

# DECARBONISE TODAY

FUTURE PROOF  
TOMORROW

The estate portfolio solutions



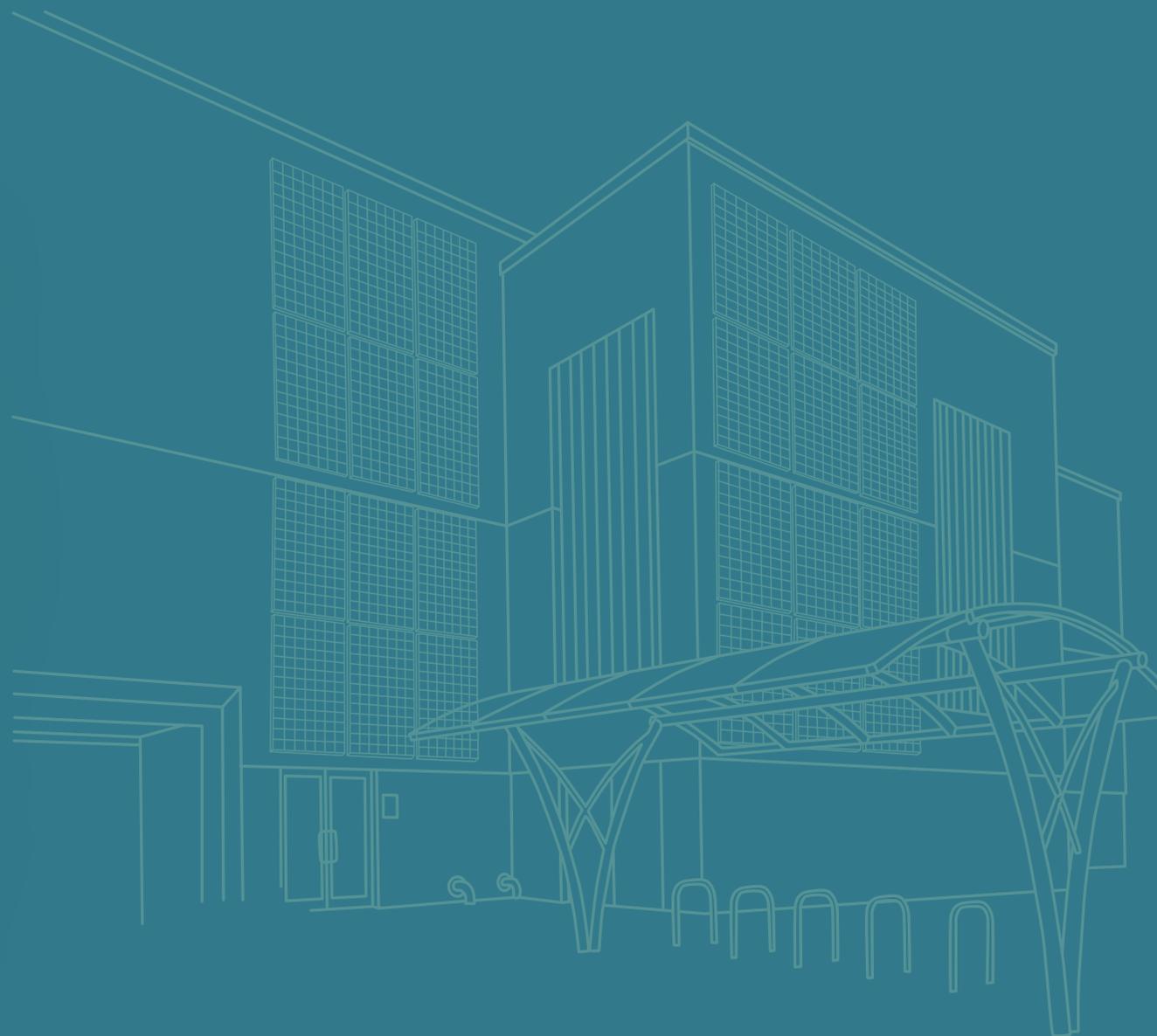
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# CONTENTS

