PART ONE

CITIES INTERVIEWS

A COLLECTION OF DISCUSSIONS WE HAVE HELD WITH SEVERAL UK CITIES ON HOW THEY ARE LOOKING AT THE AREAS OF DECARBONISATION, PLACEMAKING, AND REGENERATION.

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A collection of discussions we have held with several UK cities on how they are looking at the areas of decarbonisation, placemaking, and regeneration.

BELFAST

An aerial view of Belfast credit: Belfast City Council

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The Belfast Agenda is a community plan that stretches out the approach of the city and its community partners between 2024-2028.

It boldly states that by 2035 Belfast will be a city re-imagined and resurgent defined by being a great place to live and work for everyone. At the core of this will be an emphasis on how the city tackles the issue of climate change. One of their stated aims by 2035 is to reduce the city's carbon emissions by 80%. In the short-term they hope to reduce them by 66% by 2025.

With five core themes within the agenda (which features partners including Belfast City Council, Belfast Health and Social Care Trust, Housing Executive, the CBI and Queen's University and Ulster University), the city is taking a holistic approach to its ambitions linking its intended actions to cover impact on people and communities, the economy, the evolution of place, respecting the planet whilst making sure Belfast remains a compassionate city.

With regards to addressing the question of climate change the work of Belfast City Council is driven through an ambition to create a sustainable, nature-positive city.

Their action plans have a clear focus on re-naturing the city and increasing resilience to climate change by creating a sustainable circular economy and innovating to meet net zero. This plan is built upon the five foundations of re-naturing the city, leaving no-one behind, building city resilience, greening the economy and sustainable urbanisation.

We sat down with Climate commissioner Debbie Caldwell and Brenda Roddy, Climate change project officer, and lead on retrofit and zero emission transport

WE WILL ALSO USE THE PLAN TO ATTRACT PRIVATE SECTOR FINANCE TO HELP DELIVER THE PROJECTS

programmes at Belfast City Council to understand a little more about their work and progress to date towards these aims.

At the centre of their approach is data and building a real detailed understanding of the city, its infrastructure and demographic profile from which to base plans on how to move to a more decarbonised future. This is based upon the production of a Local

Around half of the city's bus fleet has already been converted to electric, hybrid of hydrogen credit: Belfast City Council

Area Energy Plan for Belfast. For those unfamiliar with such planning approaches, this is the production of a bottom-up, data-driven, whole-system approach to delivering net zero within a particular location. Whole systems planning means that all parts of the energy system are mapped including supply and demand characteristics, transport, buildings, local industry, and the environment. The aim of such an approach is to identify and outline the most cost-effective way for a local area to decarbonise and to set out an action plan for their implementation.

"Producing the plan has really strengthened our evidence base" explains Debbie, "and as a relatively new team it is important that we have a big focus on data". The plan builds on the city's Carbon

Roadmap developed in 2020 which identified that the majority of the city's scope 1 & 2 emissions are heavily concentrated in the built environment and transport. The roadmap provided science based emission reduction targets which have been formally adopted by the City: 66% reduction by 2025, 80% by 2030 and 100% by 2050.

The Local Area Energy Plan Debbie explains has used detailed modelling of the energy system and engagement of key stakeholders to identify five priority projects to enable the city to decarbonise in a cost effective and impactful manner. The plan provides a robust evidence base for action and the priority projects are selected on the basis of being cost effective as well as creating multiple benefits for residents. "We will also use the plan to attract private sector finance to help deliver the projects" adds Debbie, "and engage the market to help us to design the most appropriate and effective delivery models, based on robust data".

Brenda recognises that whilst the city is still early on its decarbonisation journey, she notes that "the appetite to engage is huge, but we recognise the challenge is how you take that simply beyond talking about change." This insight mirrors a lot of the wider net zero debate. Consistent polling shows that when asked, people recognise the importance of dealing with climate change and they are keen to see action happen, however when it comes closer to committing to personal actions, it becomes harder for people to commit fully.

With her remit on retrofit, Brenda notes the scale of the challenge to retrofit the city's housing stock and the pressure that naturally puts upon the recruitment of labour to deliver it. "We have to recognise

> **THE APPETITE TO ENGAGE IS HUGE, BUT WE RECOGNISE THE CHALLENGE IS HOW YOUR TAKE THAT SIMPLY BEYOND TALKING ABOUT CHANGE**

this is an ageing industry, and it is proving hard to get new people into the sector. There is a natural replacement cycle we are managing and like other local authorities we face similar challenges. In Northern Ireland we have a particular challenge with talent looking also to the UK and the Republic of Ireland for career prospects and opportunities."

It is important that residents and communities remain involved credit: Belfast City Council

The city and its infrastructure, though, are an asset and is a driver for the Council's work. "We are looking to attract more people to live in the city centre. This means increasing connectivity" says Debbie. She recognises this will require investment in further services, but it will be built upon the foundation of Belfast's public transport system which is decarbonising fast. Around half of the city's bus fleet has already been converted to electric, hybrid or hydrogen and the fleet will be net zero by 2050. More than 200 vehicles, including bin lorries and street sweepers, are now being powered by vegetable oil, Belfast City Council has said. This represents almost 50% of the council's heavy goods vehicle fleet. The biggest challenge is to convince people to switch to public transport as Belfast has a long history of high car dependence. This points towards a behaviour change challenge as the council seeks to increase the number of pedestrianisation areas in the city centre and collaborate with other stakeholders to encourage more and more people out of their cars.

What is the impact of these plans, and how will Belfast measure the impact of their interventions?

Brenda notes that the city is "at the start of its social value journey" but they are guided by some clear principles. Firstly, their work will target people across all income levels, and this is where the investment in the Local Area Energy Plan pays dividends. The plan has provided specific socio-economic profiles, which has really assisted in identifying where the council should place its efforts and locate pilot projects. Debbie says that a lot of the work the council has been doing is to get them ready; ready to go when the funding is in place so they can begin to deliver at a scale which has impact on the targets.

Collaboration is a key theme of Brenda's programme of work. Belfast has pulled together a Retrofit Hub which involves a broad range of partners. In designing the hub, it has been a cornerstone of the thinking that local people and especially local contractors do not lose out on retrofit programmes, encouraging the involvement of local firms. This really begins to identify how you can build an effective circular economy at a local level, helping to keep the benefits of the investment in the local economy.

Brenda recognises the importance of "involving people early" in any discussions and programme design, placing a real importance on "face to face engagement" to help deliver on these aspirations. They are also working with the third sector as well in their engagement plans as well as drawing upon the experiences of other cities as well to inform their thinking. Belfast also routinely makes an annual disclosure to the Carbon Disclosure Project (currently rated as a top tier city on the global index) and the UK Climate Emergency Scorecards (ranked currently as the strongest performing council area in Northern Ireland). Belfast is also a member of the Resilient Cities Network, ICLEI and the Core Cities partnership.

> **BUILD SUPPORT FROM LOCAL COMMUNITIES FOR THE SHIFT TO A MORE SUSTAINABLE AND CIRCULAR ECONOMY**

Belfast has also signed a Statement of Intent to work in partnership with Liverpool, Manchester and Dublin and this openness to learning from others shows a positivity to tackling the issues that the city needs to address if it is to meet the ambition of The Belfast Agenda.

But Debbie does note that it remains important to ensure that residents and communities remain involved and that you work hard to "retain consent" from the community itself to reach the cities broader net zero ambitions. She remains mindful that not just Belfast, but any city should not fall into a "democratic deficit", recognising that you must, to be successful in any transition, "build support from local communities for the shift to a more sustainable and circular economy" and ensure that people from all backgrounds are able to benefit from the transition.

Brenda Roddy, Climate change project officer at Belfast City Council

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BIRMINGHAM

With a stated aim of making Birmingham net zero carbon by 2030 (or as soon as possible), how is it going, and what have been the key learnings to date?

The Council declared a climate emergency in June 2019, and Full Council unanimously made the commitment to take action to reduce the city's carbon emissions, and to do so in a way which reduces inequalities across the city and brings communities with us. The stated ambition is to accelerate the pace of net zero to 2030, however recognising that to achieve this level of acceleration city-wide requires significant system and organisational change beyond areas in the direct control or influence of local government and which will need to balance economic, environmental and social outcomes.

Accelerated ambition sharpens focus and since the 2019 declaration and the Councils formation of a 'Route to Zero Carbon' team in 2022, the Council has made positive progress in its greenhouse gas accounting, leveraging of key policy powers and on the ground delivery but the building of the scale and pace of delivery, and the investment needed to facilitate this, takes time, resource and capabilities that are beyond the scope of local government alone. As a civic leader, a major local employer and service provider to the city and its citizens, we recognise the need to ensure that we are doing all we can to address the dual challenges of greenhouse gas emissions reductions and climate adaptation and resilience, but we can't meet net zero without partnerships, innovation in approach and the buy in of city stakeholders.

Birmingham's territorial emissions include all those emitted within the city's boundary. The Department for Energy Security and Net Zero (DESNZ) publish annual local authority and regional greenhouse gas emissions data on industry, commercial, public sector, domestic, transport, land use, land-use change, and forestry, agriculture and waste activities. These are the most reliable and consistent breakdown of greenhouse gas emissions across the country and show annual emissions from 2005, with the 2024 publication providing data for 2022. We use this to track progress in reducing the city's territorial emissions. Using these nationally derived statistics, the City of Birmingham is realising a level of greenhouse gas emissions reduction in line with UK Core Cities and this will continue to be highly influenced by UK carbon budget policies, most particularly in private vehicle transport, building heat decarbonisation and investment in renewable and low carbon electricity.

The domestic (32%), transport (26%) and industrial (22%) sectors make the greatest contribution to the City of Birmingham's territorial emissions. Whilst the council is not directly responsible for these city emissions (other than those within the scope of its own day to day activities), the council does have the ability to influence change through its place shaping powers and activities. Our most recent activities include:

- A new set of planning policies aimed at accelerating the reduction of embodied and operation greenhouse gas emissions from the built

> **WE CAN'T MEET NET ZERO WITHOUT PARTNERSHIPS, INNOVATION IN APPROACH AND THE BUY IN OF CITY STAKEHOLDERS**

environment. These new policies are expected to commence in 2026.

- Preparation of a heat network strategy to direct the significant opportunity that heat network zoning powers present to the city of Birmingham. 20% or more of existing heat demand could be supported by heat networks, tackling one of the most complex decarbonisation challenges.
- Influencing changes to the way people and goods move around our city using transport as a key enabler. We know that we need to achieve a rapid shift away from single occupancy private car use. The adopted Birmingham Transport Plan sets out the dramatic decrease in vehicle kilometres travelled required to deliver transport decarbonisation in Birmingham and outlines how the city's transport system needs to be transformed to meet the challenges of the next decade.
- A Waste Strategy Review to align the city's future municipal waste responsibilities with net zero ambitions.

