

York & North Yorkshire Strategic Energy Partnership opportunity

Preliminary Market Engagement: Programme Information Document

*York and North Yorkshire Combined Authority,
City of York Council &
North Yorkshire Council*

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Introduction

York and North Yorkshire (comprising of York and North Yorkshire Combined Authority, North Yorkshire Council, and City of York Council) have been granted £2 million of funding from the Department of Energy Security and Net Zero (DESNZ) through the Local Net Zero Accelerator Programme (LNZA) to investigate the opportunities for a Strategic Energy Partnership (SEP) in the region.

Strategic Energy Partnerships between the public sector and a commercial partner are an emerging marketplace, with a growing number of successful partnerships originating across the UK. However, the unique characteristics, needs and requirements of each area produce a range of different partnership models for exploration. Therefore, when contemplating an SEP each region must consider an approach that best fits the region's needs. York and North Yorkshire has its own distinctive context and characteristics that will require an innovative approach to an SEP. With valuable insights and ideas from the market, we hope to shape our offering and develop a model tailored to the needs of our region, to build an exciting opportunity for all.

The purpose of this preliminary market engagement exercise is to take this prospect to the market, seeking valuable insights into the opportunities, innovations, and risks that can inform the further exploration and development of an SEP for York and North Yorkshire. We are also seeking market insights into appetites around return, governance, and technology, as well as perceptions on different SEP models to help us to shape a profitable and enticing offering.

This preliminary market engagement process will be structured as follows:

- Hosting of a live webinar providing an overview of our region, including opportunities and challenges, and the SEP project.
- Once the webinar has finished, the link for an online questionnaire will be shared with attendees, allowing them to share their views.
- A recording of the webinar will be uploaded online, as well as this Programme Information Document which provides more detailed information on the project.
- Responses will be collected to further inform this project.

Glossary

TERM	DEFINITION
LOCAL AREA ENERGY PLAN (LAEP)	A data-driven, spatialised plan, mapping the long-term interventions and priorities for decarbonising electricity (energy generation, flexibility, and storage), heat, the built environment, transport and other technologies e.g. gas. Providing a costed, place-based plan for delivery.
STRATEGIC ENERGY PARTNERSHIP	A collaborative partnership between the public and private sector to accelerate the funding and delivery of low carbon energy generation and energy efficiency infrastructure.
THE REGION	Refers to the geographical area of York and North Yorkshire, including CYC, NYC, and YNYCA.
THE ROUTEMAP	York and North Yorkshire's Routemap to Carbon Negative - A key strategic document for the region, outlining our ambition for net zero by 2034 and carbon negative by 2040.
CARBON ABATEMENT PATHWAYS STUDY	The evidence base that informs the Routemap to Carbon Negative strategy, providing a baseline of regional emissions by highest emitting sectors and scenario mapping of potential emissions reduction pathways.

Abbreviations

ABBREVIATION	TERM
APS	Align Property Services
CCS	Carbon Capture and Storage
CYC	City of York Council
DESNZ	Department for Energy Security and Net Zero
FSS	Financial Support Service (through LNZA programme)
GVA	Gross Value Added
HMT	His Majesty's Treasury
HNZO	Heat Network Zoning Opportunity
LAEP	Local Area Energy Plan
LINC	Local Investment in Natural Capital programme
LNZA	Local Net Zero Accelerator programme
MtCO ₂ e	Mega-tonnes of Carbon Dioxide equivalent
NYC	North Yorkshire Council
YNY	York and North Yorkshire (the region)
YNYCA	York and North Yorkshire Combined Authority

PART 1: Context and Background

Regional Governance

The York and North Yorkshire region is comprised of two local authorities: City of York Council, covering the region's primary city, and North Yorkshire Council covering the wider region (formerly split into seven district and borough councils, and becoming a single unitary authority in 2023).

On the 1st August 2022, a proposed York and North Yorkshire devolution deal was announced, which was passed by parliament on the 20th December 2023. The York and North Yorkshire Combined Authority was then formally launched on the 1st February 2024, covering the full York and North Yorkshire region.

Key features of the devolution deal included:

- Control of a £18 million per year allocation of investment funding over 30 years, 35% capital, 65% revenue, to be invested by York and North Yorkshire;
- £7 million investment to enable York and North Yorkshire work towards our ambitions to be a carbon negative region, delivered through the Net Zero Fund;
- Investment of up to £2.65 million on projects that support York and North Yorkshire's priority to deliver affordable, low carbon homes across the area;
- New powers to improve and better integrate local transport, as well as an integrated transport settlement;
- New powers to better shape local skills provision to meet the needs of the local economy;
- Support to develop a Natural Capital Investment plan for York and North Yorkshire; and
- Integration with the Office for Police Fire & Crime Commissioner.

Through devolved powers from central government, YNYCA has unlocked £81 million of investment to date, as well as closer regional ties to central government through quarterly meetings with the Prime Minister and Deputy Prime Minister and a direct relationship with HMT. YNYCA's Mayor David Skaith is also a member of the UK Mayors Group and the more recent White Rose Agreement between the combined authorities in Yorkshire.

Key Regional Strategies and Ambitions:

York and North Yorkshire have the net zero target date of 2034, as well as the ambition to strive beyond net zero and become carbon negative by 2040. This pioneering ambition of becoming England's first carbon negative region featured in our devolution deal as a key area of interest for central government.

“The government supports the ambition of York and North Yorkshire to become a carbon negative region and recognises the potential contribution it can make to national net zero goals.” – York and North Yorkshire Devolution Deal, 2022.

More detail on key regional strategies can be found in Appendix 2.

York & North Yorkshire’s Routemap to Carbon Negative (“the Routemap”):

Originally published in 2022 by the York and North Yorkshire Local Enterprise Partnership, working closely with CYC and NYC, the Routemap to Carbon Negative outlines the ambitious co-owned regional strategy to reach carbon negative by 2040. Based on extensive research and stakeholder engagement, the strategy maps out the region’s pathway to carbon negative across the five highest emitting sectors: Power, Heat & Buildings, Transport, Business & Industry, and Land Use, Agriculture, & Marine.

Local Growth Plan:

The 2024 English Devolution White Paper set out a statutory requirement for all Combined Authorities to develop a Local Growth Plan. The purpose of these 10-year plans is to support the drive for national growth by addressing regional inequalities and identifying key priorities for public and private investment. York and North Yorkshire approved our Local Growth Plan in July 2025, and alongside the Routemap this strategy now serves as one of the core strategies that should be embedded in all work across the Combined Authority. The plan sets out our key priorities and drivers for growth, as well as plans to raise productivity and deliver transformative economic prosperity for the region. It identifies the following competitive advantage sectors for York and North Yorkshire: Clean Energy, Food & Farming Innovation, Engineering Biology & Life Sciences, Rail Innovation & Security, and the Creative Industries.

Local Area Energy Plans (more detail in Appendix 1):

In 2021, York and North Yorkshire developed a suite of LAEPs. The four integrated LAEPs set out a clear spatial plan for decarbonising York and North Yorkshire’s energy system in line with future changes in energy demand, enabling the development of a prioritised pipeline of energy projects. Critically, the LAEPs highlight sufficient opportunities to generate renewable energy locally to meet required demand. Through the LAEP process, it has been estimated that £23.1 billion of investment is required to transition to a net zero energy system in York and North Yorkshire.

Introduction to York and North Yorkshire



York and North Yorkshire is one of the largest unitary authorities in the UK, comprising the historic city region of York and the rural powerhouse of North Yorkshire. The region has a population of over 818,000 (2021 census), and a land area of 8,324 km².

York and North Yorkshire has a highly productive economy, with GVA per hour worked in 2023 at £38.2, making it one of the most productive areas in the North. York and North Yorkshire also has a vibrant and successful visitor economy, worth more than £5.86bn to the region. Attracting over 40 million visitors and supporting over 54,000 jobs,

the visitor economy plays a significant role in the wider economy.

The region also has abundant land and natural capital assets. Over 50% of our land mass is covered with our two national parks (Yorkshire Dales and North York Moors) and three national landscapes (Howardian Hills, Nidderdale, and Forest of Bowland).

The region also has two world-leading research universities, the University of York and York St John University, as well as world class innovation in food and farming, and biotechnology.

Regional Challenges – The need for delivery

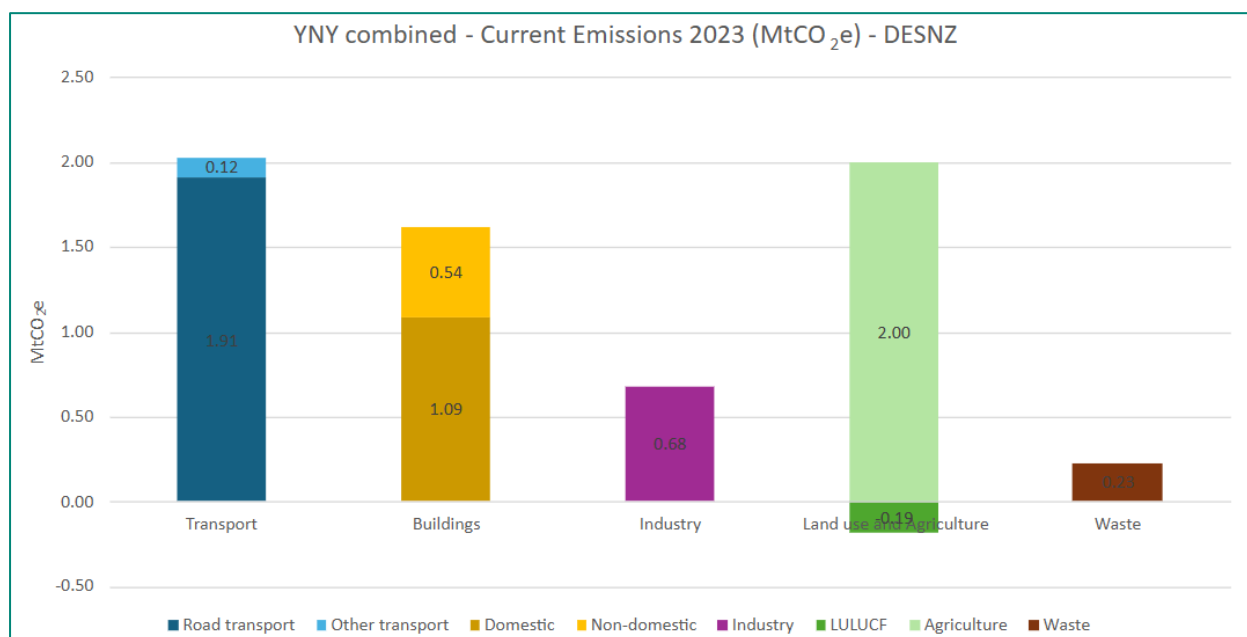


Figure 1 – Current emissions York and North Yorkshire Combined Authority (2023)

One of the main drivers for an SEP for York and North Yorkshire is accelerating regional decarbonisation. According to the 2023 DESNZ Local Authority data, York and North Yorkshire's total greenhouse gas emissions are at 6.36 MtCO₂e. Whilst this makes up only around 1.65% of the UK's total emissions (384.2 MtCO₂e), we have a strong ambition to lead the way in decarbonising our region, contributing our share towards reaching net zero on both a national and global scale.

