WELCOME TO

THE MIDLANDS NET ZERO HUB CONFERENCE

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MICHAEL GALLAGHER MIDLANDS NET ZERO HUB

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@MidsNetZeroHub in Midlands Net Zero Hub

Who are the Midlands Net Zero Hub

- One of five Net Zero Hubs Funded by the Department of Energy Security and Net Zero
- Nottingham City Council are the accountable body for the Midlands Net Zero Hub

The Hub:

- Supports organisations identify and develop local net zero and energy strategies and projects
- Works with Local Enterprise Partnerships (LEPs) and Local Authorities to improve capacity and capability on the journey to reaching net zero
- Enables public sector organisations to develop and finance local decarbonisation projects, supporting our partners to transform energy systems across the region

Programmes of work

More than £420 million directly secured since October 2018 for Net Zero related activity including:

- Local Capacity Support (Regional Team)
- Public Sector Decarbonisation Team
- Rural Community Energy Fund
- Community Energy Fund
- GHG Skills Training (England)
- HD Skills Training (England)
- Heat Pump / Heat Network training (England)
- Private Rental Sector Minimum Energy Efficiency Standards Enforcement Competition (England & Wales)
- Local Energy Advice Demonstrator
- Local Authority Delivery 2
- Sustainable Warmth Competition
- SHDF 1
- SHDF Wave 2.1
- HUG 2

Local Net Zero Programme Regional Team

- Supporting a circa £340m Project pipeline
- Currently 38 projects receiving focused support exceeding £69m in capital value

Successes include:

- Wolverhampton 6.9MW solar array
- Supporting the development/allocation of the Marches Energy Fund. This £4Million project funded by the Marches LEP has supported the development of three projects (with a total value of £8Million):
 - Low Carbon Technology Training Centre at Holme Lacy College in Herefordshire.
 - Marches Energy Grant Scheme to support SMEs across the Marches.
 - LV Substation Monitoring.

Local Net Zero Programme Regional Team

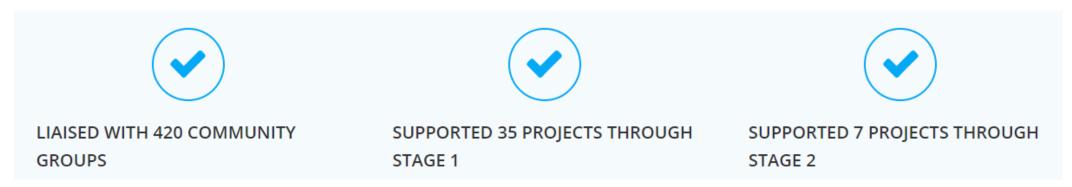
- Initiating Rooftop solar projects on leisure centres.
- Supporting a Decarbonisation study of East Midlands Airport (EMA)
- Supporting business case development for Low Carbon Transport
 Hubs and developing strong partnerships with organisations including
 Midlands Connect
- HMP Four Ashes Featherstone Heat Network in Staffordshire.
 - MNZH has helped resurrecting this project (First feasibility study in 2014!) by facilitating discussions between the key stakeholders and supporting with a HNDU application. Recently the project has been approved funding for GHNF.

Rural Community Energy Fund

RCEF (Programme concluded)

£2 million programme supported rural communities in the Midlands to develop renewable energy projects with a community benefit on behalf of the Department for Business, Energy & Industrial Strategy and the Department for Environment, Food & Rural Affairs.

The Midlands Net Zero Hub:



Feasibility studies are available from:

https://www.midlandsnetzerohub.co.uk/community-energy/feasibility-studies/

New £2m Community Energy Fund launching imminently.

Public Sector Decarbonisation Scheme coverage



CWLEP

GrowthHub

Phase 3 of the Public Sector Decarbonisation Scheme, worth £1.425B Phase 3c of the Public Sector Decarbonisation Scheme has up to £230M available in 2024/25and a a broadly balanced profile across the following financial year 2025/26.

Support available:



42 out of 64 Local Authorities 65.6% of coverage

Quantitative Highlights PSDS

22
Bid-enabled projects

NHS Trust engaged for PSDS 3c

27Organisations supported with PSDS funding

Successful projects for PSDS 3b

14
Projects with private/independent funding

PSDS 3b

PSDS support in different levels of grant achieved is: 18,581,545

Total allocation of PSDS to the Midlands

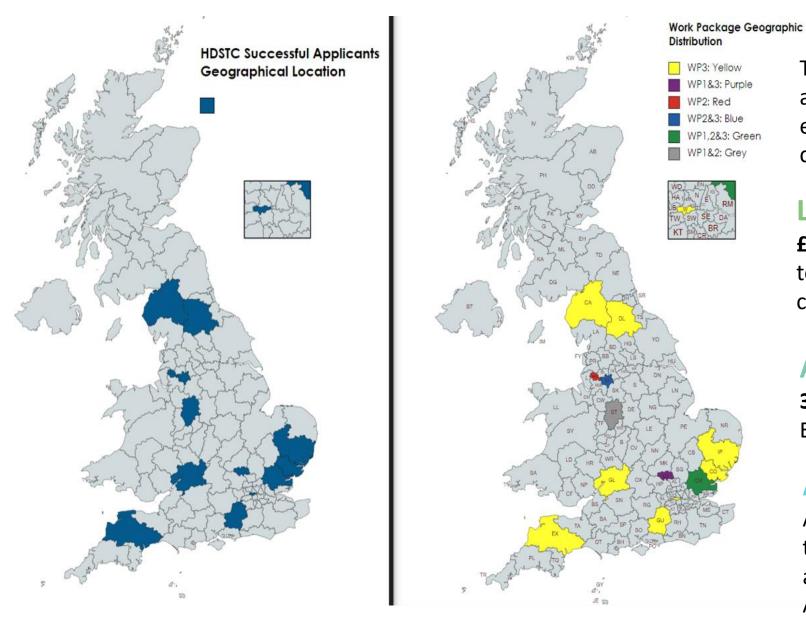
106,484,097

Second largest

PSDS funding
allocation for a
Hub after Greater
South East

Low Carbon Skills
Fund applications
supported Phase 3
and Phase 4

Home Decarbonisation Skills Training Competition phase 1



To achieve the **2050 Net Zero** target, we need about **400,000** new workers in the green energy sector. HDSTC is making significant contribution to that workforce opportunity.