FOREWARD TO DECARBONISATION WHITE PAPER	03
INTRODUCTION	04
<b>SECTION ONE</b>	
THE SCALE OF THE CHALLENGE	06
THE BALANCE SHEET	07
THE FUNDING CHALLENGE	08
SCALING SOLUTIONS	09
COLLABORATION AND SKILLS	10
<b>SECTION TWO</b>	
FINDING THE SOLUTIONS	13
CASE STUDIES	16
<b>SECTION THREE</b>	
CONCLUSION	19



# FOREWARD TO DECARBONISATION WHITE PAPER

JOHN WATERMAN, CHIEF OPERATING OFFICER

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The biggest producer of carbon in the future will be existing buildings: the spaces we live, work and play in today. However, being a sustainable business and committing to a positive legacy in the world isn't as simple as merely writing a press release and committing to changing the way you do things in the future. That's why six months ago, we launched Decarbonise Today: because leaving the best possible legacy not only starts today but involves making things right.

Decarbonisation is not about green window dressing, but about practical application of the most up to date thinking, the best of the industry's technology and approaches, and a commitment business-wide to offer solutions across the lifecycle of an estate. It's about getting closer to customers and their problems and offering viable, future proof solutions that add value to them as well as to the planet and society. It's about making sure that achieving this is simpler: that our customers are able to take action on the things that matter and leave a legacy to be proud of.

Having a dedicated decarbonisation service that our customers can draw upon means we can better support them with the ever growing problem of the carbon impact of their existing estate. This is alongside the confidence they can have in our commitment to sustainability in everything we do, led by our pioneering Now or Never strategy.

After six months of Decarbonise Today it is clear from the dialogue we have with our customers, partners and the wider industry that our approach is making a difference. It is something that blends our purpose and values, consistently evolves and improves, and puts our customers first. I firmly believe that in partnership, Willmott Dixon can support the industry in decarbonising today, so that we might future proof tomorrow.

**John Waterman**

Chief Operating Officer

# INTRODUCTION

JULIA BARRETT, CHIEF SUSTAINABILITY OFFICER, WILLMOTT DIXON

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## 4,171 days<sup>1</sup>

In 2019, the Government amended the Climate Change Act to legally enshrine its target of **reaching carbon net zero by 2050**.

That was followed by the introduction of an interim target of a **78% reduction by 2035<sup>2</sup>** – just over 4000 days away.

Given that the UK is currently still emitting more than **500 million tonnes of carbon dioxide every year**, the scale of the task is stark.

Through construction, day-to-day maintenance and operations, the built environment emits 39% of global carbon dioxide emissions<sup>3</sup>, and we have a responsibility to play our part.

## Change is needed now.

Based on the input from local authorities, industry consultants, clients, customers, and supply chain partners, this white paper delves into the challenges and opportunities of decarbonisation. It also showcases collaborative solutions that can be implemented to make sure we decarbonise today for a better tomorrow.

As the public sector looks at its estate with the goal of net zero carbon, it does so through the lens of rising energy costs, funding challenges and an ageing building stock.

The Government has estimated that the cost of decarbonising our public sector buildings could be up to £30 billion. However, more recent analysis by the Local Government Association suggests that councils alone will face a £3.4 billion funding gap in 2023-24.

With this figure already predicted to rise to £4.5 billion by 2025, and with an ongoing economic crisis that is impacting the public and private sector alike, the numbers are simply not going to add up unless more creative and innovative strategies are put in place.

Not only a matter of saving the planet and ensuring a just transition, the benefits of a sustainable approach will also ensure buildings that are fit for future climates, whilst reducing energy consumption and delivering the best possible outcomes for the health and wellbeing of people living, working, and learning in them.

The reasons for prioritising a sustainable future are many and we understand the long-term value this will bring when we consider refurbishment and new build projects.

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<sup>1</sup>The time from 1st August 2023 to 1st January 2035

<sup>2</sup>Compared to 1990 levels - <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035>

<sup>3</sup>International Energy Agency, 2019 Global Status Report for Buildings and Construction (United Nations Environment Programme, 2019), <https://www.worldgbc.org/news-media/2019-global-status-report-buildings-and-construction>.