This ambition is not without its obstacles. Our highest emitting sectors are some of the most challenging to decarbonise, including Transport (32%), Land use and agriculture (28%), and Buildings (25%). Whilst our emissions are gradually decreasing, based on the pathways outlined in the Carbon Abatement Pathways study, which serves as the evidence base behind our regional carbon negative ambition, our current emissions are closer to the 'business-as-usual' pathway. At this point in time, we need to rapidly increase the pace and scale of delivery to achieve our ambition of reaching carbon negative by 2040.

Barriers to delivering the necessary decarbonisation projects at the speed and scale required to meet our ambitious targets include:

1. Lack of capacity and capabilities – local government currently lack the required capacity and expertise to support the development of net zero projects at the pace and scale needed. This is coupled with the wider issue of lack of green skills within the economy that is holding back the delivery of net zero projects, such as housing retrofit programmes;
2. Piecemeal public funding – public funding for net zero currently has short timeframes for the development and delivery of projects, and is often disconnected across different sectors, which prevents long-term strategic planning for projects. Alongside this, local government does not have sufficient capital to invest in decarbonisation of public sector assets to the extent required;
3. Lack of private sector investment – there is currently low levels of private sector investment in net zero projects within the region, with an over-reliance on public funding for both project development and project delivery. There is a missed opportunity to utilise blended finance of public and private funding for projects; and
4. Lack of regional governance for net zero – without a regional governance structure to prioritise net zero projects and have oversight of LAEP delivery, project development is ad-hoc and uncoordinated, which is likely to create inefficiencies in the system and lead to higher costs for delivering net zero in the long-term.

Therefore, we are seeking to understand how we can unlock the expertise, investment, scope of resource, and speed of delivery from the private sector, sharing the opportunities of our region to achieve collective decarbonisation ambitions and working in collaboration to create a regional strategy and pipeline of delivery.

North Yorkshire Council challenges:

North Yorkshire Council faces challenges as a large and rural county. Challenges include tackling inequality and deprivation, meeting the needs of an ageing population, digital and transport connectivity and rural service sustainability. The Local Government Sector continues to face significant financial challenges, and this includes North Yorkshire. The financial strain is compounded by the loss of the Rural Services Delivery Grant from 2025/26 which has come at a time of increasing demand and significant cost pressures.

- 85% of the region classed as “super-sparse” – 98% of the county is either sparsely or super-sparsely populated with just over a third of the total population living in these areas. This results in a population density of just 77 people per square kilometre, compared with an average of 432 for England.
- Deprivation and Fuel Poverty – 24 neighbourhoods (LSOAs) in North Yorkshire fall within the most deprived quintile in England, 20 of which are concentrated in Scarborough town and Whitby (IMD, 2019). 14.2% of households within North Yorkshire are fuel poor ([DESNZ, 2023](#)). YNY also has a higher than average proportion of homes off the gas network, a large proportion of detached homes and a higher proportion of pre-1919 homes, resulting in 68% of homes and 62% of non-domestic properties with an EPC rating below C.
- Challenges of retrofitting North Yorkshire’s housing stock – Retrofitting properties is a particular challenge in North Yorkshire due to the age and traditional construction of the building stock and the high-quality protected landscapes and historic listed buildings which require specialised and costly retrofit measures.
- Demographic challenges – North Yorkshire face a range of demographic challenges. The county has a largely ageing population, with currently one in four of residents aged 65 and over; this is expected to rise to one in three of our residents by 2035. Additionally, North Yorkshire is seeing a decrease in the working age population, in particular younger families, and households, with the number of persons aged between 30 and 44 decreasing by c.6% since 2011.
- Connectivity – The county’s rural nature poses significant challenges to transport connectivity, risking some communities being isolated from services and economic opportunities. Digital connectivity also remains inconsistent across the county, presenting a barrier to investment and growth in some areas. The council is committed to advancing connectivity in North Yorkshire through NYnet and its full-fibre network, supporting the roll out of Superfast and Gigabit broadband.
- An appropriately qualified/ skilled workforce – YNY benefit from a highly skilled workforce. However, there remains a gap between existing skills and the evolving needs of industry. Emerging sectors such as those related to the green economy will require targeted upskilling and reskilling to align with current and future market demands.

City of York Council challenges:

The City of York faces several pressing local challenges that underscore the need for strategic intervention, particularly in the energy and sustainability sectors. Some of the key challenges faced by the city include:

- **Highest emitting sectors** – One of the most significant contributors to the city's carbon emissions is the buildings sector, which accounts for 46% of total emissions. The majority of these emissions originate from domestic buildings, highlighting the urgent need for energy efficiency improvements in residential housing. The transport sector follows closely, contributing 31% of emissions, while the industrial sector accounts for 11%.
- **Heritage and listed building stock** – York's status as a heritage city presents unique challenges and opportunities in the context of modern infrastructure and sustainability. Many of its historic buildings are energy intensive and difficult to retrofit due to preservation constraints. Additionally, the city's ancient Roman and Viking road layouts are not well-suited to contemporary traffic demands, exacerbating congestion and emissions.
- **Vulnerability to flooding** – The impacts of climate change are already being felt in York, most notably through severe flooding events. A total of 4,917 properties within the city are located in designated flood zones, placing a significant portion of the population and infrastructure at risk. This vulnerability necessitates robust climate adaptation and resilience strategies.
- **Deprivation and Fuel poverty** – Socioeconomic disparities also pose challenges to inclusive development. Approximately 5% of York's population resides in areas ranked among the bottom fifth nationally for deprivation, indicating a need for targeted support and investment in these communities. In 2021, 11,992 (13.5%) of households in York were classed as fuel poor with 44% of EPC-rated domestic properties having ratings indicating low energy efficiency (D or below). Housing affordability is another critical issue; in 2024, York recorded a housing affordability ratio of 8.3 (median house prices to earnings), making it the least affordable local authority in the Yorkshire and Humber region. This places considerable pressure on residents and underscores the importance of sustainable housing solutions.

Programme Background

Demonstrating our commitment to decarbonisation and the strength of our vision for the future of the region, York and North Yorkshire were successful in bidding for £2 million of funding from the Department for Energy Security and Net Zero Local Net Zero Accelerator Programme.

The LNZA programme was announced by Central Government in November 2023, with £19 million of funding allocated to three combined authorities for the delivery of green

initiatives, helping to unlock private investment, speed up their efforts to tackle climate change, and to help the UK reach its net zero target.

Greater Manchester Combined Authority and the West Midlands Combined Authority received funding to encourage investment in a variety of net zero projects. York and North Yorkshire Combined Authority have received funding for the specific piloting of an SEP, based on the success of the Bristol City Leap joint venture with Ameresco and Vattenfall (for a summary of Bristol City Leap, see Appendix 3).

The key work packages of this pilot programme are:

1. Asset Base Review and Pipeline development:
 - a. Conduct a full asset base review for YNYCA, CYC, and NYC.
 - b. Conduct techno-economic modelling on compiled YNY asset base to identify opportunities for Solar PV and ASHP.
 - c. Map out a regional pipeline of developing projects and refine offering through internal engagement.
 - d. Develop an asset prospectus of key opportunities in regional asset base and project pipeline.
2. Model Options Appraisal:
 - a. Identify key characteristics, successes, and lessons learnt from the Bristol City Leap joint venture partnership and assess its suitability to be replicated in York and North Yorkshire.
 - b. Conduct an initial scoping and refinement of potential model options for York and North Yorkshire, through internal engagement and consultant support.
 - c. Conduct a detailed options appraisal, building on the initial options review, exploring a variety of innovative delivery and investment models, informed through extensive internal review and market engagement, FSS support, and a bespoke scoring matrix.
 - d. Identify a final model for York and North Yorkshire.
3. Business Case Development:
 - a. Develop an outline business case.
 - b. Produce a full business case and receive approval for model implementation.
4. Model Implementation:
 - a. Begin preparatory work for SEP model implementation, including executive decisions, and engaging legal, financial, and procurement support.
 - b. Create an action plan for SEP implementation.

York and North Yorkshire were selected for this pilot due to our unique regional characteristics, which differ greatly from those of Bristol. It provides an opportunity to test the SEP model in an area with a huge variation of assets, across cities, towns, rural villages, and coastal areas. It is also an opportunity to test how a model could potentially be designed to work with multiple authorities – in this case, a vast rural

unitary authority, an historic city council, and a mayoral combined authority. When considered alongside our trailblazing carbon negative ambition, York and North Yorkshire offers an exciting opportunity to pilot an innovative model for accelerating net zero delivery at pace and scale, with the additional potential to be replicated by other authorities across the country.

