APSE BIG ENERGY SUMMIT 2025

BRIEFING NOTE

north west net zero hub

north east & yorkshire NET ZERO HUB

MIDLANDS NET ZERO HUB

South West NET ZERO HUB

Greater South East Net Zero Hub

Rounding up APSE Big Energy Summit 2025

The national Local Net Zero Hubs network recently partnered with the Association of Public Service Excellence (APSE) to deliver their annual Big Energy Summit.

The event is designed to share knowledge and insight from innovative net zero projects across local government. It sets out the technologies, business models, and approaches that local authorities have adopted to deliver their local strategies – which is also one of the key missions of Local Net Zero Hubs.

The Local Net Zero Hubs also ran a very well-received stand raising awareness of our work to support local areas in the delivery of their energy generating and conserving projects.

If you could not attend the event, the Local Net Zero Hubs have rounded up some of the place-based net zero case studies that were highlighted at the event. Slides from presentations given at the event can also be found here.

If you would like the Hubs to connect you to any of these projects, drop us a line at:

- North East and Yorkshire Net Zero Hub
- North West Net Zero Hub
- Midlands Net Zero Hub
- South West Net Zero Hub
- Greater South East Net Zero Hub

Day 1

Maxine Narburgh from the **Greater South East Hub** opened the event by setting out the likely priorities for the Local Net Zero Hubs under their imminent new Memorandum of Understanding with government. In particular, she highlighted how the Hubs will be supporting Great British Energy (the new publicly owned energy company) by developing a pipeline of local energy projects which will meet the government's Clean Energy 2030 targets (including 8GW of local energy generation); delivering aspects of the government's forthcoming Warm Homes Plan; and supporting National Energy Systems Operator with the development of Regional Energy Systems Plans.

Maxine also explained the explicit role of Local Area Energy Planning in many of the new devolution deals agreed between local areas and government. As part of the presentation, Maxine reported that the collective Hubs network is currently

working on 449 live projects, with the potential to generate 1.1GW of power and save 4.5MT of carbon emissions.

Justin Olosunde from the **South West Net Zero Hub** introduced the **SW Green Growth Fund**, an attempt to "make the public purse go further" by using £10m of initial investment as seed capital capable of leveraging £60m GVA of private investment. They will create a mixed portfolio which aggregates investments in energy projects of varied attractiveness to investors – and with proceeds from the fund reinvested in new projects. The Fund includes commissioning of an Investment Readiness Service to matchmake projects and investors.

Justin outlined how commercial investors generally do not want to make small investments (generally seeking a minimum of £10m) or more than 10% of a fund (to maintain a diverse portfolio).

There then followed a panel on the role of **Local Area Energy Planning and the** relationship of the plans with the forthcoming **Regional Energy Systems Plans** being developed by NESO. The session was chaired by **Alastair Craig**, energy lead for the **North West Net Zero Hub**, and the panel included **Karen Oliver-Spry** from the **North East and Yorkshire Net Zero Hub**, **Chris Brierly** from the **Energy Systems Catapult** and **Laura Bramley** from Calderdale Council in West Yorkshire.

All panellists highlighted the role of Local Area Energy Plans in **developing a local pipeline of investable energy projects with demonstrable demand and robust returns on investment**, and how the plans can support local authorities to build business cases and secure investment for developments.

Karen Oliver-Spry reported on the **spatial and temporal energy mapping project** (STEM) being undertaken within the North East and Yorkshire – aimed at creating a dynamic LAEP which can be updated over time to reflect local developments, rather than just providing a snapshot of local energy demand at a fixed point. A dynamic LAEP would be able to demonstrate the impact of interventions and would also give local authorities themselves ownership of the data within the plan – addressing concerns some local authorities have about pursuing plans.

