

3 CITIES



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The **3 Cities** is a unique collaboration leading the way in unlocking transformative opportunities to accelerate green economic growth, address decarbonisation, and boost investment and inclusive growth in the cities of **Birmingham, Coventry** and **Wolverhampton**.

We are seeking partners who have the vision, motivation and energy to co-create this with us.



3 CITIES



Average GDP per head is
c.£27,000,
below the national average
with the goal to increase

Wolverhampton



Together, the cities
consistently have
the highest number
of new start-ups
outside London



A combined population of
c.1.8m people
with 40% under 25 years



Rail connectivity compares
well with the national
average and HS2 is
underway to significantly
improve connections to
London and beyond

Birmingham



c.700,000
homes in the
cities



A combined GVA of over
£43bn



Strong manufacturing,
research and
technology
heritage

Coventry



Welcome to the 3 Cities

The 3 Cities are among the seven councils that make up the West Midlands Combined Authority and are part of the wider West Midlands.

Our collective goal is to harness a post-pandemic recovery, growing and re-animating our cities while delivering transformative change for citizens. We share our individual strengths, experience and diversity to provide transformative opportunities. We're seeking places to be connected, digitally-enabled anchors for investment, and hubs for education, skills and lifelong learning. Together, we are looking to provide at scale opportunities for innovation, and partnerships and programmes for government, private sector, investors and developers. Combined, this will bring benefits across all the cities, our partners, our citizens, the wider region and UK.

The climate emergency is recognised by all the cities, with net zero activities being developed to include a variety of commitments and programmes. These include transport decarbonisation, waste reduction, and natural capital improvements.

Our collaboration aims to address inequality and support inclusive growth, with a focus around retrofit, digital innovations, future mobility, and culture and the arts.

We are in the early stages of our thinking. Our first area of focus is seeking to address decarbonisation and fuel poverty through the retrofit of social homes, and we are looking for investors, suppliers and innovators to join us in achieving this.

**JOIN US
ON THIS EXCITING
AND AMBITIOUS
JOURNEY**

West Park, Wolverhampton

 **Birmingham**
City Council


Coventry City Council

**CITY of
WOLVERHAMPTON**
COUNCIL

Through collaboration, aligned ambition and levelling up we're seeking to address inequality and improve access to opportunities across our cities



Liveable truly sustainable 24 hour communities supporting life, work and play



Connected cities supporting active travel



Diverse and inclusive cities, which are safe and enjoyed by all



Investment ready and business friendly places



Digitally and data focused full fibre 5G internet to support digital transformation and high-speed access for businesses and citizens



Hubs for education, skills and lifelong learning developing and maintaining productive communities with skills for the future

We are focused across our four areas of activity

Decarbonisation and the route to net zero – Supporting energy efficiency, heating decarbonisation and renewable energy generation through driving forward the retrofit of affordable homes

Culture, sports and the arts – Reigniting our cities and supporting social and economic growth by unlocking the latent value and accelerating the ambitions and plans for our arts and culture sector

City mobility – Transforming the mobility of people, goods and services within our cities to reduce congestion, carbon, improve air quality and connectivity including supporting '15 minute communities'

Digital connectivity – Harnessing each of the cities' research, digital and technology expertise to support the development, testing and delivery of new digital and assistive technologies to solve some of the 3 Cities' complex challenges





And together,
we will achieve

net zero

In **2019**, the UK became the first major country to legislate a net-zero target for carbon emissions by **2050**.

Through our focus on retrofit, the 3 Cities aim to accelerate our net zero ambitions.

We commit to sharing our knowledge and co-learning to support acceleration towards the UK's 2050 net zero target

RETROFIT

The first focus for the 3 Cities is accelerating retrofit activities across social homes. Retrofit introduces new materials, products and technologies into existing buildings to reduce the energy needed, and therefore the CO2 emitted, whilst improving thermal comfort. Introducing renewable energy generation solutions such as photovoltaic, offsite wind renewables and battery storage provides the route to net zero.



The 3 Cities Retrofit is an initiative to develop an integrated retrofit programme across the cities and one which reflects the diversity of needs and housing portfolios of each city.

The scale - potentially some 700,000 homes and of the 165,000 social homes across the cities - combined with regional and city expertise and the collaborative approach of our pooled assets, means the 3 Cities are in an advantageous position to accelerate and drive forward the decarbonisation of homes.

By working together and with other partners, we will address barriers, build capacity, and develop a range of funding, financing, and delivery models for retrofit initially across social housing but looking beyond as well. Through our collaborative and integrated approach, the 3 Cities offers a single entry point for partners and investors to co-shape this at-scale initiative.



1.5°C

To keep global warming within 1.5°C, the UK needs to address the existing housing stock to deliver the seismic shift needed.



35%

Across the 3 Cities, 35% of CO2 emissions come from housing. For the UK, this is circa 28%.