Launch

£9.2m government grant funding approved to train and retrain people looking to start a career in the **green energy sector.**

Application

33 applications came in from across England, and **18 winners**.

Awarding

Approximately **9,000** training courses in the green energy sector were delivered across England between January and August 2023

Quantitative Highlights HDSTC phase 1

Over **9,000**

trainings courses started across the country

Over **5,000**

candidates qualified in Home Decarbonisation training skills across the country 3,500

Candidates qualified in Heat Pump design and installation

Up to **1,100**

candidates trained in retrofit assessor and retrofit coordinator skills All retrofit assessor and coordinator skills under PAS 2035 standard

Quantitative Highlights HDSTC phase 2

Over **18**

Trainings Providers
awarded for this
round of funding
across the country

over **3,600**

candidates expected to deliver Retrofit Assessor and Retrofit Coordinator courses 7,300

Candidates to be certified for an Insulation training opportunity

Up to **£8.5M**

allocated for the remaining of this Financial year

Additional opportunities for training under the **Heat Training Grant**

Heat Training Grant for Heat Pumps

- Addressing the Heat Network skills gap, aimed at supporting 9,000 low carbon heating installers this financial year.
- Support to be an ongoing scheme for 2 years.
- Heating engineers are receiving now grants of up to £500 towards training costs, creating new green jobs, and helping to future-proof the heating industry.
- Aimed to demonstrate governments' commitment to provide more help to kickstart the heat pump installer base and meeting its heat pump installation targets.
- 45 Training Providers grant of up to £500 will cover most of the costs of a level 3 heat pump training course, whilst manufacturing members may offer additional discounts to participating trainees











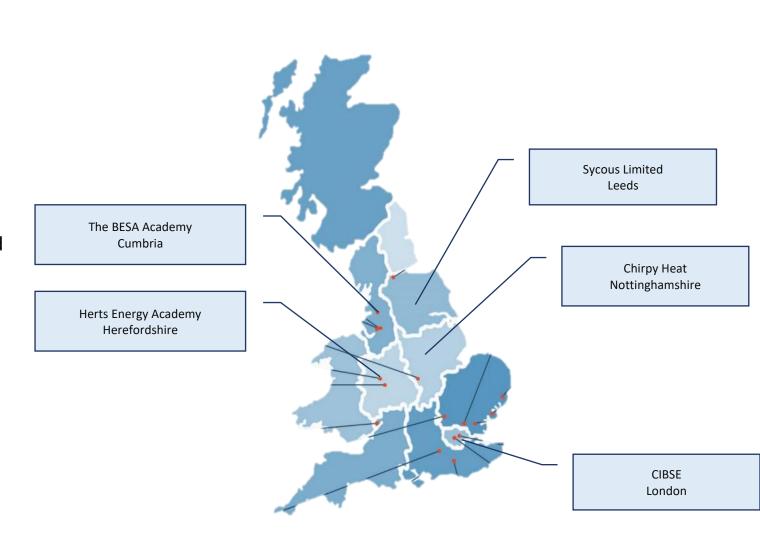






Heat Training Grant: Heat Network Competition

- Training conducted in England, with any classroom training delivered in England.
- The training providers must state the professional bodies to which they belong, detailing the accreditations and qualifications essential to training delivery of relevant training.
- The training providers must have previously delivered vocational courses in either/ construction, energy efficiency, installation of low carbon technologies, or energy assessment or other courses relevant to heat networks.
- New Training Themes
- 1: Heat Network Feasibility & Design
- 2: Heat Network Construction
- 3: Heat Networks Operation and Maintenance
- 4: Heat Networks Metering & Billing and Data Collection
- 5: Local Authorities and developers



PRS MEES

Project aim: support LAs develop & implement a formulated approach for enforcing MEES Regulations

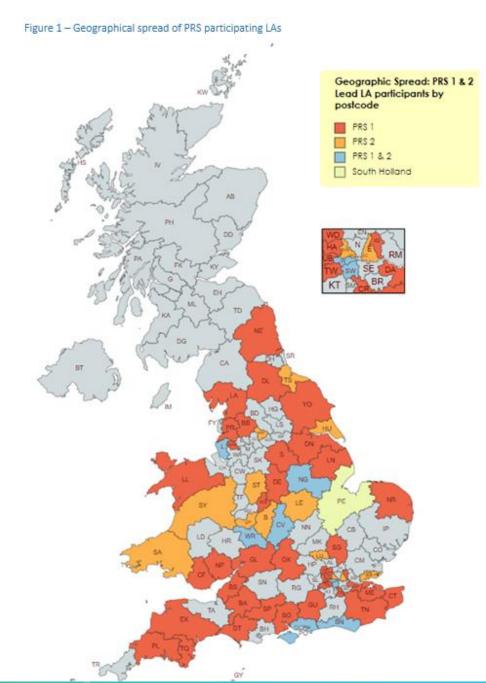
- -2 funding rounds between March 2021- March 2023 with total revenue grant funding of about £6.7M
- -Participants: 90 LAs successful in the competition stage (each LA grant up to £100,000)
- -Total Number of Stakeholders Engaged:

over 217,000

- Total Number of Non-Compliant Properties Subsequently Improved to EPC E: **nearly 9,000**
- Total Number of reviewed Exemptions
 - Registered : over 11,600
- Total Number of Compliance Notices Sent:

over 3,300

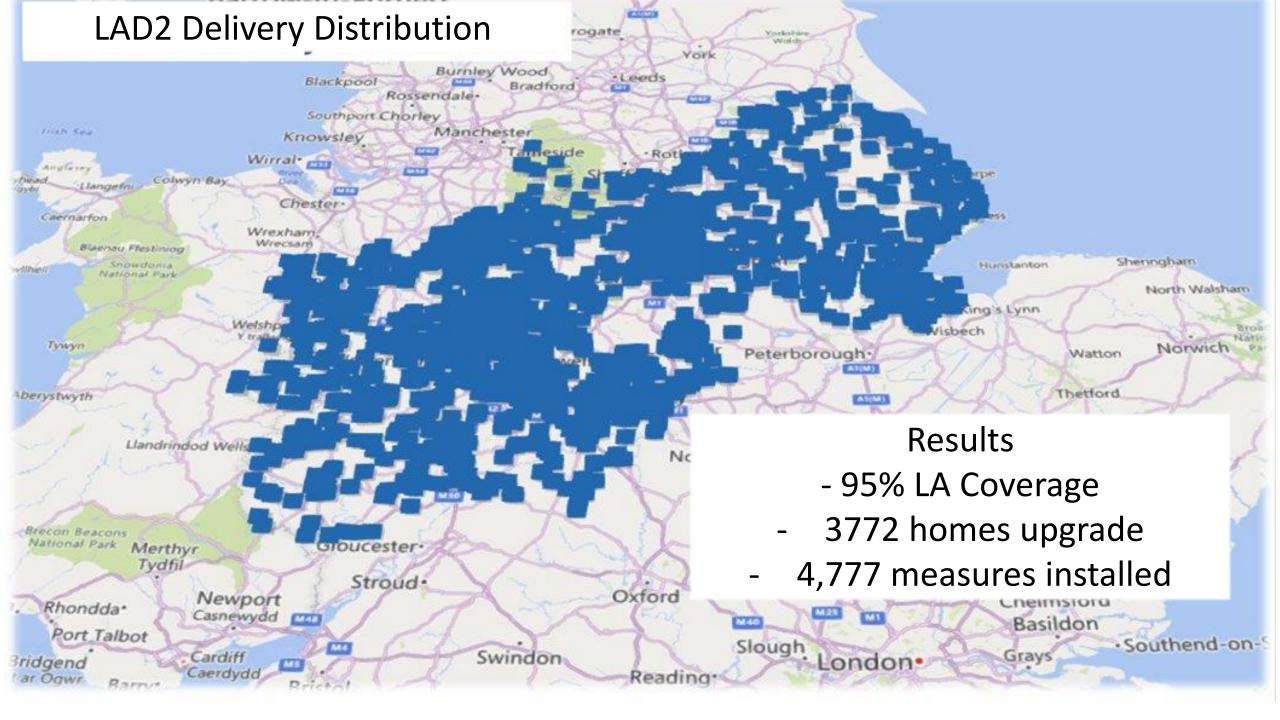
- Number of Penalty Notices Sent: 333

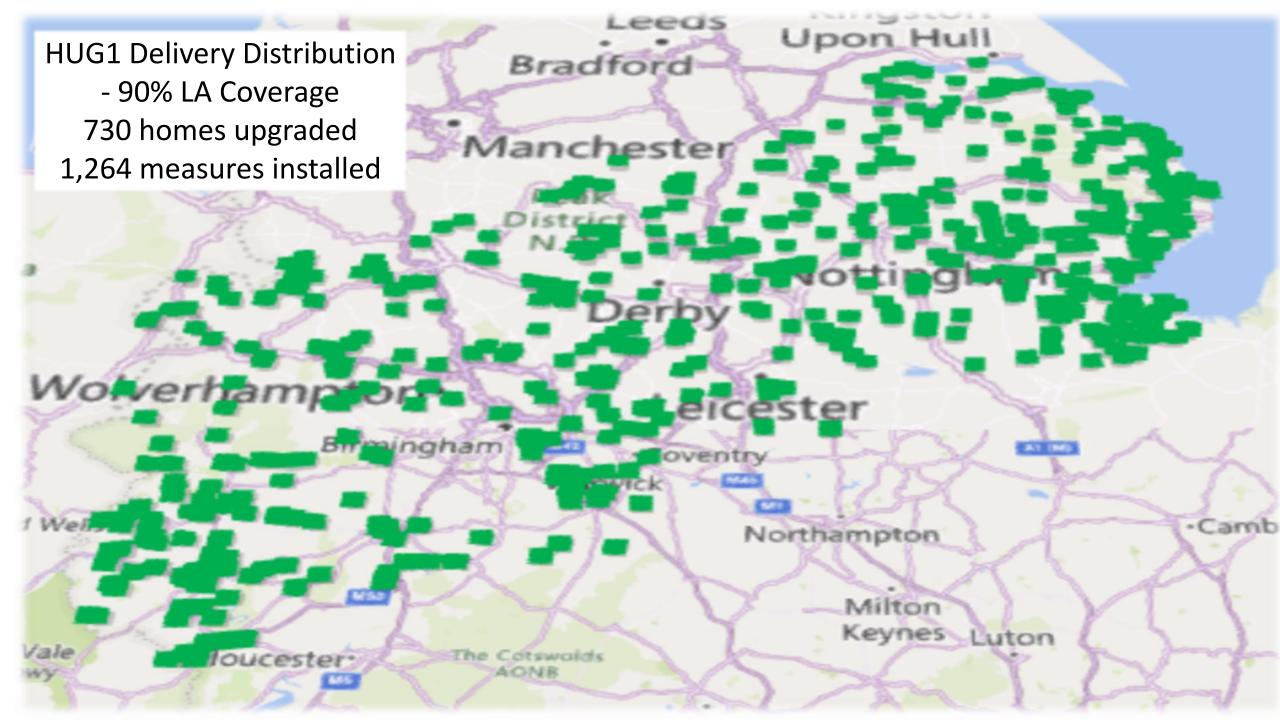


Local Energy Advice Demonstrators

- Providing funding of up to £2 million to individual projects to be delivered over the 2023-2024 and 2024-2025 financial years. The focus of our local energy advice pilots is to test various approaches to delivering in-person advice, particularly for harder-to-treat properties and digitally excluded consumer groups.
- Our pilots have two main objectives. Firstly, we aim to address the complexities of hard-to-treat buildings. Secondly, we strive to support to hard-to-reach consumers who may benefit from local, in-person advice.
 - Hard-to-treat buildings the UK has the oldest building stock in Europe. In-person visits can better capture the complexities of these building types, which are harder to address through digital and telephone advice.
 - Hard-to-reach consumers local, in-person advice may extend the service to certain consumer types, e.g. the elderly, disengaged, those with limited internet access, minority ethnic groups, etc.

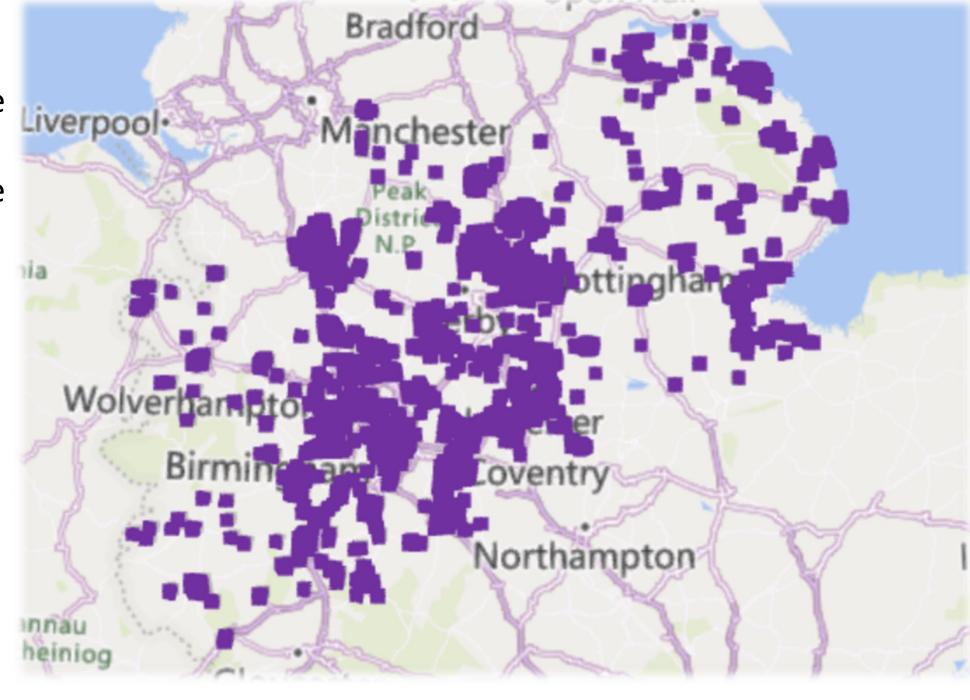