Chris Brierley positioned LAEPs as a place-based approach to net zero, able to harness local level data to drive coordinated action. He highlighted that LAEPs

drive investment and support buy in at a political level by providing a plan on a page. He also highlighted the opportunity to inform RESPs – with the Catapult hoping for a hoping for a consistent modelling approach that can then be localised, providing a long-term vision of local energy needs which is adaptive and agile and which supports long term delivery and investment.

Laura Bramley provided a case study of **Calderdale's recently completed Local Area Energy Plan**, which has used a digital twin of the entire borough to identify priority investment zones based on domestic energy efficiency to target the areas which need the most support – and the most cost effective interventions for delivering that support. Laura set out a LAEP assists decision making at a local level by prioritising and targeting interventions, and maximising benefits and value for money. She also highlighted the need for a consistent methodology and data sets for LAEPs, particularly to maximise their value in the delivery of RESPs.

Ellie Grimes from Durham County Council and **John Hart, from the North East and Yorkshire Net Zero Hub** delivered a presentation called "**Building geothermal projects from the ground up"**.

The presentation set out research commissioned by the Hub to address how while **deep geothermal meets up to 70% of heat demand on continental Europe**, it is currently responsible for just 0.2% of UK heat generation. The research noted that the British Geological Survey had identified potential projects in 50% of local authorities and a third of parliamentary constituencies – and that with consistent and high heat demands **public sector facilities provide the perfect offtake** from these opportunities.

Both speakers noted the lack of reliable data, the large amounts of feasibility work required (test boreholes) – with no guarantee of viability - and the lack of current financial support mechanisms in place (including insurance schemes) to reduce investor risk.

Ellie introduced Durham City Council investigations into the potential for a deep geothermal in Durham City where the **granite bedrock could create a consistent source of high-temperature water for the heat network**, with the potential to **decarbonise the heating of heritage buildings** such as Durham Cathedral and Castle where other technologies are not appropriate. Ellie also introduced the **minewater heat network projects** being delivered in Horden & Seaham on the Durham coast, with strong support and contribution from the local communities These are former mining towns, and a key ask from local community was to bring

new jobs and industry. Therefore, there is a focus on using the heat from these projects for agriculture.

Darren Lloyd and **Christina Chislett** brought **Sefton Council**'s immersive learning experience to the conference. Sat within a trailer, projectors covered three walls with various interactive scenes. Programmes include a **Sefton Retrofit and Green Jobs experience**, aimed at supporting adult learners on the route through training and into apprenticeships, as well as the **Clean Air Crew** – a teacher resource pack and lesson plans for cross-curricular learning on air quality.

David Hand explained **Darlington Borough Council**'s approach to **considering climate adaptation and mitigation in planning applications**. The new National Planning Policy Framework provides planners with a **proactive approach** to assessing climate change adaptation and mitigation in application decisions.

Darlington's approach to supporting planning applicants will be to publish information on their website along with a proforma. This **proforma will allow applicants to demonstrate how they have considered climate change**, and it will need to be completed for a planning application to be approved.

They will take a pragmatic and proportional approach to considering this proforma in applications and encourage other local authorities to adapt their templates.

John Sharp from **Bradford Metropolitan District Council**, delivered a presentation setting out successful demand energy reduction interventions delivered across the council's estate. Despite a high proportion of energy intensive, energy inefficient, and heritage buildings and electric vehicle and heat pump usage growing, **the authority's energy usage has fallen by 21.8% since 2019, with gas usage also falling by a quarter**. The presentation highlighted how **the cheapest and lowest carbon emission heat is the heat you never use** and a key message from John was that Finance Directors are more receptive to cost savings proposals than investment programmes.

The council's use of building management systems has been key to its success – for example allowing it to switch off floodlights on sports pitches not being used, where previously an all or nothing system has been used, and with movement sensors reducing emissions of carbon by 40% in sports halls. John also spoke about "the psychology of heating" – building users will apparently accept lower temperatures in their offices if the radiators are on.

