



West Midlands
Combined Authority

WMCA Board

Date	19 th March 2021
Report title	WM2041 Five Year Plan: 2021 - 2026
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Report has been considered by	Overview and Scrutiny (8 th March 2021) Environment and Energy Board (10 th March 2021)

Recommendation(s) for action or decision:

The WMCA Board is recommended to:

1. Receive the independent advice given to the WMCA by WSP on the first Five Year Plan.
2. Agree the need to adopt the 'Accelerated' scenario to deliver the first Five Year Plan and set the region on course for net zero carbon by 2041.
3. Agree the delivery plans presented in this paper to accelerate the WMCA work on net zero.
4. Authorise the allocation of £5.1million from the Investment Programme to fund the development of the priority initiatives set out in Section 3, subject to the extension of the Investment Programme affordable limit being agreed.

Purpose

The development of the Five Year Plan (FYP) to meet the WM2041 net zero ambition has been supported by the commissioning of WSP to provide an independent evidence base as to how this might be achieved. This report summarises the independent advice and outcomes from that work for the Combined Authority Board. The report also provides an outline of the

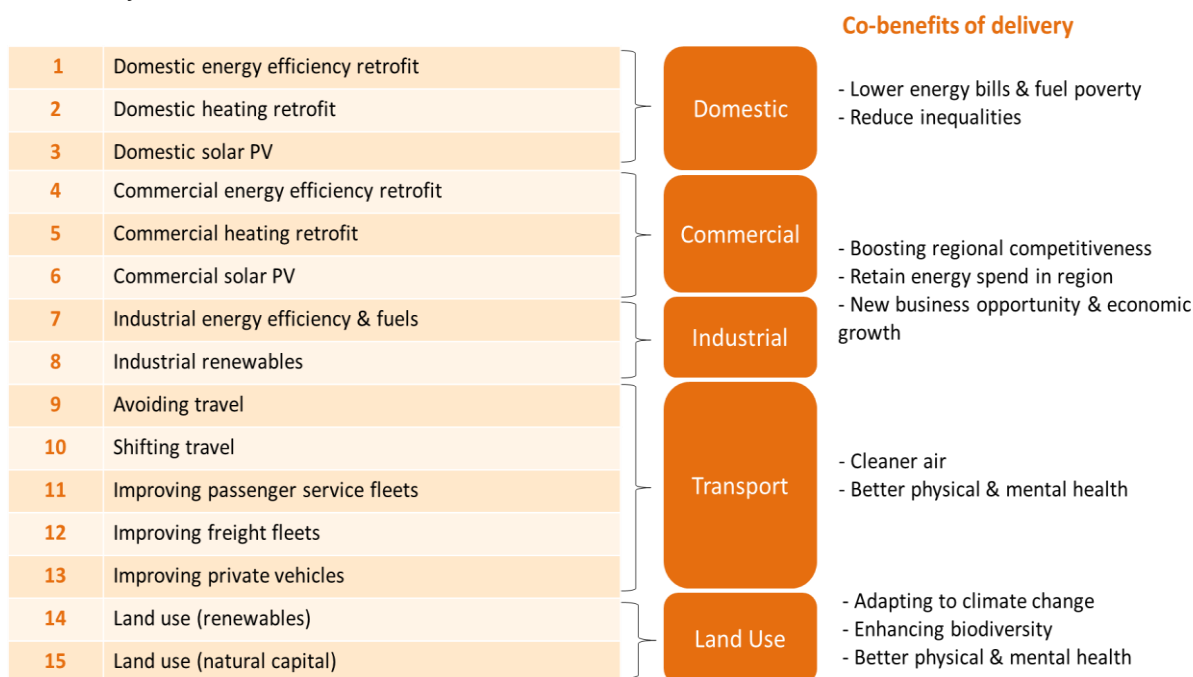
next steps for delivery (the summary of the WSP work is attached for information, but this Board paper highlights the salient points; the full technical report is available on request).

2. Background

- 2.1 Following the approval of *WM2041: A Programme for Implementing an Environmental Recovery* in June 2020, the WMCA and stakeholders committed to producing five-year delivery plans (four in total) to indicate the programmes that would need to be put in place to deliver the overall goal of net zero carbon target for the West Midlands by 2041.
- 2.2 A tender was issued for consultancy support for the FYP in July 2020. This was developed with input from low carbon leads in the constituent local authorities as well as with a WMCA cross-directorate working group. WSP were awarded the contract and work began in September 2020. They have since presented updates of their work to the October 2020 and December 2020 Environment and Energy Boards, as well as Strategic Transport Board in November 2020 and Energy Capital Board in December 2020. In February 2021, the Environment and Energy Board had a special meeting to review the evidence base and WSP's proposals for a FYP.
- 2.3 The FYP aims to indicate how we create the right conditions for accelerating delivery and raising ambition to position the West Midlands as a leader in addressing climate change and futureproofing the region. This is done through exploring the social and economic, as well as environmental, benefits for delivering net zero, e.g. creating jobs, achieving better social outcomes and, building healthier, happier and better connected places to live. The plan presented here will be challenging but presents significant opportunities for people and businesses in the West Midlands, for example by 2026 we could see 21,000 new jobs across numerous sectors – in the first FYP, these will particularly be in the domestic retrofit sector and in the electrification of transport.
- 2.4 In addition, this FYP enables the WMCA to position itself favourably to respond to, and deliver, ambitions being set out by the UK government in recent (and upcoming) policy initiatives and legislation, all of which carry economic opportunity. These include the Ten Point Plan for a Green Industrial Revolution; the recent Energy White Paper; and in 2021, it is also expected that the Environment Bill will receive Royal Assent. The WMCA is also making preparations to have a high profile as part of the COP26 activities this year.
- 2.5 The development of the FYP has involved a huge stakeholder engagement exercise. WSP, and the WMCA Environment Team, have engaged extensively with constituent local authorities on the plan to ensure that people are aware of the findings and the areas where we are suggesting that coordination at a regional level makes sense for delivery. This has included presenting findings to respective climate change boards at Birmingham, Dudley, Sandwell and Wolverhampton. Engagement has also taken place through 1:1 meetings and working groups with industry, universities, environmental NGOs etc. In total, over 240 individuals across 97 different organisations and institutions have been consulted as part of the plan.
- 2.6 This FYP report represents independent advice from WSP to the WMCA from which we will work to deliver the recommended actions (outlined in Paragraph 2.14 below) in collaboration with stakeholders from across the region.