Birmingham City Council's direct organisational greenhouse gas impact contributes less than 1% to the city's total greenhouse gas emissions, however in seeking to demonstrate leadership, our Greenhouse Gas Protocol-aligned annual account enables us to identify the council's greatest emissions sources and focus our own decarbonisation efforts. Around 50% of the Council's greenhouse emissions fall under scope 1, arising from the combustion of fossil fuels, primarily gas, in our buildings and diesel in our fleet vehicles, and 50% fall under scope 2, arising from the consumption of electricity by our buildings and the city's streetlights. Our scope 3 emissions are much more difficult to determine because they occur up and down our supply chains, fall outside of our immediate control and are often shared with other parties (e.g. contractors and suppliers). This makes gathering consistent data on these activities much more challenging, and we are currently unable to provide accurate figures for all our scope 3 emissions. We are taking steps to improve our data and have used the GHG Protocol Corporate Value Chain (Scope 3) Standard to screen and estimate the potential scale of these emissions. The scope of activities that fall within the Council's scope 3 emissions is significant and we estimate our scope 3 impact to be significantly greater than our scope 1&2. This is partly due to the size of Birmingham's administrative boundary and asset base, but also reflects the scope of role of a Metropolitan District Council. For Birmingham City Council, our scope 3 emissions are dominated by three activities: procurement of goods and services (the products and services we purchase to deliver our services); council housing (which we use to provide homes for our citizens); and the energy from waste plant (which we use to manage our citizens' / city's waste).

Key learnings to date:
Net Zero is a term encompassing a vast range of activities and sectors. It can appear an overwhelming challenge without clear focus, so it is essential to structure the challenge by baselining where you are and identifying priorities. This will be influenced by your level of direct control, scope of role or powers as a local authority (or business) and timeframe for influence.

In local government, structing the net zero challenge is an immensely complex undertaking and different tiers of local government have different scopes and roles. Undertaking an annual GHG Protocol-aligned account of Birmingham City Council's emissions has been a key early step in our Route to Zero Carbon journey, but the effort required to collate information held in multiple parts of the organisation, and captured in different ways, was no small undertaking. Year 2 has been easier and as we improve data gathering and automation, expect to be able to build into business as usual reporting.

Whilst local government has a wide-ranging scope of powers and influence, these powers are driven by different objectives and UK policy directives so areas of clear alignment with Net Zero need to be established and embedded early into options assessments. We are working collaboratively across various teams but the timing of opportunities to influence do not always align or take multiple years to realise change – these timeframes need to be mapped.

How fundamental is the decarbonisation of the heat supply to delivering your net zero aspirations and wider regeneration activity across the city?

Heat decarbonisation is one of the most critical but difficult challenges we face in achieving Net Zero. We need to fundamentally change how we

> IT IS ESSENTIAL TO STRUCTURE THE CHALLENGE BY BASELINING WHERE YOU ARE AND IDENTIFYING PRIORITIES

heat our buildings – the heat source, the input fuel, the type of system but also these changes require a major investment in infrastructure, a whole building approach that considers the optimum package of measures to ensure affordability, and will also require supply chain investment in new skills and capabilities. It is a system change challenge of awesome complexity. With limited policy direction to date on the level of energy performance expected of our existing built environment, there remains a key focus on core energy infrastructure and grants to support the switch from gas fired heating to heat pumps e.g. Public Sector Decarbonisation Scheme. Whilst essential, demand reduction and demand management play key roles in ensuring the switch to an electrified heating future is suitable and affordable for each building in its local context. The energy hierarchy remains a key tenet.

In the domestic sphere we also recognise that improving our energy inefficient homes not only contributes to emissions reduction but can reduce cost of living, lead to improved health outcomes, provide employment opportunities and even facilitate place-making and community cohesion. To tackle the complexities of decarbonisation and maximise the benefits to households, in the domestic sphere the Council is taking a very targeted approach.

Homes across Birmingham are responsible for over 35% of the city's greenhouse gas emissions largely due to the use of natural gas for space and hot water heating. Over two thirds have an Energy Performance Certificate (EPC) of D or below. This means that over 300,000 homes will require investment just to meet the minimum recognised standard of energy performance targeted by government-supported schemes like Warm Homes: Social Housing Fund, Warm Homes Local Grant and Energy Company Obligation (ECO) 4.

Across Birmingham, government data suggests that 23% of the population live in fuel poverty *1 . In some wards, independent analysis suggests this could be up to 50% **2 . This can be significantly reduced through appropriate home retrofit. The council is committed to scaling up retrofit. This can already be seen in our ambitious Social Housing Decarbonisation Fund Wave 2 which is well progressed. The programme is ensuring over 2,000 council owned homes receive a package of retrofit measures before September 2026. This includes 300 homes which are receiving multiple measures under a Whole House Retrofit approach. Building on this we are appointing a cohort of retrofit delivery partners who will secure funding through the Energy Company Obligations (ECO) programme and invest across all tenures of housing in targeted areas of Birmingham. This privately-funded investment, expected to be in the region of £60m per year, is provided via the large energy companies and aims to support the most vulnerable families living in the most inefficient homes. Working with our new ECO partners, the Council will take a strategic and evidence-based approach to retrofitting at least 3,000 homes per year over the next 5 years. This is expected to reduce fuel bills in the region of £1.2m per year and save 3000 3 tonnes of carbon dioxide equivalent emissions annually.

In scaling up our retrofit programme we are developing a place-based approach to retrofit which builds on our learning from delivering a successful Local Authority Delivery Scheme (LADs) programme. This place-based approach prioritises areas of greatest social need as well as the areas containing the greater numbers of energy inefficient homes. It will enable collaborative working with other social housing providers and an offer for all tenures, avoiding the fragmentation of delivery that can lead to poor value for money. It also allows the Council to consider the impact and opportunities retrofit presents to energy system decarbonisation, using the Local Area Energy Planning+ (LAEP+) tool to test the impact of renewable energy generation and heat pump installation on local systems. This LAEP+ tool has recently been provided as part of an Ofgem-funded project led by the West Midlands Combined Authority, and alongside the assessment undertaken on Heat Network Zones as part of the DESNZ Advanced Zoning Pilot, allows us to assess the deliverability of community retrofit schemes and identify areas of opportunity for community-based energy infrastructure.

HOMES ACROSS BIRMINGHAM ARE RESPONSIBLE FOR OVER 35% OF THE CITY'S GREENHOUSE GAS EMISSIONS LARGELY DUE TO THE USE OF NATURAL GAS FOR SPACE AND HOT WATER HEATING.

***1** [Withdrawn] Fuel poverty detailed tables 2023 (2022 data) - GOV.UK (www.gov.uk)
****2** Constituency fuel poverty statistics - End Fuel Poverty Coalition
3 Assumes conservative 0.8tonnes of carbon per property retrofitted

What infrastructure challenges do you need to address for decarbonising heat across the city?

We ultimately need a blueprint that demonstrates the most viable decarbonisation pathway for each community or area of the city. This will provide clarity for those living, building and investing within each community but also provide a basis on which to plan and time energy system investment and identify opportunities for community-based energy investment. We have been working with DESNZ over the past 18 months to assess the opportunity for heat network zoning; regulation that will enable locations where heat networks present the most cost-effective route to decarbonise heat for buildings to be designated as 'heat network zones'. Within these zones, certain types of building or those with a specified heat usage threshold will be mandated to connect to a heat network developed by an appointed delivery partner. The scale of opportunity for heat network zones in Birmingham is significant: an estimated 20% of the city's current heat demand could be supported by heat networks utilising existing renewable and waste heat available within the City's boundary. Whilst this presents an exciting opportunity for heat decarbonisation, realising this scale of infrastructure investment will take decades and require significant coordination. As we work to develop a Heat Network Strategy for Birmingham, the locations, timing and route to market of potential zones will need careful planning as will the resources and capabilities required to fulfil the proposed local government Zone Coordinator function. Whilst we anticipate that heat network zones will reduce the scale of demand for electrical capacity in a local area and thereby reduce grid investment, the pace at which a heat network zone can grow may itself be constrained by local grid capacity.

Work undertaken as part of the Advanced Zoning Programme identifies the total heat supply and demand within proposed heat network zones in Birmingham. This work has created a high-level masterplan for delivery and one of the most notable findings is the significant difference between the heat demand within a zone and heat supply available, with some zones having a heat surplus and some having a deficit. This presents a challenge to delivering zonal scale heat networks in the city as heat network zoning policy consulted on to date does not anticipate interaction between zones. To ensure valuable heat resources are maximised and the full scope of heat decarbonisation via heat network zones can be realised, this critical interplay between areas of the city must be accounted for and managed at the local level. In most non-heat network zone areas of the city, heat decarbonisation for most buildings is likely to involve the electrification of heat via individual building-level heat pumps, but as previously discussed, heat system change requires a whole building approach that considers the role of energy demand reduction, demand management, efficiency and generation and storage to ensure suitable and affordable options are selected. This is rarely a one size fits all approach as space, building orientation, neighbourhood characteristics and local grid capacity need to be considered and can limit options available.

This is where we see the role of place-based decarbonisation that consider the needs and opportunities within a local geography and seek to align investments and funded initiatives together being key. Spatial energy planning is therefore a crucial component of a city-wide heat decarbonisation blueprint as buildings, transport and industry will all place increased demands upon the electricity network. Local government coordination with the proposed new Regional Energy Strategic Plan (RESP) function of Ofgem will be critical to ensuring the right infrastructure is available to support the right demands in the right locations and at the right time. The DESNZ funded Local Net Zero Accelerator is one such example of a place-based approach. It aims to gather evidence which can be used to develop investment ready business cases for patient capital and impact investors. The focus is greenhouse gas emissions reduction through housing retrofit, but the project also seeks to identify non-housing interventions that support delivery of a neighbourhood net zero plan and decarbonise 'place'. Castle Vale, a housing estate in the eastern area of the city has been selected as a focus area for Birmingham due to its representative building types and therefore potential to transfer learning to other areas of the city, but also due to its potential to support a community energy cooperative and align with transport, natural environment and wider social and economic activities.

> **TO ENSURE VALUABLE HEAT RESOURCES ARE MAXIMISED AND THE FULL SCOPE OF HEAT DECARBONISATION VIA HEAT NETWORK ZONES CAN BE REALISED, THIS CRITICAL INTERPLAY BETWEEN AREAS OF THE CITY MUST BE ACCOUNTED FOR AND MANAGED AT THE LOCAL LEVEL.**

How do you measure the social value impact of your work across the city?

