

Local Area Energy Planning:

Empowering local action on the
road to Net Zero

Tim German
Chris Brierley

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About Energy Systems Catapult

500+
Projects

120
Projects
each year

82
International
Partners

Worked
With over
300
SMEs

Unlocked
£160
million
of investment
for SMEs

£51m Public
£109m Private

10
FTSE 250
companies
worked with

Led / part of over **10**
national government
taskforces

Contributed to
over **140**
national consultations

Hosted over **70**
industry events
in the last year

3
Ground-breaking thought
leadership pieces leading
to innovation, policy and
regulation changes

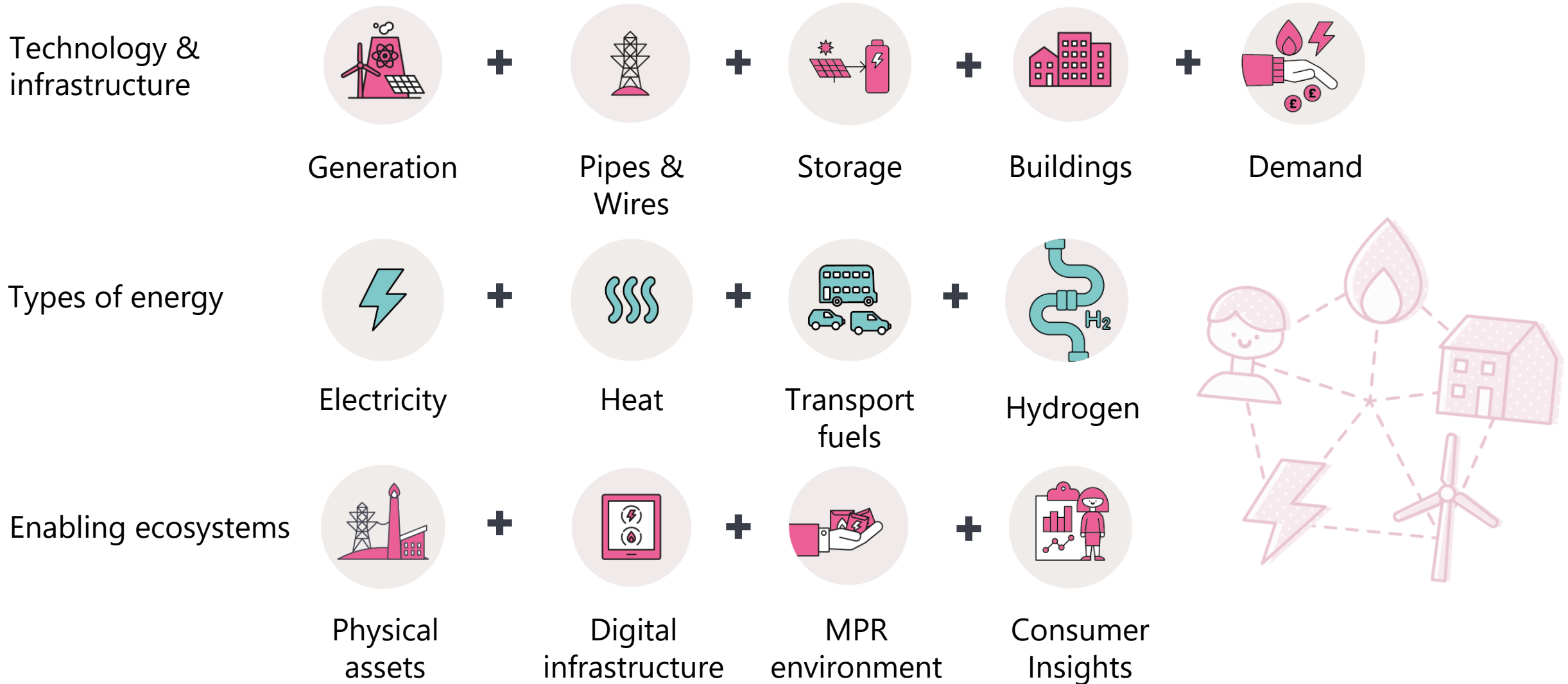
Newsletter reached more
than **37,000** in the last
year

Social media impressions **1.7**
million people over last year

Catapult website **450,000**
unique visitors in the last
year

- Independent
- Not-for-Profit
- Bridging academia, Government & Businesses
- *With Industry for Industry*

Whole Systems lens to assess costs, risks and opportunities





A place led approach to decarbonisation

We help places plan and mobilise their net zero ambition into action, across the energy system.