https://www.midlandsnetzerohub.co.uk/energy-projects/local-energy-advice-demonstrator/

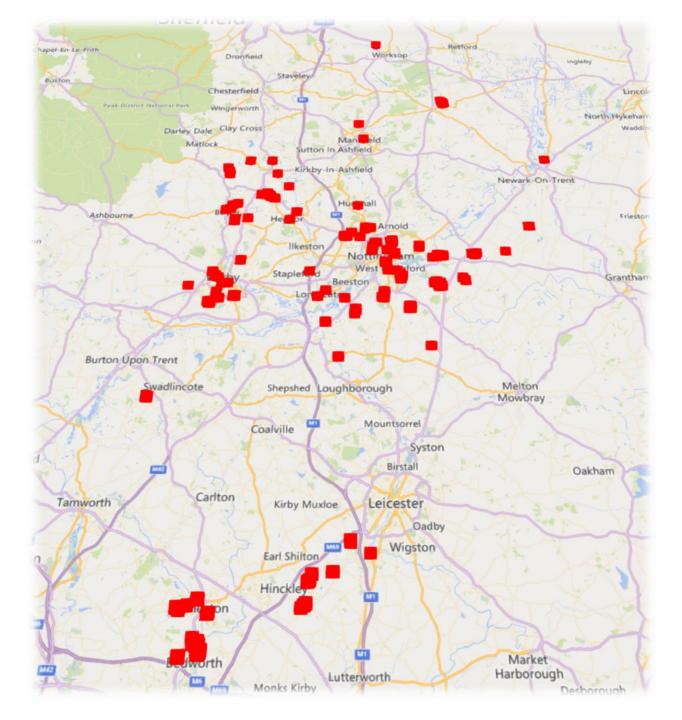




LAD3 Delivery
Distribution to date

- 95% LA Coverage
- 3150 homes upgraded
- 4,500 measure installed





SHDF1 Delivery Distribution to date

- 996 homes upgraded
- 1,626 measure installed

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https://www.midlandsnetzerohub.co.uk/energy-projects/local-energy-advice-demonstrator/

Conclusion

- Independent MNZ Hub Evaluation has helped us to understand strengths, and areas for further development to ensure we continue to add value in the most effective way for our stakeholders.
- Strong organisation structure in place allowing growth with recruitment planned alongside a desire to maintain stability and embed lessons learned across programmes to ensure successful delivery of current and future programmes.
- The local and regional organisational infrastructure is in place to deliver Net Zero with positive collaboration occurring and is supported crossorganisation at senior level.
 - Collaboration is key!
 - Thank you to all the team and all our stakeholders