We have learnt that by working in targeted communities we are able to develop relationships with community groups, community leaders and local champions to better engage citizens and energy consumers. The council has a critical role to play in the promotion and delivery of Net Zero programmes but local, respected community organisations are far better equipped to raise awareness and build trust with people in their community. This collaborative approach leads to far higher levels of take-up of grant-funded initiatives and reduced drop-out rates. In the case of housing retrofit, it is important that we recognise that these projects involve working within people's homes. Time is needed to engage, inform and generate real buy-in which only comes when we focus on the benefits to the household rather than the required outcomes of the funding programme. We must start from a position of understanding people's challenges, drivers and concerns and we have found that the best way to do this is to engage early through trusted organisations.

There are organisations across Birmingham delivering change at a neighbourhood level. Organisations such as Civic Square in Ladywood, MECC Trust in Balsall Heath, Retrofit Balsall Heath and Acocks Greener are working with local households to take a more community-led and neighbourhood based approach to decarbonising energy and homes. These organisations and several others across the City have developed invaluable knowledge in the retrofit space and worked with the Council to help drive interest for funded programmes. Through our retrofit scale up programme we hope to further support these organisations in community-led engagement and upskilling other organisations thus growing capacity and capability across the city. The scaling up of retrofit delivery across the city is a great example of how far-reaching social value impacts can be realised if programmes of work are properly planned and coordinated. The Council is currently developing a Housing Decarbonisation Route Map which will establish timescales and the number of homes we need to retrofit to meet Net Zero: as a conservative estimate we believe this to be around 10,000 homes per year for the next 25 years. This scale of retrofit need has the potential to create a retrofit market in Birmingham of at least £180m per year (based on 10,000 homes being retrofitted annually at a conservative cost of £18k per property). The council is keen to see the majority of this investment remaining in the city and benefitting the businesses and people of Birmingham and therefore opportunities for community-led investment, and new local skills and jobs in the retrofit market is a key priority. To this end, we are working closely with our schools, colleges, universities and local businesses to develop careers pathways into retrofit, energy and heat. Stage 1 of this work, supported by DESNZ, has seen materials developed for school curriculums as well as retrofit training equipment being installed in our colleges. Birmingham is the youngest city in Europe with 40% of the population being under 25. Unfortunately, right now, 1 in 5 of our young people are unemployed. By developing these careers pathways, providing training and apprenticeship opportunities and demonstrating the potential of being involved in a retrofit career we aim to tackle this challenge.

The Council has also commenced a programme of capacity building within our local SME community. If we are to achieve the levels of home retrofits required per year needed to meet Net Zero, building capacity within our construction SMEs is critical. At present, retrofit is often seen as risky due to the years of funding peaks and troughs, and scheme failures. The accreditation process can also be seen as a burden and overly challenging for small businesses who must focus on installations to maintain business viability. By developing a committed Route Map and incrementally building delivery demand over the coming years, we aim to establish a long-term pipeline of opportunity and a network of support allowing local SMEs to get involved.

CARDIFF

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Navigating the path to net zero: Cardiff's journey and lessons learned. Cardiff has a difficult past and present relationship with climate change.

The city's docks once exported more coal than anywhere in the world, fuelling the industrial revolution with high carbon coal. And now, as a coastal city at the foot of several valleys we face very real flood risks.

So, whether it is from heart or head, Cardiff needs to act with urgency.

In 2019 we put forward an ambitious vision to make Cardiff a carbon neutral council by 2030, with a pathway to becoming a net-zero city. Pursuing this ambitious target has brought focus, united people and organisations across the public, private and third sectors, and helped emphasise the urgency of addressing climate change. While challenges and uncertainties remain, the progress made so far is testament to the power of setting bold goals.

With more than 50,000 new trees planted, council tenants living in new low-carbon and Passivhaus standard council homes, new segregated cycle lanes and sustainable drainage systems spreading across the city, a new 9MW solar farm delivered and construction of a low carbon district heat network well underway, it is easy to point to visible successes.

But probably the most important work has been behind the scenes, developing a full understanding of all our emissions – a remarkable 78% of which come from our procurement chain – as well as a better understanding of what levers we have to influence the whole city's emissions.

> **PURSUING THIS AMBITIOUS TARGET HAS BROUGHT FOCUS, UNITED PEOPLE AND ORGANISATIONS ACROSS THE PUBLIC, PRIVATE AND THIRD SECTORS**

We've also done some cost calculations, and here's where we hit a problem. Like most other large local authorities, we own and manage a large and diverse range of buildings – the most obvious being our 130 schools. The sheer scale of the work required to minimise their carbon emissions, and the challenge of financing it, is monumental. However, our improved understanding of what is required organisationally, technologically and from our wider supply chain to achieve our ambitions will be vital in helping us to communicate the challenges to our partners, communities, and potential financiers.

In a period marked by the need to take tough budgetary decisions, increasing demand for council services, and the need to provide residents with the new jobs and homes they require, finding the right balance between competing priorities is a formidable task but the development of our replacement Local Development Plan, which will published later this year, has enabled us to review the strategic policy context and provide a clear vision for a healthier, more liveable, sustainable and low-carbon city. The work already in progress

Cllr Caro Wild is the Cabinet member for climate change at Cardiff Council

to improve public transport and active travel networks, develop our low-carbon heat network, improve flood defences and green our city, mean the physical building blocks are in place and now we can look to further accelerate this activity – including further developing our understanding of energy needs in the local area so we can get a shared picture of demand, challenges and opportunities – and begin integrating this key infrastructure seamlessly into the city as it grows and develops, and ensuring that future generations can continue to thrive in Cardiff as its climate changes.

Clearly though, not all of the myriad decisions we take can be the lowest carbon option. What we can do is ensure that the carbon implications of every decision, big or small, are considered and captured, so we can understand their cumulative impact and identify areas for improvement. To support this, we're investing in Carbon Literacy training for elected councillors and officers at all levels of the organisation. At the same time, we are also working with the Innovate UK Net Zero living programme to develop a strategic governance and performance framework which incorporate carbon in decision making. Ultimately our ambition is to embed thinking about carbon implications in the organisations' DNA. We've been clear from the start that we can't achieve our carbon neutral ambitions alone. We need to bring people with us and support them to make changes to how they live, work and move around the city. Taking a principled approach to engagement and communications and harnessing behavioural science

ULTIMATELY OUR AMBITION IS TO EMBED THINKING ABOUT CARBON IMPLICATIONS IN THE ORGANISATIONS' DNA

is key to this, which is why we're adhering to principles and guidelines developed by Welsh Government and Cardiff University's Centre for Climate Change and Social Transformations to ensure that our engagement is inclusive, transparent, and community driven.

Cardiff's young people are proof that there is much reason for optimism that behaviour change can and will happen. We're at the start of our journey to build climate change into the curriculum through our One Planet Cardiff schools pledge, but it's already clear that pupils are being inspired by their schools, hoovering up information and taking action. Ensuring that the learners of today embrace the responsibility of caring for the planet, and view sustainability as the norm can be the driving force behind our net-zero ambitions.

Responding to climate change is a generational challenge and the issues we have faced on our journey so far underscore the complexity of what we are trying to achieve. Yet there is an emerging pathway to net-zero. Cardiff remains committed to navigating that path and fuelled by the collective efforts of its people and partners, and optimistic that we will emerge in sustainable and more resilient future.

Cllr Caro Wild is Cabinet member for climate change at Cardiff Council.

One of the segregated cycleways in the city

COVENTRY

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Coventry is doing things slightly differently when it comes to decarbonising the city. Like other cities they have bold ambitions, but they are thinking in a different way on how to achieve them.

One that sees the creation of a number of strategic partnerships with academia and the private sector to make a real positive impact in the communities across the city, to build a local narrative and deliver the city's first net zero neighbourhood to "green" the city.

It starts with not having a defined timeline target for Coventry to reach net zero, although the wider West Midlands has a stated objective of reaching this by 2041. "We have deliberately not set a climate target, as actions speak louder than words" explains Coventry City Council's Director of innovation Colin Knight. "You are always judged by what you do, so we like to focus on the practical."

The city has launched a draft Climate Change Strategy which sets out their aims. "We have three corporate priorities as a Council and tackling the consequences of climate change is one of them" explains Mr Knight. "Alongside these the other core areas are jobs and growth and equalities which have a clear and obvious link to the climate change agenda. There are consequences for all, and we know that climate change has the potential to hit the poorest most. So, it is about how we link this all together to interlink with the climate change agenda."

The strategy has been consulted upon and work continues to update the strategy and develop a robust action plan to sit alongside it.

Rhian Palmer, Strategic lead for the Council on Green Futures observes that the key areas for the city in terms of emissions are domestic heating and transport. "We are doing a huge amount around the decarbonisation of our transport system, but domestic heating is far harder to tackle. We have 105,000 households with an energy performance certificate poorer than a 'C'. 75% of our households fall into the able to pay bracket, but our data shows that less than 5% of them can actually afford to invest in retrofit measures."

> **THE KEY AREAS FOR THE CITY IN TERMS OF EMISSIONS ARE DOMESTIC HEATING AND TRANSPORT**

The Coundon Cycleway in Coventry

She highlights a sometimes-overlooked challenge which is part of the net zero transition – the question of behaviour change and recognises that this is an area where they have to look to do things a little bit differently. "Even for households that might be eligible for a grant to assist with retrofit, not everyone wants the disruption of work done to their home and can be suspicious of free money and contractors. This is a big barrier to delivery that needs to be understood at a neighbourhood level as everywhere is different. We are trying different methods to tackle this, through engagement, events, communications, marketing, social media, and the development of net zero neighbourhoods. We are looking at this on a street-by-street approach to encourage participation."

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Another way of doing things differently is to enter into strategic partnerships. This includes their Strategic Energy Partnership with E.ON. A first for the UK, the joint venture will see the two parties collaborating on changing energy use in the city for the benefit of local people . Based upon long-term and sustainable infrastructure planning the partnership will look into innovative energy generation and security, sustainable transport and the decarbonisation of buildings and homes. At the heart of the partnership sits social value, to address the needs of the city and provide real place-based benefits that are meaningful, appropriate, and proportionate. Each project the partnership undertakes will have a social value plan to ensure that local residents, communities, and businesses benefit through increased economic prosperity, improved outcomes and the breaking down of inequalities.

To oversee activity the council has established an Independent Climate Change Board for the city which contains senior level representation from key public, private and voluntary organisations.

Rhian highlights some of the challenges still to be overcome on the question of engagement in the transition. “There are still people in our city that don’t perceive climate change to be an issue. This highlights that people aren’t making the link between taking positive action on climate change and the potential uplift to their quality of life, through warmer homes, lower bills, cleaner greener streets, a reduced risk of flooding, overheating alongside the creation of more jobs in this growing sector.”

> **WE WILL ALSO USE THE PLAN TO ATTRACT PRIVATE SECTOR FINANCE TO HELP DELIVER THE PROJECTS**

However, as Colin notes, recent weather patterns are making people sit up and take notice. “The floods in January were the most severe we have seen on a city-wide basis. It has started to focus minds, as people now see such activity becoming more commonplace.”