1945

Almost 40% of UK homes pre-date 1945, making them some of the oldest and least insulated in Europe.

Our retrofit vision is driven by a political commitment and people with bold ambitions



Deborah Cadman OBE

Chief Executive
Birmingham City Council



“ Reaching net zero means tackling all emissions including from housing. With Birmingham having **the country’s largest council housing stock**, we know the task is significant. But, coming together as the 3 Cities retrofit represents a unique commitment of our cities and a huge opportunity to transform social homes and spur wider change in the market.

Our collective assets and expertise mean we’ve significant comparative advantages to advance one of the largest retrofit programmes in the country and bring significant benefits including carbon reduction, renewal of homes, levelling up, new jobs and accelerating innovation. We’re now seeking ambitious investors, businesses and partners to join us in supporting and shaping this transformative programme.”





Martin Reeves

Chief Executive
Coventry City Council



“ De-carbonisation and the retrofitting of homes at scale across the 3 Cities and the wider West Midlands, is one of the most significant challenges facing us. Whilst it’s daunting to conceptualise the scale of what we face, this collaborative project provides a series of once-in-a-generation opportunities to create jobs, new supply chains, future-proof homes and, perhaps most importantly, reduce and hopefully eradicate fuel poverty across our cities and the region.

The existing, undisputed assets we have on research & development, innovation, companies growing in the green futures and energy sector, allied to a commitment to help lead the UK’s sustainable future, makes this feel achievable, but only if we keep our ambitions high, never compromise and bring all key stakeholders with us. This is one of the most impactful programmes I have been involved in during twenty years of public service leadership.”





Tim Johnson

Chief Executive
City of Wolverhampton Council

CITY OF
WOLVERHAMPTON
COUNCIL



As three ambitious, progressive cities, we are determined to provide energetic leadership to enable us to be at the forefront of the UK's drive towards delivering a high quality, energy efficient, retrofitted housing stock that will provide great homes for local people.

We are intensively focused on developing an unrivalled expertise in shaping innovative, viable funding solutions, capable of being delivered at scale. In parallel to ensure the local employment benefits are captured we will focus on shaping an education, skills and employability system focused initially on meeting the needs arising from the initial retrofit opportunity. Our respective track records as centres of excellence and innovation across a range of growing economic sectors gives us the confidence that combining our expertise and resources will enable us to deliver a truly transformational outcome.”



To mitigate risk and maximise return on investment and co-benefits, we'll bring together all of the enablers of retrofit

Retrofit Solutions

Net zero can only be achieved through coordinated action across the areas of energy efficiency, heat decarbonisation and renewable energy generation to deliver economies of scale in our cities.

Collaboration and Partners

Engaging our established ecosystem of trusted partners in the region and nationally to support pilot and planned programmes of activity. These include key partners such as the WMCA, universities and colleges in our region, government and industry.

Funding and Financing

We will engage with the financial community and government to co-create blended investable net zero solutions which unlock the potential to aggregate revenue streams, maximise financial returns and deliver social and environmental co-benefits on the ground.

Supply Chain

The 3 Cities benefit from accessibility through a strong network of local entrepreneurial industry partners who are global leaders in their respective sectors. We will engage them early in the process to support us to articulate investible solutions and to underpin our ambition for our cities and the region to be centres of excellence for energy efficiency and energy transition.

Skills and Jobs

We have access to a highly skilled and diverse workforce. But we want to expand this further, working with skills providers, the WMCA and industry, to enable upskilling and secure the jobs to deliver retrofit.

Technology and R&D

Benefitting from being positioned in the manufacturing and transport centre of the UK, we are looking to expand our collaboration with innovation and investment partners to tackle some of the biggest challenges facing net zero and energy transition. We are seeking opportunities to build on current and planned innovation activity including through Tyseley Energy Park, the National Centre for Decarbonisation of Heat, the National Brownfield Institute and the new Gigafactory.

Data and Digital Ecosystem

Applying a data-driven approach, we will intelligently plan, design, deliver and measure retrofit interventions. We will encourage digital investment partners and technology start-ups to come forward to work with us around mobilising innovation opportunities in the space of data and technology.

Aligned to wider programmes to maximise synergy



Social housing upgrade, refurbishment and new build



Skills uplift, jobs and SME opportunities



Catalyst for accelerated development and use of green technologies and innovation across region



Expanding home EV charging points and energy uplift



Waste to energy and transformation of energy supply



Digital transformation including fibre rollout, and smart meters

Our comprehensive approach to retrofit brings together the three elements of energy efficiency improvements, heat decarbonisation and renewable energy generation



Energy Efficiency

The outcomes of high-quality energy efficiency measures are improved thermal comfort and reduced fuel bills which contribute to combatting fuel poverty. Improving energy efficiency could deliver over 40% of the Paris Agreement targeted carbon reductions, whilst increasing stock value and reducing maintenance costs.