Matt Ralfe from **Nottingham City Council** spoke about the council's **vehicle electrification strategy** that has allowed them to **transition more than 50% of their fleet to EVs**.

There were 400 deaths relating to air quality in Nottingham per year, so the council started looking into vehicle decarbonisation projects in 2016. They have purchased a **range of electric vehicles** including vans, cage tippers, and refuse collection vehicles.

There have been several improvements seen from this work, including:

- 9,700t CO_2e reductions over project lifetime
- Services are delivered quicker – up to 45 minutes saved on some routes
- Working conditions for drivers improved as they reported fewer headaches
- And compliments from citizens were received

Their recommendations to local authorities who are starting on their fleet decarbonisation journey was to **start small and get driver buy-in from the outset**.

Rhys Lloyd from **Newcastle City Council** outlined the city's approach to baselining Scope 3 emissions. The baselining has identified that the authority's highest emitting categories of scope 3 are downstream leased assets (43.75%), supply chain (16.7%), and investments (15.15%). They have also focused on emissions relating to council run and independently run events such as the city's popular Christmas Markets – which will be used to develop sustainability plans for major events. The key message of the presentation was how data allows targeting of interventions. As Rhys said, "your suppliers Scope 1 and 2 is your Scope 3" and through collective purchasing local authorities have strong leverage to drive change.

Alison Smith from the **University of Oxford** presented on the **multiple benefits of nature-based climate adaptation and mitigation actions**. Nature-based solutions could address 33 of the 34 UK climate risks, and all eight of the top priorities.

In Oxfordshire, an asset inventory was used to create habitat maps that allow uses to map where high-priority opportunities exist for creation and recovery opportunities of different habitat types. In the county, **115,000 tonnes of carbon is sequestered** per year which is equivalent to 8% of the county's emissions, showing the importance of these habitats.

The tool was created as an open source platform, so can be used by other local authorities to develop Local Nature Recovery Strategies.

Nature-based solutions must be **co-designed with local communities** and need to be high-quality to ensure success.

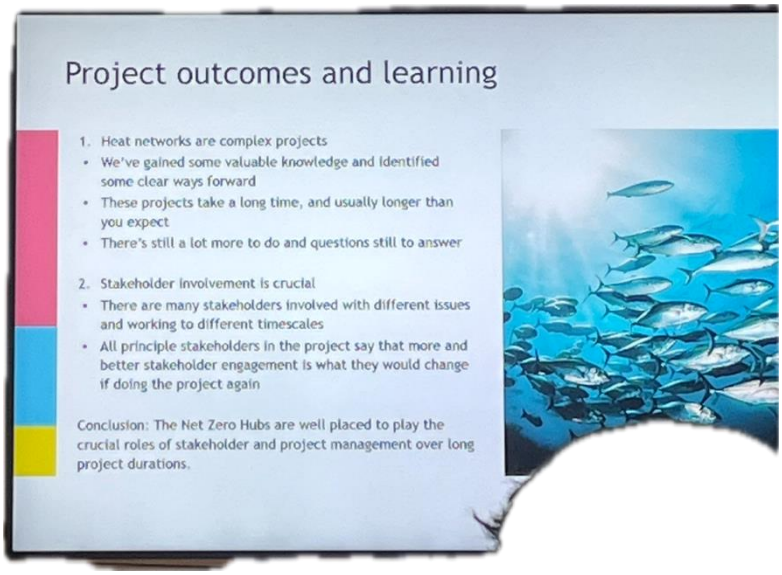
The inaugural APSE Energy Awards took place on the evening of the first day, with the following winners.

- **Walsall Council** – Innovation
- **Bedford Council** – Managing and Accessing Finance
- **North Yorkshire and York and North Yorkshire Combined Authority** (Pictured left) – Collaboration.

Day 2

The second day commenced with a series of lightning case studies.