This means more thought is being put into adaptive and mitigation policies. The city has just commissioned an adaptation and resilience study and is aware that over 10,000 homes are at risk of flooding. As Rhian explains:

Coventry is the UK’s first all electric bus city

“This exercise will develop a detailed climate risk vulnerability assessment and action plans. We already have a SUDs policy and are working on the Climate Change Local Plan review evidence base to support the case for homes being designed for heating and cooling, to allow us to try and go beyond the proposed Future Homes Standard. We also know that 90% of or current buildings and infrastructure will still be in use in 2050 so we need a sharp focus on adapting existing environments too.”

The council obviously must balance its many obligations alongside the move to a low carbon future. “It needs to be embedded as a key objective within everything we do” explains Rhian. “It doesn’t need to be either/or. It is always a challenge when it comes to viability, however we are striving to strengthen our planning policies as more sustainable development doesn’t need to come at a higher

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Rhian Palmer, Strategic lead, Green Futures at Coventry City Council

Colin Knight, Director of innovation, Coventry City Council

cost. Ultimately, we want homes to be built for purpose now, not having to be retrofitted in five years' time. Innovation is key to this."

"Creating more sustainable neighbourhoods contributes significantly towards improving local services and tackling inequalities. This ranges from the creation of more green space to address green deprivation in the city, creating cleaner air, reducing flood risk and increasing biodiversity. Retrofit will improve the fabric of homes, creating warmer homes which supports improved public health, particularly for people with respiratory problems. The creation of active transport infrastructure supports social mobility and provides better access to services, education, and jobs."

So how are they going to bring the residents of Coventry with them on this journey?

"We are really lucky in Coventry to have such strong political support and backing. Members have real ambition and vision and this means we are leading on a wide range of really exciting projects. But, we have to take communities with us too, not have them feel we are doing things to them" explains Rhian. This means employing a wide and varied engagement plan as there are a number of different groups to reach all who will have their preferred methods of engagement.

> **"THE POWER OF PARTNERSHIPS IS A CORE THEME THROUGHOUT THEIR WORK.**

"We want to do engagement with communities that involves co-design with the residents and businesses that know their communities best."

Both Colin and Rhian also accept that with the current economic environment there is a need to be "creative and innovative" in their approach. This is why the power of partnerships is a core theme throughout their work. "Partnerships are very important" explains Colin. "To drive decarbonisation, we need to harness the power of public, private partnerships."

"We are taking a proactive approach but there is also an element of working with what you have. We need an holistic 'One Coventry' approach. We are passionate about transforming our new developments, helping to create an attractive green city where all neighbourhoods are places people want to live. A truly sustainable city, we believe, will help attract inward investment, retain our graduates and enable citizens and businesses to thrive.

Certainly bold in their ambitions there is a real enthusiasm to create impactful positive change in Coventry, building on the strengths of the city and its local economic heritage to place them at the forefront of the net zero transition and a blueprint for others to follow.

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DERBY

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Given the pressures faced by many councils, the pursuit of net zero targets has become more critical than ever. This urgency requires council leaders and officers to work in partnership to address key challenges and discover viable solutions.

Here in Derby, we are rethinking how we plan the city and meet the diverse needs of our residents. Since becoming the Cabinet member responsible for climate change, transport and sustainability last May, I've focussed on keeping the aims of our manifesto at the heart of my aspirations and actions.

Our vision is multi-faceted, underpinned by environmental, economic, and societal sustainability. At its core is our ambitious mission to curb greenhouse gas emissions and achieve net-zero carbon status by 2035.

Well before Derby City Council declared a Climate Emergency in 2019, we were focussed on climate change action, in part because of Derby's position by the River Derwent.

Derby has always experienced flooding. While the river was once its strength, using its power to drive silk production in England's first factory, the Derwent has also been Derby's threat.

Flood alleviation is a key element of protecting people, properties and infrastructure and Derby's approach is recognised as being unique in that we are unlocking opportunities for regeneration alongside flood alleviation.

Following public consultation, we adopted the Environment Agency-led Our City, Our River Masterplan in July 2012 and planning for the first phase of the project was received in October 2015.

> **HERE IN DERBY, WE ARE RETHINKING HOW WE PLAN THE CITY AND MEET THE DIVERSE NEEDS OF OUR RESIDENTS.**

The award-winning scheme has already transformed miles of land along the river, bringing new business opportunities, improved resilience, and enhanced biodiversity. In all, around 2,000 properties have benefitted from increased flood protection.

The scheme proved its worth in 2019 and again during Storm Babet in 2023, when the river reached its highest level. Topping out at 3.58m, the previous record from 8 November 2019 was broken. In all, the three highest river levels in the centre of Derby since recording began 89 years ago have happened in the past five years. With major flood events becoming more frequent, Derby is actively future-proofing to cope with the effects of climate change.

Flood defences in operation in Derby City Centre

The next stage of our OCOR scheme will improve resilience along the east bank of the Derwent as it goes through the city centre.

Equally, when the time came to refurbish our Council House in 2012, we took advantage of the building's location on the riverbank to achieve the highest possible environmental sustainability rating. Features such as adiabatic cooling, rainwater

harvesting, solar panels and hydroelectric power harnessed from the river itself earned the Council House an “A+” Energy Performance Certificate and a BREEAM classification of “Excellent”.

Our first Climate Change Action Plan, approved by Cabinet in June 2022, comprised a staggering 106 actions and projects, largely focussed on what the Council can do regarding its own emissions. The Action Plan is overseen by a Programme Board spanning the whole Council, with progress monitored and reported quarterly.

We have started on our goal of weaving climate impact into Council business by introducing a Climate Change Impact Assessment (CCIA). This is an Excel-based tool that generates an infographic showing a simple visual key to the main climate costs and benefits of any given proposal.

By using this tool, we can include climate change as a mandatory consideration whenever we make decisions. It means that net zero is beginning to be embedded across the whole of the Council and is not the responsibility of one department or budget line.
Derby is a compact city with a growing population. Our Derby City Local Plan (DCLP) plans for more new homes and jobs up to 2028. New developments will contribute towards our carbon emissions, so we’re taking action to make our developments carbon neutral as soon as we possibly can.

At the end of 2023, Derby Homes (our Arm’s Length Management Organisation that manages housing) finished building the first carbon-negative council properties in Derby.

> **AS A LOCAL AUTHORITY WE NEED TO LEAD FROM THE FRONT, SETTING A GOOD EXAMPLE FOR OTHERS TO FOLLOW**

The four, two-bedroom homes generate more energy than they consume across a year making them even better than net zero.

The aspiration is, where possible, for all future Derby Homes and Derby City Council development projects to be built to this specification.

We’re investing in existing stock too by improving insulation in some of our coldest properties, and installing solar panels on roofs, which is ever more important in the current cost of living crisis.

Carbon negative council properties in Derby

We have learnt a lot over the last two years and we’re keenly aware that tackling the climate change challenge requires collective effort.

As a local authority we need to lead from the front, setting a good example for others to follow, while recognising that we haven’t the remit, expertise or resources to resolve the problem on our own.
The revised Climate Change Action Plan we’re now working on will include actions to help organisations and residents across the city to play their part in tackling climate change.

I have also invited diverse stakeholders across the city to collaborate as a strategic Derby Sustainability Partnership Board, fulfilling a second manifesto promise. So much more can be achieved when ideas are exchanged, innovations discussed, and information shared.

Major city employers, such as Rolls-Royce, Toyota, Severn Trent, along with the University of Derby,

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Cllr Carmel Swan

the Environment Agency, and the Derby Climate Coalition are working with us, so we can gain a deeper understanding and a coordinated plan of how to achieve our targets.

In addition, we host a Community Climate Forum, in partnership with Derby Climate Coalition enabling an open dialogue of ideas and proposals, shining a light on good practice projects from other parts of the UK. I often come away with an idea or a concept and task officers to explore the possibilities for Derby.

For colleagues at the Council, we have created a Climate Change Employee Network. It aims to harness the passion of our staff in working towards our net zero and, through them, reach more of our business community and residents.

Our partnership with the University of Derby has yielded several noteworthy projects. These include national research aimed at bolstering the resilience of care facilities to extreme weather events, work-based opportunities for students pursuing a BSc in Environmental Sustainability (with a focus on housing retrofit and adaptation planning) and identifying training needs for local businesses in the emerging green economy. Research tells us that Derby emissions are marginally above the Centre for Cities 60-city UK average, and below the national (urban and non-urban areas) UK average, with road travel being the largest contributor to transport emissions. Petrol and diesel cars emit the most (about 60% of all transport emissions) – a share that has remained stable since the early 1990s.

> **AS EVER, PARTNERSHIP WORKING IS KEY TO FACING THE CHALLENGES OF CLIMATE CHANGE AND FINDING WORKABLE SOLUTIONS AT A LOCAL LEVEL**

Derby needs to move away from its high car-dependency to lower-carbon travel mode alternatives and this is an area we are working on with partners.

We have developed a well-defined electric car charging infrastructure plan and over the following years, we will see these investments shape our communities and their ability to access car share clubs.

Demand responsive transport (DRT) is an exciting addition to our growing transport network, offering citizens in areas less connected by public transport greater and more flexible transport choices.

We have chosen to pilot DRT in the south of the city to offer citizens a way of making continuous journeys to locations which are otherwise harder to get to, such as the Royal Derby Hospital.

We want to do more to improve our transport network while developing our cycle and walking infrastructure, but short-term funding from Central Government often prevents us from achieving our longer-term plans.

As ever, partnership working is key to facing the challenges of climate change and finding workable solutions at a local level.

Cllr Carmel Swan is Cabinet member for climate change, transport and sustainability at Derby City Council.

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EDINBURGH

The climate crisis isn't going away. Temperatures are rising and the clock is ticking. A lack of action now will only make it harder and more costly to deal with its consequences in years to come.

In Edinburgh, we remain determined to play our part in the global fight to tackle the twin climate and nature emergencies. And with a series of national and international awards as well as other accolades recognising our action on climate – most recently being named the world's most sustainable travel destination and featured on the Carbon Disclosure Project's Global A list – we're at the forefront of driving the change we need to make real and lasting difference.

Last year we were recognised as the top local authority in Scotland based on scoring by Climate Emergency UK for our action to tackle climate change and our most recent updates on the Climate Strategy and City-Wide Emissions report demonstrates the progress we are making towards our ambitious targets.

Delivering a net zero city is one of three core pillars in the Council business plan alongside ending poverty and creating good places to live and work. We aim to embed climate considerations through all council activities. Climate action should not come at the expense of other priorities or vice versa. Instead, we are learning how to ensure co-benefits to address our key priorities simultaneously.