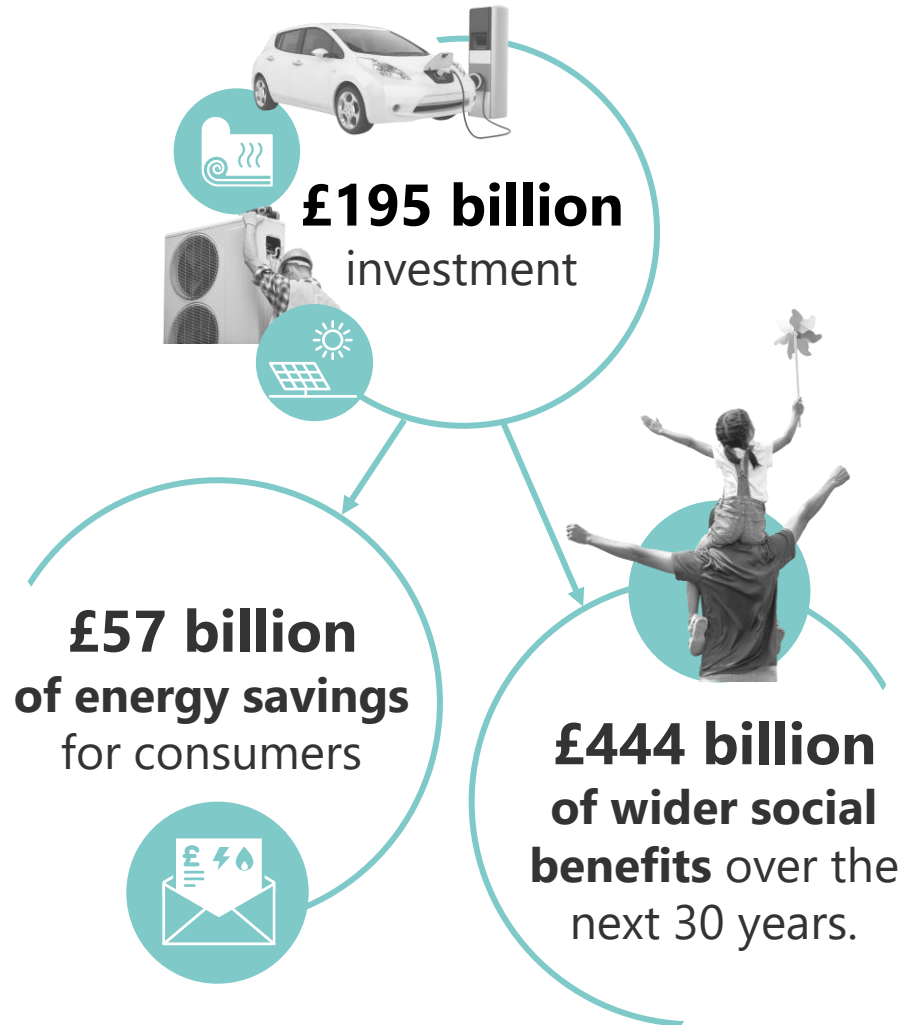
Combining cutting edge whole system modelling with stakeholder insights to support informed and aligned investment decision-making with consumers at the heart.

- Empowering councils to deliver Net Zero action through an evidence led approach helping to turn plans into action
- Supporting network operators make low cost, no-regret investment decisions on local energy infrastructure.
- Informing Government decision-making on policy, infrastructure and tracking national progress towards Net Zero.