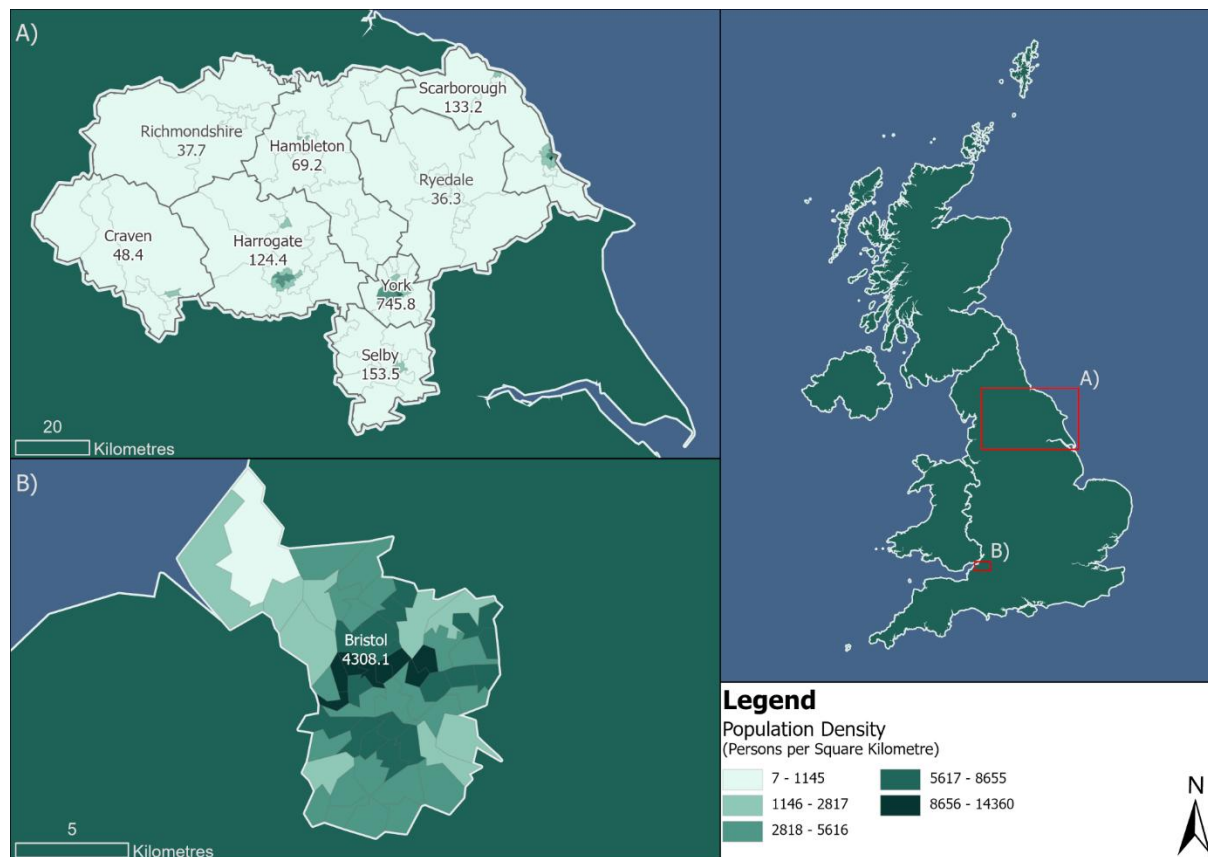


Figure 2 – Comparison of York and North Yorkshire and Bristol population density.

Progress to Date

Whilst the development of a potential strategic energy partnership for York and North Yorkshire is still in its early stages, significant progress has been made in the project to date.

Firstly, an initial options appraisal report on partnership models has been completed with consultant support, evaluating a range of potential net zero delivery models to support YNYCA, CYC, and NYC in achieving their decarbonisation goals. The options assessment explored the feasibility of replicating models such as Bristol City Leap within the York and North Yorkshire region; alongside other potential models aimed at accelerating the development and implementation of YNY's net zero projects. The report provided examples of funding, operational, ownership, and governance arrangements. Importantly, the report identified the need to understand the differing

political, governance, and risk appetites of the three authorities, as well as variations in their assets, resources, and local market conditions.

Secondly, to establish a stronger understanding of the assets owned by the region, an asset base review was conducted. This scoping exercise, coordinated across multiple services areas within the three authorities, helped to understand the scale of the potential opportunity for public estate decarbonisation.

Finally, building on this work, with the support of the LNZA programme's FSS, the project team performed techno-economic modelling on a selection of authority assets. This modelling tool is iterative in nature and can be utilised to understand the potential for delivery on the public estate. This model enables CYC, NYC, and YNYCA to desktop assess the feasibility and impact of potential solar PV and heating decarbonisation across our owned public estate. We aim to continue developing this modelling to integrate into other asset sources, with the goal of providing a robust evidence base to prioritise interventions and shape the strategic and financial foundations of a potential energy partnership.

We are now conducting a detailed options appraisal, which this market engagement exercise is designed to inform, assessing the suitability of a selection of delivery and investment models. The options being explored range from in-house delivery (engaging with the private sector through procurement and a bespoke investment model), to different styles of joint venture, to an ambitious authority owned energy company.

Strategic Energy Partnership

Through significant internal engagement across the three authorities, we have also begun to refine our understanding of what York and North Yorkshire desires from a strategic energy partnership. This includes a clear strategic framework outlining the aim, objectives, and outcomes of a partnership model, as well as the desired scope and outputs of delivery.

Aim and Objectives

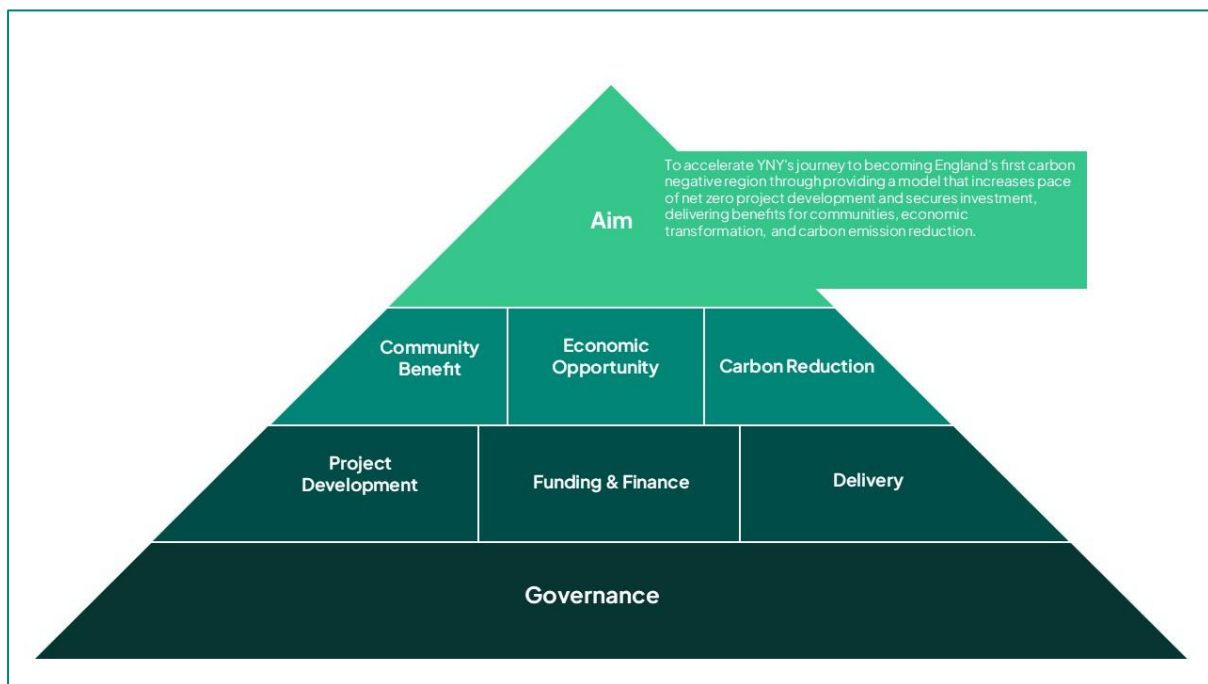


Figure 3: Diagram of the Strategic Framework for a York and North Yorkshire Strategic Energy Partnership.

This framework sets out the foundational building blocks necessary to create a strategic energy programme in York and North Yorkshire capable of achieving its aim outlined within this framework. The framework also summarises how the enablers and objectives work together to achieve our 'why' (the outcomes).

Aim: This is the long-term vision for a strategic energy programme in York and North Yorkshire.

To accelerate YNY's journey to becoming England's first carbon negative region through providing a model that increases pace of net zero project development and secures investment, delivering benefits for communities, economic transformation, and carbon emission reduction.

Dedicated to driving social benefits for communities through innovative projects, empowering local voices. Integrating supply chains and delivering broader economic benefits to create a sustainable growth strategy that supports long-term prosperity for all.

Outcomes: These are the 'why' of the programme, outlining what needs to happen as a result of strategic energy programme activities. All activity under this vehicle will aim to meet at least one of these outcomes.

1. **Community Benefit** - To enable wider social benefits to be felt within local communities.
Requires (not limited to):

- Effective engagement with communities to ensure project consent (co-design principles);
 - Tackling fuel poverty; and
 - Increasing community ownership of local energy projects.
2. Economic Opportunity – To enable regional economic growth to be felt within local businesses and communities.
- Requires:
- Increasing job creation;
 - Growth in local supply chains; and
 - Training and education opportunities.
3. Carbon Reduction – To reduce carbon emissions in line with regional strategies and commitments.
- Requires:
- Action at pace and scale; and
 - Consideration of net zero and carbon neutral commitments.

Key Objectives: The key objectives are the 'what' of the programme, these outline the key and essential activities of the strategic energy vehicle. They must all be tackled to increase the pace and scale of decarbonisation.

1. Project Development – To develop a strategically driven pipeline of projects that enables funding & investment.
- Requires:
- Project development funding;
 - Capacity & capability to develop projects; and
 - Consideration of social value and community wealth building.
2. Funding and Finance – To secure and optimise public funding and commercial investment, harnessing innovative approaches to maximise regional outcomes.
- Requires:
- Ability to aggregate and bundle projects;
 - Access to commercial investment; and
 - Capacity & capability to blend public funding and private finance.
3. Delivery – To enable project delivery at pace and scale, harnessing the use of local supply chains.
- Requires:
- Growth in demand of local supply chains;
 - High standards and quality of delivery; and
 - Capacity & capability to deliver and/or contract manage.