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# SECTION ONE

# THE SCALE OF THE CHALLENGE

## KEY FIGURES

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**85%** of councils plan to achieve net zero by 2050 or sooner

### HOWEVER

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**38%** of councillors say they are behind schedule on this

**68%** believe that they will not meet their net zero commitment if their council does not decarbonise its public building stock

### AND

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**58%** say the lack of funding to decarbonise at scale is the top challenge faced when attempting this project

When it comes to decarbonisation, the crux of the challenge isn't just reducing environmental damage – it is also financial.

Research that Willmott Dixon carried out as part of the creation of our Decarbonise Today strategy has illustrated the difficulty of the task faced when it comes to the public sector estate.

Polling of more than 500 councillors from across the UK showed that just under half of them believed that unless work was done to retrofit and decarbonise their building stock, energy bills would soon become unaffordable.

Worryingly, 15% of those polled warned that their public buildings would become unusable, clearly framing the issue as one that is about the pounds and pence as it is tonnes of carbon dioxide emitted.

These findings paint a worrisome picture for the future of these public sector estates and will also be echoing fears in the private sector, who are not immune to rising energy costs and the negative impact 'leaky' inefficient buildings will be costing.

A clear majority (82%) said that their local authority has a plan in place for delivering on net zero, something which is a significant positive – particularly when viewed alongside the fact that more than 500 local authorities have declared climate emergencies.

While there are still many stumbling blocks on the way to that being achieved, they can be broken down into four main areas.

**“We are at significant risk of a 1.5-to-2-degree temperature increase globally, so we must plan our buildings and infrastructure for this.”**

**Julie Hirigoyen, UK Green Building Council**

# THE BALANCE SHEET

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There is no hiding from the fact that both the public and private sector are under budget pressures, with councils especially being severely impacted by the current economic climate.

While our recent survey suggested that two thirds (63%) of councillors say their local authority has pledged to achieve net zero carbon emissions by 2030 or sooner, more than half were concerned that scaling up efforts to decarbonise and retrofit their public building stock is being impacted by budget shortfalls.

Allocating the necessary capital expenditure required to decarbonise a local authority's estate at a time when core services are being cut is a huge challenge, but long-term thinking needs to be applied to look at the whole life cost and see the advantage of the reduced operational expenditure such changes can bring.

The value that decarbonisation projects bring to an estate beyond sustainability should also be a factor when we consider cost and value, and viewing them as an investment that can improve not only the longevity of your estate, but also the overall value.

Taking this approach also reduces the risk of climate-related asset stranding, where estates suffer from some of their buildings being prematurely written down or become liabilities due to their carbon impact – something which is hugely costly at a time where funding is already strangled.

There are new legal requirements to improve the environmental ratings of commercial properties with a minimum requirement of EPC band E from 1st April 2023, and future proposals to increase minimum standards to EPC band C 1 April 2027. This is coupled with organisations increasingly looking to lease offices that have strong environmental credentials. These factors are causing asset owners to accelerate their decarbonisation plans.

However things may change, balancing risks with costs will always remain imperative across public and private sectors, so addressing this issue is critical in delivering decarbonisation.

**“When we are looking at decarbonisation, you are also improving the quality, the value and the longevity of your estate. It is never just a decarbonisation project. At a time when public funds are in such constraints, it feels like a no brainer to invest in estate portfolios and look at the full cost and the value benefits in the whole.”**

**Julie Hirigoyen, UK Green Building Council**

# THE FUNDING CHALLENGE

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Hand-in-hand with the question of cost is the source of funding to deliver major infrastructure changes. Funding for sustainability measures through the Public Sector Decarbonisation Scheme is highly sought after, with just 461 of the 1,642 projects applying for the first tranche of grants being successful<sup>1</sup>, meaning that nearly three quarters of the applications received no central government support from the £1bn pot.

Other sources of funding are equally highly sought after and the highly-competitive environment for public funding is ever-present.

While our research showed that 30% of councillors rank retrofitting and decarbonising existing buildings as their top priority for low carbon infrastructure projects, more than half of councillors (56%) do not know what their council's budget is for retrofitting and decarbonising their public building stock.

With many councils under huge budgetary pressure and access to funding limited, it is of little surprise that local authorities aren't able to progress with the purpose and direction they would like to.