While we pursue urgent mitigation action to drive down emissions and curb climate change, we are also actively working on adaptation to ensure our city is resilient and ready for the climate change impacts coming our way. This includes action on flood prevention and minimising impact from overheating. We have a new Climate Ready Edinburgh draft plan out for consultation, are developing a Blue Green Network across the city, surpassed our annual tree planting target last year in our aim to be

THE FUTURE GROWTH OF OUR CITY MUST MEET OUR AMBITIONS TO BE A CLIMATE READY CITY

a one million tree city and have a sustainable urban drainage system (Suds) partnership to reduce future flood risks whilst protecting our natural environment and supporting nature.

Our Council Emission Reduction Plan focusing on how the Council itself can reduce emissions. The Council is responsible for 3% of the city's emissions and we are continuing to prioritise decarbonising our estate and fleet as our highest emissions sectors, whilst continuing to embed climate change in all we do throughout the Council, including awareness raising through employee climate training to ensure climate change is a key focus across all services.

Cammy Day, Leader of Edinburgh Council.

The draft City Plan 2030 seeks to drive changes in all areas for climate positive, nature adaptive action. It will ensure new development is both net zero and resilient to the changing climate and help nature recover. The future growth of our city must meet our ambitions to be a climate ready city where new homes are built to the highest emissions quality standards in resilient, connected neighbourhoods, in the right locations, with the right infrastructure.

As part of our regeneration of places we are aiming to deliver new green spaces, cleaner air, increase biodiversity and reduce flood risk. We are building adaptation into our infrastructure planning by managing rainfall and improving drainage through better designed street and park landscapes. Edinburgh's Green

Blue Network will help to reduce flooding risks, high temperatures and wildlife loss while protecting places for nature to live. The built environment remains our biggest challenge and decarbonising both the domestic and non-domestic buildings across the city is a key focus in Edinburgh, whilst also balancing out the investment need to tackle our current housing emergency, where demand continues to significantly outstrip supply. We have also recently developed a new Local Heat and Energy Efficient Strategy (LHEES) for the city to inform our transition away from fossil fuels and we are continuing to ensure that homes being delivered through the Council's own housebuilding programme are net zero ready, including the £1.3 billion net zero housing development in Granton as part of the Granton Waterfront regeneration. This will include 3,500 net zero carbon homes and boast Europe's largest naturalised flood defence coastal park. We are retrofitting our social housing stock with the aim of reducing emissions and energy bills, and between 2022 and 2023 1,299 homes were retrofitted to improve energy efficiency and support our key ambition of tackling fuel poverty. We are committed to continuously improving our housing and will continue to deliver on an ambitious retrofit programme over the coming years.

Currently 1,112 homes across 12 high rise blocks are in design to enable a deep holistic whole block retrofit and wider upgrades across these blocks. This significant investment will help to reduce energy demand across these blocks by over 50%, reducing tenants energy costs and ensuring these blocks are net zero ready. These upgrades will also implement climate adaptation and resilience interventions to limit the impacts of climate change, improve biodiversity and the overall quality of the wider estate these blocks are situated in. We also have a number of programmes of work underway on low rise tenements across the city to deliver improvements to council homes. These improvements include a range of options from carrying out essential repairs and maintenance up to the full refurbishment of a home with modern insulation, heating and ventilation. All of which will deliver healthier and more energy efficient homes.

> **CURRENTLY 1,112 HOMES ACROSS 12 HIGH RISE BLOCKS ARE IN DESIGN TO ENABLE A DEEP HOLISTIC WHOLE BLOCK RETROFIT**

The council's net zero work programmes

Transport is a key priority for the city to ensure we create a thriving well connected place to work, live and visit so in 2023, we opened our new tram line to Newhaven, expanded and introduced more cycle routes, and purchased electric buses. Our City Mobility Plan and Circulation Plan include citywide action centred on public transport, active travel, air quality and road safety. For our part, we're continuing to improve our own council fleet and 30% of our vehicles will be upgraded to electric by the end of 2024. We are committed to delivering truly sustainable, safe and integrated mobility for Edinburgh over the next 10 years.

Our 20-minute neighbourhoods will deliver on all three of the Council priorities by creating places where everyone can meet most of their daily needs within a short walk or wheel from their home.

We aim to make inclusive places with better access to essential local

services and open spaces. Tackling the climate emergency cannot be done by the council alone, so working with partners we established The Net Zero Edinburgh Leadership Board. The board brings together partners including the Council, the NHS, Edinburgh universities, Edinburgh Chamber of Commerce and utility companies and provides citywide leadership in creating a green, clean and sustainable future for the city.

TAKING ACTION ON CLIMATE CHANGE NOW WILL AVOID THE NEED FOR MORE ACTION

Tackling climate change is an incredibly challenging task which will only get harder as public funding decreases and costs to deliver key programmes particularly around our buildings continues to rise.

However, we remain committed to doing everything in our power to accelerate climate action. Inflation has caused a substantial rise in the cost of materials which impacts the scale and rate at which projects can be completed within existing budgets. This is affecting planned and future developments, including retrofit programmes and transport infrastructure. Nevertheless, our commitment to net zero remains strong especially as the cost of inaction is significantly higher.

Taking action on climate change now will avoid the need for more action down the line – building buildings that are fit for our changing climate means we won't have to retrofit them again in five years. Increasing the resilience of our city avoids costly maintenance and repairs from future flooding and extreme weather events.

One unique challenge is that Edinburgh is an historic heritage city making it a great place to live and visit but can, on the flip-side, create unique challenges for retrofitting and adaption for climate change. The Council works in partnership with Edinburgh World Heritage and Historic Environment Scotland on protecting and enhancing the World Heritage Site and historic buildings in the city. In 2023, we launched a Conservation and Adaptation consultation on the challenges residents in the World Heritage Site and conservation areas face to adapting their homes to climate change and the cost-of-living crisis.

Overall, the actions within the Climate Strategy have co-benefits for reducing poverty and inequalities in Edinburgh. This includes tackling transport poverty by improving affordable, sustainable transport options in the city. Actions that address the carbon emissions of social and Council housing through a fabric-first retrofit approach will also contribute to lower heating and energy costs for these tenants. These households are amongst the city's residents most at risk of fuel poverty. Development of higher quality green spaces and improved air quality can also contribute to health improvements for residents.

We're at the forefront of driving the change to tackle the climate emergency but know that the pace and scale of action still needs to increase significantly. But we can't do this alone. Public – and private – bodies have a huge role to play in delivering net zero. Our success depends upon collective effort and participation across society, and closer working with all levels of Government both north and south of the border.

GREATER MANCHESTER

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A long-term view, decisions made locally, solving a number of complementary challenges – the role of a Combined Authority in building growth in the regions.

Andrew McIntosh, Director of place at the Greater Manchester Combined Authority recognises that, as an authority, they have set themselves some tough and ambitious climate change targets.

But as he reflects in conversation with us, this is in part because of the scale of change involved and how they want to use this agenda as a platform to help build the region and its infrastructure towards sustainable growth.

"We are seeing declining carbon emissions across the region, but we want to go faster" he acknowledges whilst recognising that cost is a challenge when looking at the decarbonisation agenda accepting that, without innovation, costs could have a constraining effect on the speed and scale of tackling the climate change agenda.

Their approach to helping the region achieve its climate objective, of being carbon neutral by 2038 is through working in a collegiate way across the 10 boroughs in Greater Manchester. He acknowledges that because of each local council having their "own priorities", projects across the region are moving at slightly different paces. However, the benefit of the Combined Authority driving the climate change agenda is that they can help "build support models that can be layered across the region and that the Combined Authority has access to tools that help make this happen." Additionally, the Authority also has the ability to help shape and drive the collaborative approach.

Andrew explains his role as one that is all about "developing places, growing places and regenerating

> **THE NET ZERO AGENDA HELPS TO TIE THESE STRANDS OF ACTIVITY TOGETHER**

places." He believes that these agendas are complementary and should be viewed as such. The net zero agenda helps to tie these strands of activity together particularly through the design of the relevant solutions to decarbonise at scale. With competing priorities "funding is a challenge, and the question we have to answer is how we can explore the development of models that helps us to build future net zero homes. With a concerted focus on place we can embed a collaborative local approach which will ultimately allow us to grow but also emit lower emissions."

Greater Manchester has developed its own Local Area Energy Plan

He believes a key benefit and advantage for the Greater Manchester region is the newly agreed devolution deal. The certainty of funding he believes will help his department to undertake a longer-term programme of developments covering the need for additional affordable housing, the need to regenerate places and ultimately lower the emissions of the region. He sees a real benefit in the ability to make funding decisions closer to the source of requirement, helping to develop a real partnership approach with local agencies. "Working under a local banner helps us to be collegiate and pragmatic. A longer-term view also helps us to

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manage projects more effectively, allowing us to ultimately reduce costs in the long-term."

This localised approach helps to frame the challenges in a more collective way for the region as a whole, rather than as a competition between locations. "Devolution helps to enable people to make decisions that benefit communities directly."

He acknowledges that we could tackle challenges such as damp and mould and retrofit by addressing them not in isolation, but as collective issues and challenges. One housing improvement programme he believes would allow local decision makers to drive multiple benefits from their intervention and investment.

As a region he feels they have benefited from the investment they have made into developing a Local Area Energy Plan for Greater Manchester. A local area energy plan is a data-driven whole energy system, evidence-based approach collaboratively defined by local stakeholders with the aim of identifying local action to reach Greater Manchester's targets and contribute towards the country's net zero target. It helps to identify the infrastructure changes required to transition an area's energy system to net zero in a given timeframe.

"For us it has been really helpful undertaking this exercise. It has helped to quantify and articulate the investment levels needed to deliver

"DEVOLUTION HELPS TO ENABLE PEOPLE TO MAKE DECISIONS THAT BENEFIT COMMUNITIES DIRECTLY

net zero and identify measures that should be implemented. The question is now one of how do you then implement the recommended measures.

"It provides us with a framework to consider and is a great example of bottom-up planning, helping us to drive the designed solutions required. We are presently using it to explore delivery models and asset classes and it provides us with an evidence base with which to speak with investors as the funding of the end solution has to be through both public and private means."

Andrew believes the challenge now is "how we capitalise" on this evidence base and use it to "start conversations which will help turn plans into reality."

But it is the long-term he returns to. Noting that net zero is a longer-term challenge, as is the regeneration of place, he believes that net zero should be one of the top considerations of the planning hierarchy and help in the drive to build for growth concluding that the "longer you have to plan the better the end outcome."

Net zero and the regeneration of place is a long-term challenge

HULL

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"Decarbonisation is a significant challenge that has to be addressed across all sectors and partners in the city"

We spoke with Hull City Council about their ambition to be a carbon neutral city by 2030.