Enabler: This is the enabling factor that facilitates desired activity of the strategic energy programme. This factor removes barriers and makes it easier for the programme to deliver its objectives.

Governance – To develop a robust governance route that enables strategically driven programme delivery at pace and scale.

Requires:

- Flexibility to political uncertainty;
- Variation dependent on project factors (ownership); and
- Considers longevity of activities beyond model/partnership term (e.g. golden share).

Scope / Outputs

The below is a summary of the expected scope of technology, however this is not prescriptive and aims to illustrate the potential range of delivery required.

Technology type	Examples:
Energy Generation	Large- and small-scale energy generation, this could include standard technologies such as onshore wind, solar PV, or battery storage, and other more niche technologies such as anaerobic digestion, or hydroelectric installations.
Low Carbon Heating	Delivery of a range of low carbon heat solutions, including Heat Pumps (air-source and ground-source), Biomass, Geothermal, as well as the exploration of Heat Network development.
Retrofit and Energy Efficiency	Measures to reduce the energy consumption of the built environment, this includes building fabric improvements, and the installation of energy efficiency measures and smart technology.
Transport and Infrastructure	Supporting the decarbonisation of the transport sector through the construction of electric vehicle charging infrastructure e.g. rapid charging, hyper-hubs, as well as potential utilisation of highways and car parks for decarbonisation infrastructure e.g. energy generation.
Community Energy	Support the development of community-led and owned net zero initiatives, such as capacity building, technical support, and a community energy fund.
Innovation	Ensure innovation opportunities are recognised and capitalised upon where appropriate, specifically, but not limited to: Innovation that takes advantage of York and North Yorkshire's unique natural landscape (e.g. geothermal, tidal etc.); innovation in digital and data technology (e.g. smart meters, smart energy systems); low carbon technological innovation (e.g. anaerobic digestion, biochar); and business model innovation (e.g. energy-as-a-service, microgrids)

Engaging Communities

Within YNYCA, the Mayor's Vision champions the growth and health of communities, this includes support for community projects and organisations and targeting investment for deprived communities. A key priority is creating safe, warm, and affordable homes, by tackling energy and heating bill costs through accelerating regional decarbonisation.

Therefore, one of the key outcomes expected from a potential York and North Yorkshire SEP is the generation of social value, supporting and strengthening our communities. This includes principles to:

- Create and retain new high-quality green jobs;
- Improve wellbeing for residents;
- Increase the affordability of energy and tackling fuel poverty;
- Supporting community led projects and community energy development; and
- Driving equality of opportunity, creating a fair, thriving, green economy for all.

One possible vehicle through which the above can be achieved is through community energy. Community energy can generate economic, social, and environmental benefits for local areas, working to empower and engage residents, tackling hyper local energy needs, and increasing energy efficiency through reduced strain on the grid. According to Community Energy England, community energy in the UK produced 617 GWh of renewable energy in 2023, powering the equivalent of nearly 230,000 households.

The current community energy sector in York and North Yorkshire is underdeveloped when compared to other regions in the UK. Whilst there are strong examples of both powering up projects e.g. hydropower installations in Whitby and Settle, and the success of Solar for Schools in York, and powering down projects e.g. York Community Energy's work with York Energy Advice, there is significant support needed for the community energy sector to develop. There are also many dedicated community climate action groups that would be enthusiastic to get involved in community owned energy projects in the region.

However, there are ongoing barriers to the community energy sector in York and North Yorkshire – primarily access to consistent funding, not only for project development, but also to support the organisational capacity of community energy groups. There are also issues with the congested grid connections queue, knowledge on what is required to initiate a community energy project, capacity constraints, and challenges with the unique geography of York and North Yorkshire, e.g. planning restrictions in national parks, and small rural villages with fewer resources.

Therefore, the community energy sector in York and North Yorkshire requires connection between motivated individuals and groups, wider public awareness of community energy, consistent and flexible funding, knowledge and skills, and market

access e.g. to land, grid connections, and investment. There is also an opportunity to use community energy to tackle areas of high deprivation and fuel poverty in the region.

Scale of the Opportunity

This section aims to provide an illustrative overview of York and North Yorkshire's opportunities and assets, to inform the offering to a potential strategic energy partnership.

York and North Yorkshire

York and North Yorkshire is in a prime position to support national and global efforts to combat climate change, even going beyond net zero and becoming England's first carbon negative region. York and North Yorkshire can take advantage of the sustainability opportunities from both urban and rural settings. For example:

- Natural carbon capture and sequestration supported by the two National Parks, three National Landscapes, and marine assets;
- Innovative pilot opportunities through our urban assets (including Retrofit One Stop Shop for York and Heat Network Zoning Pilots in York and North Yorkshire); and
- Potential for innovative clean energy technologies such as hydropower on our vast network of rivers, geothermal, tidal, or anaerobic digestion.

Public Sector Assets:

The public sector estate for CYC, NYC, and YNYCA covers a vast range of assets, inclusive of:

- Almost 15,800 domestic residences and 3,400 non-domestic properties, totalling over 19,000 buildings potentially in scope.
- Local Authority owned social housing, schools, leisure centres, libraries, swimming pools, care homes, council offices, depots, car parks, and commercial sites.
- Further assets in EV charging infrastructure, highways, and public rights of way.
- As well as land assets, ranging from brownfield sites to agricultural tenancies.

In addition to the three core authorities, following stakeholder engagement with wider public sector organisations in our region, many have expressed interest in the benefits of a SEP model for York and North Yorkshire. The organisations engaged include North York Moors National Park Authority, Yorkshire Dales National Park Authority, Nidderdale National Landscape, Howardian Hills National Landscape, Forestry England, NHS (York and Scarborough Trust), University of York, and the North East and Yorkshire Net Zero Hub.

Clean Energy:

York and North Yorkshire has a long history of powering the UK. From the now de-commissioned Selby coalfields producing up to 12 million tonnes of coal per year, to Drax power station with the highest generation capacity in the UK, providing over 5% of

the country's power. This legacy can continue, sustainably, through our journey to carbon negative, and contribute to national clean energy targets. Our LAEPs highlighted the renewable energy generation potential for York and North Yorkshire is capable of meeting regional demand. Furthermore, our Local Growth Plan highlights clean energy as one of our competitive advantage sectors, with the core ambition of York and North Yorkshire 'powering the UK'.

In addition to wind and solar generation, York and North Yorkshire is uniquely suitable for geothermal, with a favourable sub-surface geology due to a salt layer 1700m below the surface. There have already been multiple studies into geothermal feasibility in the region, including an old fracking site in Kirby Misperton and reusing gas wells in Pickering, as well as £35million of funding secured for a geothermal heat network at the University of York.

Carbon removal opportunities:

Through vast natural land and marine assets, with over 50% of our region covered by landscape designation, over 70% of land used for agriculture, and 67km of coastline, York and North Yorkshire is uniquely positioned to capture and store carbon. The Local Investment in Natural Capital (LINC) programme is helping to develop a pipeline of projects which can use this unique landscape to grow Natural Capital. Key figures from work undertaken through LINC include:

- Vegetation and corresponding soils in York and North Yorkshire currently store 161.1 million tonnes of carbon dioxide equivalent (CO₂e), valued at £37.2 billion.
- The annual sequestration is nearly 700,000 tonnes valued at £197.2 million.
- The quantified water quality regulation benefits provide an annual value of £654 million.
- Natural Capital currently supports 11% of the regions 'gross value added' (GVA), with an ambition to grow this by 31% by 2050.

There is also potential for CCS in the region, with proximity to the East Coast Cluster carbon capture pipelines in the Humber and Tees Valley estuaries.

Key regional programmes to date:

- £7 million Net Zero Fund: As part of York and North Yorkshire's Devolution Deal (2022), the Government committed to provide "£7 million investment that will enable the area of York and North Yorkshire to drive green economic growth towards their ambition to be a carbon negative region". The Combined Authority subsequently established the Net Zero Fund to support project development and project delivery. The £7 million has been committed to 21 projects and is on track to deliver by the end of September 2025. The projects have or will deliver across a wide range of areas from supporting peatland restoration and surveying kelp stocks, to delivering community and public sector building decarbonisation. The

fund has also supported the development of projects that will enable future delivery.

- Carbon Negative Challenge Fund: Utilising key learnings from the Net Zero Fund, the Combined Authority established the £8 million Carbon Negative Challenge Fund. The Fund is focused on seeking solutions to address key challenges that the region is facing in reaching net zero and beyond to carbon negative:
 - Scaling up sustainable & regenerative agriculture;
 - Retrofit finance and innovative approaches to place-based heat decarbonisation;
 - Community energy and circular economy demonstrators; and
 - Innovative approaches to increase carbon sequestration in marine and coastal areas.

The first application window closed in April 2025, receiving over 80 applications across the project development (revenue) and project delivery (capital) strands.

- Mayoral Renewables Fund: In July 2025, the York and North Yorkshire Combined Authority were successful in applying for £700,000 of DESNZ funding for the region to invest in cheaper, clean energy systems in community buildings. The grant will support installation of solar panels across a range of community facilities in York and North Yorkshire, including Yearsley Swimming Pool in York, Whitby Leisure Centre and the Active North Yorkshire Ripon Leisure and Wellbeing Hub (Jack Laugher Centre).
- Energy Generation Accelerator Programme (EGAP): A £2.5 million programme currently in development, designed to accelerate the development of renewable energy generation projects in York and North Yorkshire. The programme will support early-stage project development, including feasibility studies and business cases, and address barriers such as planning, community engagement and grid connection. It will provide strategic oversight of priority locations and technology options across the region.
- Mayor's Active Travel Fund: Groups across York and North Yorkshire will be able to bid for a share of a new £4 million fund to encourage more active travel across the region.
- Brownfield Housing Fund: First announced in January 2023, our current £16.7million Brownfield Housing Fund programme is set to deliver over 1,100 new homes on 17 sites across York and North Yorkshire, with key priorities to deliver affordable, sustainable, and low carbon housing for the region.