**“Supporting asset owners to have the confidence to access funding and decarbonise building stock is key.”**

*Julia Barrett, Chief Sustainability Officer, Willmott Dixon*



# SCALING SOLUTIONS

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Part of the cost challenge is the sheer scale of decarbonising estates. With approximately £500bn of property currently identified as being part of the public estate<sup>2</sup>, the work that needs to be done to reach carbon net zero across the entire portfolio can feel daunting.

The vast size of this estate is naturally going to play a massive part in how local authorities decarbonise their wider operations. It is unsurprising that almost half (48%) of the councillors polled in our survey cited that the scale of the challenge is a barrier, with nearly seven in ten admitting that if work is not carried out to retrofit and decarbonise their public building stock, they will be unable to meet their green targets.

To make progress on this front, it is vital that local authorities identify their baseline and develop a holistic decarbonisation plan as part of their wider asset management strategy. These plans should assess the current status of buildings, identify the necessary work required, consider both issues and opportunities, and lastly have a prioritised delivery plan.

**“Not everyone has a plan in place to truly understand what the problem is with their estate and actually how they can go about addressing that problem. One of the first things to do is to take a step back and do a review.”**

David Atkinson, National Head of Land and Development Willmott Dixon



# COLLABORATION AND SKILLS

An issue of the scale of decarbonising the public estate needs to be tackled with genuine collaboration across the board – not just from within local authorities, but with the private sector as well. This not only brings in external expertise, but also grows the skills within internal teams for future use,

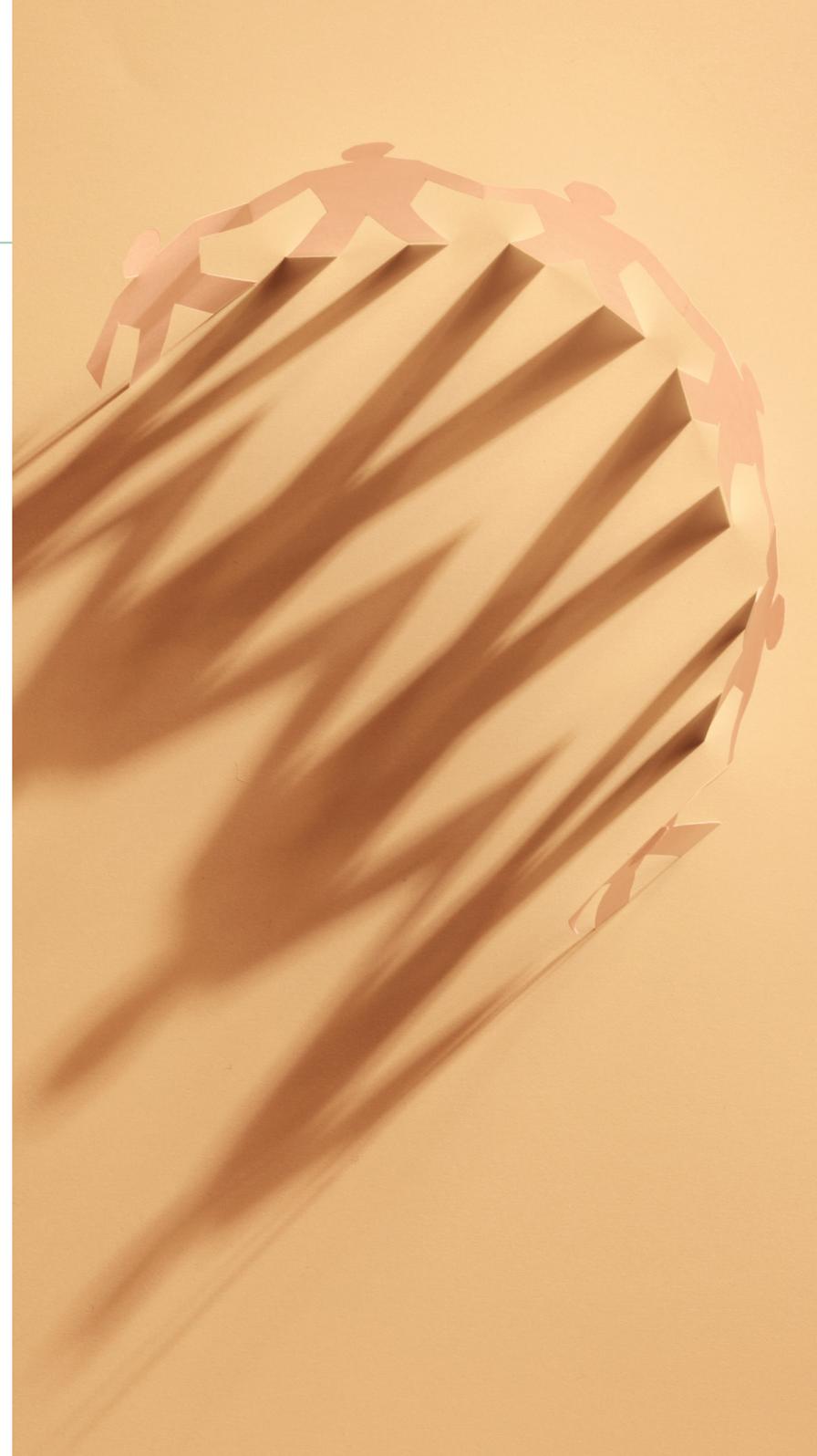
More than one in five councillors (21%) we asked as part of our survey highlighted they are having to outsource retrofit and decarbonisation work to external advisors and specialists due to a lack of knowledge of retrofit projects within the council. This does not need to be seen as an issue, but as an opportunity for the public sector to work closely with the wider private sector supply chain to ensure that the best and most suitable solutions are found.