Modelling and goals for 2021-2026

- 2.7 The modelling that has taken place to produce the first FYP has identified the measures that will need to be taken to reach net zero. These take into account: the maturity of technology, public acceptance of measures, ensuring a just transition, enabling the creation of jobs, and the transition of the West Midlands economy to a net zero future.
- 2.8 The modelling takes business as usual (BAU) as the starting point, on which the other recommended measures build. BAU includes:
- The carbon factor of the electricity grid as it continues to decarbonise
 - Minimum Energy Efficiency Standards (MEES)
 - Housing growth
 - Commercial growth
 - Electrification / hydrogen use in transport
 - Local authority decarbonisation targets for their own estate
 - Other organisation’s decarbonisation targets
 - Other committed projects across the region (including renewable energy projects etc).
- 2.9 From the modelling, the additional recommended measures fall broadly into retrofit (domestic and commercial); addressing industrial emissions; transport-related measures and strategic land use (exploring both tree planting and use of land for large-scale renewable generation). An overview of those goals and some of the co-benefits of delivery is shown below:



*The areas of waste and offsetting are not considered in this analysis

- 2.10 In the WSP report, each goal is taken in turn, exploring the delivery at low, medium, high and very high levels of implementation. The option is there to combine very high outcomes in some areas that are more progressed with medium/ low outcomes in others. A ‘West Midlands Carbon Calculator’ has been developed by WSP to sit alongside the FYP to enable the exploration of future scenarios. This will be made publicly available for everyone to use.

- 2.11 The top five decarbonisation priorities, which have been identified as having the greatest impact in carbon terms, are:
1. Domestic energy efficiency measures and heating retrofit
 2. Commercial energy efficiency measures
 3. Modal shift towards active travel measures
 4. Increased uptake of electric vehicles
 5. Planting trees and enhancing natural capital
- 2.12 Understanding what needs to be prioritised, dependencies and the sequencing of implementation will also be important. For example, planting trees and enhancing natural capital will not reduce carbon significantly by 2026, but we know we need to do this at significant scale in the context of reaching net zero by 2041. An example of a key dependency would be that effective heating retrofit is dependent on energy efficiency measures also having been undertaken in homes.
- 2.13 Using a combination of the measures identified, 3 scenarios have been developed to achieve net zero. These are:
- Moderate: this is beyond 'business as usual' delivery pace, and accelerates activity in selected sectors, but will only achieve a 37% reduction in carbon emissions from 2021 - 2041. This is not the recommended route for delivery.
 - Accelerated (outlined in more detail in Paragraph 2.14). A much more rapid and aggressive delivery pace across sectors, with most goals set at a "high" implementation rate. This will achieve a 94% reduction in carbon emissions by 2041 with the final 6% currently needing to be addressed through offsetting, although as new technologies emerge we will update how this could be met.
 - Maximum. It is at the limit or beyond what it is technically possible, even ignoring legislative competence and finance restrictions. It would require large behaviour change from people and could create unintended consequences for a just transition. For this reason, this has not been recommended, but can be explored by those seeking to understand what is required and whether the 2041 ambition can be achieved through a more aggressive trajectory.
- 2.14 The independent advice, provided by WSP, recommends the WMCA should adopt the Accelerated scenario in the first FYP. Modelling for the goals and scenarios provides an indication of the delivery required to reach net zero. The specific level of interventions will be developed through policy and business cases, for example, the detail of the transport goals will be subject to development of the new Local Transport Plan and they are only intended as an indication of how the West Midlands could decarbonise each sector.

Required level of interventions on different goals to achieve the Accelerated Scenario

	1. Domestic Energy Efficiency	2. Domestic Heating Retrofit	3. Domestic PV	4. Commercial Energy Efficiency	5. Commercial Heating Retrofit	6. Commercial PV	7. Industrial Energy Efficiency	8. Industrial PV	9. Avoiding Travel	10. Shifting Travel	11. Improving Travel (Bus / Taxi)	12. Improving Travel (HGV)	13. Improving Travel (Accelerate)	14. Land Use - Renewables	15. Natural Capital
Very High															
High															
Medium															
Low															

In practical terms, this means:

Goal	Accelerated scenario deployment to 2026	Accelerated scenario deployment for net zero
1. Domestic energy efficiency	294,000 homes	1.1m homes (100%)
2. Domestic heating system	292,000 homes	1.1m homes (100%)
3. Domestic photovoltaics	415MWp (116,000 dwellings, out of 1,178,260)	830MWp
4. Commercial energy efficiency	37,000 buildings	73,400 buildings
5. Commercial heating retrofit	37,000 buildings	73,400 buildings
6. Commercial photovoltaics	353MWp (7,060 buildings, out of 74,040)	705MWp
7. Industrial energy efficiency	10% energy efficiency, 17% deployment of H2 and 20% CCS for high temp.	15% energy efficiency, 33% deployment of H2 and 40% CCS for high temp.
8. Industrial microgeneration	96MWp (960 systems, out of 27,180 industrial buildings)	96MWp
9. Avoid	9% people telecommuting and 6.25% reduction in trips	35% people telecommuting (50% of the time), 25% less personal / retail trips

10. Shift	59% trips of by car	Shift to 35% of trips by car
11. Improve travel (bus and taxi)	100% electrification by 2030	100% taxis & buses electrification
12. Improve travel (HGVs)	25% of HGVs are electrified	100% of HGVs are electrified
13. Improve travel (accelerated EVs)	15% of cars are electrified	100% of cars are electrified
14. Land use - renewables	30MW wind and 224MWp solar	59MW wind and 448MWp of solar potential
15. Land use - natural capital	13% forest cover/20% peri-urban areas	13% WMCA tree coverage