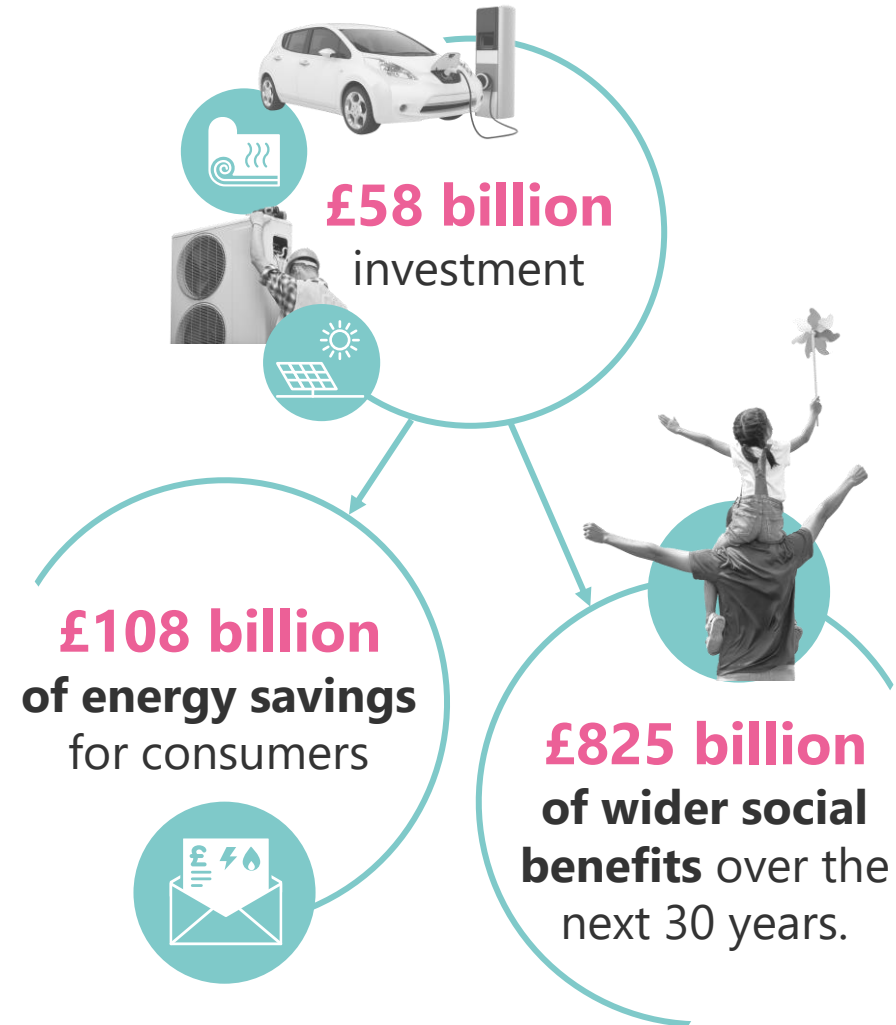


Place-based savings

Place-agnostic approach



A place-specific approach to Net Zero



What is Local Area Energy Planning?

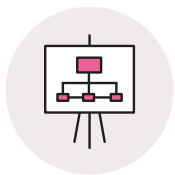
Local Area Energy Planning (LAEP) is a concept developed by the ESC to enable data-driven, spatial and collaborative planning, to help unlock investment and delivery of smart local energy systems



Each local area is different - its people, geography, building stock, energy networks and ambitions and priorities