Heating Decarbonisation

Decarbonisation of heat involves switching to innovative low carbon technologies to provide homes with clean sources of heat. District heating networks form a significant investment opportunity. They are an important part of the UK's plan to reduce carbon and cut bills – it is estimated that 18% of the UK's heat will need to come from these networks by 2050.



Renewable Energy Generation

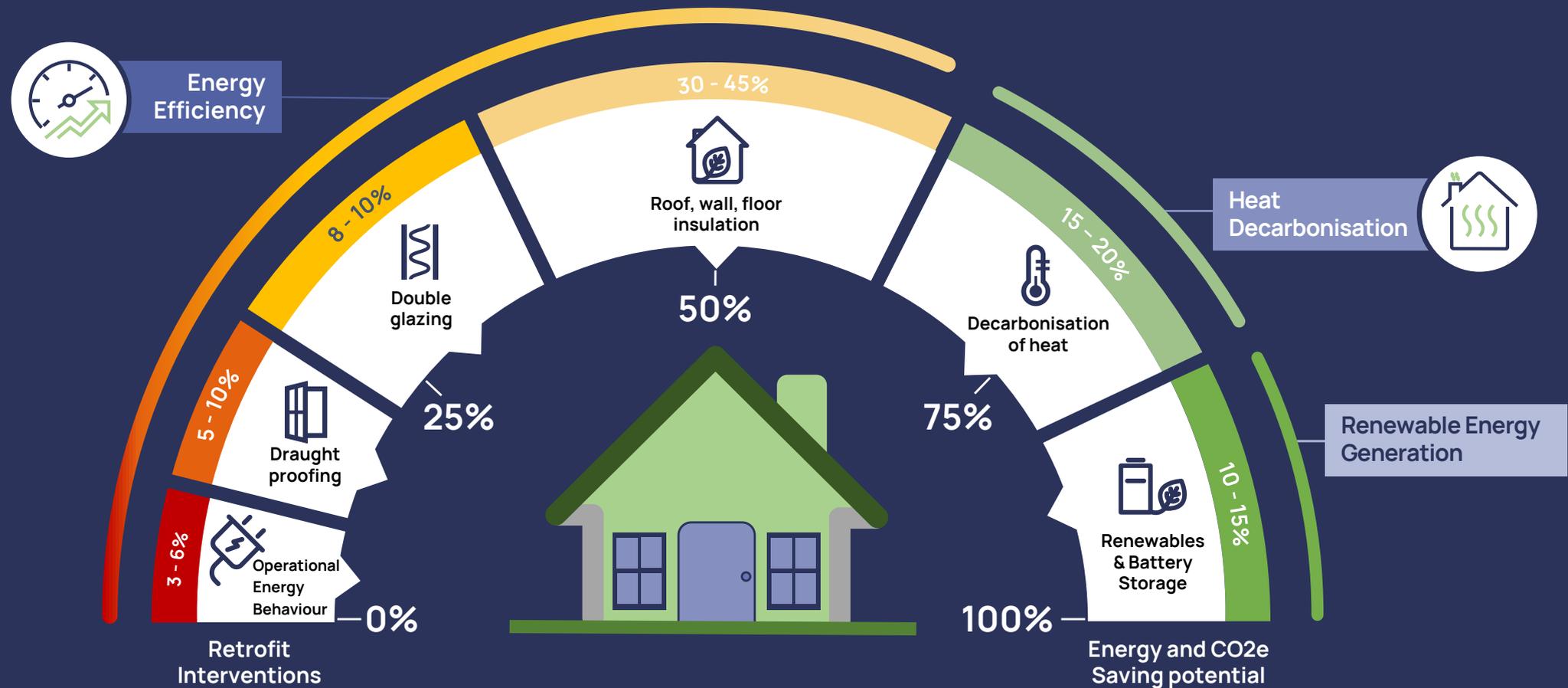
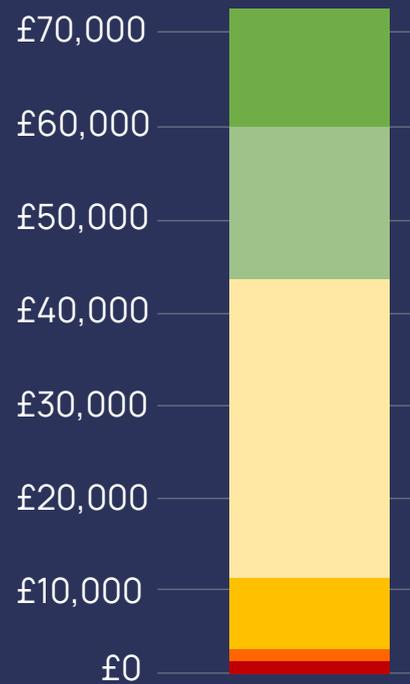
This involves individual or large-scale local electricity generation from renewable, or replenishable, sources of energy such as solar or wind to deliver net zero. Renewable energy generation and battery storage is already mainstream and arguably the component with the best economic profile and most proven investment case.