With your approach as a city to decarbonisation – how is it going and what have been the key learnings to date?

As a city our decarbonisation journey has a long tail. At least since the early 1990s, we have been developing and delivering housing regeneration schemes that have addressed the thermal performance of homes in both the public and private sector to reduce fuel poverty and drive the wider co-benefits in aspiration, health and educational attainment. We have been part of innovative approaches, such as Housing Action Trust's, Housing Market Renewal Gateways and Single Regeneration Budgets. As decarbonisation has become a greater driving force, we continue to develop and deliver housing fabric schemes and deliver pilot zero carbon heating solutions. Across the city, we are at the heart of the energy transition, being home to the Siemens Gamesa offshore wind manufacturing site which employs 1,400 people and delivers turbines for the UK and overseas market. We are also home to one of the UK's largest heating companies, Ideal, which has established a national training centre for air source heat pumps (ASHP) and manufactures them within the city. These opportunities have enabled the city to develop new approaches to ensuring local people can gain jobs in the net zero economy transition. The provision of multiples waves of training bootcamps through Hull Training and Adult Education has maximised the opportunity for local people to secure employment. The University of Hull is also very active in the energy space, with

> **WE HAVE DEVELOPED THE OH YES! NET ZERO PROJECT TO SUPPORT THE SME SECTOR THROUGH MUTUAL SUPPORT AND LEARNING**

Masters in Flood Management and Renewables key feature of its curriculum. The city is addressing longstanding national gender inequality within manufacturing and engineering through programmes such as Women into Manufacturing Engineering. However, as a city, we recognise that the heart of the economy is the SME sector and, through a partnership established by Reckitt, the council, Future Humber and University of Hull, we have developed the Oh Yes! Net Zero project to support the SME sector through mutual support and learning. This focuses on business to business support to help companies understand their carbon emissions and how they can reduce them, engaging local supply chains to increase skills to make them more competitive and put them in a position to meet customer demands whether that is organisations they supply or direct to consumers. In our endeavours to retrofit and future proof our homes, we have been successful in taking advantage of government funding in its various forms including Local Authority Delivery and Social Housing Decarbonisation Fund, as well as via funds such as the Energy Company Obligation. Early engagement with residents has been key in order for them to fully understand and reap the benefits of decarbonising their homes.

The council's local plan is being revised to embed climate change to a greater extent

Has anything in the scale of work required surprised you (both good and bad)?

Reaching net zero and adapting to climate risk is a significant challenge. The scale is immense, but it is the pace of change required that is the most challenging. As a city, we have only 20 years to

become net zero and 15 years to be a net zero organisation, which means the next 10 years are fundamental to the long-term success. The change cannot be left until the last minute. It is the change in how we embed the carbon impact and risk costs that is requiring different ways of thinking about solutions, our whole notion of what business as usual emphasises the scale of change. The surprise is really in how quickly we need to develop new skills and ways of seeing at a scale and pace that will change fundamentally our understanding of place making. It is not so much a surprise, but needing to understand what a fair transition looks like and how in the scale of work we deliver it alongside our communities, residents or businesses.

Net zero and decarbonisation is one challenge, but how do you balance the scale of what needs to happen under this agenda with other activity such as building new affordable homes, the regeneration of places, updating your transport infrastructure and the ongoing pressure to deliver improved local services?

The agenda is not incompatible with our thinking. Embedding net zero and adaptation within all other projects is essential to delivering this agenda. If we do not do this, then we are adding expensive retrofit costs to projects in only a few years' time. Embedding climate change within programmes ensures the best use of the investment we make, and others make in the city. We do not see these as "either/or" choices. If the other activities do not consider how they contribute to carbon emissions or understand the climate risk they will experience over their life and build mitigation into them, then we are not delivering improved local services. When considering new housing and the regeneration of places, sustainability is at the forefront of what we do, especially with regards to sustainable heating solutions, Biodiversity Net Gain on site etc. No longer is sustainability a

> **NO LONGER IS SUSTAINABILITY A BOLT ON, RETROSPECTIVE CONSIDERATION, BUT AN INCORPORATED CONSIDERATION**

bolt on, retrospective consideration, but an incorporated consideration upfront to ensure good quality design and sustainable homes and communities are achieved. In the journey to net zero and decarbonisation, we also need to be mindful that we do not push residents further in to fuel poverty and look at solutions which benefit both the environment and our more vulnerable residents.

Addressing the climate and nature emergency is one of the council's five ambitions in their community and corporate plan

In planning for the city's future, how much consideration is having to be made now to adaptation and mitigation for climate related impacts?

Dane Park, a new housing scheme addressing the climate and nature emergency is one of the five ambitions in our Community Plan and Corporate Plan. Therefore, mitigation and adaptation are at the heart of our approach to the city's future. From a climate risk perspective, Hull is the second most vulnerable city in the UK after London to flooding. Our response to the flooding in the city in 2007 was the creation of a globally leading partnership "Living with Water", which led to Hull being established as one of the first Global Water Resilient Cities. This brings together Hull City Council and East Riding of Yorkshire Council (ERYC), Environment Agency (EA) and Yorkshire Water, which has resulted in significant infrastructure including Aquagreens and a Blue Green Plan

for the city totalling £1.5bn. The city is also thinking beyond flooding to the other extensive climate risks within the national Climate Change Risk Assessment and understanding as a business how the council will be impacted through the Adaptation Reporting Power local government pilot as well as developing a city Adaptation Strategy.

When undertaking large scale programmes across communities what are the principles underlining your engagement approach?
As an example, for Dane Park, new housing scheme, we already have the data that shows the site sits in the most deprived ward in the country for fuel poverty. On the back of this, and the fact that Hull has declared a climate emergency, we pushed forward with ASHP/ Photovoltaic to help with the soaring costs associated with heating and hot water. There is always the formal planning process that allows any input from the community, we engaged with ward members and housing staff, updated via ward newsletters and on the official HCC website etc and the usual contributions from EA/flood team/ other stakeholders. Engagement and prior consultation has been key to ensuring our retrofit schemes are successful and that our residents are onboard for the journey as the works carried out to their homes can be extremely disruptive.

How do you link between meeting housing demand, regeneration of place, transport upgrades and the decarbonisation of the region?
It is the strategic context that links these agendas. Our Local Plan is currently being revised to embed climate change to a greater extent because of the net zero targets set for the city. Managing these elements has always been integral to our approach in Hull as we are a tightly bounded city and therefore land-use and competition for this has always been a consideration. These considerations are at the heart of our place-making approach using regeneration in its widest sense to drive employment growth opportunities for our residents and creating a city that is attractive both in terms of its built forms, but also its nature spaces and climate response. Integration to drive out multiple benefits helps us address silo thinking and appreciation of the contribution we make collectively. We also work closely with funders who support decarbonisation, for example Homes England (HE) and Department of Security and Net Zero, as well as neighbouring authorities, namely ERYC through current devolution discussions.

What impact has the current cost-of-living-crisis had on your long-term investment plans across these complementary agendas?
Like the rest of the local government sector, we are having to meet increased residents' expectations and requirements on a shrinking budget. The cost-of-living crisis has only increased these pressures, both on our budgets, but also partners and investors. However, this has also led to the council increasing its focus upon the opportunities to drive efficiency and maximise the co-benefits of investment. It is joining up budgets and solutions that enables the city to enable long term investment. In support of this, increased understanding of the challenges around net zero and climate risk through our developing Local Area Energy Plan and Adaptation Strategy mean that we can understand how the transitions will play out over the long term and develop investable propositions for funders, including looking at new business models and shaping long term investment certainty over short term profits. Costs associated with new housing delivery have increased considerably, whether this be labour, fuel, raw materials etc, compounded with a fall in the housing market and availability of mortgages. This has meant schemes have been delayed or repriced, which has a knock-on affect for timescales and ultimate delivery. As an authority, we are trying to increase our own direct delivery to try and ensure a constant flow of new housing is achieved. As well as utilising available funding streams i.e. HE, One Public Estate to support some of the impacts on costs. In terms of our residents, the cost-of-living crisis has increased the levels of fuel poverty within the city and therefore our residents benefit from our fabric first approach to retrofit with reduced fuel bills and warmer healthier homes.

The Orchard Park Estate in Hull

LIVERPOOL

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Like many cities across the UK, Liverpool has made ambitious commitments to reduce carbon emissions across city council activities by 2030 to help combat the threat of accelerating climate change on the planet.

While Liverpool City Council activity only directly contributes approximately '1% of the city's emissions' (Liverpool City Council, 2022, pg. 7), it has a key role to play in leading by example, as well as facilitating and encouraging innovation and change wherever practically possible.

Traditionally, decarbonisation of transport activity in Liverpool has focused on the promotion of active travel and encouraging sustainable use of public transport/modal shift. This is in line with the transport evidence base prepared to underpin Liverpool's net zero commitments, however, in the longer term focusing only on how the transport network is used will not be enough to unlock our commitments, as local roads infrastructure and maintenance can make a significant and ongoing contribution to greenhouse gas emissions, climate change impacts and future resilience. So, while we recognise that this won't be an easy task – the city's Highways, Transport and Parking team, have accepted the challenge of reducing carbon in our day-to-day highways working practices, which we aim to accelerate through our involvement in the ADEPT Live Labs 2 Programme.

So, what are we doing differently?

ADEPT Live Labs 2 is a UK-wide programme funded by the Department for Transport that will run until March 2026 focussed on decarbonising local roads provision. As one of 7 Live Lab 2 projects awarded funding, Liverpool City Council is utilising this additional £3.9m funding to connect the entire value chain across the full lifecycle of the highways asset, using a collaborative approach to create an underpinning framework for Liverpool, which can be replicated nationwide, integrating decarbonisation principles into everyday operational highways processes for local authorities.

Deliberately targeting innovative technical solutions which have not yet been tested at scale across a UK city, we are collaborating with industry specialists, academic partners and our local supply chain to form an innovation ecosystem to support a robust 'optioneering' approach. Accordingly, we are working to implement an effective user-friendly decision-making tool, based on scalable systems mapping and options configuration, which allows us to consider the full lifecycle carbon implications of

The partners collaborating on the project

highways maintenance schemes before any significant investment is made. Our so-called 'Carbon Hierarchy Lens toolkit' is designed to make the data collection and assessment process simple and prompt, allowing this approach to

> **THE CITY'S HIGHWAYS, TRANSPORT AND PARKING TEAM, HAVE ACCEPTED THE CHALLENGE OF REDUCING CARBON**

integrate into our evolving process covering highways scheme delivery. It considers various factors including the fundamental objectives and requirements of a scheme, work and design scope, activity and inventory-based carbon footprint associated with material quantities and operational processes, as well as wider social impacts. A focus on local specifics enables this accurate full lifecycle cost and carbon measurement, and improved awareness for decision-makers at all levels.