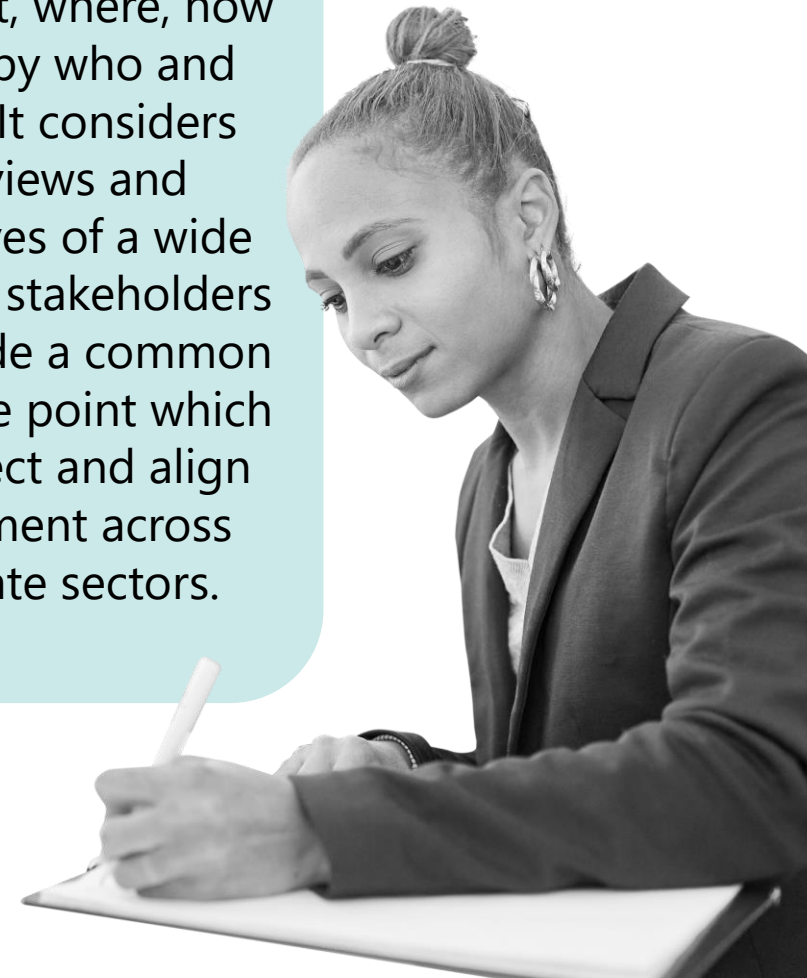


Local Area Energy Planning provides a data driven, spatial and collaborative means, involving local government & network operators, of exploring a range of possible future local energy scenarios to cost-effectively decarbonise



Resulting in the identification of energy network and system choices to support carbon neutral aspirations - informing what local action is needed and where

Local area energy planning provides the 'what, where, how many, by who and when'. It considers the views and objectives of a wide range of stakeholders to provide a common reference point which can direct and align investment across separate sectors.



What is a Local Area Energy Plan (LAEP)?



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

It **identifies the most cost-effective masterplan** for the local area to contribute to timebound national and local net zero targets.