We will balance these retrofit solutions with carbon impact and capex requirements

This aims to realise significant energy and carbon savings through bringing together a coherent set of interventions to achieve **energy efficiency**, **heat decarbonisation** and **renewable energy generation**.

Cost Breakdown:



This visual presents an indicative average capex cost breakdown and impact on energy and carbon reduction as result of a low energy deep whole house domestic retrofit which meets the EnerPHit Retrofit standard as developed by the Passivhaus Trust.



Aggregated net zero investments will deliver a blend of benefits to our cities

Social Benefits – improving quality of life

- Better living conditions
- Warmer and healthier homes
- Improved community health and wellbeing
- Reduced energy bills
- Reduced fuel poverty
- Create low carbon job opportunities and upskilling

Economic Benefits – investible solutions

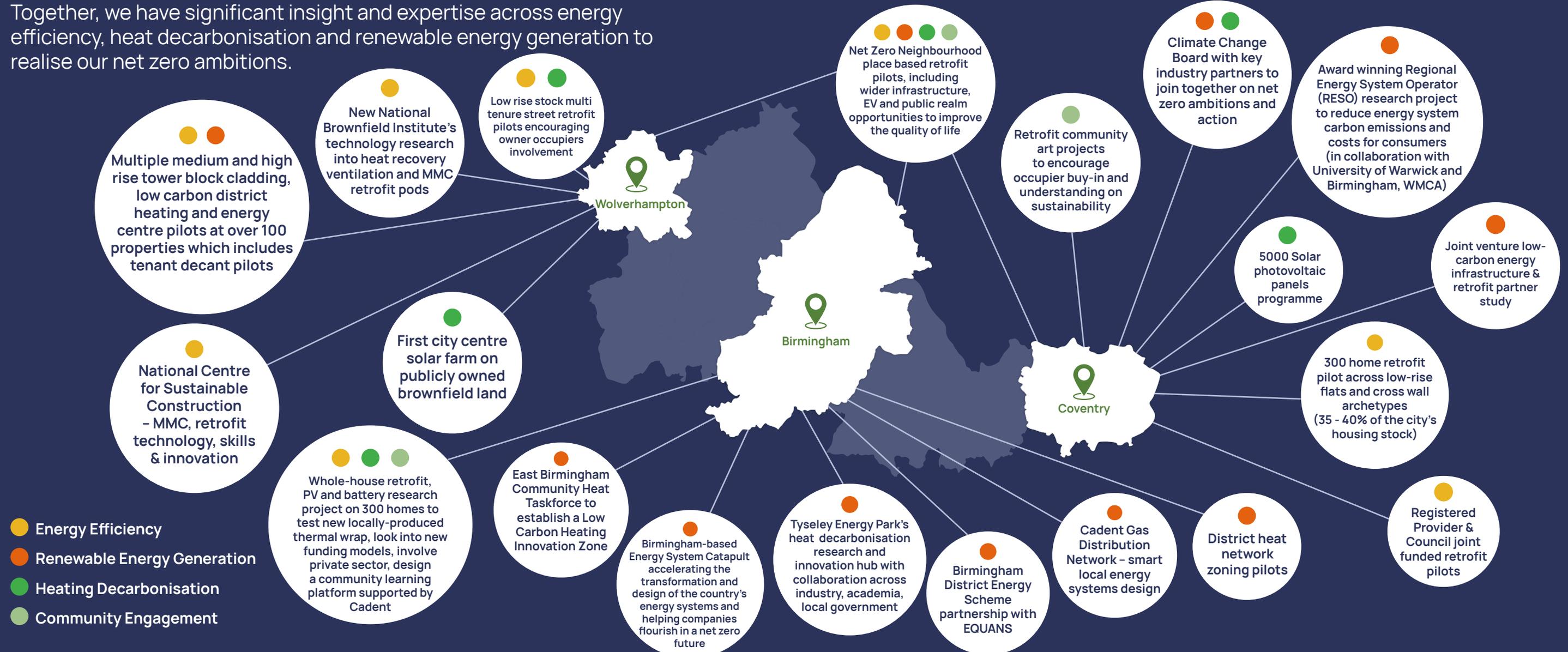
- Improved property and land value
- Reduced maintenance and operational costs
- Increased investment in manufacturers, contractors and start-ups
- Regional business and economic growth through new retrofit revenue streams

Environmental Benefits – delivering net zero

- Reduced carbon emissions
- Greater use of renewable resources
- Reduced energy usage

Today, our cities are leading the way in decarbonisation, with many retrofit initiatives able to be leveraged in the short to medium term

Together, we have significant insight and expertise across energy efficiency, heat decarbonisation and renewable energy generation to realise our net zero ambitions.