**“Sharing of skills is needed as we have limited specialists with the technical knowledge needed to advise on projects, so proper supply chain collaboration is important, and it needs to happen as early as possible.”**

Sarah Thorne, Metropolitan Police

<sup>1</sup> Public Sector Decarbonisation Scheme summary report, January 2022 - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1051074/psds-phase-1-summary-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1051074/psds-phase-1-summary-report.pdf)

<sup>2</sup> The State of the Estate 2020-21 - [https://www.gov.uk/government/publications/state-of-the-estate-in-2020-2021/state-of-the-estate-in-2020-2021#:~:text=The%20central%20government%20properties%20covered,Book\)%20of%20all%20government%20property.](https://www.gov.uk/government/publications/state-of-the-estate-in-2020-2021/state-of-the-estate-in-2020-2021#:~:text=The%20central%20government%20properties%20covered,Book)%20of%20all%20government%20property.)



“With warnings from almost half of councils that the situation is so serious they may not be able to keep the lights on, time is rapidly running out for many local authorities to get a viable plan in place to ensure their public buildings remain fit for purpose.

“It’s hard to believe that a year on from the pledges made at COP26 in Glasgow, more than half (56%) of councillors are still unsure what their budget is for retrofitting and decarbonising their estates. There is no doubt that funding remains a huge barrier to this vital work being carried out, leaving many councils struggling to remain on target to meet net zero.”

“We are in a climate change emergency. It is predicted that by the 2040s<sup>1</sup>, the average UK temperature during summer’s hottest month will increase by about six degrees to 27C – giving us roughly the same climate as Barcelona. This means that many of our buildings could become unusable during the summer months, and we need to adapt them both to reduce carbon emissions and to ensure they are comfortable during hot periods. Time is rapidly running out for many local authorities to get a viable plan in place to ensure their public buildings remain fit for purpose.”

Jo Mills, Strategic Advisor

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<sup>1</sup>The Royal Meteorological Society's International Journal of Climatology July 2021

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# SECTION TWO

# FINDING THE SOLUTIONS

Addressing these key challenges is critical to meeting the ambitious climate goals that the UK government is striving for, and the best way to achieve this is through a holistic, end-to-end approach.

"Solutions need to be staged - decarbonisation won't be solved overnight."

Helena Rivers, AECOM



# FINDING THE SOLUTIONS

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## SET YOUR OBJECTIVES

Outlining your ambitions will ensure the brief and subsequent business case to support your long-term goals. Then you can set a staged approach to meeting measurable goals and ensure savings are highlighted along the way.

## DO YOUR RESEARCH

Undertaking an analysis of your existing stock through site visits, surveys and information sharing will provide insight into the current performance of your buildings and create a hierarchy of needs that identifies where the gains can be achieved, and how they affect your capital programme.