- 2.15 Following this Accelerated path to net zero will mean a 33% emissions reduction by 2026 (against a 2016 baseline). This will result in a highly ambitious route to net zero by 2041, allowing for the commitment to ensure a just transition that does not leave anyone behind (our commitment in *#WM2041: Actions to meet the climate crisis with inclusivity, prosperity and fairness*). The forecast cost of this ambition is £4.3bn by 2026 and delivery could create 21,000 additional new direct jobs in low-carbon sectors.
- 2.16 On the just transition specifically, the Paris Agreement acknowledges ‘the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities’. In the context of this FYP, and subsequent work in relation to WM2041, this will require intensive engagement with the regional workforce in all sectors and industries to enable effective and fair transition to net zero. We will work with trades unions, industry bodies, chambers of commerce, LEPs and others to deliver on this.
- 2.17 Successful delivery of many of the goals is dependent on a number of conditions, in particular having:
- public hearts and minds support for the policies and actions e.g. in transport, land-use and domestic goals;
 - integrated infrastructure planning and place-based input to regulatory mechanisms governing transport, housing and energy, e.g. requiring further devolution from a UK Government, working with Local Highway Authority and Planning Authority; and
 - the mechanisms and political support in place at all levels to secure the necessary increased funding levels which will needed to be found in terms of revenue and capital expenditure;
 - a supply chain that is engaged with the transition and a skilled workforce able to meet demand.

Investment and financing

- 2.18 The gross investment cost (excluding issues around system management, industry and some transport goals) is estimated to be **£4.3bn by 2026** and **£15.3bn** over the 20-year

period. Costs associated with transport are only covered in a limited sense, with detail to be developed in the upcoming Local Transport Plan (LTP) review.

The £4.3bn gross investment cost identified for the FYP does not represent costs to the CA directly but will need to come from multiple sources depending on the nature of the intervention/ programme. In some instances there are business cases for the costs to be covered by the private sector (e.g. broadband for home working). In others WMCA and other public sector bodies will be needed to play different roles, which will all require revenue funding:

- to facilitate delivery (e.g. investment in renewables);
- provide support through regulation to drive the transition (e.g. through planning and building regulations);
- resource to access central government funding (e.g. for EV charging);
- to unlock private investment through blended green finance mechanisms;
- provide direct funding, especially where there is significant social value in doing so.

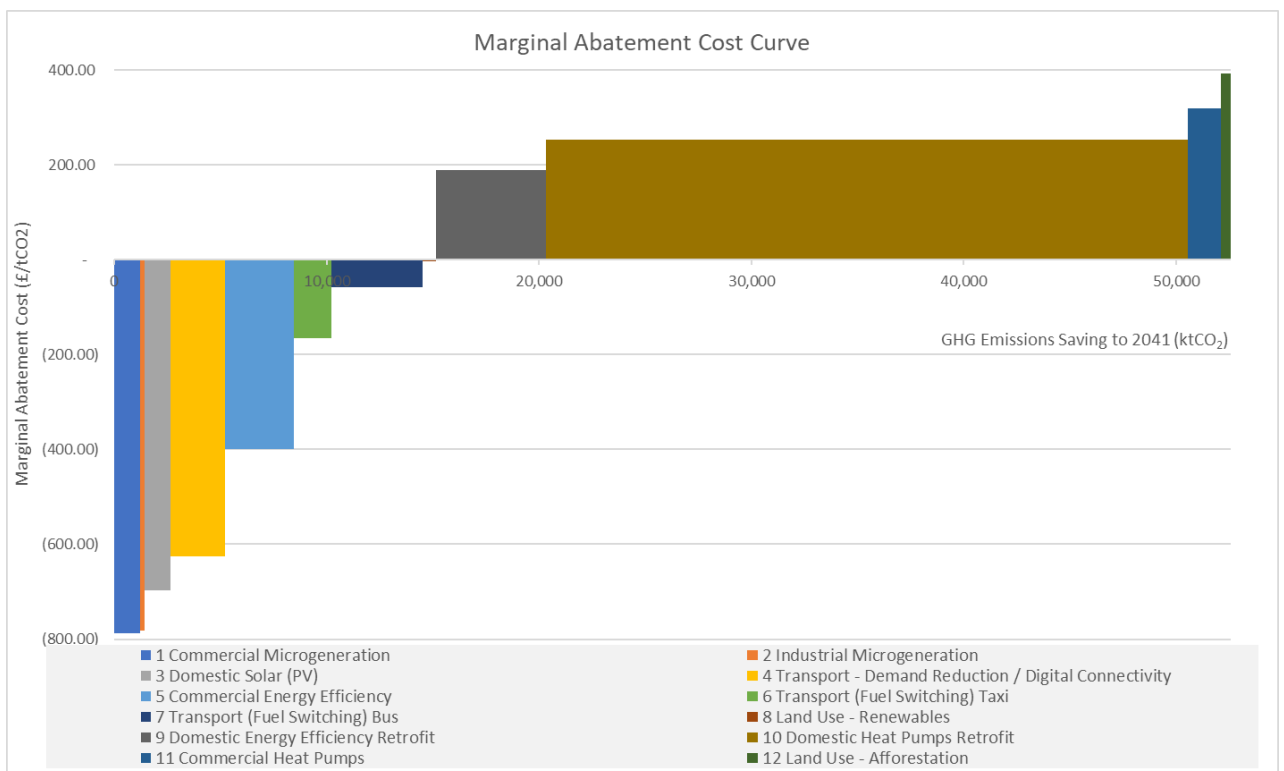
2.19 Addressing the 15 goals identified will mostly require initial investment to get programmes up-and-running. Some of this will need to come from public sector sources, including devolution of resource from national government as part of the UK's programme for carbon reduction. However, for many things there may also be a commercial return on investment, which will require us to continue to develop relationships with industry, landowners and the finance sector in order to realise the opportunities that reaching net zero in the West Midlands presents.

The table below indicates the variety of potential funding sources that could be used to deliver the goals.