Collective action will catalyse a step change in retrofit

Through early engagements, we will seek to create an ecosystem of partners, bringing together partners across the public, private and third sectors to co-create.

Mobilising Central Government is a key step in **unlocking the potential of retrofit**, working with government partners to create funding, drive policy change and alignment, generate jobs, and encourage action and incentivisation. This includes collaboration with BEIS, DLUHC, DIT, DfE and the DWP.



Join us and be part of building our tomorrow

Today

- Capture existing benefits and lessons learnt from current retrofit activities across the 3 Cities
- Early market engagement with supply chain, government and investors
- Establish digital and data ecosystem
- Business case and investment models developed and agreed between partners
- First large scale pilots commence - co created with citizens
- Low carbon and retrofit training with skills providers
- Retrofit manufacturing and supply chain growth
- Increase in green jobs
- Retrofit activity acceleration
- 70% CO2e UK 2030 reduction target
- All social housing stock decarbonised
- 3 Cities deliver on CO2e neutral vision

Beyond 2050



c.700,000
homes in the cities



81,887
3 Cities council
owned housing stock



83,259
3 Cities registered
providers' owned stock



535,455
Privately owned housing stock
across the cities

INVEST

IN THE 3 CITIES RETROFIT



Retrofit presents a market making opportunity. The time to invest is now



c.700,000
homes in the cities



24.7 million
homes in England

There has never been a more exciting time to invest in our cities. With an **estimated £10-12bn worth** of retrofit opportunities, there are many ways to get involved.

We can provide investors with a single entry point to retrofit across the 3 Cities, connecting the local citizens, businesses and organisations to establish and then scale retrofit activities.

By developing the local supply chain, manufacturing base and digital ecosystem, and investing in research and development, we can create a flourishing and sustainable retrofit market around data, technology and delivery capability.

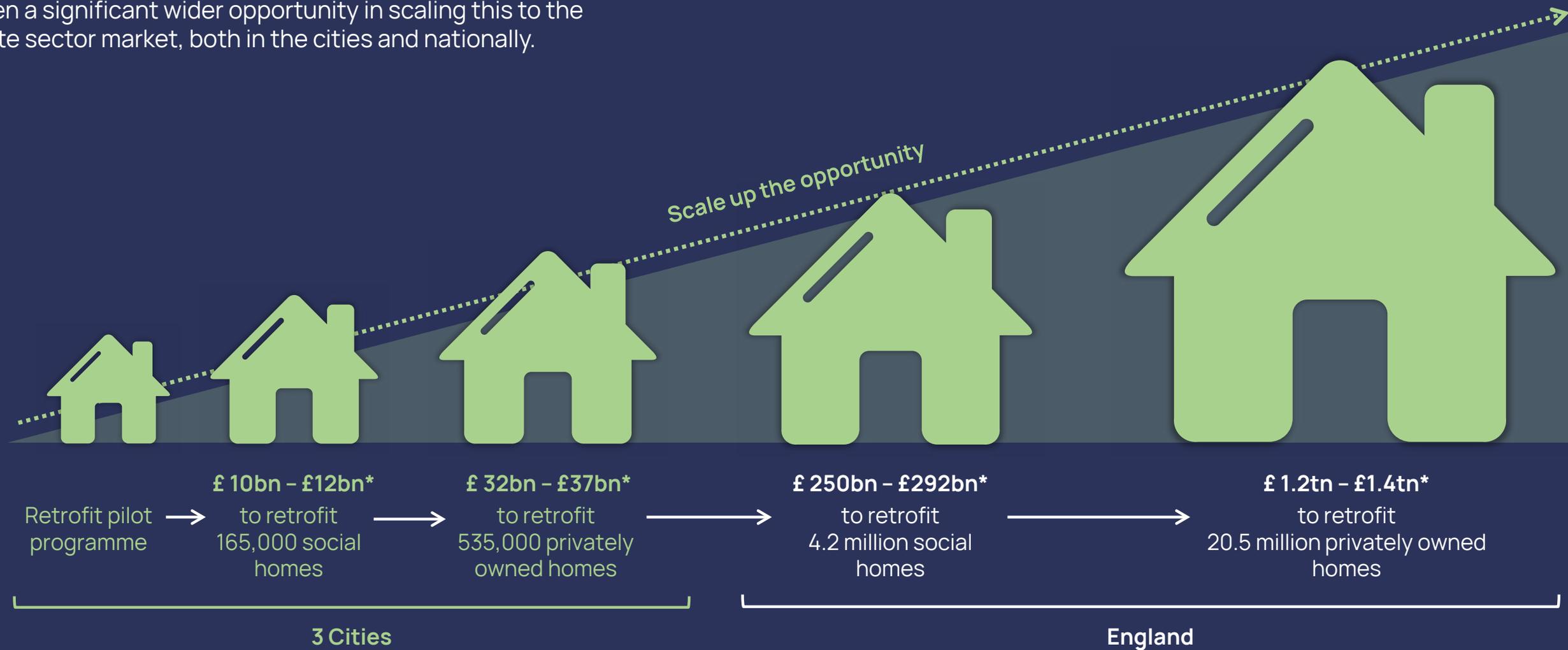
The scale of the market is significant and there is currently a substantial gap in UK capacity to meet forecasted demand so investing in the supply chain will be critical.