Thank you

https://www.midlandsnetzerohub.co.uk/

PATRICK ALLCORN DEPARTMENT FOR ENERGY SECURITY AND NET ZERO

SESSION 1: PLANNING FOR NET ZERO

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@MidsNetZeroHub in Midlands Net Zero Hub

ALEX PEARSON MIDLANDS NET ZERO HUB

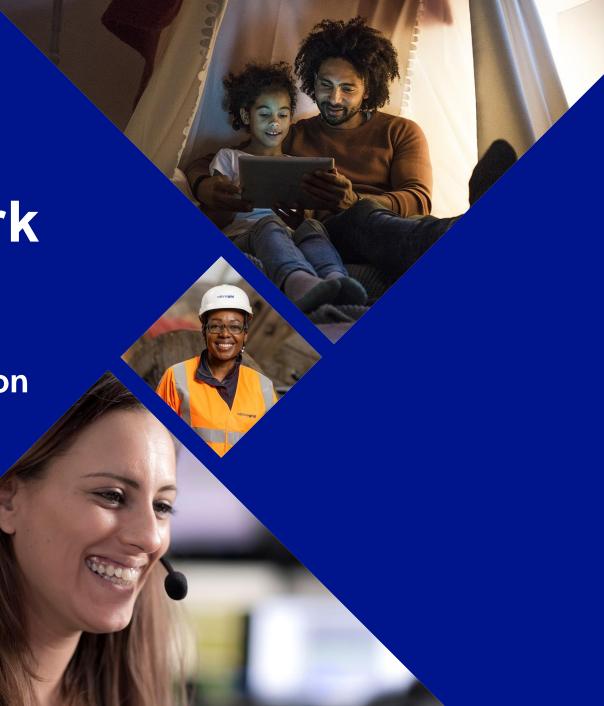
SHARON MCGUFFIE NATIONAL GRID

Electricity Distribution

Local Area Energy Planning Framework

National Grid Electricity Distribution

Sharon McGuffie



nationalgrid

Topics to cover

01	What is Local Area Energy Planning, and how will it help stakeholders?
02	How does Local Area Energy Planning link to investment in electricity distribution networks?
03	How do National Grid support Local Area Energy Planning?
04	What does a Local Area Energy Plan need for DNOs to find them useful?

What is Local Area Energy Planning?

Local Area Energy Planning (LAEP) is a data driven and whole energy system, evidence-based approach that sets out to identify the most effective route for the local area to contribute towards meeting national and local targets for decarbonisation.

How will Local Area Energy Planning help stakeholders?

Local Government

- Inform what local policy decisions need to be made in order to deliver the plan.
- Present an impact assessment for citizens living in a local area.

Energy Networks

- Allows energy networks to present a robust justification for strategic investment.
- Strategic investment ensures networks are not a barrier to decarbonisation.

National Government and Ofgem

- Understand how the aggregate of local plans will align with national decarbonisation targets, and what policy decisions need to be made as a result.
- Understand the basis for strategic investment in networks

Customers/citizens

- Visibility of how the proposed route to decarbonisation locally will impact their lives.
- Opportunity to provide input and shape the plan.

How does Local Area Energy Planning link to investment in electricity distribution networks?

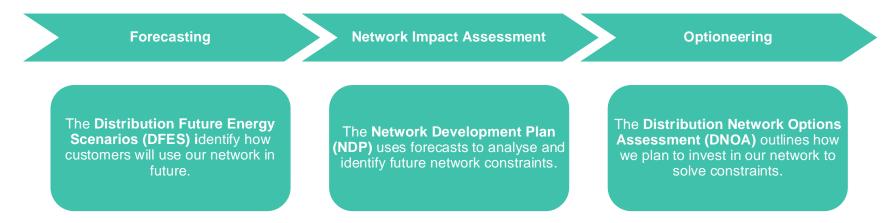
National Grid Electricity Distribution see Local Area Energy Planning as key to delivering a distribution network fit for the needs of our customers in the future.

Strategic investment is required to ensure that distribution networks are not a barrier to decarbonisation. Recent changes in how customers contribute to reinforcement for new connections and the RIIO-ED2 price control settlement further enable strategic planning of the network.

The changes give Distribution Network Operators more of a requirement to invest **ahead of need** to keep pace with the scale of change, not solely through new connections to our network. Investment ahead of need will provide a benefit to customers **as long as it can be well justified**.

How does Local Area Energy Planning link to investment in electricity distribution networks?

Electricity Distribution Network Operators now have Licence Condition requirements to undertake and publish plans for how we plan to develop our networks.



In order for Local Area Energy Plans to result in **investment ahead of need** in distribution networks, the outputs need to be captured in the above process.

What can Local Area Energy Planning deliver that National Grid's process cannot?

Local Area Energy Planning has the potential to facilitate decarbonisation in a way that electricity led strategic planning is not able to. Local Area Energy Planning offers:

- A whole system approach, allowing for objective assessment and more optimised decision making across different energy vectors
- Engagement from local citizens so that preferred decarbonisation pathway can be delivered.

Whole System
Optimisation
Energy vector agnostic

Local Authority - LAEP

Coordinated, efficient, whole system, justified investment plans Inter-local authority optimisation of network investment Local authority boundary agnostic

DNO - NDP

What can National Grid's process deliver that Local Area Energy Planning cannot?

Only considering Local Area Energy Plans in isolation does not result in the most coordinated development of energy networks, which DNO/GDN led processes do allow for.

Electricity network geography does not map cleanly to Local Authority boundaries, therefore all adjacent Local Area Energy Plans must be considered when undertaking network planning.