## FORMULATE YOUR PLAN

Once all the insights are obtained, a plan for how to reach your goals can be developed. By taking a whole life cost approach, you will be able to see the long-term benefits more clearly, balancing this against ongoing operational expenditure.

## WORK IN COLLABORATION

Build collaboration into projects from the outset. Once you have established the status of your estate, engage with a wide supply chain and specialist consultant partners to find the best skills and solutions for your approach, ensuring that innovations are shared for the common benefit.

## IDENTIFY AND SECURE FUNDING

With the design and approach agreed, work with your partners across the supply chain to secure as much finance as possible for the project and identify funding strategies that work in both the short and long term.

## MINIMISE DISRUPTION IN DELIVERY

Whether your solutions rely on retrofit or new build, use this opportunity to think innovatively and engage with supply chain partners to design the works and the programme in a way that delivers smooth landings, with minimal downtime and reduced need for decanting or closure.

## IT DOESN'T END AT HANDOVER

The handover period is key to building success not only for user experience, but for ensuring that net zero in operation is achieved. Work with your supply chain to engage with the building's end users to ensure that the handover maximises the use of performance data, as well as the need for ongoing monitoring and review of data to inform and take learnings from future projects.

“We have spent time investing in pilot projects to give us lessons learned and to give us confidence to keep taking steps to securing funding. It is so important to grasp any finding opportunities, and starting smaller scale is a great way to start. This has grown our ambitions to the point that we have been confident enough to submit multi-site and multi-year project funding at a value of £9million worth of grant funding over 15 projects, through the Public Sector Decarbonisation Scheme.”

Sarah Thorne, Metropolitan Police

“Education and commissioning with building users is key to help ensure sustainable solutions are used effectively, long after the initial building works have finished.”

Sarah Thorne, Metropolitan Police

# CASE STUDIES

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## HULL CITY COUNCIL

**VALUE: £9m**

**ESTIMATED SAVINGS: £175.37 per property, per year**

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Fortem, part of the Willmott Dixon group, undertook a review and analysis of a range of social property housing styles, to inform a city-wide programme of investment in its housing stock.

Fortem worked in close partnership with Hull City Council to support the council's ambition to make social housing more energy efficient, our system designer advised on the most suitable solution and system design for each property with a view of a whole house retrofit.

The programme was designed to significantly improve energy efficiency as well the aesthetics of the area and value of the properties. The homes remained occupied, and we liaised closely with residents throughout the delivery programme.



# CASE STUDIES

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## SOMERSET COUNTY COUNCIL

VALUE: £7m

ESTIMATED SAVINGS: 105,000kWh/annum

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Somerset County Council commissioned Willmott Dixon to deliver a programme of decarbonisation works to deliver measurable carbon and energy savings.

At Somerset County Library, we installed new LED lighting and used the existing distribution system to upgrade the air handling units. By adopting an approach to minimise disruption and distraction, the buildings remained fully operational during works.

Over at Somerset County Hall, we delivered an estate-wide programme of initiatives. These included replacement windows; enhanced roof insulation; new cladding; installation of an air source heat pump, and installation of photovoltaics.



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# SECTION THREE

# CONCLUSION

KELLY CREWS, HEAD OF DECARBONISATION, WILLMOTT DIXON

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**This white paper has shown that while the financial and physical challenges of decarbonisation remain prevalent, solutions can be found through careful planning and decisive action.**

By understanding your assets, you can develop a decarbonisation strategy for your public estate that not only helps you with scoping, designing, and delivering works programmes, but also identify the funding solutions that bring the right balance of cost and value.

Our research shows that just two in five councillors believe that their council is on track to deliver on its net zero commitment, but the tide is slowly turning as ever-increasing numbers of councils acknowledge the scale of the task ahead.

While we earlier identified the speed at which the clock is ticking down towards the Government's ambitious climate targets, it is important to realise that institutional change takes time, but by having a plan that focuses on a collaborative approach, you can find the best solutions for your portfolio.

It is a marathon, not a sprint - but to reach net zero, we must plan carefully to decarbonise today for a better tomorrow.

By the public and private sector working in lock-step, we can accelerate the decarbonisation journey and reach the targets that will ensure a better future for our planet.

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