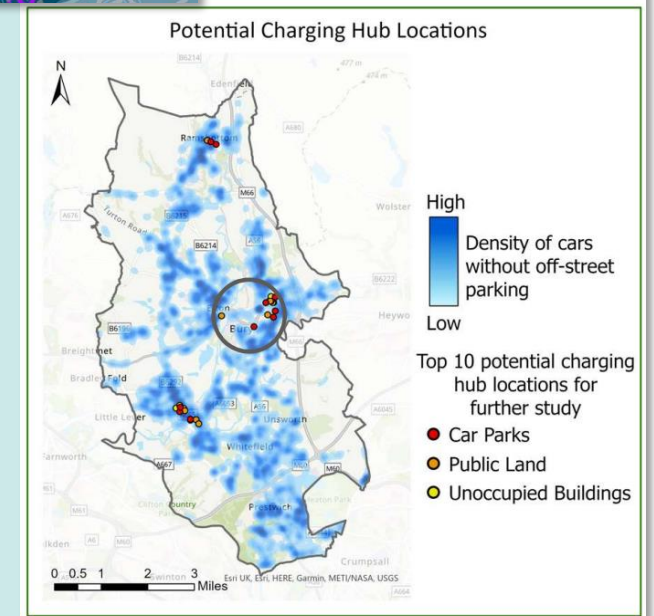
Providing Greater Manchester with a plan to deliver Net Zero **CATAPULT** Energy Systems

- **10 plans** for districts to reach their 2038 carbon neutrality targets.
- **Near term opportunities**; 140,000 domestic retrofits; 4.5GW solar, EV charging, heat networks.
- Visibility of **total investment**, e.g. £5.1bn in Bolton across all technologies and the network by 2038.
- Catalysing **private sector** funder and developer interest, and political traction.
- Informing the **trailblazer devolution** deal and creation of in-house capacity.



“To help catalyse action we are the first city in country to develop and adopt Local Area Energy Plans. 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. The plans *have* identified a £12 million investment opportunity in our wider public estate including heat networks, social housing retrofit, renewable energy generation and public sector retrofit. The time to act is now!”

Andy Burnham – GM Mayor



Leveraging LAEP to unlock the power of place



1. Endorse LAEP

DESNZ and **MHCLG** should nationally endorse the LAEP process for whole systems planning



2. Fund a roll out

DESNZ should fund, and mandate over a reasonable timeframe, all areas to undertake LAEP



3. Policy coordination

MHCLG, and **Ofgem**, should embed LAEP within the National Planning Policy Framework, and future network governance arrangements



4. Ensure data drives impact

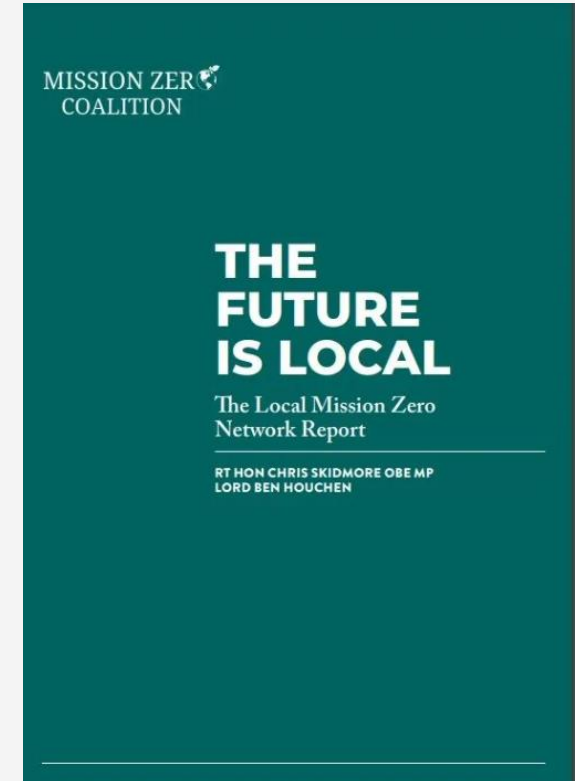
DESNZ should facilitate, and **sector actors** participate in, a task and finish group to agree scope of LAEP input data, and output data use cases