The road to Net Zero continues

1
Prepare
Outline area hopes, ambitions, and get ready to mobilise

2
Engage
Identify key stakeholders and start conversations

3
Map
Understand your current local area

4
Model
Get your options for the future

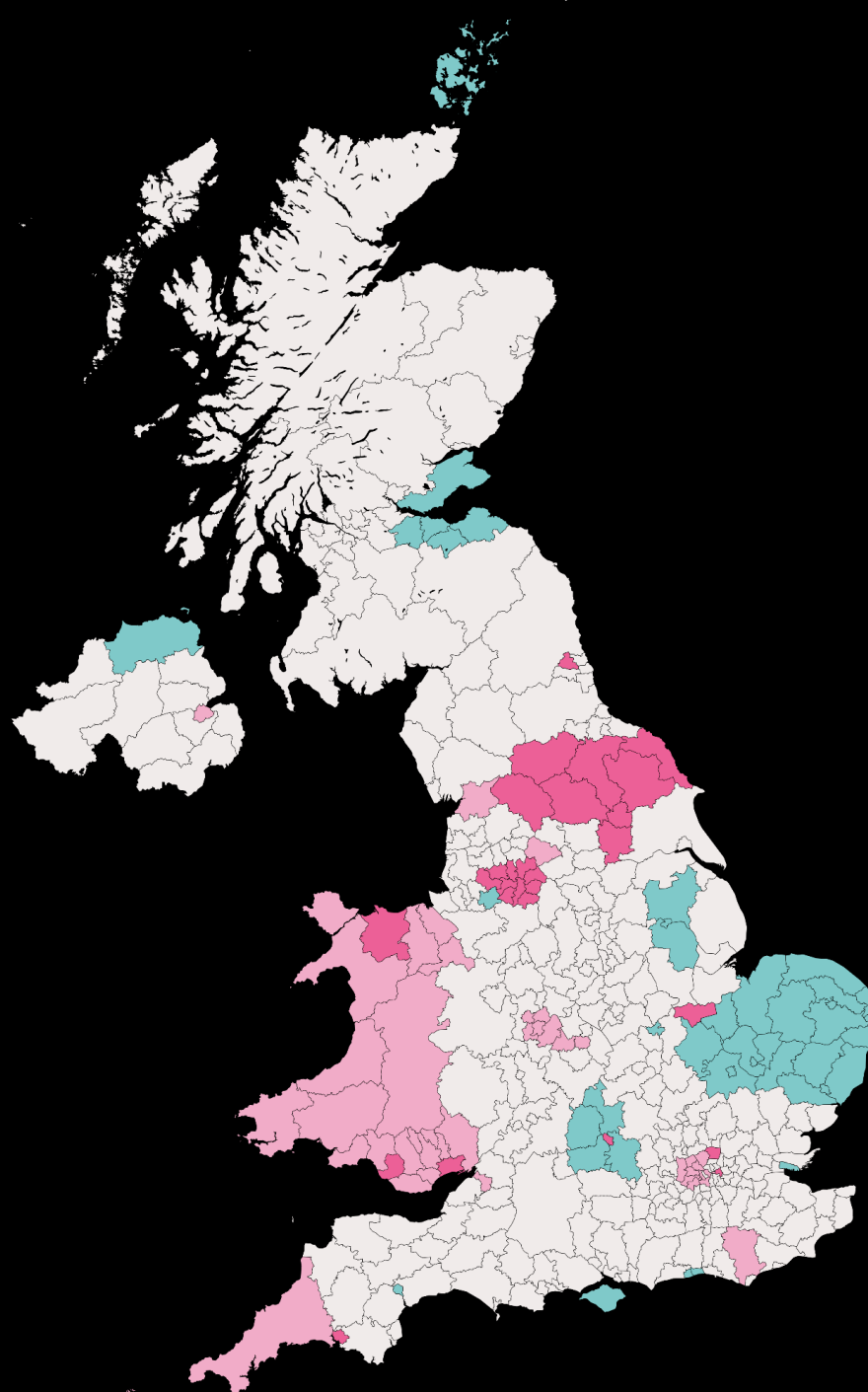
5
Choose
Pick your future pathway

6
Identify
Actions, priorities, projects & decisions

7
Create the plan

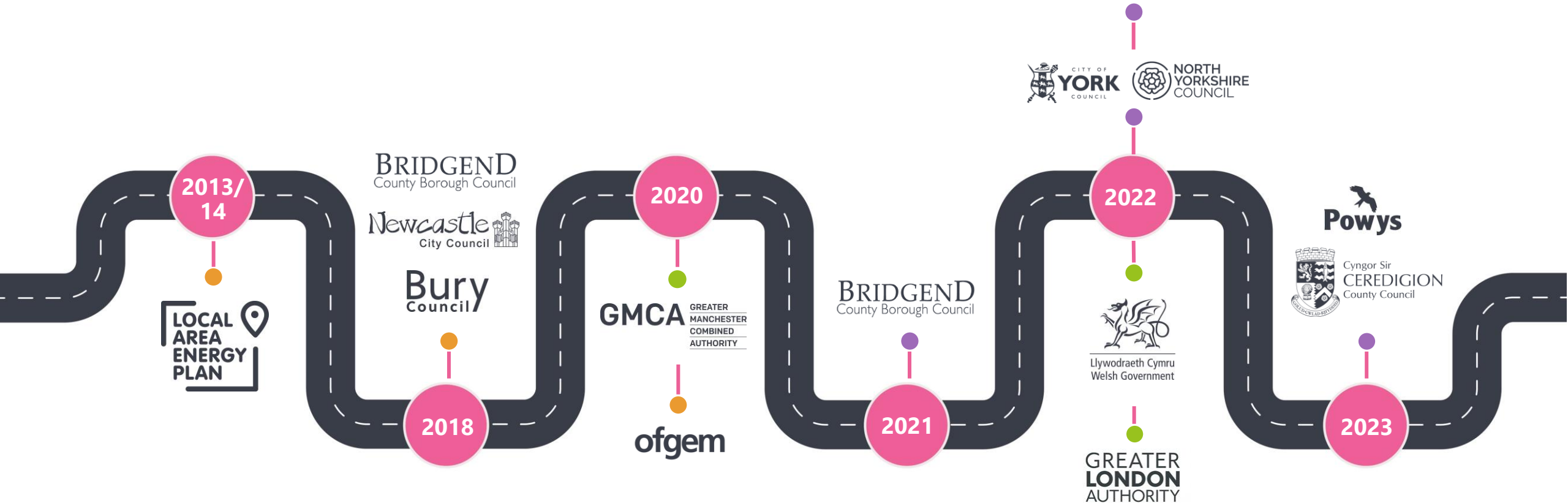
85% of local authorities in England & Wales have declared a climate emergency.

Nearly 17% of local authorities in the UK have, or are developing, a Local Area Energy Plan*.



- Local Area Energy Plan - Completed
- Local Area Energy Plan - In progress
- Local Energy Asset Representation (a LAEP building block) - Completed

The Local Area Energy Plan timeline.



Key

- Concept / guidance development
- Technical advisory
- LAEP delivery

Local Authorities are seeing the impact...



“We are **defining a project pipeline** for the pilot scheme with UK Infrastructure Bank (UKIB) and **building programmes of work** based around the LAEP outputs.”