Name	Gross Investment Costs to 2026	Gross Investment Costs to 2041	Potential Funding Source
Domestic Energy Efficiency Retrofit	£0.62 billion	£2.5 billion	- Green loans where homeowners are able to pay - Public funding for local authority owned stock - Property owners for rented accommodation
Domestic Heat Pumps Retrofit	£2.28 billion	£9.6 billion	- Grant funding or incentives - Social landlords' investment - Private homeowners voluntarily and later mandatorily
Domestic Solar (PV)	£332 million	£664 million	- Property owners - Green loans - Private sector investment
Commercial Energy Efficiency	£365 million	£731 million	- Property owners voluntarily and later mandatorily - Green loans - Private sector investment
Commercial Heat Pumps	£76 million	£321 million	- Property owners voluntarily and later mandatorily

			- Public Sector funding or incentives
Commercial Microgeneration	£270 million	£540 million	- Property owners - Green loans - Private sector investment
Industrial Microgeneration	£72 million	£72 million	- Property owners - Green loans - Private sector investment
Transport - Demand Reduction	£23 million	£91 million	- Mainly infrastructure providers - Potential gap funding for hard to reach areas - Seed funding for private organisations for community / delivery hubs
Transport (Fuel Switching) Taxi / Bus	£178 million	£356 million	- Private finance - Green loans
Land Use - Natural Capital	£57 million	£229 million	- Public Sector – Environmental Land Management Scheme - Private sector – Carbon offsetting - New Development – Biodiversity Net Gain
Land Use - Renewables	£71 million	£283 million	- Private finance

2.20 The Marginal Abatement Cost Curve (MACC) in the report indicates broadly which measures will be more or less cost effective:



The areas to the left of the graph are those where there is a commercial return on investment. The width of the bar on the chart indicates the potential carbon saving that could be achieved. It is important to note, however, that the costs do not include the start-up and management of the programme itself (e.g. the resource/ staffing requirements, business case development etc) and so should be used as a guide only.

- 2.21 No significant additional funding has yet been secured for this although some potential small-scale investment opportunities are being worked through, such as the roll-out of all-electric buses in Coventry. The FYP will require investment through a variety of routes, including local authorities, central government, private sector investment as well as WMCA. Many of the interventions outlined in this document will require comprehensive business cases to be developed in order to ascertain more accurate costs/benefits and produce the detail for the financing and delivery. The WMCA is currently working to explore the different financing mechanisms that will need to be put in place in order to deliver on all aspects of the plan, through a Green and Social Finance Working Group.

There is also the need to resource the delivery programme set out in Section 2.25 below and following and to put in place the capacity required to co-ordinate such an ambitious agenda. To this end, it is proposed that resources are made available from the Investment Fund, subject to the extension to the Investment Programme affordable limit, to drive forward this programme.

Investment Fund Proposals

- 2.22 It is proposed that Investment Fund resources are used for the following purposes:

a) Net Zero Neighbourhood Demonstrator

Evidence suggests that retrofit-at-scale is unlikely to be achieved in the short-term without significant incentive and intervention and that this will be most likely achieved at a neighbourhood scale. Our proposal is to invest in a 'demonstrator' neighbourhood where we can show the potential to unlock a place-based approach to achieving several decarbonisation goals. The Net Zero Neighbourhood might include some of the following:

- A programme of street-by-street 'deep retrofit' and domestic heat and energy initiatives;
- New build investment in Zero Carbon Homes;
- Future mobility innovations, EV charging infrastructure and car-sharing clubs;
- Smart energy, micro-generation and digital infrastructure;
- Investment in the public realm, natural capital and green space.

There is significant scope for using this approach to unlock co-investment through a range of sources including existing housing and transport programmes; private sector investment; government retrofit programmes including LAD2; the Network Innovation Challenge fund; and other green investment vehicles. Similar approaches are being developed in West Yorkshire and Edinburgh. There is also consideration that the programme could be developed as a competition. Any programme of this nature will also include detailed arrangements concerning monitoring and evaluation, returns on investment and governance and accountability structures.

A more detailed proposal will need to be worked up in partnership with local authority officers and would be subject to detailed financial and legal due diligence and formal agreement by the Investment Board.

b) Sustainable Market for Affordable Retrofit Technologies (SMART) Hub

Despite the scale of the challenge concerning domestic energy efficiency and retrofit, the market remains under-developed with significant challenges both in terms of generating demand and stimulating supply chains. This proposal is to create a core capacity in the region to unlock funding and activate a sustainable market for affordable retrofit technologies. This will involve:

- Creating dedicated capacity to work more closely with local authority housing and retrofit teams to access government funding, take a more systematic approach to stock assessment and streamline complex referral routes and procurement frameworks;
- Working closely with the retrofit supply chain to develop and produce heat pumps and other new retrofit products at scale in conjunction with wider MMC initiatives;
- Working closely with skills providers to ensure we maximise training and apprenticeship opportunities in relation to this burgeoning market.

c) Core capacity to drive forward the wider Five Year Plan Delivery Programme

Section 2.25 below and following sets out a broad programme of activity across many of the FYP goals stimulating new activity and unlocking finance to support investment. At present the large majority of this programme is being driven by a small, dedicated team at the WMCA and at Energy Capital. To this end we propose a carefully targeted increase in core capacity in a small number of key priority areas including:

- Energy infrastructure including smart energy networks and EV charging;
- Green manufacturing, industrial decarbonisation and the circular economy;
- Green finance and investment;
- Natural capital and place-based approaches;
- Behaviour change, business engagement and lobbying;
- Energy and environment data, innovation and economy.

d) Natural Capital Programme

The importance of natural capital in both mitigating climate change and boosting resilience to it is highlighted in the FYP. In addition to this, we know natural capital provides significant co-benefits in terms of health and well-being to people and communities. And yet access to good quality green space varies significantly across the region, as has been highlighted in a recently commissioned study by the New Economics Foundation.

To this end we propose creating a Community Green Grants programme for up to 100 small, targeted natural capital grants that aim to build the community response to climate change. Combined with the additional core capacity funding referenced above and a new Natural Capital Board, this would create a stimulus package for nature across the region, helping to address the surge in demand for parks and greenspace seen since the start of the pandemic. A stimulus of this kind would also represent a decisive response to the HM Treasury-commissioned *Dasgupta Review*, which make a strong economic case for investment in natural capital.