Mark Burton from the South West Net Zero Hub began the session with a presentation on the development of a heat network in Plymouth, based around the National Marine Aquarium – which uses close to **1m KwH** of heat a year to look after its 4,000 creatures.



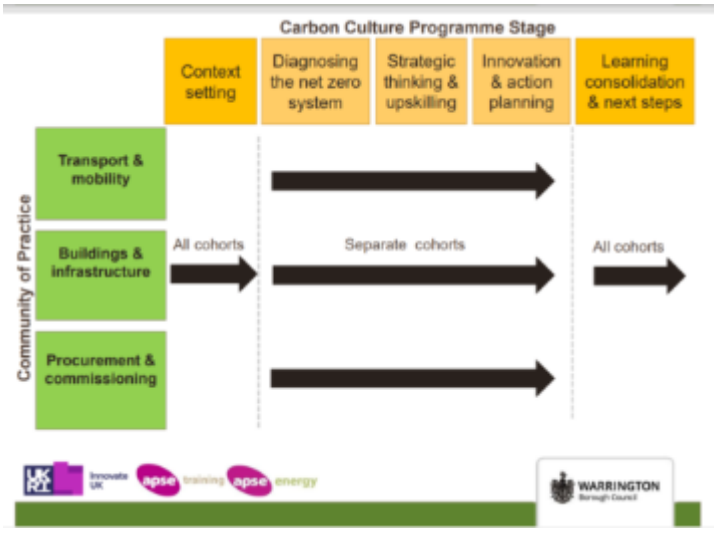
With a direct pump marine source consider not-viable due to low harbour depth, harbour traffic, and land ownership challenges, a Sutton Harbour Cluster has been created to pursue an advanced zoning programme consisting of a low temperature ambient spine connecting 17 locations, with two main sources of heat – a water treatment facility and an energy from waste plant. More information here: National Marine Aquarium Heat Decarbonisation Study - South West Net Zero Hub

Laura Morrison from **Wigan Council** explained their nature-based approach to flood management and in particular an increasingly number of highway flooding events. The council has a comprehensive data inventory of drainage assets, including condition and frequency of maintenance, cleaning and inspection and is

reinforcing its approach with nature-based solutions such as '**leaky dams**' - logs placed across the watercourse to slow the movement of water.

Jason Taylor from **Southampton City Council** spoke about the authority's increasing use of **"complex sites"** for energy generation, which they have developed with the **South West Net Zero Hub**. Southampton now has **close to 1GW of rooftop solar on council buildings, offsetting £160,000 of energy costs, generating £1m income and achieving payback on investment in 5 years**. The authority has historically matched installations to on-site demand, with minimal export to the grid but is now maximising the impact of renewable energy assets on the council estate through aggregating demand and generation from several sites in a single meter – for example allowing the Civic Centre, where rooftop solar is not viable, to be powered by energy generate from other sites. Case study available here Complex sites and local electricity supply - South West Net Zero Hub.

Robyn Lees from **Warrington Borough Council** presented on the authority's efforts to **embed a "carbon culture" in the organisation**. The council's 2023 Climate Action Plan included both technical solutions and cultural shift from people across all services. This is being delivered through mandatory climate change training for staff that accommodates individual role and area of responsibility. **530 officers and 42 elected members have now received the training.** Building on training, the authority has developed carbon literate alumni network and established three communities of practice: Transport and Mobility; Building and Infrastructure; Procurement and Commissioning.



Pete Simpson from **Hertfordshire Country Council** presented on the process of **decarbonising streetlighting** in the county. From 2012 the county moved to part-night lighting, dimming lights at the night progresses. **This reduced consumption by 53% and emissions by 77%, which saves £8.8m** – but the council's energy bill for street lighting remained £6m a year. From 2022 the council began piloting wind and solar powered street lighting at four sites. **Capital costs were**

comparable for asset replacement, and maintenance and inspection costs are lower with the new units operate with zero emissions and electricity demand.