“The plan has been identified as a key piece of evidence in the preparation of the Council’s forthcoming **strategic Local Plan**, alongside a Green Infrastructure Strategy.”

“The LAEP supports timely delivery of new **housing and commercial development** required for our area which has significant infrastructure challenges”.

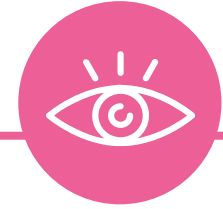
“We used the LAEP outputs to identify and accelerate feasibility studies for EV infrastructure and solar project development...and found that **80% were commercially viable opportunities.**”

The Benefits

By using our pioneering local area energy plan which will give you...



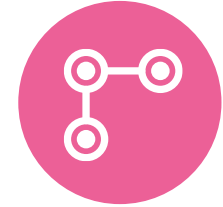
A localised whole energy systems roadmap to decarbonisation.



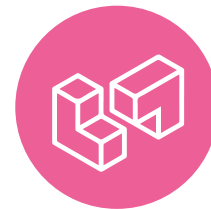
Visual plan highlighting suitable technologies.



An evidence-based investment plan.



Joined up current plans and policies.

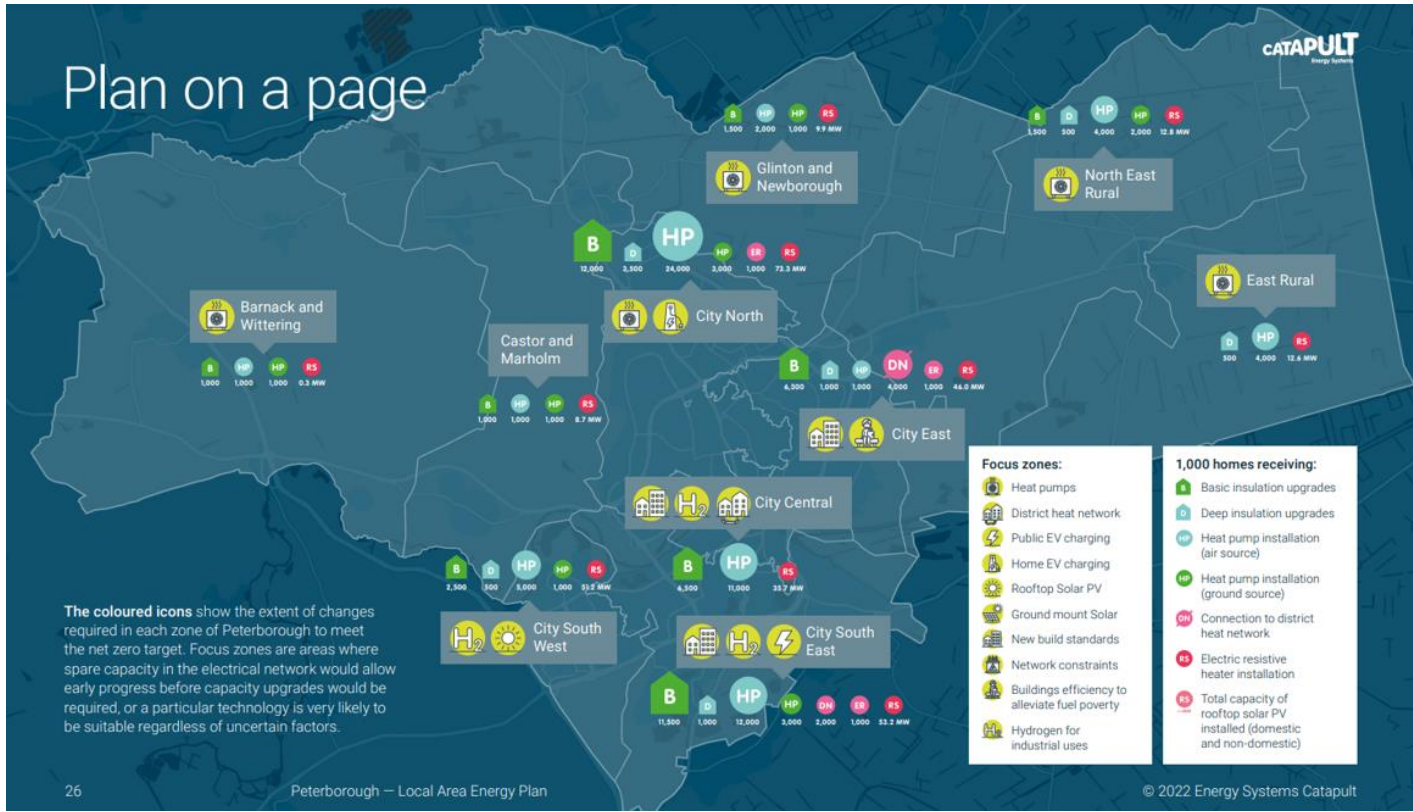


Engaged political and community buy in.