Delivery ‘next steps’ and governance structures

2.23 The FYP will require new routes for delivery; these are sketched out in outline delivery plans in WSP’s report. Successful delivery of these next steps will require us to have effective institutional architecture in place to drive forward the necessary changes; this will be the central aim of the actions in the systems management and governance section (2.31). It will also require us to work across different geographies, including with

the three LEPs and with our non-constituent authorities, to coordinate action and change in energy, transport, resources, natural capital and the built environment.

2.24 Delivery will also require that we step out of a ‘business as usual’ approach. The transition to net zero cannot be achieved by minimal change to existing projects and programmes of work. Instead, it will require bold steps in delivery of housing, energy, resource efficiency, natural capital and transport. It will also require all stakeholders to make this step change together – local authorities will have a critical role to play but so will almost every aspect of the Combined Authority and its governance structure. Net Zero will need to be high on everybody’s agenda.

2.25 The recommendation to the CA Board is that we accelerate work focused on 17 ‘big moves’, aligned to the main priorities of FYP Accelerated Scenario, many of which are already underway. Delivery of these will need to be underpinned by collaboration across local authorities and regional stakeholders, ensuring that we are enabling a just transition and delivering at the pace and scale to keep on track for net zero by 2041. These next steps are summarised in the table below and then described in the subsequent section of the report.

FYP Theme	Delivery next steps
Domestic	<ul style="list-style-type: none"> • SMART Hub for Retrofit Delivery and Net Zero Neighbourhood Model • Warm Homes Save Lives Programme
Commercial	<ul style="list-style-type: none"> • Commercial Green Energy Taskforce • Local Area Energy Planning & Network Connections Fund
Industrial	<ul style="list-style-type: none"> • Industrial Decarbonisation and Green Manufacturing Taskforce • Circular Economy Roadmap
Transport	<ul style="list-style-type: none"> • Updated Local Transport Plan • Infrastructure for Zero Emissions Vehicles (IZEV) Strategy
Land Use	<ul style="list-style-type: none"> • Natural Capital Board and WM Natural Capital Programme • Community Green Grants Programme • Large-scale Renewables Programme
Systems Management & governance	<ul style="list-style-type: none"> • Green Skills Strategy • WM2041 Behaviour Change and Business Pledge roll-out • Place-based data hub • Net Zero Citizens’ Panel • WMCA Carbon Literacy Programme • Whole-system governance including Net Zero Delivery Board

2.26 Domestic Retrofit and Energy Efficiency

2.26.1 Establish a SMART Hub for retrofit delivery

This would be a partnership programme between the WMCA housing and environment teams, local authorities and Energy Capital, to develop a long-term market for retrofit

that is supported by manufacturers in the region. It also means that we should not be building new homes that will require retrofit in a few years' time. The SMART (Sustainable Market for Affordable Retrofit Technologies (SMART) Hub will bring together dedicated capacity to work more closely with local authority housing and retrofit teams and drive forward the regional retrofit agenda.

The next steps involve demonstrating ambition across both retrofit and new build at scale, showing how advanced technologies can be deployed, but also stimulating the able to pay market, encouraging consequential behavioural change activity and establishing the scale of financing and delivery vehicles necessary to stimulate the manufacturing and installation supply chain to invest and grow over the long term.

2.26.2 Net Zero Neighbourhood Demonstrator.

A Net Zero Neighbourhood would focus on delivery of energy efficiency and retrofit for buildings, it is at this spatial level that the finance can be unlocked and the benefits of a programme can be realised in terms of a wider contribution to place-making that cannot be achieved through a 'one home at a time' approach. This could therefore also include opportunities for community energy schemes, public realm and natural capital improvement, active travel, EV car clubs and digital infrastructure that all contribute to the creation of a truly net zero neighbourhood that brings broader health and wellbeing and economic outcomes. This programme could potentially be kick started by helping Local Authorities to draw down their funding allocations available under the Local Authority Delivery (LAD) 2 Scheme funded by BEIS. The criteria for selecting the neighbourhood within the West Midlands will be developed, but would include opportunities for adjacent investment (e.g. in transport, housing, natural capital and energy), level of deprivation and fuel poverty, housing stock type and tenure and availability of LAD 2 funding for area based programmes.

2.26.3 Warm Homes Saves Lives fuel poverty programme

The West Midlands has the highest fuel poverty gap of all the English regions and the second highest incidence of fuel poverty. Without addressing these foundations, the energy efficiency measures outlined in the FYP will be undermined and the carbon savings sought from the domestic market will not be achieved. Building on our existing programme, new work will include the demonstration of new CRM referral system, better targeted energy efficiency measures delivered through partnerships with providers, potentially through a more co-ordinated provider framework, the development of an innovative Social Impact Bond mechanism for fuel poverty and lobbying of BEIS for future ECO funding to be further devolved to LAs. This co-ordinated approach will help to shape and access national programmes and ensure the long-term funding is directed to where it is needed most in the West Midlands.

2.27 Commercial Efficiency and Local Area Energy Planning

2.27.1 Commercial Green Energy Taskforce.

The WSP report indicates that there are significant carbon savings to be made in the commercial sector. Whilst the technologies might be the same as the domestic sector, the approach to delivery is different. Establishing this taskforce will be the first step in developing a clear understanding of how we accelerate this work in the West Midlands in terms of retrofitting and realising the renewable potential of commercial buildings.

2.27.2 Local Area Energy Plan and a revolving Network Connections Fund

This would address the pressing short-term cost barriers to decarbonisation and green growth to overcome the problem of high cost of network connections for electric charging infrastructure, new developments such as the Giga Factory and other demands on the energy networks, through demand aggregation. Building on the Energy Transition project supported by the SED Board in August 2020, in order to identify where investment should take place, the WMCA should develop a Local Area Energy Plan and investment in shared expert capacity through Energy Capital to map out the implications of transport, housing and industry's decarbonisation plans and represent the requirements of the region through the Distribution Network Operators Business Planning processes, which determine where investment is made in the region's energy infrastructure and where it is left to the market to invest. This would need to be expanded beyond Coventry City, where Energy Capital's current innovation project (RESO) is focused, and to enable deeper engagement with Western Power Distribution and Cadent across the whole region and identify ways to affordably fund network connections that support the region's decarbonisation plans.