National grid's process allows for:

- coordinated network planning for DNOs across their network (and the interface with other distribution and transmission networks)
- Ensuring the energy system is balanced and interconnections between areas are suitably planned

Whole System
Optimisation
Energy vector agnostic

Local Authority - LAEP

Coordinated, efficient, whole system, justified investment plans Inter-local authority optimisation of network investment Local authority boundary agnostic

DNO - NDP

How do National Grid support Local Area Energy Planning?

National Grid are committed to supporting Local Area Energy Plans incorporating LAEP outputs into the DNO led strategic planning process:

- Providing points of contact for regular engagement to support LAs, along with critical review and feedback of plans
- We have uploaded a number of datasets to our Connected Data Portal to support Local Authorities in creating Local Area Energy Plans
- These include the data behind our Network Capacity Map and DFES Map. We will continue to add information that can be used to aid Local Area Energy Planning.

How do National Grid support Local Area Energy **Planning?**

Established points of contact for regular engagement with regional stakeholders, and Net **Zero Surgeries to** record ongoing discussions.

We have created new Strategic Engagement Officer roles within National Grid.

Our role is to liaise with Local Authorities and regional stakeholders to ensure that our stakeholders are supported in their Local Area Energy Planning activities.

Our Strategic Engagement Officers have been proactively contacting stakeholders to offer support, and will continue to reach out to others recording all engagement through our 'Net Zero Surgeries'.

By providing feedback and sharing best practice across the 121 Local Authorities we cover, we can support consistent, high quality LAEPs.

How do National Grid support Local Area Energy Planning?

Commitment to incorporate LAEP outputs into DNO led strategic planning process

Local Area Energy Planning may outline load growth in excess of our RIIO-ED2 settlement, for which we need to demonstrate to Ofgem additional requirements for load related expenditure.

During RIIO-ED2 there are uncertainty mechanisms and reopener windows to secure additional funding.

If a Local Area Energy Plan aligns with information we require, we will incorporate the Local Area Energy Plans into our strategic planning process to technically assess the distribution network investment we expect to be required.

This will feed into future price control submissions and reopener windows.

What does a Local Area Energy Plan need for DNOs to find them useful?

In order for Local Area Energy Plans to be incorporated into National Grid investment plans, the following information is required.

Definition of technologies in scope

National Grid must account for all customers that generate/consume electricity in our strategic planning. A LAEP needs definition of the customer types which are in the scope of a plan, and how those not in scope should be treated by the energy networks.

Use of multiple scenarios

These should reflect at least one counterfactual (i.e. continue at current pace of decarbonisation) as well as other projections relating to different changes in policy, economic and technological factors.

Clear definition of how costs will be assessed

In order for an LAEP to indicate a preferred decarbonisation pathway, a cost benefit analysis of options needs to be undertaken. Clear definition of what costs are assessed is required – for example just capital expenditure for new electricity infrastructure or considering customer bill impact.

What does a Local Area Energy Plan need for DNOs to find them useful?

In order for Local Area Energy Plans to be incorporated into National Grid investment plans, the following information is required.

Machine	readable	data
format		

For the projections created for a Local Area Energy Plan to be used by National Grid, presenting the information in a standard machine readable format is necessary.

Whole System Approach

Local Area Energy Planning can optimise decision making between gas and electricity, each scenario considered must clearly define the interactions and responsibilities of all energy networks.

Assumption ownership for technical network assessment.

If LAEP will undertake some level of network planning there should be agreement on which assumptions can be made by the Local Authority and by the network (asset) which impact the technical network assessment.

Routes of engagement

To discuss your queries with us in more detail, please book one of the following surgeries on our website.



Connection Surgery Appointments

Undertaking a Connection project can be complex but we're here to help. If you would like to discuss your plans with one of our Engineers or Planners then you can request a Connections appointment.



Community Energy Appointments

We are committed to working pro-actively with community energy groups and recognise that the volunteer led approach and complex nature of their projects means that community energy groups need more time and support to engage in the process of connecting to the network. If you would like to discuss your plans with one of our Planners you can request a community energy appointment.



Net Zero Surgeries

We can assist in providing an understanding of process, timescales, technical considerations, consents/legal requirements and possible constraints involved with either making a single connection to the network in a particular area or a more strategic approach to decarbonisation across a region. If you would like to discuss your plans with one of our Engineers or Planners you can request a net zero surgery appointment.

Close and thank you

Other events

Upcoming Event

 DSO Planning & Supporting Regional Ambitions Webinar – 16th November 2023

National Grid – News & Events
Follow National Grid on LinkedIn for updates

CHRIS CLARKE SCAPE

Decarbonising Construction



Raising expectations

05/10/2023

Chris Clarke chrisc@scape.co.uk



Our shareholders













BUYING POWER 2018-2023

1203 Projects

£3.5 bn







469 organisations



Creating Step Change to Achieve Low Carbon









Circular Twin, Architects Journal Sustainability Project of the Year 2001

Whole life carbon, R&D



University of Salford - Energy House 2.0

Energy House 2.0, Salford University CIOB Project of the Year, 2022

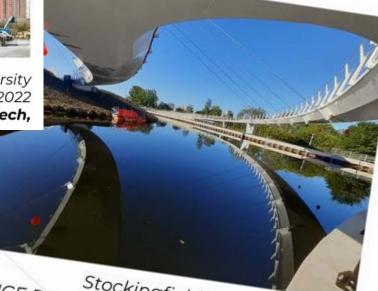
MEP Excellence, Science and Tech,



LUSEP Access HQ, Loughborough NEC World Project of the Year 2021 Standard forms of contract; collaboration