Essentially, this tool aims to offer a comprehensive solution for Liverpool to better understand the environmental impact of materials, optimise decarbonisation efforts, standardise data tools, reporting, and evaluation processes for consistency, and enhance clarity

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in approaches to their design, planning, and policy making related to all carbon emissions in highway maintenance. It will also incorporate industry innovations across every stage of project delivery from early conception through to end-of-life.

While there are a range of carbon management tools already on the market, we believe that our hybrid approach has an added value – as it delves into considering carbon, not just at the construction phase, but throughout the extended lifecycle of the asset or network, including anticipated ongoing maintenance, refurbishment and repairs which allows us to forward plan while also allowing our teams to be an intelligent client.

Working with innovation industry specialists Pell Frischmann, Proving Services and Colas, our extended optioneering framework will bridge the gap between the Council as the commissioning authority and its range of subcontractors across the design and build value chain to create a carbon standardised approach. Our aim is for the project outputs to prompt a change in our current standards, which may include use of innovative materials, processes, or even the design and construction practices used. Through demonstrations on highways schemes in Liverpool, our project will showcase innovative technology, new materials, and generate blueprints and user manuals, supported by comprehensive data on carbon impact. However, critically, within the context of Live Labs, we need to show that our approach has relevance outside Liverpool, and therefore how the optioneering process and configurator tools generalise to other authorities, and how we can measure these impacts. Our work with the Future Highways Research Group (FHRG) through Proving Services will be fundamental to the testing of these approaches.

Focussing on urban contexts, Liverpool's Live Lab can therefore act as a comprehensive case study for other cities, and we will share our learnings with other Local Authorities so that they too can benefit from these learnings. This will start with a collaboration with Aberdeen Council, as both councils share coastal features, and urban environments, but will also include shared learning with Newcastle City Council to provide initial feedback on the tool and its applicability outside of the Liverpool test bed.

What is innovation?

We do face a significant challenge in moving from our conceptual approach to the practical implementation in the real world. This challenge stems from the broad landscape of emerging innovations and new operational processes, all of which have the potential to reduce the carbon footprint of schemes within Liverpool. With an influx of new products on the market, it is important to undertake a systematic evaluation of each innovation considered to ensure that we understand the benefits of use, as well as the applicability and acceptability within Liverpool's local context.

Transport is a key component part of wider net zero thinking

> **WE NEED TO SHOW THAT OUR APPROACH HAS RELEVANCE**

To achieve this, we have adapted an innovation matrix and scorecard to assess each innovation against predetermined criteria in the local context, while engaging a panel 'of experts' working in the sector locally to provide constructive challenge. This has allowed us to 'feed' the optioneering process and make informed decisions for our upcoming demonstrators, on a scheme-by-scheme basis.

We are also learning from other Live Labs such as the UK Centre

of Excellence for Decarbonising Roads – CEDR. Jointly led by North Lanarkshire Council and Transport for West Midlands, CEDR is providing a centralised hub for research and innovation for the decarbonisation of local roads materials, developing a knowledge bank, real-life conditions testing and sharing and learning insights. Furthermore, work by East Riding of Yorkshire Council, who are undertaking a future lighting testbed, will allow us to understand what assets are needed for our future networks, and how they can be further decarbonised across their lifecycle.

But outside of this, true innovation requires challenging the status quo, thinking outside the box, and taking calculated risks to drive progress and achieve outcomes. Our core project team is therefore completed by Bird and Bird, a legal practice who are specialists in public procurement, contracting and social value. This aspect of the project seeks to determine how to secure the deliverability of utilising new approaches, innovations and technologies through existing contracts, while considering how we may need to change in the future.

This is fundamental if the Council is to effectively manage the risks associated with the use of new innovations, while having the potential to accelerate the decarbonisation trajectory beyond business-as-usual process, while leveraging best value from public resources across the full range of collateral benefits. An example of this is how Gap Group – also part of the Expert Panel – will support us in delivering case studies focussed on adoption of low carbon plant, equipment and welfare assets. These studies will enable us to further understand how new procurement standards can drive contributions towards net zero, based on demonstrated scenarios.

Defining a lifecycle without precedents, and shaping it into a functional model that aligns with our vision is complex, but via strong collaborative working with our existing highways improvement contractors (Dowhigh, Huyton Civils and Tarmac) all three have played a key part by sharing their approaches to scheme design, carbon accounting and recycling of highways materials. The use of recycled highway material products will be a focus of our approach, both in the context of sustainability, environmental considerations and circular economy principles.

Connecting the other end of the value chain, Liverpool John Moores University will also be researching the use of locally recycled materials in the design of new pavement materials, which we will look to test in our demonstrator schemes. We will also seek to test the material in other parts of the UK for suitability in other locations as part of the collaborative approach.

Contributions to reduce carbon are required across all parts of the infrastructure chain

Final Thoughts

It has been a pleasure to be able to present the context, concept and update on the current status of our Live Lab in Liverpool as we strive to unlock our net zero commitments. We believe that Live Labs will make a significant contribution to the ambitious and deep reaching Realising Net Zero Liverpool Plan which is currently in development with support from the Department for Energy Security and Net Zero. This Realising Net Zero plan has synergy to Live Labs as it too focuses on assessing whole life carbon impacts, while having simple and common carbon accounting process for construction, materials and operational emissions, while working with contractors to understand their existing data collection processes and identifying opportunities to displace high carbon intensity materials with lower impact materials.

While we can only really scratch the surface within this short summary, we would welcome engagement with the wider Local Authority Highways sector, to stimulate further discussions and interactions. Please do feel free to contact us at LiveLabs@Liverpool.gov.uk.

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LONDON

Pan-London collaboration for effective delivery of place-based decarbonisation.

We know decarbonising homes is crucial for achieving emissions targets and reaching net zero.

In 2022, emissions from residential buildings accounted for a fifth (20%) of greenhouse gas emissions in the UK (Housing and Net Zero, 2024). However, decarbonising homes (e.g low- carbon heating, energy efficiency measures) poses several complexities; expensive upfront costs to homeowners, disruption to residents, and complicated installation requiring specialised skills. It's clear that without external intervention and support, emissions from housing will continue to be a barrier to achieving net zero targets.

A place-based decarbonisation approach offers a method of delivering retrofit projects that accounts for some of these complexities, as it prioritises understanding local needs, issues, and circumstances before designing any implementation. One place-based model which embeds these principles is the Net Zero Neighbourhoods model, which was developed by the Cities Commission for Climate Investment (3Ci). The approach is designed to mobilise blended finance, including private sector investment, to deliver place-based climate and community infrastructure that has been co-designed with the community. It delivers this by packaging local net zero projects, centred around residential retrofit, into attractive investments that create long-term certainty for investors (3Ci). The model has the potential to overcome cost issues by acquiring the required upfront investment from financial institutions, simultaneously freeing up budgets for other pressing issues in the sector, such as affordable housing.

Local authorities are well-placed to test this approach, with pre-existing relationships with local communities and their own housing stock to begin implementing the model. However, to build investor confidence, the net zero neighbourhoods model needs to be demonstrated in a series of areas which takes funding, resource and expertise. Aiming to acquire these collectively to ensure efficiency and capitalise on this innovative approach to delivering and funding local climate infrastructure projects, the London Net Zero Neighbourhood Cohort was set up in autumn 2023. It brings together a group of twelve pathfinder boroughs who are actively developing NZNs and other similar approaches to place-based decarbonisation. The cohort supports the development of these NZN plans into investment ready proposals, by focusing on collective learning between boroughs, identifying shared barriers and coordinating on solutions. Representatives from key partners including the GLA, London Councils, and the Green Finance Institute are also involved in the Cohort and it also prioritises taking learnings from other regional groups around the country. The Cohort sits under the Green Economy theme, led by the London Borough of Hounslow, within the London Councils Climate Programme.

> **LOCAL AUTHORITIES ARE WELL-PLACED TO TEST THIS APPROACH**

Strengths and challenges

The Cohort has several key strengths, one being the diversity in boroughs NZN approaches, which allow the cohort to coordinate more effective delivery through shared learning and collective commissioning of external support. This transparent approach will allow later adopters

of the model to bypass certain challenges and progress more rapidly. Initial mapping of the breadth of approaches showed common priority themes including community engagement, retrofit (central to the NZN model), heat decarbonisation, renewable power and green infrastructure. Exploration of more unique identifiers such as supply chain capacity or comfort

THE COHORT IS WORKING COLLABORATIVELY TO IDENTIFY AND OVERCOME THE KEY CHALLENGES AND BARRIERS AT A COHORT LEVEL AND WITHIN THE WIDER LANDSCAPE OF THIS WORK.

fee mechanisms ensures a robust, scalable approach without duplication of resources and investment.

Due to the scale, urgency and impact of climate projects on Londoner's lives, effective community engagement and co-design of these projects is imperative to success. It helps to ensure projects are reflective of local needs, aids co-ownership and decreases risks of issues upon delivery. Some of our boroughs have already become leaders in this area and the cohort aims to harness this learning by producing a community design guide with best practice principles and case studies.

Delivering a just transition to net zero is a key priority throughout the cohort and the wider London Councils Climate Programme. Boroughs have outlined equity and a just transition as a key consideration in their NZN plans, and the NZN model ensures that households retain a reduction in energy bills, as well as enabling funding of collectively-agreed local climate interventions– such as more green and blue infrastructure. The cohort also proactively incorporates equity considerations within and between boroughs when selecting pilot areas, designing neighbourhoods and selecting projects, delivering 'with', not 'to' communities.

The cohort is working collaboratively to identify and overcome the key challenges and barriers at a cohort level and within the wider landscape of this work. Boroughs are exploring options for obtaining the necessary revenue funding to complete feasibility and implementation planning. Whilst investors may be cautious about supporting this early stage development work, it is crucial to building propositions and a market that are robust and attractive to financial institutions. Blended financial structures are challenging to build and test without the right technical support. For example, while some of the payment collection routes for the NZN model can be tested through demonstrators, technical support is still needed to support this process, and to build and test other revenue sources such as heat networks and community energy.

Influencing the progress of boroughs in this space is the availability of long-term and large scale funding to deliver this work. Current grant funding alone is not adequate to fund the scale of projects required, and their short-term, competitive-bidding nature is neither an adequate, nor a sustainable way to finance the scale of the NZN model. Recognising a clear need to focus on this, the cohort is working to transition approaches from short-term funding to long term finance and will engage with different kinds of funders, from philanthropic to institutional, to foster investor appetite and attract more sustainable, long-term finance.