2.28 Industrial Decarbonisation and the Circular Economy

2.28.1 A LEP-led Industrial Decarbonisation and Green Manufacturing Taskforce.

The WSP report indicates that there are significant carbon savings to be made in the industrial sector, but exploration into this issue has shown the complexity of solutions, including new technology and circular economy opportunities. There is an opportunity to share learning from the Black Country Industrial Cluster Decarbonisation programme funded by BEIS. It is therefore recommended that the WMCA works with the LEPs to establish a special Taskforce to develop a collaborative work programme on these issues and supports the Black Country in accessing future funding and explore opportunities for expanding solutions identified across the wider West Midlands.

2.28.2 Circular Economy Routemap.

The circular economy was highlighted as a priority in the June 2020 CA Board paper, *WM2041: A Programme for Implementing an Environmental Recovery*. Since then, a circular economy taskforce has been established and Useful Projects have been commissioned to support the development of a routemap by mid-2021, to understand where the West Midlands is uniquely placed to accelerate work on the circular economy. This will build on regional strengths, including: the circular economy work in Wolverhampton (including Wolverhampton University); the Repowering the Black Country work, exploring the potential of circular economy in industrial processes; and the activity that supports business engagement, for example International Synergies' work on industrial symbiosis. The routemap will provide a clear understanding of what our next steps should be, the 'big wins' for the West Midland and the investment required to deliver.

2.29 Transport

2.29.1 An updated Local Transport Plan. WMCA Board approved the approach for an updated LTP at its meeting on 24th July 2020. A review of the LTP is underway and is being progressed with the constituent authorities. Developing and managing the West Midlands LTP is one of WMCA's key statutory functions undertaken by TfWM. The current LTP, Movement for Growth, was adopted in 2016 but significant developments and changes have taken place in the last 5 years including increasing concerns regarding the climate emergency. The FYP outlines indicative mode shares and

desirable reductions in transport carbon emissions. These could be progressed by enabling changes in consumer choices in line with the proposed “avoid, shift, improve” framework for reducing emissions and already adopted re-mode, re-route, re-time and remove journeys approach in the WMCA adopted Congestion Management Plan (containing a significant behaviour change programme). The scale and pace of change will be heavily dependent on public hearts and minds support for demand managed policies in transport and land-use policy changes required to support such a scale of change. The new LTP will be published in early 2022.

2.29.2 Infrastructure for Zero Emissions Vehicles (IZEV) Strategy.

This strategy, due to be completed in March 2021, builds on the West Midlands & Warwickshire ULEV Strategy approved by WMCA Board in January 2020, the decision by the CA Board to support the development of a Network of Transit Charging Stations across the region and the work of Midlands Connect. The strategy will recommend a partnership programme which reaches beyond TfWM’s current role in strategic action planning for the Park and Ride estate and exploring options for collaboration in delivery of chargepoint infrastructure, into integrated infrastructure planning and delivery. It recognises the regional priority to facilitate the decarbonisation of public sector transport options and support modal shift, whilst at the same time enabling those individuals and service providers that do require private vehicles, to confidently make the transition to zero emission vehicles, and supporting vehicle manufacturers in the transition from the production of internal combustion engine to electrically powered vehicles.

This programme recognises the unique role that local authorities have in being able to bring together operators with complimentary charging requirements to establish charging hubs, supported by OZEV funding, which can be developed around the needs of the users and the availability of network capacity. A template for this approach can be seen in the development of Coventry and Warwickshire’s Low Carbon Transport and Energy Hub or Tyseley Energy Park. This programme recognises the value of collaboration between transport and energy network operators, both to overcome short term barriers such as electrical network capacity costs and set the region on a pathway to achieve longer term goals in transport decarbonisation such as the provision of infrastructure to support the development of biofuel and hydrogen solutions.

2.30 Land Use

2.30.1 Natural Capital Action Plan and Board.

We will bring together stakeholders from across the region to provide support for work on biodiversity net gain and nature-based solutions. This will include a wide range of issues, including: tree planting, taking responsibility for a Local Nature Recovery Strategy and work to support funding and roll out of our Natural Capital Programme. Delivery will happen in conjunction with local partners and also in working with large scale infrastructure projects like the Commonwealth Games and HS2. An initial natural capital action plan for the WMCA is being presented to the March 2021 Environment and Energy Board.

2.30.2 Large-scale renewable energy projects.

The FYP identifies opportunities to use land within the WMCA area that is ideally suited for utility scale solar and wind electricity generation. The areas identified should be mapped, investigated further and prioritised where considered suitable. Working closely with key stakeholders including local authorities, communities and landowners, the WMCA and Energy Capital public sector can play an important role though helping

developers to link up with end users to establish Power Purchase Agreements, supporting community energy groups to bring forward schemes, and even investing in schemes to create a return on investment which could be reinvested to support other areas of delivery of WM2041. This programme can be scaled up depending on the availability of funds, from a small neighbourhood community scheme to support the SMART hub programme, to larger developments supporting industrial and commercial decarbonisation.

2.30.3 Community Green Grants.

The importance of natural capital in both mitigating climate change, as well as boosting resilience to it, is highlighted in the FYP. In addition to this, we know natural capital provides significant co-benefits in terms of health and well-being to people and communities. However, access to green space is not equitable, a situation that has been brought into sharp relief during the Covid-19 lockdowns. Using data that WMCA and other regional partners have available, we know the neighbourhoods where there is currently deficit of access to green space and are seeking to work with delivery partners across the West Midlands to provide community grants to roll out projects to create, enhance and improve access.