Identify and enable wider area benefits.

LAEP Output Examples:



Hydrogen opportunity area



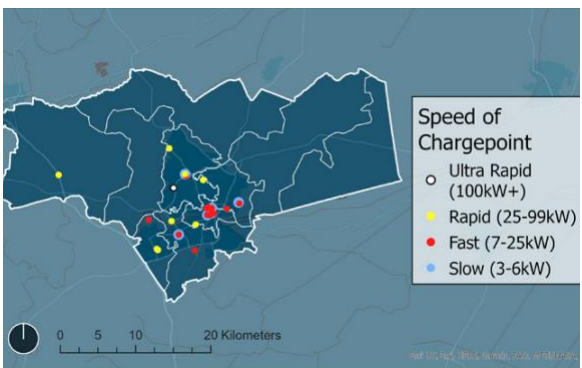
Domestic rooftop PV focus zone



Domestic heat pump focus zone



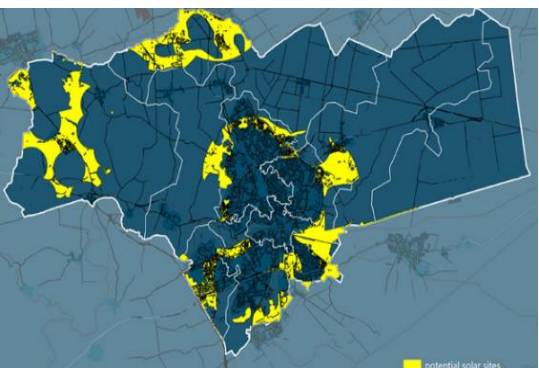
Heat network focus zone



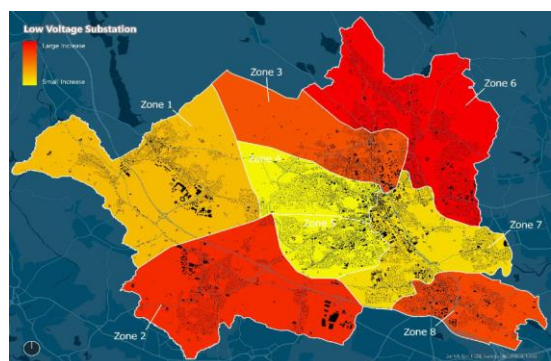
Public EV charging hubs



Fabric retrofit focus zone



Large scale renewables opportunity areas



Energy network impact

How Local Area Energy Planning can unlock value for key stakeholders



As a government policy lead...

“ I want to understand the costs associated with achieving net zero across the UK. From this we can deliver impactful programmes, based on robust evidence that align with local needs and priorities, ensuring government funding is well spent leading to economic growth, and skills, as well as net zero.



As a manager at Ofgem...

“ I want to ensure changes to our energy infrastructure offer the best value to customers, while supporting the transition to net zero.



As a local borough councillor...

“ I want to identify how we best decarbonise our area while ensuring the community can benefit. Its important I have evidence to develop business cases for further investment and project development.



As a combined authority leader...

“ I want to attract investment to the region by demonstrating our commitment and providing certainty to net zero opportunities across housing, buildings, renewable generation, and transport.



As an energy network operator...

“ I want to be able to make the case to invest in upgrading the network to ensure local areas can develop and decarbonise in the most effective way.



As a project developer...