Office for Police and Fire

Both fire and police services are directly impacted by climate change, making their support for decarbonisation essential. The Mayor's ownership of the Police and Fire estate across the region aligns well with his ambitious decarbonisation goals, creating a strong platform for action. However, innovative and creative approaches, such as the

exploration of an SEP, are necessary to explore in order to make significant progress in virtue of access to limited capital.

Challenges

- Decarbonisation works across Police and Fire estate face financial barriers over and above usual service and maintenance, including:
 - Replacing gas heating systems with heat pumps;
 - Installation of solar PV and battery storage; and
 - Installation of electric vehicle charging infrastructure.
- There is also a lack of resources and expertise for implementation of these projects at pace and scale across the estate.

Opportunities

- There are approximately 100 Police and Fire buildings in York and North Yorkshire.
- Delivering operational savings through increasing the installation of renewable energy infrastructure.
- There is interest across the offices of Police and Fire in the electrification of emergency fleets, and the associated EV infrastructure required to accommodate this.
- Decarbonisation of the Police and Fire estate can bring benefits to cost savings for emergency services, and resultant social benefits in health and wellbeing through investing more in protecting communities.

North Yorkshire

NYC recognises a strategic partnership approach to achieving net zero is a positive, potentially critical, step forward in reaching its own and the region's net zero ambitions. It provides the region with the chance to be at the forefront of innovative net zero project development, enables scalable investment to be unlocked and assists the council to maximise untapped potential. The council is working to be operationally Net Zero by 2030, outlined in the Climate Change Strategy and delivered via the Climate Change Strategy Delivery Pathway.

North Yorkshire, abundant in built and natural assets, presents a unique opportunity for a partner to work in the largest, by land, authority in the UK. An eclectic mix of urban centres, market towns, rural areas and coastal communities presents an opportunity for comprehensive delivery of net zero infrastructure. The council has, and maintains, links to Town and Parish Councils, community organisations, businesses and public bodies such as National Landscapes and National Parks.

The council owns approximately 8,300 domestic properties, with ambition to deliver at least 2,500 new homes per year across all tenure types, including a minimum of 800 new affordable homes each year. The council also oversee over 3,000 diverse land and

property assets including schools, corporate offices, depots, service delivery accommodation, farms, industrial units, surplus sites, and commercial assets.

North Yorkshire Council utilise Align Property Services (APS), which is a North Yorkshire owned multi-disciplinary building design consultancy, for the delivery of a range of projects across the region. APS deliver across both domestic and non-domestic property, predominately council owned and have a proven ability to deliver in line with government requirements. They also have a proven track record of applying and successfully receiving government funding to deliver energy efficiency and retrofit projects.

Strategic Framework and Policy Commitments

North Yorkshire Council's Council Plan (2025 – 2029) outlines four key themes, which are:

- Supporting thriving and empowered communities
- Develop more sustainable and connected places
- Ensure the people of North Yorkshire are safe, healthy and living well
- Maximise the potential of North Yorkshire's people and communities

These ambitions are reflected across the council's service delivery areas within strategic frameworks and policy documents. These are integral as we move forward on our journey to meet the region's aim of becoming net zero by 2034. NYC is committed to delivering this regional ambition as well as its own operational net zero target, which is reflected in the aim to develop more sustainable and connected places. The commitment to acting on this ambition is demonstrated throughout service area policy and strategy documents, including:

- Climate Change Strategy (2023 – 2030) outlines how North Yorkshire will respond to the climate emergency through three key themes: Mitigation, Adaptation and Supporting Nature.
- Economic Growth Strategy (2024 – 2029) sets out how the council will develop an innovative, carbon negative economy driven by productive and entrepreneurial business base and the places & communities that make North Yorkshire distinctive.
- Housing Strategy (2024 – 2029) provides the strategic direction for housing activity across North Yorkshire and the vision to ensure good quality, affordable, healthy and sustainable homes that meet the present and future needs of all our communities.
- Electric Vehicle Rollout Strategy demonstrates the commitment of ensuring that by 2030 no resident within North Yorkshire with a reliance on street parking is more than a 10-minute walk from a publicly accessible electric vehicle charging point through the development of a region wide EV charging network.
- Local Transport Plan (2016 – 2045) sets out the council's priorities, plans and strategies for managing, maintaining and improving all aspects of the local transport system for the next 30 years.

Key strategic programmes and delivery expectations:

A partnership should enable NYC to accelerate regional decarbonisation by implementing a coordinated and strategic approach to project origination, funding, delivery, leveraging combined resources and expertise. The partner should support the generation of a long-term pipeline of innovative projects in collaboration with the local YNY supply chain, helping to achieve net zero targets while enhancing energy security and reducing energy poverty.

This partnership must also align with the council's ambitions to support thriving places, empower communities, and develop sustainable and connected environments. By delivering better quality homes, businesses and workplaces, promoting cleaner and more active transport networks, and improving access to high-quality green spaces, the partnership will help ensure people are safe, healthy, and living well. The partner is expected to actively identify opportunities to deliver social value outcomes including supporting better jobs, a more inclusive economy, enhanced green skills and education, and promoting access to equal opportunity. The partnership should work collaboratively with the council, partners and organisations to establish impactful social value benefits.

Information on Key Programmes and Assets

- Decarbonisation of the Corporate Estate

NYC has significant opportunity to decarbonise its corporate estate. These buildings collectively account for a substantial portion of the council's carbon footprint, corporate property contributed 38% of total emissions in 2019/20. The council's Climate Change Strategy outlines a clear ambition to achieve net carbon neutrality by 2030, with an emphasis on retrofitting existing buildings and integrating low-carbon technologies. The council's extensive portfolio of land assets provides significant opportunity for potential exploration.

- Decarbonisation of Domestic Property

19% of North Yorkshire's total emissions originate from domestic housing. The council has a history of delivering energy performance measures through a range of government-funded initiatives including Social Housing Decarbonisation Fund, the Warm Homes Fund: Social Housing Fund Wave 3, the Local Authority Delivery scheme, and the Home Upgrade Grant. Home ownership is high in North Yorkshire, with 70% of households owning their own homes (England: 63.75%), whilst social rented housing accounts for less than 12% of the county's households (England: 16.6%).

- Heat Network Development Feasibility – A HNZO heat network study in Northallerton

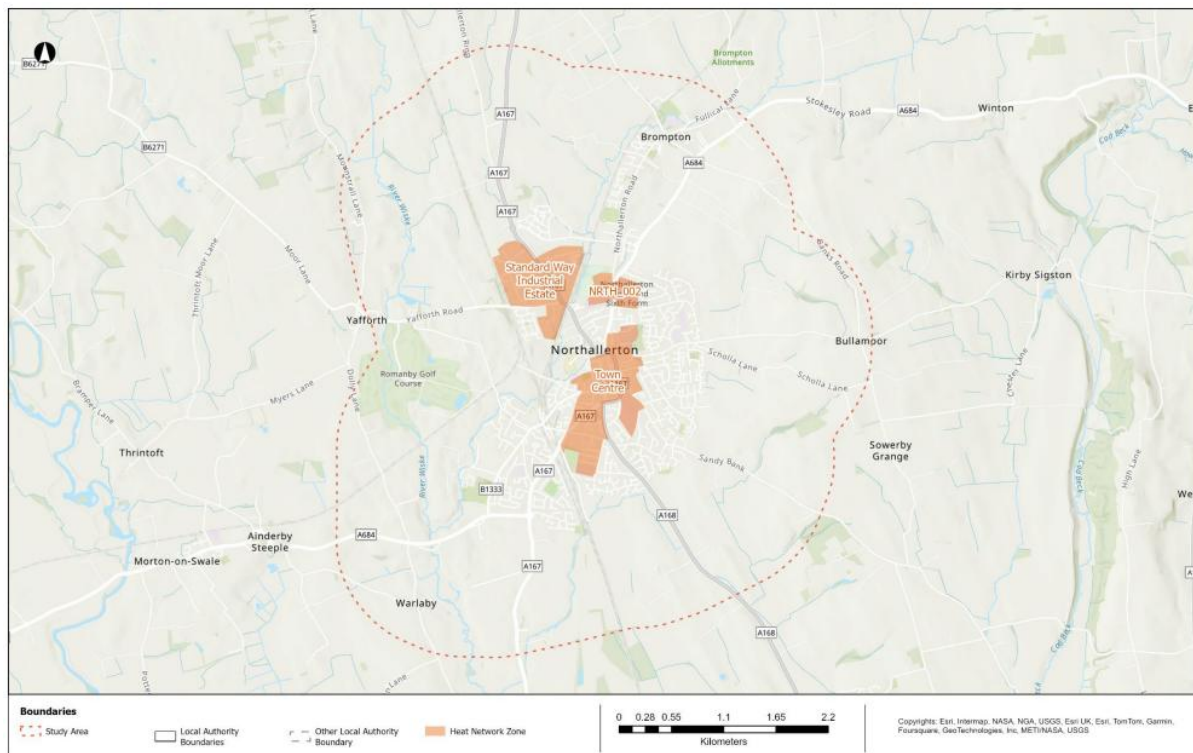


Figure 4 – Overview of heat network zones identified in Northallerton by DESNZ's commissioned Heat Network Zoning Opportunity study.

Northallerton, a historic market town in North Yorkshire with a population of c.11,400, has recently had a Heat Network Zoning Opportunity (HNZO) report produced as commissioned by DESNZ to explore potential heat network zones. Three potential heat network zones were identified, one being a strategic heat network zone with a heat demand of 23GWh/yr for all buildings potentially required to connect. The high-level estimate of capital expenditure required to connect buildings in all zones is approximately £40 million, of which the initial zone opportunities amount to approximately £20 million. The Northallerton Town Centre initial zone opportunity is expected to achieve carbon savings of c.5ktCO₂e/yr.

- Waterways and Hydroelectric Opportunity

NYC is uniquely positioned to explore innovative decarbonisation opportunities through hydroelectric power. The region's abundant natural assets including rivers, upland streams, and coastal areas could offer viable potential for hydropower generation. Hydroelectric schemes, particularly community-led or decentralised models, could provide resilient, low-carbon energy while delivering biodiversity and economic co-benefits.