2.31 Skills, Systems Management and Governance

2.31.1 Green Skills Strategy.

Work with Colleges West Midlands and the Jobs and Skills Delivery Board to develop a Green Skills Strategy linked closely with investment and job growth, introducing skills training in key areas that exhibit early job demand and demand for new or updated skills, in particular:

- Vehicle manufacture / technology (including Battery operatives and increased EV/ hybrid vehicle maintenance and repair)
- Transport (including Planning, management and co-ordination)
- Built environment (including Heat pump installers – specifically F gas, Retrofit co-ordinators and customer management, Electrical installers, Commercial, procurement, project management)
- New industry / manufacture (including Product design)
- Energy (including Solar installers)
- Tech (including Smart systems, data analysis, software design, Use of 5G)

2.31.2 Behaviour change and business pledge roll out.

There was a strong message coming through the original consultation on WM2041 that people across the region wanted more information on what they could do to reduce their carbon footprint. Behaviour change has also emerged very strongly as a crucial part of delivering net zero in the UK Climate Change Committee's 6th Carbon Budget, being implicated in 59% of the UK's actions to reduce emissions. The WMCA Environment Team has commissioned the national Behavioural Insights Team to advise us with this work. We will be working with key stakeholders such as TfWM who will deliver sector specific activity to drive a step change in this area of work. This work will reflect the diversity of the communities that we have across the West Midlands, ensuring that we understand how to reach out and make the zero carbon transition relevant to everyone. In addition to this, the WMCA has worked with regional businesses from the Mayor's Economic Impact Group to develop and launch a 'Net Zero Business Pledge' to support businesses in building action plans to reach net zero and to showcase some of the

excellent work already being led by business in this area. The work will reach out to all businesses, not just those already working in the low carbon sector.

2.31.3 Create a place-based 'Centre for Climate Data'

We propose working closely with regional partners to bring together information to inform decisions on net zero and produce independent models and predictions. Relevant data could cover private and public emissions, utilities rollout and repair (particularly energy and fibre), planning, transport, public health, and supply/demand in key parts of the economy (e.g. domestic heat pumps, retrofit firms). This will be linked with the Digital Roadmap and plans for a WM Datastore.

2.31.4 Net Zero Citizens' Panel.

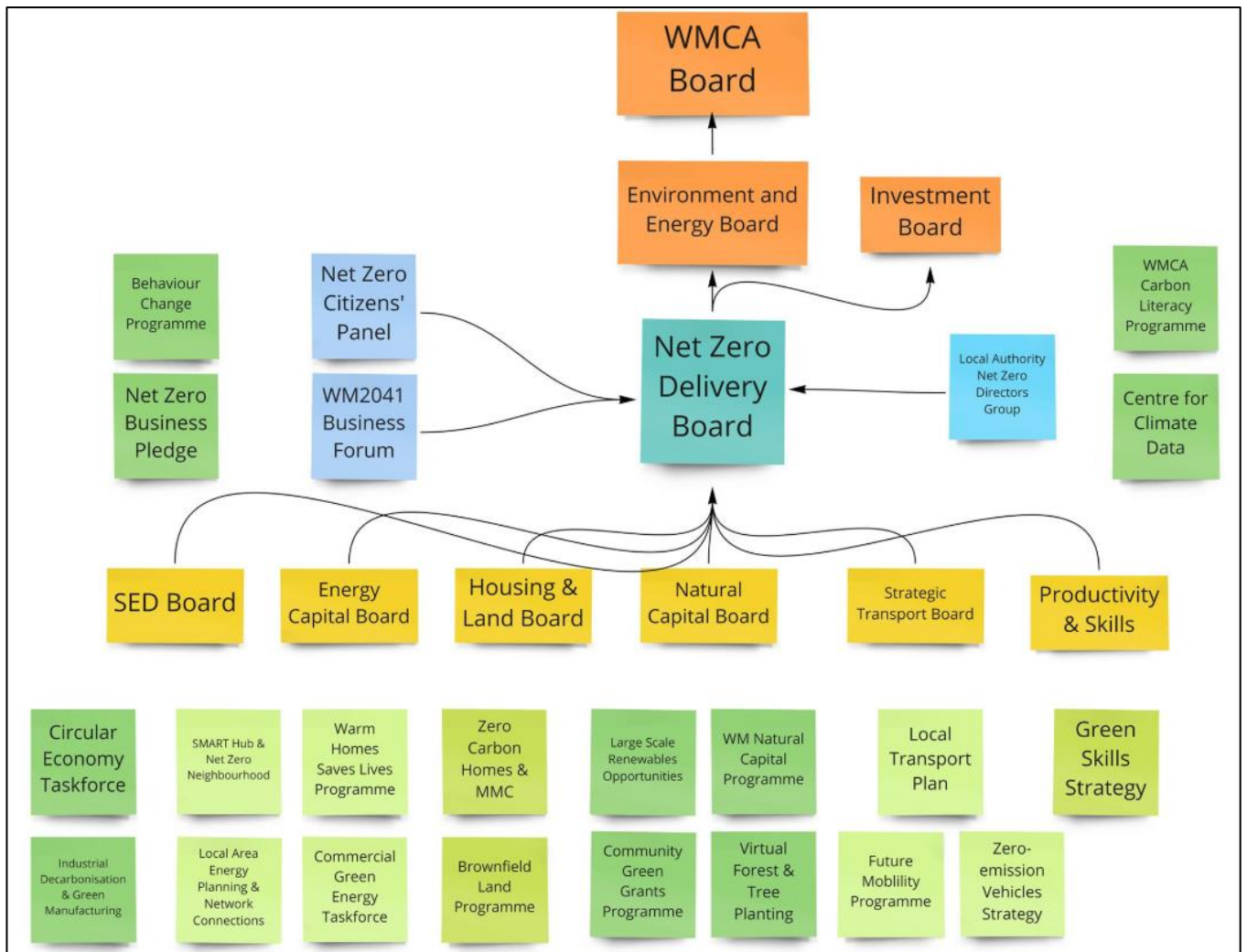
Citizens' panels and assemblies have proven to be a valuable part of the decision-making process around climate change solutions and driving behaviour change initiatives. They have been used at national level (e.g. the UK Climate Assembly, which reported in September 2020) as well as at the local authority level – for example, in Wolverhampton. Birmingham has also recently announced its intention to develop a citizens' assembly for the climate emergency to develop their climate change plans. A Net Zero Citizens' Panel, will form an important part of testing solutions and informing decisions on programmes developed from the FYP. In particular, it will ensure that we are upholding the WM2041 principle of achieving net zero without leaving anyone behind.