Across the 3 Cities, we have the infrastructure, people and ambition to lead in retrofit development and act as an enabler for the rest of the UK.

WE INVITE YOU TO BE PART OF THIS SUCCESS

Our early work will demonstrate the investment and delivery models required for retrofit at scale across social housing

There is then a significant wider opportunity in scaling this to the larger private sector market, both in the cities and nationally.



*Current cost modelling is based on whole house retrofit. Future modelling will consider scaling up efficiencies, innovation and energy generation. Home numbers from UK DCLG 2020 England data.

Achieving our ambitions will require a blend of funding and financing models



- Long term collaboration to co-fund, design and deliver **energy efficient** retrofit improvements
- Investment in **city, neighbourhood and individual level heating solutions** across tenures
- Investment in local public, private and co-owned **solar and wind energy generation**
- Partnerships to promote trusted products to private households and offer finance mechanisms for home owners
- **Low carbon Innovation and R&D technology** investment opportunities with our local **suppliers and manufacturing base** to make net zero affordable

- Government-backed loans and bonds offer relatively low-cost finance for delivery of capital projects
- Sustainable bonds can allow long-term financing of large-scale retrofit
- Environmental, Social, and Governance (ESG) loans enable investors to **demonstrate the environmental credentials** of a project and offer low-cost finance

- Central Government will play a vital role in **allocating funding** and encouraging retrofit delivery at scale through **incentivisation** and **policy alignment**
- The 3 Cities have already benefitted from UK government **green investment funding** including the Social Housing Decarbonisation Fund (with Coventry awarded £1.1m and WMCA £7.5m in 2022); Local Area Delivery 2/3 and Home Upgrade Grant (HUG) Fund
- Through conducting full housing stock, EPC data and community energy use assessments, we can ensure we are **ready to capitalise on funding** as it becomes available

Investment models will be developed in conjunction with PwC



SUPPLY

Manufacturing Technology Centre, Coventry

The cities sit within the region historically known as the '**workshop of the world**'. Today, the region is pioneering new inventions which drive the new wave of 'green' revolution. This is further bolstered by advanced manufacturing and construction sectors, low carbon and environmental technologies, modern methods of construction experience, and world class research and development centres.

As 41% of the West Midlands workforce is employed in **high carbon-omitting industries**, circa 283,000 West Midlands workers will need some form of upskilling and re-training to transition to the jobs that underpin our future net zero economy. The 3 Cities retrofit is part of that future jobs landscape and our net zero path.

Retrofit presents significant supply chain opportunities

This includes boosting demand for retrofit solutions and stimulating the market. By bringing together our collective assets, the 3 Cities will provide an opening for businesses large and small across different supply chain areas.



←..... Retrofit supply chain areas→

The 3 Cities will look to harness our industrial heritage and experience from **manufacturing and construction** to help design and build the kit for retrofit, bringing back and creating opportunities for the **local supply chain** and establishing green manufacturing at the heart of the industrial centre of the UK.

The programme will create **opportunities for skilled jobs**, essential for developing and maintaining the low carbon systems of the future. We will look to **develop the skills of a new generation of workforce** and **identify where existing skills and experience can be transferred** and enhanced from other industries to build the significant labour force required for retrofit.



Matching the supply with demand will be key to developing the retrofit supply chain

To meet growing retrofit needs, the 3 Cities provide a unique opportunity to engage with regional industries and draw upon their expertise through partnerships and joint ventures, thereby growing the supplier market and creating a future pipeline of work.

We have several areas of Competitive Advantage:

Advanced Manufacturing & Engineering, (AME): across the West Midlands Combined Authority. £16.4bn GVA is attributed to AME, which is 14.1% of the whole economy, higher than other regions.



ASTON MARTIN



JAGUAR



LAND-ROVER



Construction is a significant part of the local economy and key enabler of economic growth and job creation. Modular construction is estimated to be worth £2-3bn per year in the UK, with modular build growing by 25% annually.



MORGAN SINDALL

Balfour Beatty



Logistics & Transport Cluster: the 3 Cities region is recognised as a supply chain centre with a large logistics network. £5bn GVA is attributed to the logistics and transport sector within the region.

HS2



Birmingham Airport

Low Carbon & Environment Technologies contribute £3.6bn in GVA to the region's economy and form our competitive advantage in energy systems.