- Maritime Decarbonisation Opportunity

There is potential opportunity to decarbonise port operations and coastal logistics through electrification of vessels, adoption of green hydrogen technologies, and infrastructure upgrades to support low-emission freight, pollutant reduction and improvement to air quality in harbours. These initiatives are supported by the region's participation in national demonstrator programmes such as the Net Zero Fund's Shore Power feasibility study at Scarborough and Whitby Harbours. This study, into the potential delivery of shore side power to support marine decarbonisation, could be used as an exemplar for other sites along North Yorkshire's coastline.

- Utilising Anaerobic Digestion

The council looks to support innovation in the renewable energy transition which includes the use of anaerobic digestion (AD). Allerton Waste Recovery Park, an energy from waste plant, currently processes up to 320,000 tonnes of waste per year from York and North Yorkshire Councils. The facility produces enough electricity to supply approximately 66,000 homes. The Shared Prosperity Fund Business Sustainability Programme recently supported development of AD plants on two dairy farms in North Yorkshire. These have provided valuable case studies. The partner should assist with origination, development and delivery of schemes that advance the council's exploration of alternative energy production.

- Fleet Decarbonisation Strategy & EV Infrastructure

The council continues to develop its fleet decarbonisation plan, which will provide a route to decarbonise the council's fleet. Supporting infrastructure will need to be in place to enable this transition. This will largely be covered by the council's successful bid for Local Electric Vehicle Infrastructure (LEVI) and LEVI pilot funding to supply the c.3,100 publicly available EV chargers identified as being required by 2030 to support forecasted demand. The council looks to install a mix of fast and rapid chargers to meet the needs of different types of EV drivers.

The authority has conducted trials with hydrotreated vegetable oil (HVO), used as a low carbon fuel source, with Scarborough Borough Council in 2022. The council conducted a trial on approximately 65% of the Council's refuse collection vehicles. The [trial](#) saw negligible impact on fuel consumption performance and no additional maintenance requirements. During this period the council used 108,000 litres of HVO to fuel cars, vans, mowers, and refuse collection vehicles and saw savings of 267,849 kgCO₂e.

Operating within Harrogate are a fleet of c.47 zero emission electric buses. This is following a successful bid of £7.8m to the Department for Transport (DfT) Zero Emission Bus Regional Areas scheme (ZEBRA) by North Yorkshire County Council.

- Industrial Decarbonisation – A Case Study: Dalton Industrial Estate

The council continues to support community groups and businesses decarbonise operations to realise both carbon and financial savings. Recent examples include the Shared Prosperity Fund and collaborative, joint working ventures such as decarbonising

Dalton Industrial Estate. Businesses located at Dalton Industrial Estate, near Thirsk, alongside the council secured funding via DESNZ's Local Industrial Decarbonisation Plan (LIDP) programme. Critical factors including heat, power, transport, circular economy and natural capital were considered as part of this project. The resulting outputs highlight ongoing grid constraint issues but act as an exemplar for other rural industrial estates across the county to reach net zero.

- Regeneration and Development

NYC is actively progressing a comprehensive regeneration and planning agenda that integrates decarbonisation as a central pillar of future development. The council is currently developing a new Local Plan, which will guide land use and development across the county until 2045. This plan will replace legacy district and borough plans and embed sustainability and climate resilience into spatial planning decisions. Alongside this, the council is delivering Town Investment Plans, costing approximately £1.3 million across 32 towns, focusing on enabling enterprise, sustainable environments, protecting heritage and promoting growth and improving social and personal well-being.

City of York

The City of York Council is keen to pursue a strategic energy partnership alongside the partner authorities to advance its ambition of becoming the first city in the United Kingdom to achieve energy independence. This initiative is central to York's broader climate change strategy, which includes achieving net zero emissions by 2030 and contributing to the region becoming carbon negative. By securing a strategic energy partner, the council aims to accelerate progress toward these goals while enhancing the city's economic resilience and sustainability goals.

The city is already recognised as a global leader in climate action, being awarded CDP Rating A on three successive occasions and one of only 22 global cities to do so this year. The city has strong strategic partnerships across academia, private and public sectors and the community who are equally committed to reducing carbon emissions at scale and pace.

York's economy is robust, with a Gross Value Added (GVA) of £6.9 billion, and is underpinned by key sectors such as rail technology, biotechnology, creative technology, and tourism and hospitality. The city is also internationally recognized as a global science hub, with these sectors contributing to its economic strength. These attributes position York as an ideal candidate for pioneering innovative energy solutions in collaboration with strategic partners.

The council's commitment to sustainability is further reflected in its land use and employment trends. A significant proportion of York's land—65.4%—is classified as agricultural, including 7,348 hectares dedicated to cereal farming. This presents

opportunities for integrating renewable energy and sustainable practices within the agricultural sector. Additionally, York is experiencing a notable shift toward green employment; in 2022, over one-third of all new job advertisements were for green roles, particularly in skilled trades and professional and technical sectors.

York's cultural and educational assets also play a vital role in its strategic energy vision. The city is celebrated for its rich heritage, beauty, and cultural significance, holding designations such as City of Sanctuary, Human Rights City, and UNESCO City of Media Arts. Furthermore, York is home to two universities that deliver world-class research and innovation, providing a strong foundation for collaborative energy projects and knowledge exchange.

The City of York Council is hugely supportive of a strategic energy partnership working across the authorities in the region to support its environmental ambitions while leveraging its economic strengths, scientific expertise, agricultural capacity, green job growth, cultural heritage, and academic excellence.

Strategic Framework and Policy Commitments

The City of York Council has identified climate action as one of its four core priorities in the Council Plan 2023–2027. This commitment includes a strong focus on exploring opportunities for local energy generation and the decarbonisation of buildings. The Council has embedded this priority across a range of supporting policies and strategies, including the following:

- The Climate Change Strategy (2022–2032) provides a comprehensive framework for achieving Net Zero, outlining key objectives across four critical sectors: buildings, transport, waste, and energy.
- The Council's Local Transport Strategy (2024–2040) introduces new policies aimed at reducing carbon emissions by 71%, promoting sustainable travel. These include commitments to expand the use of electric vehicles (EVs) and enhance supporting infrastructure across the city.
- The Public EV Charging Strategy (2020–2025) sets out the Council's approach to developing a city-wide public charging network for electric vehicles, supporting the transition to low-emission transport.
- Through its Retrofit Action Plan, the Council is working to improve the energy performance of domestic buildings by delivering upgrades to insulation, heating systems, and renewable energy technologies.
- The Housing Delivery Action Plan reinforces the Council's commitment to building sustainable, low-impact homes that contribute to the city's Net Zero ambitions with a commitment to build Passivhaus standard homes on all council developments.

Key strategic programmes and delivery expectations

The City of York Council has a strong track record of prioritising and delivering initiatives aimed at achieving Net Zero. A wide range of programmes are currently being implemented across the authority, designed to maximise impact within the constraints of available funding and internal resources.

However, it is widely recognised that additional funding, expertise, and capacity are needed in key sectors to meet the ambitious net zero timeline. To address this, the Council is actively engaged with YNYCA and NYC in the process of identifying a suitable Strategic Energy Partnership model. This model aims to align with other local authorities in the region, accelerate existing progress, and unlock new opportunities that currently lie beyond the Council's technical capabilities.

York is a city that values inclusivity, and a key consideration in any partnership must be how local communities and residents will benefit. The council has worked with health partners to develop a social value outcome framework and, in addition to delivering the necessary actions to reduce the city's impact on climate change, the partnership must also support the continued inclusive growth of York's economy, while ensuring the preservation of its historic character.

Information on key programmes and assets

- Heat Network Development in York

There are currently four heat networks either operational or under construction within the City of York, concentrated around York Hospital and the University of York where there are campus wide heat networks. Through the Heat Network Zoning initiative, 19 potential heat network zones have been identified across the city. Collectively, these zones represent an estimated total annual heat demand of approximately 500 GWh, based on the buildings that may be required to connect.

York City Centre has been designated as a strategic heat network zone, with an estimated annual heat demand of around 240 GWh from buildings identified for potential connection.

Potential sources of heat for these networks include deep geothermal energy, river water (as the River Ouse and River Foss both run through the city), wastewater (via water source heat pumps), and air source heat pumps. Notably, there is a significant geothermal opportunity in York, with an active project currently underway at the University of York with £35 million of DESNZ funding.

The estimated capital expenditure for the full deployment of a heat network within the York City Centre zone exceeds £350 million, with the zonal network opportunity alone valued at over £80 million.

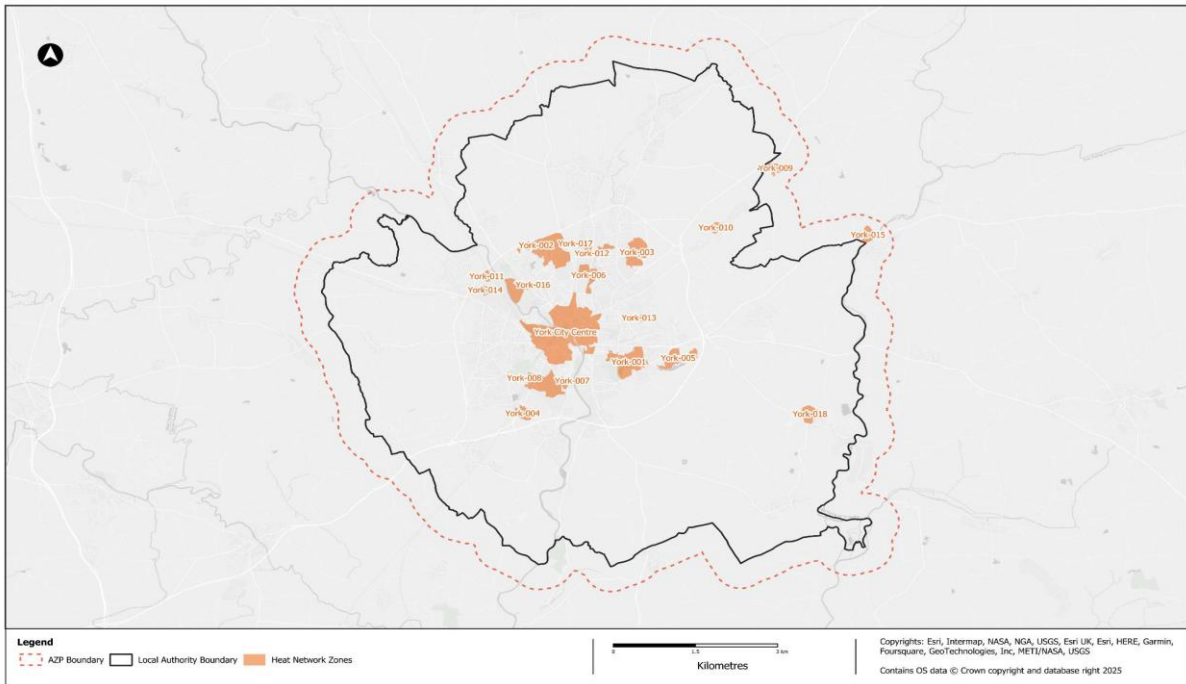


Figure 5 – Map displaying an overview of potential Heat Network Zones in York

- Renewable Energy Generation Infrastructure

An Outline Business Case has been developed for the installation of up to 28 MW of ground-mounted solar capacity at Harewood Whin, a former landfill site in York. Planning permission has been secured for an initial 16 MW, with a phased approach planned for the full build-out.