2.31.5 WMCA carbon literacy programme.

As well as working with stakeholders across the region to deliver on the net zero ambitions, the WMCA will show leadership through a carbon literacy programme being established and rolled out for all staff. This will be happening from March 2021 onwards and will be an important part of the behaviour change work. The business pledge will encourage all organisations to complete carbon literacy training.

2.31.6 Whole system governance.

The key 'systems managers', from a WMCA perspective are: Energy Capital; Transport for West Midlands and the WMCA Environment Team. Achieving net zero will require more than just a series of initiatives by each of these organisations though; it will require systems integration and whole systems change, to ensure that West Midlands citizens are able to make zero carbon choices. It will also require the generation of systems data to support the systems governance. A proposed structure to enable this is a Net Zero Delivery Board. It is suggested that this is a Technical Board with responsibility for achieving the 2041 target. This Board should have an outward focus, with the aim of creating an informed interface between the WMCA and the wider systems of which the West Midlands is a part; including our electricity network, gas network, communications network, transport system and planning system at a local level.



- 2.32 Crucially, these agencies will need to work increasingly closely with BEIS, Ofgem and key energy infrastructure agencies such as WPD and Cadent. There will also need to be close collaboration with other teams across the WMCA, for example Housing and Land and Productivity and Skills. These different parts of the programme will be brought together in the WM2041 Net Zero Delivery Board. The Environment and Energy Board will remain the main governing body for guiding the programme and approving workplans.
- 2.33 Local authorities have a key role to play in delivering net zero. The WMCA will need to seek joint approaches with local authorities to deliver at scale, where appropriate, to set the conditions for net zero delivery, respecting subsidiarity and relevant duties and powers.
- 2.34 It is of critical importance to recognise that this is not just a plan for the WMCA, however. Whilst the work has focused on what the role for the WMCA might be in the journey to net zero, action and delivery will be required by individuals, communities, local authorities and business. There is a role for everyone in delivering the net zero ambition and the report also outlines delivery plans for each of the areas in turn. The key message is that we need to act fast, together in order to make net zero by 2041 a reality.

3. Financial Implications

- 3.1 The FYP document estimates that the indicative gross cost of transition during 2021-26 is **£4.3bn**. The overall cost of the programme to 2041 is being estimated at **£15.3bn**.
- 3.2 The FYP will require investment through a variety of routes, including local authorities, central government, private sector investment as well as WMCA. Many of the interventions outlined in this document will require comprehensive business cases to be developed in order to ascertain more accurate costs/benefits and produce the detail for the financing and delivery. The WMCA is currently working to explore the different financing mechanisms that will need to be put in place in order to deliver on all aspects of the plan, through a Green and Social Finance Working Group.
- 3.3 Small-scale investment opportunities, such as the roll-out of all-electric buses in Coventry, are being worked through and larger investments in transport, housing and skills contribute to overall net zero goals, but there is considerable work to be done to secure the investment necessary to drive forward the Five Year Plan.
- 3.4 Use of Investment Programme funding is available, subject to the extension to the Investment Programme affordable limit, which is the subject of a separate report to this Committee.
- 3.5 The distribution of the increase in the Investment Programme affordable limit is provisionally laid out in the Financial Monitoring Report, which makes an allowance of **£5.1m** to fund WM2041 initiatives as outlined below (details in paragraph 2.22 above):

	£m
Net Zero Neighbourhood	2.1
SMART Hub	0.7
Energy & Environment Core Capacity	1.4
Natural Capital Programme	1.0
Total	5.1

- 3.6 All of the work-streams above demonstrate a clear link to the WM2041 strategy and Five Year Plan. The Net Zero Neighbourhood demonstrator would focus on delivery of energy efficiency and retrofit for buildings which could be the blueprint for region-wide schemes in the future. The creation of a SMART hub would bring together dedicated expertise to work in conjunction with local authorities and retrofit teams to drive forward the retrofit agenda. The funding will also provide much needed additional capacity and capability required across Energy Capital and the Environment teams to deliver the Investment Programme proposals and to mobilise the work on the FYP delivery for two years. Finally, it will support the roll out of a Natural Capital Programme, with the provision of Community Green Grants to target increased access to green space where there is currently a deficit. The programme will also support the natural capital elements of the FYP, tree-planting, micro-generation and biodiversity net gain across the West Midlands.
- 3.7 Should WMCA Board agree a funding allocation from the Investment Programme, assurance on cost outputs and approval to spend the budget will be obtained via the WMCA Single Assurance Framework.

4. Legal Implications

None from this FYP. We will work closely with colleagues in the Legal Team during business case development as these progress for each of the priority interventions.

5. Equalities Implications

The equalities implications of this paper – and the activities it proposes – should create net positive effects in terms of the impacts on citizens and communities. Underpinning all the work on WM2041 is the need for it to be a ‘just transition’ (deliberately mitigating the cost of changes for those least able to bear it) and it seeks to embed environmental goals as part of an overall approach to economic growth that is more inclusive.

6. Inclusive Growth Implications

WM2041 was established as a programme that had inclusive growth embedded within it. The commitment to transition to net zero in the WM2041 plans, as well as the alignment with the UN Sustainable Development Goals, underpin our whole approach to addressing climate change. This runs through the FYP, where we have highlighted co-benefits around addressing climate change. These range from reduction of fuel poverty through an extensive retrofit programme, through to natural capital solutions and widening access to green space for people across the region.

In addition to the solutions themselves, the FYP also outlines the numbers and types of jobs that might be created as part of the region’s actions to decarbonise. This includes reskilling opportunities for people currently working in ‘high carbon’ sectors to ensure that opportunities are available for everyone to be part of the transition to net zero.

7. Geographical Area of Report’s Implications

The report concentrates on the seven constituent authorities. Different parts of the FYP may involve non-constituent authorities as part of delivery. These relationships will be developed on a case-by-case basis.

8. Other Implications

None.

9. Schedule of Background Papers

Five Year Plan Summary document – attached with this paper.
Five Year Plan independent technical report – available on request.