Marissa Looby from the North West Net Zero Hub and Genevieve Dady from the Greater South East Net Zero Hub provided an overview of the Retrofit Skills Pilots overseen in each of the five Local Net Zero Hubs over the past year.

Retrofit Skills Plans were created in five areas to assess of the current state of the local retrofit workforce and identify the necessary steps to develop the workforce to be able to achieve net zero targets. The Hubs were also funded to pilot implementation activities identified in the plan.

The South East Plan identified:

- A lack of capacity in SMEs to upskill staff
- Businesses not always knowing where to look for funded retrofit work/procurement routes
- A scarcity of qualified and experienced tutors across all areas
- Little demand for courses

Local Pilots have:

- Upskilled local tradespeople in fundamental technical skills including solar PV, PAS-based retrofit qualifications, water regs, insulation and heat pump installation
- Delivered introductory retrofit awareness courses to inform the wider construction sector
- Supported the development of training provider network

Laura Davies from **Carmarthenshire County Council** provided an overview of their Local Area Energy Plan, describing it as:

- A benchmark against which net zero progress can be measured
- A comprehensive vision for Carmarthenshire's future energy system used to support interventions and an action plan
- A source of potential interventions and identifier of priorities
- A mechanism for channelling clear direction into collective action

Three pilot projects are now being taken forward under the Plan:

- A behavioural change campaign aimed at increasing the uptake of low carbon heating and home energy saving measures by providing home assessments and advice delivered by trusted community partners across the region

- A group purchasing scheme to accelerate the uptake of solar power generation, battery storage and EV home charging in the region
- Cross Boundary EV Charging – enabling the sharing of local authority EV charging infrastructure with other public sector organisations to accelerate the uptake of EV vehicles within public fleet

Donnie MacMillan from **Comhairle nan Eilean Siar (Western Isles Council)** outlined their **circular economy approach to waste management and renewable energy**. The council looked at innovative ways to **overcome grid constraints** which were leading to their wind turbine to not generate at full capacity.

A **hydrogen electrolyser** was installed to take advantage of the renewable energy, and a hydrogen refuse collection vehicle was deployed. The oxygen produced was used at a local fishery, which also provided feedstock for the council's anaerobic digestion plant. This approach has **saved the council money while also reducing carbon emissions**.

Southend-On-Sea City Council have encouraged **public engagement through a retrofit show home**. Jo Gay explained how **cross-council collaboration** allowed them to retrofit a 1950s void home. They installed a range of innovative solutions including grey water recycling, various types of insulation, renewable and low-carbon technologies, and a climate-resilient garden. The works mean that the house has seen a **reduction in carbon emissions from 3 tonnes to 0.4 tonnes**.

Once the retrofit works were completed, the home was opened to the public for one month. 340 members of the public visited the home, including residents, elected members, and other local authorities.

The data collected from the house will now be used to **inform plans and policy development**.

Duncan McCombie from YES Energy Solutions highlighted how £1.4 billion is spent by NHS on treating illnesses associated with living in cold or damp housing every year and showcased some of the work undertaken by the organisation in North Yorkshire under the HUG2 programme had **has saved £419 per household and almost 1,000 tonnes of carbon.**

Patrick Allcorn, Head of Local Net Zero Demonstration & Delivery for the Department for Energy Security and Net Zero closed proceedings by outlining

the government's priorities for energy and the role local authorities and the Local Net Zero Hubs can play in delivering them.

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Created by the Department for Energy Security and Net Zero, the five Local Net Zero Hubs provide free strategic and technical support to local authorities, public sector organisation, and the communities they serve.

The Hubs take local net zero projects from the earliest stages of feasibility and development to investment and delivery.

Find out more about the Local Net Zero Hubs

north west net zero hub

north east & yorkshire NET ZERO HUB

MIDLANDS NET ZERO HUB

South West NET ZERO HUB

Greater South East Net Zero Hub