Athletes village Commonwealth Games 2022 **Sports & Leisure, Regeneration**



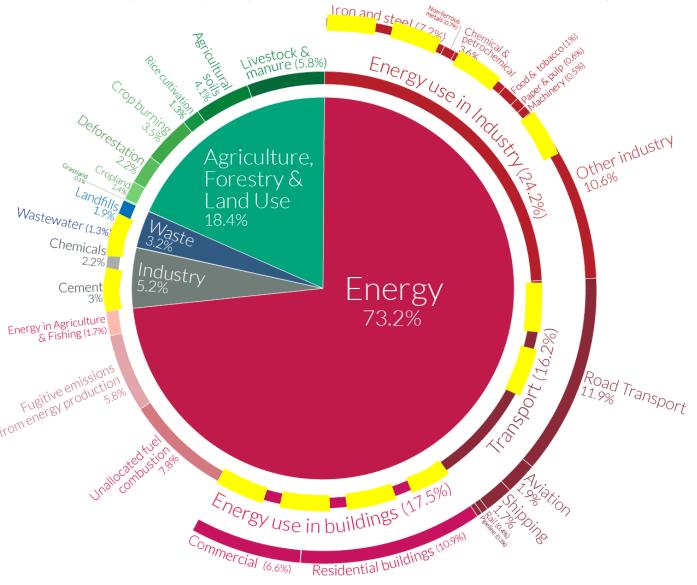
SCAPE

Stockingfield Bridge, Glasgow ICE Peoples Choice Award Winner 2022 Civil engineering, active travel, connecting communities

Global greenhouse gas emissions by sector



This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



Built environment contributions to world emissions (2020)

- Energy in buildings = 17.5%
- Iron and steel = 7.2%
- Cement = 3%
- A share of transport, waste, chemicals, other industrial processes

About 40% total

LAW, POLICY AND PRACTICE



Climate Change Act, 2008

The Companies Act 2006 (Regulations 2013)

The Streamlines Energy and Carbon Reporting (Regulations 2009)

Social Value Act, 2012

Procurement Policy Note 21/06

Requirement for supplier carbon reduction plans in procurement

Construction Playbook (V2.0) Sustainability Guidance, 2022

On a comply or explain basis requires whole life carbon assessments for government funded projects

We need....

Carbon reduction plans for contractors and their holistic supply chains

Capability to deliver Whole Life
Carbon assessments for projects

Benchmarking and target setting for embodied carbon in projects

Client and supply chain carbon literacy training

Leaving a sustainable legacy



We think big, using our influence to be a change leader in the construction sector



720,000 tco₂e

per year of public sector Scope 3 emissions

11,000+ tCO₂e in Nottinghamshire

50,000+ tCO₂e in D2N2 region





Construction = Scope 3

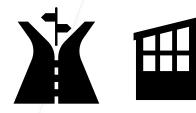


Construction of buildings and infrastructure is a
 Scope 3 emission type for local authorities

LGA guidance on scope 3 notes:

- Only 54% of Councils reporting Scope 3 in 2021
- Just 44% setting targets
- Scope 3 = 70-80% of emissions
- Cambridgeshire Scope 3 construction > 50% of total emissions

WHOLE-LIFE CARBON IN PROJECTS



Whole-life embodied carbon = also your Scope 3

Upfront embodied carbon = your Scope 3

Energy use = your Scope 2

Embodied or "up front" carbon

A1 - A3

- Raw material extraction
- Material transport
- Product manufacturing processes

Construction Carbon

A4 - A5

- The "assembly" of the asset on site
- Energy and fuel use on site
- Project-specific transport
- Construction waste

Operational carbon

B1 - B7

- Energy and water use to operate the asset
- Maintenance and renewal activities

End of life

C1 - C4

- Demolition
- Material / waste reprocessing and transport

Beyond the project lifecycle

D

• Circular economy an material re-use

Construction Materials

Construction Methods

Use, Maintenance and Management

Deconstruction Methods

Re-use of materials

Life cycle	Embodied or "up front" carbon	Construction Carbon	Operational carbon	End of life
stage:	A1 – A3	A4 - A5	B1 – B7	C1 – C4
Simplified:	Construction Materials	Construction Methods	In use Maintenance and Management	Deconstruction Methods
Major influences on carbon emissions:	 Client policy and targets Project scope and budget Design Procurement Supply chain delivery 	 Procurement Investment in fleet, plant and business practices Supply chain delivery 	 Client condition maintenance and energy policies Quality of design / build / quality of products Revenue invested in maintenance Design and procurement standards User behaviour Maintenance business practices Procurement Supply chain delivery 	 Capex invested Decommissioning standards (specification and procurement)





To facilitate the reduction of carbon emissions (CO₂eq) related to design, construction, maintenance, operation and decommissioning of built assets

Submitted by L. Millard on Thu, 05/05/2022 - 11:57

Morgan Sindall Construction and public sector procurement authority SCAPE have achieved CHAMPION level of the Carbon Reduction Code for the Built Environment, joining HS2 (the project) and Skanska UK in this highest category level.

SCAPE only UK framework operator to achieve champion status

Carbon Reduction, Leadership

#1

Make decarbonisation a visible commitment



Sign up to the Carbon Reduction Code for the Built Environment

https://www-smartinfrastructure.eng.cam.ac.uk/carbon-reduction-code

Part of the ConstructZero initative Referenced in:

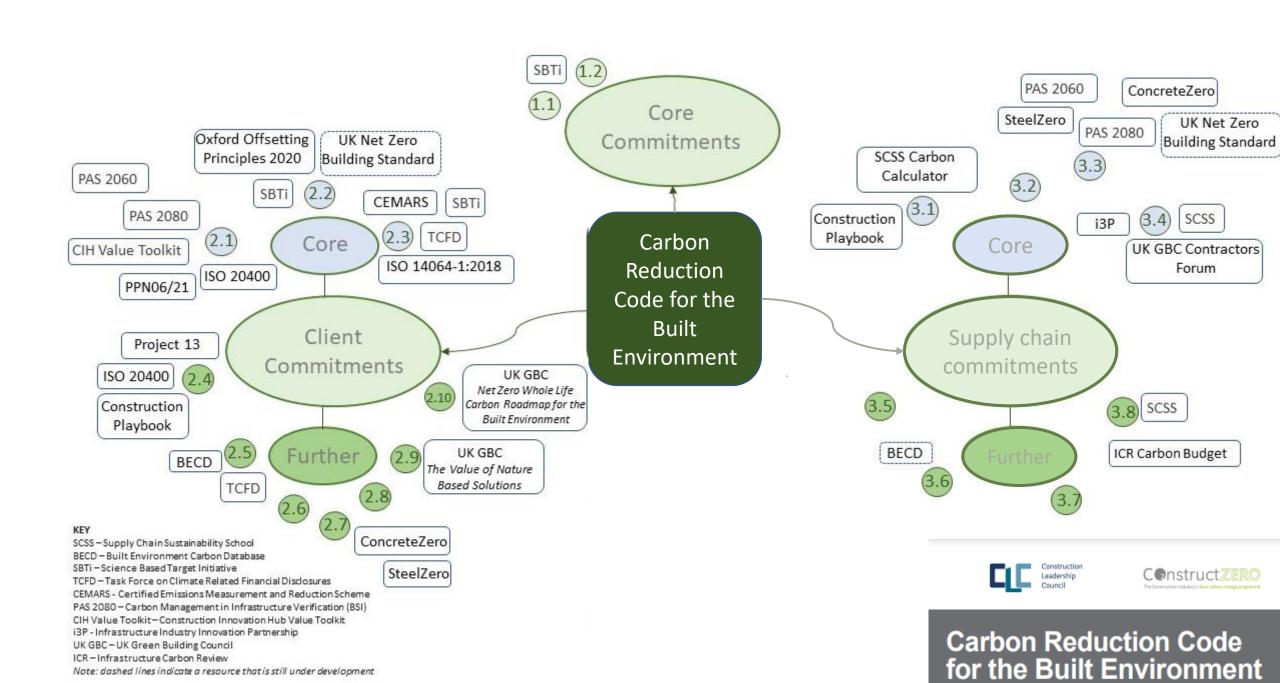
- the UK Construction Playbook
- the UKGBC Whole Life Carbon Roadmap
- UK Government Guidance Promoting Net Zero Carbon and Sustainability in Construction













Challenge:

- Can we establish code compliant places?
- Can we, together support local construction and manufacturing businesses to change?









Put carbon targets into action



You can't manage what you don't measure!

Targets have a transformational effect in a number of ways.



Operational carbon targets

– address emissions from the building in-use

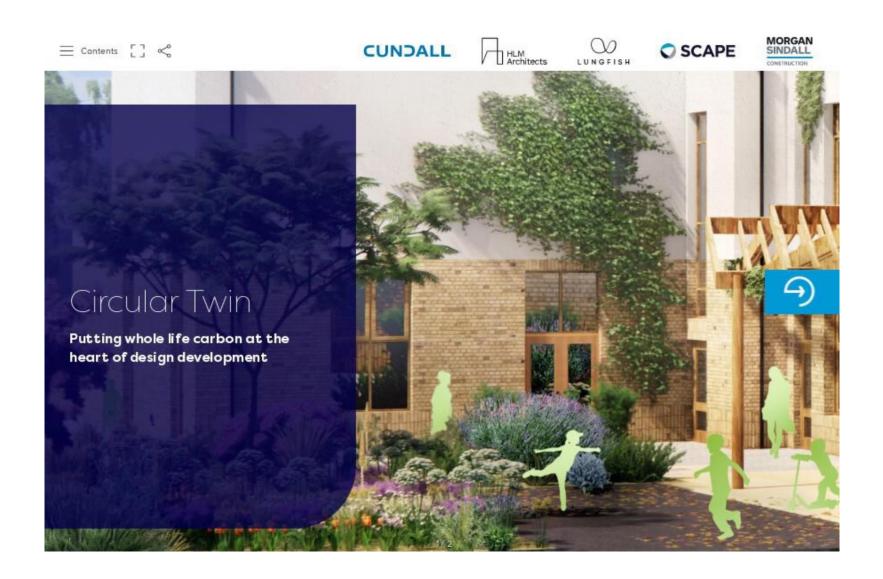


Embodied carbon targets emissions from the construction process and from construction materials (during initial build and maintenance)

Whole life carbon targets – all emissions from the asset lifecycle







https://www.scape.co.uk/research/circular-twin

R&D OUTCOMES | CIRCULAR TWIN

Reasons for choosing a net zero project strategy...

67% reduction in whole life carbon

52% reduction in annual energy use

3-5% increase in capital cost

<6yr payback period

20%
Est. saving in overall programme

2FE school – outcomes of opting for RIBA 2030 performance targets













#3 Make Net Zero part of social value delivery



Net zero is not just an environmental consideration

A well designed and planned project should leave a legacy in your community

Case study: Enfield – Meridian Water

- Employment and skills

 transition to low carbon jobs

 inspire future workforce
- Health and wellbeing more liveable, climate resilient buildings
- Local labour, reduced transport, local products

Enfield - Meridian Water Sustainability Strategy







Chris Clarke

SCAPE
Performance & Improvement Director

NACF Sustainability Group
Co-convenor

Carbon Code Steering Group Member



chrisc@scape.co.uk



/chris-clarke-28a14167



/Build4Zero







By the public sector, For the public sector

FUTURE OF BUSINESS SUPPORT FOR DECARBONISATION

CHAIR: SERENA BACUZZI

PANELLISTS: STEVEN FAWKES, RICHARD VAUGHAN, AND JAMIE ELLIOT

FINANCING NET ZERO PROJECTS

CHAIR: TIM GERMAN

PANELLISTS: KEVIN OUBRIDGE, SIONED OWEN,
AND MELANIE BIDDLE

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