SEVERN TRENT

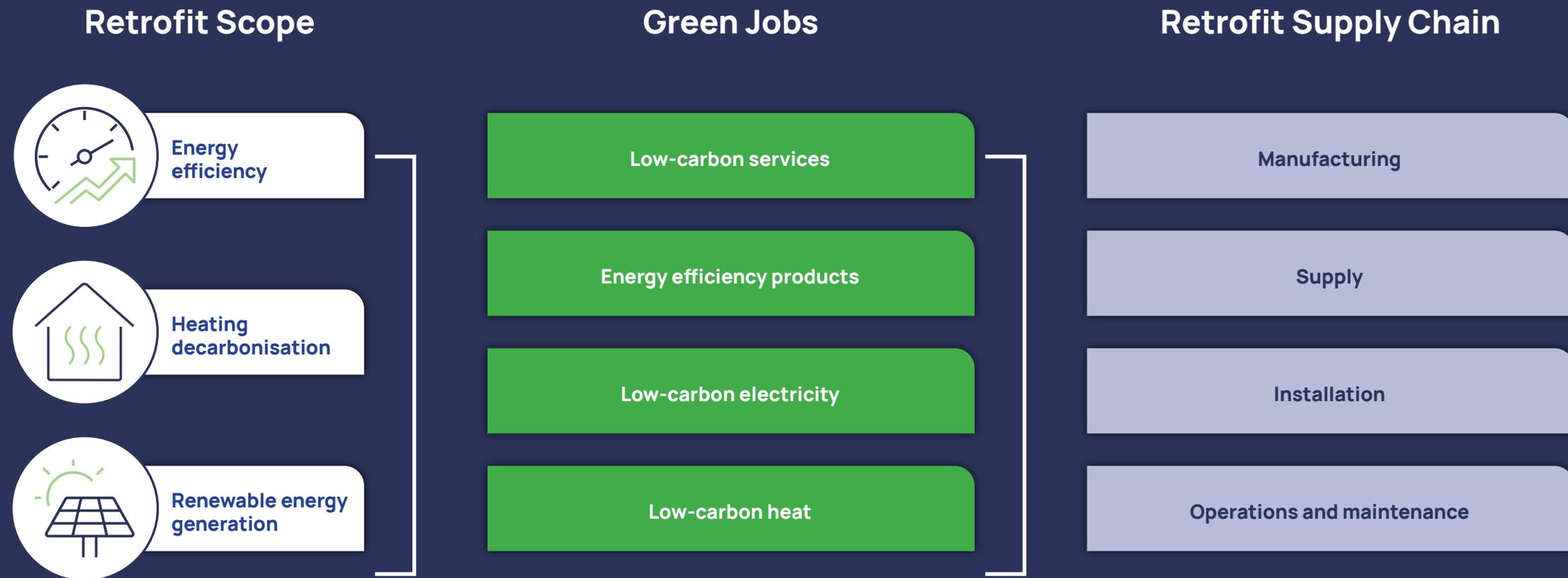
Cadent

nationalgrid



The acceleration of retrofit will require significant growth in the supply chain and workforce

To achieve our retrofit ambitions as the 3 Cities, we recognise that our activities must also include plans to grow the low carbon supply chain by focusing on the development of new skills within the labour market.

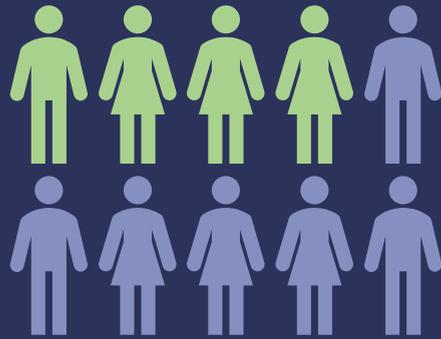


Join us as we journey towards a modernised, highly skilled labour market that will pioneer the future of these green jobs around housing in line with net zero commitments as well as wider opportunities in operations and maintenance

Across the 3 Cities, we already have a varied skill base to draw upon

We're ready to harness the opportunities that come from having one of the youngest and fastest growing populations across Europe, and the talented skills in our colleges and universities. Retrofit is a pathway to improve skills and create long lasting green jobs, directly benefitting local citizens.

Workforce



40%

of the population is younger than 25
- one of the youngest in Europe

Education



There are **9 universities** across the cities, including 2 in the World's Top 100, generating over **56,000 graduates** a year.

Includes University of Birmingham's **Sustainable Energy Research and Innovation Centre** and the **National Brownfield Institute** at Wolverhampton University, Europe's largest specialist built environment campus with a focus on MMC.

9 further education colleges providing our future skills and labour force within the cities.