5. Support local capacity

DESNZ should fund, centralised consistent support to local authorities, enabling them to deliver and implement LAEP effectively

Local Area Energy Planning: The Time and Place is Now





*The “one stop shop” -
saving you time &
effort in delivering
local net zero projects.*

- Net Zero Go[®] is a digital platform to help local authority officers accelerate their net zero projects
 - Built for officers, with officers, used by over 1000 officers, it's free to access
 - It brings together the knowledge, the tools and the people needed to:
 - Increase Capacity
 - Increase Capability
 - Increase Collaboration
-In order to deliver net zero projects faster

Sign up at

netzerogo.org.uk

Funded & backed by



The opportunity for the West Midlands



The opportunity – West Midlands as the national leader in smart, flexible, digitalised energy system

- **Risk** – West Midlands at the ‘wrong end’ of the system
- The RESO project **savings of £374** ‘**smarter, flexible**’ **by 2032** (demand generation, vector infrastructure built)
- West Midlands has components to lead the country in this area
 - Including Energy Systems Catapult (Living Lab)

Birmingham Tech Week - Smart Energy System Cluster event

- Launch of West Midlands Smart Energy Systems Cluster
- 24th October 2024 (9-1145)
- IET Birmingham, Austin Court, 80 Cambridge Street, B1 2NP

Research Excellence

- Existing programmes

Supply Chain Capability

- *In-sector (OEM/SME)*
- *Transferable capability*

Market Opportunity

- *Proximity to early demand*
- *Scalable more widely*

Key points

- The energy system is changing – fast
- Needs to change even faster, particularly if we want a chance of meeting 2030 targets
- There is a need to think whole system
- Key policy changes are essential to enable the transition to a smart, flexible, digitalised energy system
- West Midlands ideally placed to prosper from this transition



Thank you...

guy.newey@es.catapult.org.uk

es.catapult.org.uk
[@energysyscat](https://twitter.com/energysyscat)



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Smart Energy Systems

Panel chaired by Guy Newey

**Ellie
Horwitch-
Smith**

Birmingham
City Council

**Monika
Paplaczyk**

Thrive
Renewables

**Jess
Britton**

University of
Edinburgh

**Fraser
Stewart**

Regen

**Alison
Skillen**

Turner &
Townsend

**Kate
Ashworth**

Energy
Capital



Afternoon sessions

- **1 – Room 111, First Floor**
Learnings from the First Net Zero Neighbourhood Demonstrator: What We've Learnt and What Comes Next
- **2 – Room 110, First Floor**
Pioneering Heat Network Zoning: Taking Learning from Across the Region
- **3 – Lecture Theatre, Ground Floor**
Best Practice in Retrofit Delivery: Learning the Lessons for Devolution
- **4 – Room 112, First Floor**
Channelling Investment into a Smarter Local Energy System



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Lunch and Exhibition

In the National Brownfield Institute

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Channelling Investment into a Smarter Local Energy System



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world of energy



Keynote speech

Delivering a Just Transition

Gillian Cooper

Director of Energy, Citizens Advice



Responses to the Regional Energy Strategy

Panel discussion chaired by Cheryl Hiles

Jim Scott
Grid Edge

Beck Collins
Sustainability
West Midlands

Michaela Cryer
Younity



Closing remarks

Cheryl Hiles

Sign up to the Energy Capital Partnership

↓ Scan to Learn More and Express your Interest ↓



See our new website – currently under development





Follow us and share
your news and
stories on LinkedIn





For a better
world of energy



Art and Energy – capturing people's imaginations

Chloe Uden

Artistic Director, Arts and Energy

Thank you for coming today



**West Midlands
Combined Authority**

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www.wmca.org.uk/what-we-do/environment-energy/energy-capital/