The estimated investment required to deliver the initial 16 MW phase is approximately £20 million, with total investment for the full 28 MW development projected to be up to £45 million. The Council is also exploring numerous additional sites that have been identified as having potential for Solar PV.



Figure 6 – Map of the proposed Harewood Whin Energy Site – Phase 1.

- Council Estate Decarbonisation

The City of York Council has successfully secured substantial grant funding to support a large-scale retrofit programme for its social housing stock. This funding includes contributions from the Social Housing Decarbonisation Fund, the Warmer Homes Fund, the Local Authority Delivery Scheme, and the Home Upgrade Grant. These programmes are focused on improving energy efficiency and reducing carbon emissions across council-owned residential properties.

Despite this progress, there is an urgent need to accelerate decarbonisation efforts across the Council's corporate, commercial and domestic estate. This estate comprises a diverse asset portfolio, including approximately 7,300 domestic properties and 300 non-domestic buildings such as schools, museums, offices, libraries, and leisure centres. Many of the buildings located in York's historic city centre present unique challenges, requiring innovative approaches and technologies that align with the city's climate goals while preserving its architectural and cultural heritage.

- EV Hyper-hubs, Solar & BESS

The City of York Council has established two new Electric Vehicle (EV) Hyper-Hubs at Monks Cross Park & Ride and Poppleton Bar Park & Ride. Each site is expected to contribute to a reduction in city-wide carbon emissions by approximately 83 tonnes of CO₂ per year, supporting cleaner air and more sustainable transport options.

Plans are currently underway to expand the existing hubs and develop two additional, significantly larger Hyper-Hubs. In addition, the Council is progressing proposals to deliver a city-wide fast charging network, strategically located to serve residents who are currently furthest from existing EV infrastructure.

- Council Fleet

The City of York Council has committed to replacing 100% of its light goods vehicle (LGV) fleet with low-carbon alternatives by 2025, as part of its broader strategy to decarbonise operational activities. This transition complements the electrification of the entire bus fleet within York, with the LGV fleet on track to meet the zero-emission target by March 2026.

In addition, the Council has undertaken a series of trial projects to explore emerging technologies for heavy goods vehicles (HGVs), including electric waste collection vehicles and other highway service vehicles. However, progress in this area has been constrained by several challenges, including the high cost of specialised vehicles, limitations in available body types, and extended lead times for delivery. These factors continue to present barriers to the full-scale deployment of zero-emission HGVs within the Council's fleet.

Conclusion

In conclusion, we have provided an overview of the Local Net Zero Accelerator programme and the pilot project that York and North Yorkshire have received funding for to explore models for a Strategic Energy Partnership in our region. The aim of which is to accelerate YNY's journey to becoming England's first carbon negative region through providing a model that increases pace of net zero project development and secures investment, delivering benefits for communities, economic transformation, and carbon emission reduction.

York and North Yorkshire is a region that offers a diverse range of opportunities through a unique asset base. This includes a large proportion of protected landscapes, land and building assets, a large coastline and network of rivers, strong geothermal potential, links to the Tees Valley and Humber industrial clusters, as well as our own intellectual and innovation assets through world leading biotechnology research and universities.

We hope to provide a leading exemplar of an SEP on a combined authority scale, working across three authorities in one of the largest regions of the UK to rapidly increase the pace and scale of decarbonisation efforts and become the first region to reach carbon negative.

The next stage of this engagement exercise is the completion of a questionnaire, summarising your organisation's views on the potential opportunities in our region and how an SEP can be shaped by market insights. Part 2 of this document contains a copy of these questions. The link for the live questionnaire will be sent to the webinar attendees and will also be available on the Strategic Energy Partnership page on the Combined Authority website.

PART 2: Questionnaire

Market Sounding Questionnaire

Question 1

Which of the following describes your interest in the project?

- a) A large-scale energy services or infrastructure company interested in the potential for a strategic energy partnership.
- b) A potential funder who is interested in contributing to the overall cost (recognising that this funding may be conditional on certain project outputs being realised).
- c) A contractor who is interested in the design and construction of potential projects.
- d) A financier who may be interested in providing part of the project finance.
- e) An advisor who is interested in the project.
- f) A stakeholder with a keen interest in the success of the project but not one of the above roles
- g) Other (please specify).

Question 2

What innovation opportunities excite your organisation in York and North Yorkshire's context, and what would be needed to deliver them successfully?

Please consider the following:

- Landscape innovations e.g. geothermal heat networks, hydroelectric power.
- Digital innovations, e.g. streamlining data processes, smart local energy systems.
- Any additional innovations not included in the above.

Question 3

When entering into a strategic energy partnership with the public sector, existing arrangements must be navigated. For York and North Yorkshire, this includes the North Yorkshire teckal company Align Property Services, a single source building design

consultancy that currently delivers all of North Yorkshire Council's building decarbonisation services.

- A) On a scale of 1-5, how open would your organisation be to entering into a strategic energy partnership alongside a teckal organisation that is a building design consultancy?
- 1 = Not at all open
 - 2 = Less open
 - 3 = Somewhat open
 - 4 = More open
 - 5 = Completely open
- B) What are the challenges and opportunities you foresee from this type of arrangement? Does your organisation have any previous experience of a similar arrangement?

Question 4

What minimum financial return (e.g. IRR, payback) would your organisation require for different types of projects? Please provide illustrative examples where possible.

Question 5

A) Given what the organisation knows about our region and ambitions, would your organisation prefer to work as a strategic energy partner with York and North Yorkshire under:

- (a) a single contractual joint venture arrangement or;
- (b) as part of a consortium of partners or;
- (c) working on a framework of delivery partners?

Please rank your preference.

B) What informed your decision-making process? For example, from previous experience in public-private partnerships.

Question 6

A) Are there any technologies that your organisation would be unwilling to deliver due to the associated levels of risk? What's your risk appetite for early-stage, capital-intensive technologies such as ground source heat, hydrogen or grid-scale storage?

B) How willing would your organisation be in taking a project bundling approach to balance risk and economic, social, and environmental returns? What would your approach to this be? Please provide examples, if available, of when your organisation has taken this approach.

Question 7

What are partner expectations around the ownership of assets that come through the partnership? e.g. leasing, asset transfer, infrastructure arrangements? Would there be flexibility here? What are current market expectations around first right of refusal on projects?

Question 8

We are aware there is an expectation upon entering a strategic energy partnership that there will be a selection of 'shovel ready' projects to initiate delivery. What level of investment and returns are expected in these types of projects? Would your organisation be willing to develop these projects during the initial award period?

Question 9

What approach would your organisation take to maximise public benefit and social value across York and North Yorkshire? For example, supporting community led and owned energy projects, or the creation of a community energy fund.

Question 10

Please provide any additional comments or proposals that have not been included in the above questions or preliminary market engagement materials.

Part 3: Appendices

Appendix 1: Local Area Energy Plans (LAEPs)

In 2021, York and North Yorkshire developed a suite of LAEPs. The four integrated LAEPs set out a clear spatial plan for decarbonising York and North Yorkshire's energy system in line with future changes in energy demand, enabling the development of a prioritised pipeline of energy projects. Critically, the LAEPs highlight sufficient opportunities to generate renewable energy locally to meet required demand. Through the LAEP process, it has been estimated that £23.1 billion of investment is required to transition to a net zero energy system in York and North Yorkshire.

To carry out the modelling and analysis required to produce a LAEP, the York and North Yorkshire region was split into 44 geographical areas or 'zones' based on their connection to the electricity network (these do not follow any typical political or geographical boundaries).

Pathways were then developed for each of the LAEP areas to identify the key projects and decision points on the route to a net zero energy system. Some key short-term aspects of these pathways are:

- Begin roll-out of building fabric measures and heat pumps to rural, off-gas grid dwellings.
- Begin to replace gas boilers with heat pumps in dwellings outside of urban areas.
- Begin roll-out basic building energy efficiency upgrades for dwellings, starting with a focus on social housing and fuel poor areas, with a view to scale up to owner-occupied dwellings.
- Develop a scheme to widely deploy rooftop PV.
- Provisions to enable and encourage the installation of electric vehicle chargers at dwellings, public spaces, workplaces and commercial destinations.
- Provide suitable land to be developed for large scale renewable generation projects.
- Decide the scale of proposed district heat networks.

The LAEPs also provided analysis of decarbonisation requirements and potential across key sectors:

Buildings:

Across the York & North Yorkshire region, there are approximately 386,000 dwellings. To reach a net zero energy system, around 216,000 of them will require energy efficiency upgrades to reduce the amount of energy being used to heat them. This is in addition to commercial and industrial buildings. The 216,000 dwellings requiring energy efficiency upgrades are split across the region with 71,000 dwellings in 'Harrogate & The Dales', 61,000 in the A1 Corridor, 44,000 in City of York, and 40,000 in 'The Vale, Moors & Coast'.

In total, almost £1bn is required to upgrade the energy efficiency of the housing stock across York & North Yorkshire.