Industry



The Local Government Association estimates by 2030, the cities will require an **additional 5,500 green jobs**

Together, the 3 Cities are the number one regional destination for **start-ups**



The **Manufacturing and Technology Centre** in Coventry is bridging the gap between academia and industry

National Centre for Decarbonisation of Heat at Tyseley Energy Park in Birmingham is a transitional energy cluster and collaborative partnership between business, academia, government and industry



The **Energy Research Accelerator**, the first truly embedded cross-disciplinary energy research hub in the UK, drawing on expertise of Midlands Innovation group of universities



The 3 Cities have more people employed in the **Advanced Engineering and Automotive sectors** than anywhere else in the UK. This presents a significant opportunity to support the new labour force required around retrofit.

The **National Centre for Sustainable Construction** in Wolverhampton is retraining workers in low carbon jobs to support the necessary skills development.

INNOVATE

NATIONAL
BROWNFIELD
INSTITUTE

The road to net zero carbon is largely uncharted and will require a significant amount of **collaboration, innovation and agility** to meet UK Government, WMCA and local authority climate targets and to reduce emissions.

The **opportunities** for technical and organisational **innovation** across **low carbon heat, energy efficiency** and **smart energy infrastructure** and **power generation** are vast.

The 3 Cities have an extensive track record working with **local industry** and **local knowledge partners** to take R&D projects through the pipeline from design to delivery.

We are **welcoming expressions of interest** from potential low carbon innovation and R&D investment partners to **increase the pace** and expand the scope of our **ambition** further.

There is significant opportunity for technology and product R&D and innovation

Innovation is a top priority for the 3 Cities in addressing the zero carbon challenges we face. Together, we can point to extensive examples of taking projects from innovation to design, build and launch to create breakthrough businesses and solve big problems.

To accelerate the pace, we are looking to collaborate with partners – supported by our local learning institutes and industry partners – to identify and test emerging products and technologies for market-readiness through our retrofit programme.

Our early work has identified opportunities for innovation across energy efficiency, heat decarbonisation and renewable energy generation. We are keen to learn quickly, share and leverage developing knowledge and insight to maximise our pilot activity and future mainstream roll out.

Examples of opportunities we are keen to explore with partners:



Development of customised retrofit packages of replicable solutions at individual household, neighbourhood and city level, which can be fabricated offsite to reduce costs, improve quality and speed up mass rollout



Local renewable heat and energy generation technology innovation in order to reduce product costs supported by appropriate local policy incentives



Piloting innovative solution packaging and delivery systems which can deal with the complexity of coordinating action in multiple sectors to deliver the speed of transition required and build investible business cases



Data and digital will form the backbone of successful market growth

The role of data, standards and digital tools is key to our journey to zero carbon. It will not only inform **investment decisions** and support a **robust business case**, but also provide the backbone to **measuring success** and **the continuous improvement needed to address the known and unknown** challenges ahead. This will require advancements in the scale and scope of the data captured, and how it is shared to **inform the social, industrial and infrastructure models** need to transform the way we work and live.

With the right partners we are looking to unlock this innovation opportunity using **housing stock data and digital tools** to bring together a coordinated set of **energy efficiency technologies** to deliver net zero in practice.

We are keen to attract investors and engage with technology start-ups to work with us on tackling some of the hardest and most critical challenges facing the energy transition, such as **artificial intelligence for energy, developing digital twins, and modernising energy data**. UK Government are focussed on supporting renewable energy innovation to bring the cost of technologies down.

A digitised energy system, taking advantage of advancements in digital technology (such as Smart Sensors, Industrial Internet of things (IIoT) and Big Data Analytics), will **bring together energy generation, transmission, storage, distribution, trading and consumption** to help deliver this shared vision. Join us.

We will share and leverage current knowledge and insight from local initiatives to maximise the potential for new innovators who come to our cities. Current initiatives include:



5G Coverage, Connectivity, IoT Innovation: The cities already have one of the largest 5G footprints in the UK. Coventry are leading the UK in full fibre roll out at pace and Birmingham's The Digital City Programme focusses on delivering Birmingham's hyperconnectivity strategy.



Housing stock data survey: WMCA is developing a full updated reliable current data set of regional housing stock energy efficiency. This housing stock data will form the basis for detailed business case development and financial modelling of investment opportunities.



Zero Emission Electric Vehicles & Infrastructure: WMCA is finalising an Infrastructure for Zero Emission Vehicles (IZEV) strategy to ensure that it can provide sufficient and appropriate infrastructure to allow the cost effective and fair transition to zero emission transport options by 2041. Coventry is one of only two cities in the UK to receive government funding to introduce a whole electric bus fleet, and ambitions are to roll this programme out across the region to support zero carbon ambitions.



Catapult Energy Systems: An independent convener who supports the cities to design future energy systems by providing evidence and insight that shapes digitalisation policy, regulation, business strategy and best practice.

JOIN US

We are seeking partners to co-shape and co-develop the models required for at-scale retrofit delivery.

Join us on this exciting journey.

3 CITIES



INVEST IN THE 3 CITIES

Join us in this exciting opportunity to establish new public-private relationships that address the big challenges of our cities

3 CITIES



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