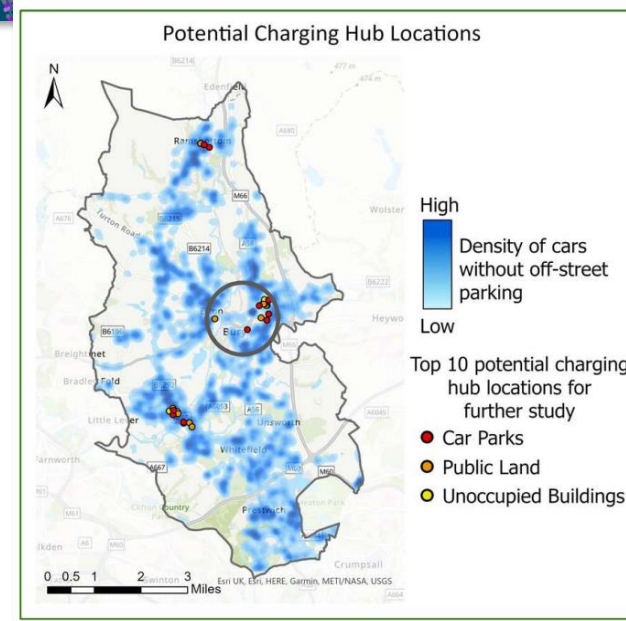
“ I want to have certainty of the commercial returns for our project investments while ensuring they are suitable for the area and will meet the needs of the community

Providing Greater Manchester with a plan to deliver Net Zero

Current Fabric Retrofit Zone Opportunity in Whitefield



Potential priority areas to demonstrate publicly accessible EV charging infrastructure



"The LAEP work undertaken is powerful because it identifies not just the type of technologies that will be needed for this transition, but their scale, indicative locations, and costs."

Mark Atherton, Director of Environment, GMCA

- A plan for each of the **10 districts** for 2038 carbon neutrality
- **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

Helping shape a Welsh national Net Zero energy plan

- ESC is advisor to Welsh Government on the rollout of all LAEPs in Wales, advising on procurement, management, and quality in delivery
- LAEPs across 22 local councils
- ESC directly delivering two mid-Wales LAEPs
- Helping Wales produce a National Energy plan informed by the 22 LAEPs

"It has been very helpful to draw on the breadth of whole energy system expertise at the Catapult to develop energy scenarios for Wales. With the support of the Catapult as our Technical Advisor we aim to be the first nation to have complete coverage of Local area energy plans."

Huw Lewis Welsh Government
Lead for LAEP



From LEAR to a LAEP the Yorkshire way



ESC delivered 4 for the City of York and North Yorkshire.

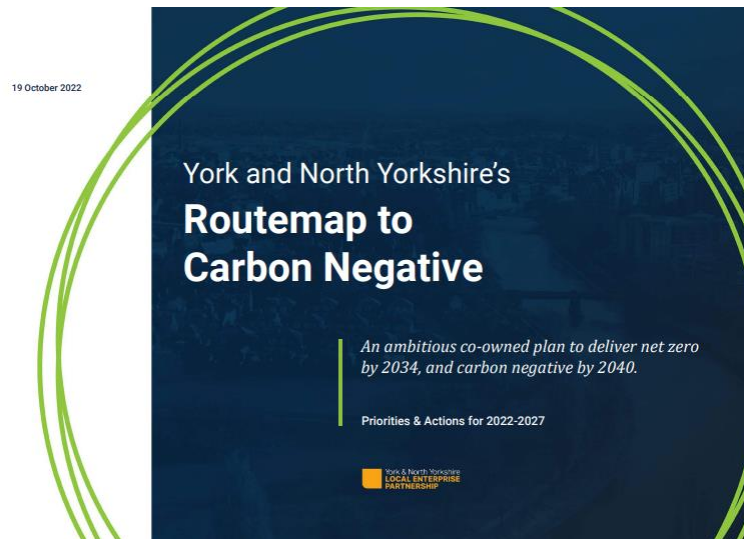
The region now has multiple pathways now outlined to them to follow to reach their goal of Net Zero by 2034.

Routemap Purpose

The overarching aim of the Routemap is to provide a clear, co-owned plan to accelerate the transformation to a carbon negative York and North Yorkshire.

The specific objectives of the Routemap are:

-  To provide strategic direction and a coordinated approach to decarbonisation;
-  To catalyse collaborative action at pace and scale;
-  To build confidence that reaching net zero and beyond to carbon negative is feasible;
-  To harness the economic opportunities of net zero, leveraging public and private sector investment;
-  To position York and North Yorkshire at the forefront of national climate action and provide a platform to influence Government policy and funding



It's already being used to to unlock investment and ensure a co-ordinated approach to localized Net Zero plans



LOCAL
AREA
ENERGY
PLAN



CATAPULT
Energy Systems

Thank you

Tim German
Chris Brierley

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