Heating:

Currently, the predominant heating system in each LAEP area is fossil gas boilers. In the City of York, this accounts for over 90% of all heating systems currently installed in dwellings. Across the 'The Vale, Moors & Coast' and 'Harrogate & The Dales' areas, the proportion is lower, yet still very high, at 77% and 76% respectively. The A1 Corridor has the lowest proportion of fossil gas boilers at 55% of dwellings.

The deployment of heat pumps will be substantial – with around 355,000 needing to be deployed across York & North Yorkshire by 2040. The largest proportion of the installations will take place in the 'Harrogate & The Dales' LAEP area, with 124,000 being required. A further 92,000, 77,000 and 62,000 will be needed in the A1 Corridor, 'The Vale, Moors & Coast', and City of York LAEP areas respectively. District Heat Networks (DHNs) are expected to be deployed in dense urban areas such as York and Scarborough. DHNs in York and Scarborough could heat 20,000 and 11,000 dwellings respectively, in addition to many non-domestic buildings in the vicinity. Smaller DHNs have been considered for more densely packed parts of 'Harrogate & The Dales' and A1 Corridor, for example, in Northallerton.

Transport:

Transport for the North scenarios anticipate all 514,000 cars and vans in YNY will be 100% electric by 2050. To achieve net zero earlier than 2050, the transition to 100% electric vehicles would need to be brought forward to be in line with the net zero energy system date significantly increasing the difficulty of meeting the target. Once fully electric, these vehicles will consume approximately 840 GWh of electricity per year across the whole region. Delivering a charge point network that is visible, accessible, connected, secure and interoperable will be vital in giving users confidence in transitioning to electric mobility. Furthermore, public charging infrastructure will need to be built ahead of the mass market transition as it will create the right conditions to enable it.

Local generation:

In the LAEPs for each area, rooftop and ground mounted solar have been considered to demonstrate the scale of local renewable capacity which would decarbonise the York & North Yorkshire region ahead of the country as a whole. A high-level assessment was also conducted to give an indication of the maximum contribution of onshore wind to the future energy system.

- Collectively, there is the potential for around 765 MW of domestic rooftop solar PV capacity across the region. Deploying all this capacity would cost upwards of £600m.

- If the land areas identified are deemed to be suitable, 512 MW (10% of maximum potential) of ground-mounted solar could be deployed in 'The Vale, Moors & Coast', 890 MW (88% of maximum potential) within the City of York boundary, 547 MW (5% of maximum potential) in 'Harrogate & The Dales', and 609 MW in the A1 Corridor could be deployed.
- Together with 346 MW of onshore wind deployment in 'The Vale, Moors & Coast', 666 MW in 'Harrogate & The Dales' and 318 MW in the A1 Corridor, and the rooftop solar deployment, York & North Yorkshire could generate as much electricity as it requires on a net annual basis.

Links to the full LAEP documents are provided below:

- [York and North Yorkshire Local Area Energy Plan](#)
- [Harrogate and The Dales Local Area Energy Plan](#)
- [A1 Corridor Local Area Energy Plan](#)
- [The Vale, Moors and Coast Local Area Energy Plan](#)
- [City of York Local Area Energy Plan](#)

Appendix 2: Key regional Strategies

York & North Yorkshire's Routemap to Carbon Negative ("the Routemap"):

Originally published in 2022 by the York and North Yorkshire Local Enterprise Partnership, working closely with CYC and NYC, the Routemap to Carbon Negative outlines the ambitious co-owned regional strategy to reach carbon negative by 2040. Based on extensive research and stakeholder engagement, the strategy maps out the region's pathway to carbon negative across the five highest emitting sectors: Power, Heat & Buildings, Transport, Business & Industry, and Land Use, Agriculture, & Marine.

The overarching aim of the Routemap is to deliver a step-change in decarbonisation that strengthens the economy, enhances energy security, and improves quality of life - ensuring York and North Yorkshire leads the way to become England's first carbon negative region whilst maximising the social and economic benefits of net zero. The specific objectives of the Routemap are:

1. To maximise benefits through providing a strategic, coordinated approach to decarbonisation, setting out clear roles, responsibilities and areas of influence;
2. To make it easy, convenient, affordable and desirable for people and organisations to make more sustainable choices;

3. To build public confidence that reaching net zero is feasible, equipping communities to embrace climate action as a means of improving living standards and quality of life;
4. To harness the economic opportunities of net zero and establish York and North Yorkshire as a trailblazing region for attracting investment, developing skills and innovating to drive green growth; and
5. To position York and North Yorkshire at the forefront of national climate action to influence national policy and secure funding, alongside providing innovative solutions and approaches that can be scaled up and replicated across the UK and beyond.

Examples of the high-level of ambition required to reach carbon negative include:

- Install an additional 2,457 megawatt (MW) of capacity from solar, onshore wind and hydropower by 2038.
- Retrofit of 249,328 homes to reach EPC C or better (reduced thermal energy demand) by 2038.
- Increase active travel for short journeys, ensuring walking and cycling accounts for 15% of distance travelled by 2030.
- Roll-out of battery electric vehicles, ensuring they account for extra 31% vehicles on the road by 2030.
- Retrofit over 62% of existing business premises by 2038.
- Plant 16,500 hectares of new woodland by 2038.

Local Growth Plan:

The 2024 English Devolution White Paper set out a statutory requirement for all Combined Authorities to develop a Local Growth Plan. The purpose of these 10-year plans is to support the drive for national growth by addressing regional inequalities and identifying key priorities for public and private investment. York and North Yorkshire approved our Local Growth Plan in July 2025, and alongside the Routemap this strategy now serves as one of the core strategies that should be embedded in all work across the Combined Authority. The plan sets out our key priorities and drivers for growth, as well as plans to raise productivity and deliver transformative economic growth for the region. It identifies the following competitive advantage sectors for York and North Yorkshire: Clean Energy, Food & Farming Innovation, Engineering Biology & Life Sciences, Rail Innovation & Security, and the Creative Industries.

In the Clean Energy section, the plan identifies the economic potential of decarbonising York and North Yorkshire's energy system, as well as benefits to local communities and in improving national energy security. It identifies the key growth outcomes of increasing the deployment of clean energy, supporting energy independence, reducing carbon emissions and creating new job opportunities, and growth in the construction supply chain by investing in retrofit requirements and

building confidence in the market, creating demand for new jobs. This will be achieved through the CA taking a strategic role in developing strategies for geothermal and retrofit and delivering on aggregative investment portfolios for the region.

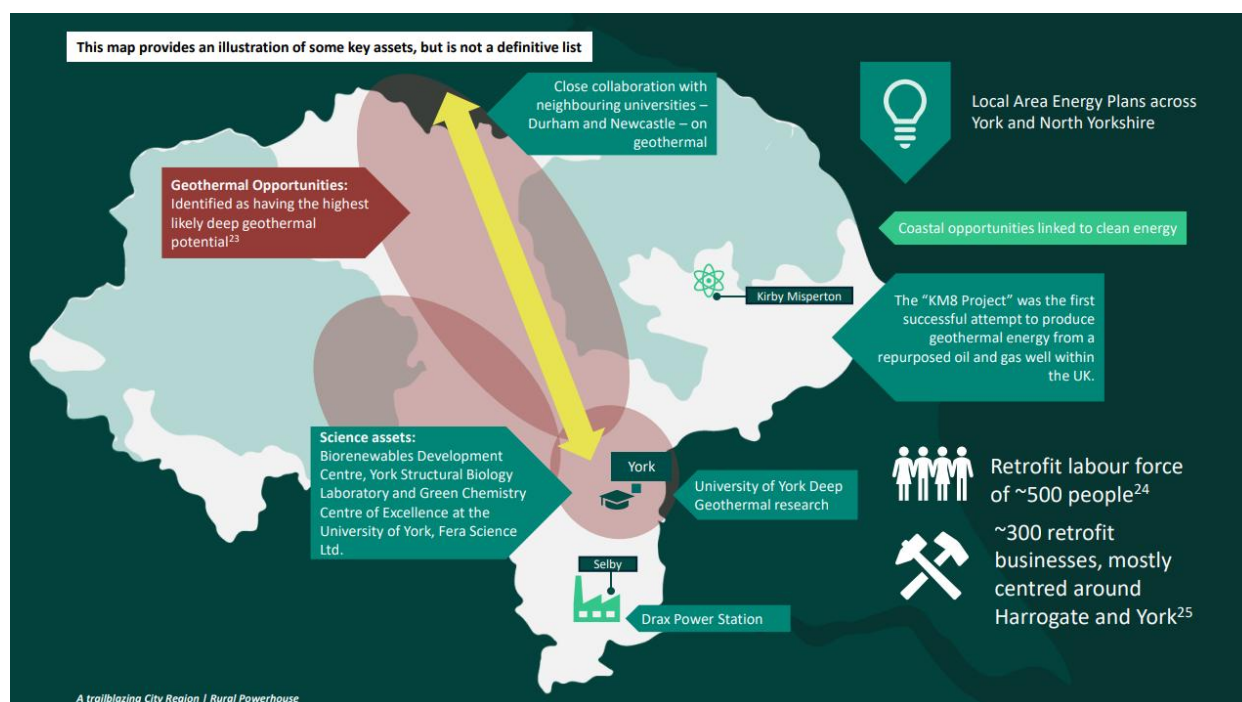


Figure 7 – Map from the Local Growth Plan illustrating the Clean Energy opportunities in York and North Yorkshire.

Appendix 3: Bristol City Leap

In January 2023, Bristol City Council entered into a 20-year strategic public-private partnership with Ameresco and Vattenfall Heat UK, establishing a Joint Venture incorporated company named Bristol City Leap.

This pioneering approach unlocked private sector investment and technologies, allowing for accelerated pace and scale of decarbonisation on Bristol City Council's estate. This includes the expansion of Bristol's heat network by Vattenfall, and nearly £500 million of investment into low carbon energy infrastructure and the retrofit of social housing by Ameresco. The partnership has generated significant social value including the creation of 1,000+ jobs and the delivery of a £2.8 million Community Energy Fund.

More information on Bristol City Leap is [available here](#).