Some of Cohort's key strengths include

Acquiring technical assistance

One of the key anchors for delivering London NZN demonstrators is a technical assistance facility (TAF). A TAF would provide the cohort with the necessary expertise, capacity, and initial funding to enable net zero neighborhood proposals to move from concept and early-stage feasibility to credible investor-ready business cases and potential demonstrators. Learnings from similar initiatives by the Combined Authorities indicate that a TAF can support the capability, capacity and help secure seed funding to move the cohort's selected demonstrators from concept to detailed design and business case. The cohort is collectively exploring possible avenues for collectively funding a TAF and mobilising it for the demonstrators.

NZN Practitioners Group

To ensure the knowledge, experiences and learnings from the cohort are shared beyond our members, the cohort established the London Net Zero Neighbourhoods (NZN) Practitioners Group earlier this year. The practitioners group is open to officers at any stage of developing an NZN or those who wish to learn more about this blended-finance, place-based approach to climate action. The group is intended as a way of sharing and solidifying the learning that is coming through from the cohort with the wider London audience.

Conclusion

The Cohort is focused on shared learning, collective commissioning and collaborating on outputs to deliver net zero projects whilst saving public resources. Coordinating this with a range of economic, social and environmental benefits, the Cohort accounts for a range of agendas to build to holistic, place-based regeneration.

Councillor Katherine Dunne, Cabinet member for environment and climate change, London Borough of Hounslow

"Hounslow Council is proud to be leading the London Net Zero Neighbourhoods cohort. The cohort provides an opportunity for London to progress towards investor-ready net zero neighborhood demonstrators, delivering positive change to communities with a multitude of co- benefits. Our work also signals to stakeholders the clear commitment from London's local government to this holistic approach to place-based decarbonization"

Jacob Heitland, Director of climate change, London Borough of Newham and member of the NZN cohort

"The London Net Zero Neighbourhoods cohort is an excellent example of how the climate programme uses the ambition and leadership of London boroughs to go further, faster on the complex and interconnected issues we are facing across the capital. Improving the health and energy efficiency of our neighbourhoods in a just manner requires this form of working together and I'm looking forward to collectively solving at".

London Borough of Hounslow

Councillor Katherine Dunne

NEWCASTLE

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Newcastle has made the commitment to have net zero emissions by 2030.

They are open and honest about the challenge. They recognise that it will require far reaching change in every part of the city and will need collaboration and partnership working to deliver.

What are the origins of the 2030 target? The City Council announced a climate emergency in 2019. It took a year to develop a strategic action plan to address the issues a climate emergency creates.

This was not just about writing a plan, but it also involved setting up the right structures and recruiting teams to work on the plan that will support change at a vast scale and over the course of a number of years.

The Net Zero Newcastle – 2030 Action Plan sets out the scale of the challenge the city faces, and highlights where action is required to mitigate and adapt to climate change.

The plan highlights over 100 ways in which residents, businesses and organisations can work together to achieve net zero.

As we come to the end of 2023, four years in, how is it going?

We caught up with Tim Rippon, Principal climate change advisor at Newcastle City Council to discuss progress to date and understand how the decarbonisation agenda sits alongside other priorities the council must deliver.

Mr Rippon notes that there have been external issues not foreseen when the plan was produced, not least the impact of the Covid pandemic, but he feels that on balance things are progressing well.

"Not everything moves at the same pace and some programmes are

> **A KEY FOR THE COUNCIL IS TO TRY TO, WHERE POSSIBLE, SIMPLIFY THE PROCESS**

working ahead of others, but we have time to develop them all within our original timescales."

The action plan has 11 work programmes:

- Residential and domestic
- Property and asset management
- Low carbon heat networks
- Planning policy and planning decisions
- Adaptation and carbon sequestration
- Transport and highways
- Waste, the circular economy and food
- Green growth and green skills
- Supply chain purchasing and procurement
- Newcastle City Council/Your Homes
- Newcastle organisational emissions
- Communications and public engagement

The fact that there are 11 programmes shows the complexity of delivering net zero and how consideration has to be given to the interconnectedness of work in this area. A key for the council is to try to, where possible, "simplify the process".

But, as Mr Rippon acknowledges, infrastructure is the key to ultimate delivery.

The ongoing decarbonisation of the grid is helping, and the council has placed a real focus on decarbonising social housing (Newcastle has 35,000 social homes) because this allows them "to make impact at scale".

A key part of Newcastle's plan is through the construction and operation of heat networks across the city.

"They are a fundamental part of our strategy" says Mr Rippon, "infrastructure is key to the delivery of net zero. We are one of six pilot cities for heat network zoning".

Heat network zoning will, say the Government, fundamentally transform the development of heat networks in towns and cities across England.

By designating zones where heat networks are expected to offer the lowest-cost solution for

Newcastle City Council

The council's has developed the Net Zero Newcastle – 2030 Action Plan

decarbonising heat, local authorities and heat network developers can quickly identify where new large-scale strategic heat networks should be built.

Newcastle is proud of the role they are playing in progressing this approach and using their experience to feed back into government to provide a "real-life" evidence base to seek to unlock funding for this approach.

When it comes to balancing the decarbonisation journey with wider council priorities, Mr Rippon believes that "strong leadership is the key".

For the decarbonisation aspect of their work, the Council has worked hard to educate and engage its workers at all levels to understand why the council is taking the approach it is, and how they can add net zero criteria into their strands of work.

He also sees the purchasing power of the council as a positive lever to begin to create a larger low carbon market locally and regionally. Indeed, when you look at the action plan it is set out to explain how it delivers for the local economy, individuals and the local environment.

Within the plan, the Council says "Our ambition is for a green city of the future, which values all residents, provides quality sustainable housing, a low carbon economy which addresses poverty and looks to ensure all people feel invested and included by challenging social inequality."

So how have Newcastle engaged their residents on their ambition?

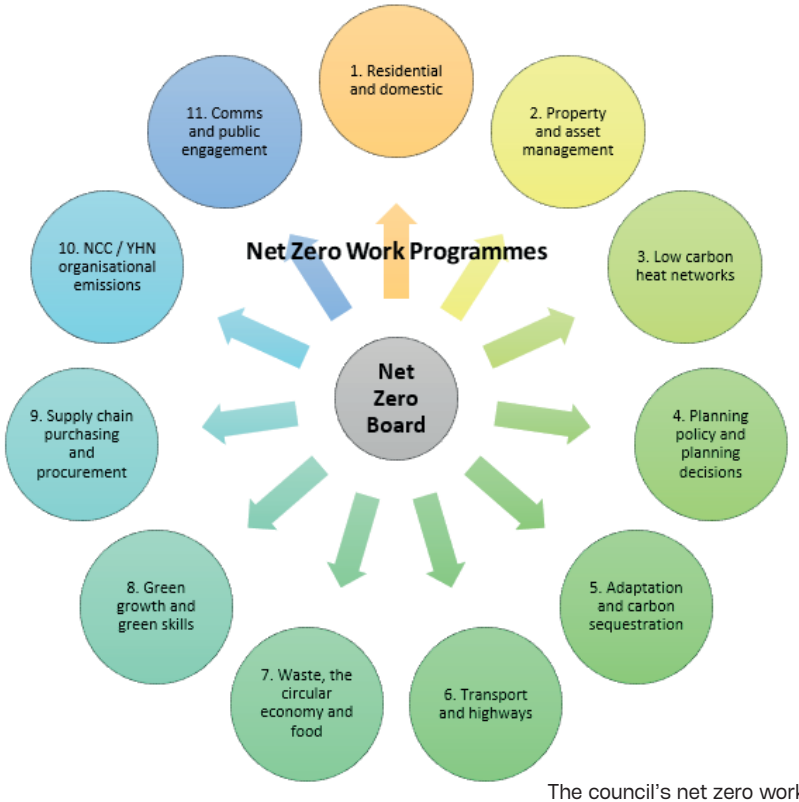
> **THEY STARTED WITH A CALL FOR EVIDENCE WHICH RESULTED IN OVER 1,200 RESPONSES. THIS PROVIDED A GOOD EVIDENCE BASE**

They started with a call for evidence which resulted in over 1,200 responses. This provided a good evidence base for them to develop their decision making and informed the construction of the action plan.

In addition, they undertook face to face engagement with the hosting of a series of summits. Importantly these summits included a wide range of residents – young people, the ever-growing student community in the city, businesses and voluntary groups.

This was supplemented by a Citizen's Assembly by the North of Tyne Combined Authority which was a more intense programme, but again provided the council with a clear steer through the production of a recommendation report.

This has helped move forward work to create a brand identity to support and engage in the council's net zero activity with the aim to really accentuate the positive and make the switch to net zero an aspirational activity for local residents.



The council's net zero work programmes

With continued demand locally for housing, how is the council managing the competing demands of increasing housing availability and reducing the carbon footprint of the city's homes?

Mr Rippon explained that, since the announcement of the climate emergency, the climate change team has been actively involved in reviewing major applications, but the secret is the timing of these interactions.

"We would review before they got to planning" which proved beneficial allowing developers to understand clearly what is expected and build them into the design of their proposals.

Mr Rippon feels that the uplift of Part L regulations in 2021 has also helped.

The aim being that new buildings built to these standards are expected to produce lower regulated carbon dioxide emissions with higher fabric energy efficiency standards.

"It is hard now to put gas boilers into new homes" and this will only continue with introduction of the new Future Homes Standard in 2025.

"This will help us to make the case at the local level and for the majority of new homes to become low carbon in operation".

He also sees the ability for housing operators to take a holistic view and look to see how we can "develop new technology that can deliver on damp and mould and net zero requirements."

This is linked into the Newcastle approach, "We are building from the bottom up, using our knowledge to create low carbon neighbourhoods.

Everything we are trying to do relates back to the infrastructure we are working with, and we are trying not to topple the grid through our actions."

EVERYTHING WE ARE TRYING TO DO RELATES BACK TO THE INFRASTRUCTURE WE ARE WORKING WITH

He sees the potential for the further development of microgrids across the city.

These are in effect local electrical grids, using local sources of supply but also attached to the centralised national grid, with the ability to function independently should it need to.

Looking ahead what are three key areas for 2024 and the continued delivery of the Newcastle action plan.

Mr Rippon sees these as:
The further development of heat networks, stressing the importance and big role they have to play in delivering the council's 2030 ambition:

- Procurement and the ability of the council to help drive the local market, and also drive carbon disclosure through the procurement frameworks and requirements they put in place
- Technology. As new low carbon technologies and improved products come to market, it is important to capture that innovation to deliver Net Zero at pace and affordably
- Newcastle has set itself a bold ambition of reaching net zero by 2030, but they are displaying a clear understanding of the issues and challenges ahead, as well as highlighting the opportunities successful delivery presents for its numerous local stakeholders.

This appears to be because they have based their plans and decisions on clear evidence collected locally and an acknowledgement that they need to take a "positive but realistic" approach to delivering.

Cllr Marion Williams, Cabinet member for a Connected, Clean City with students at the Newcastle Youth Climate Change Summit