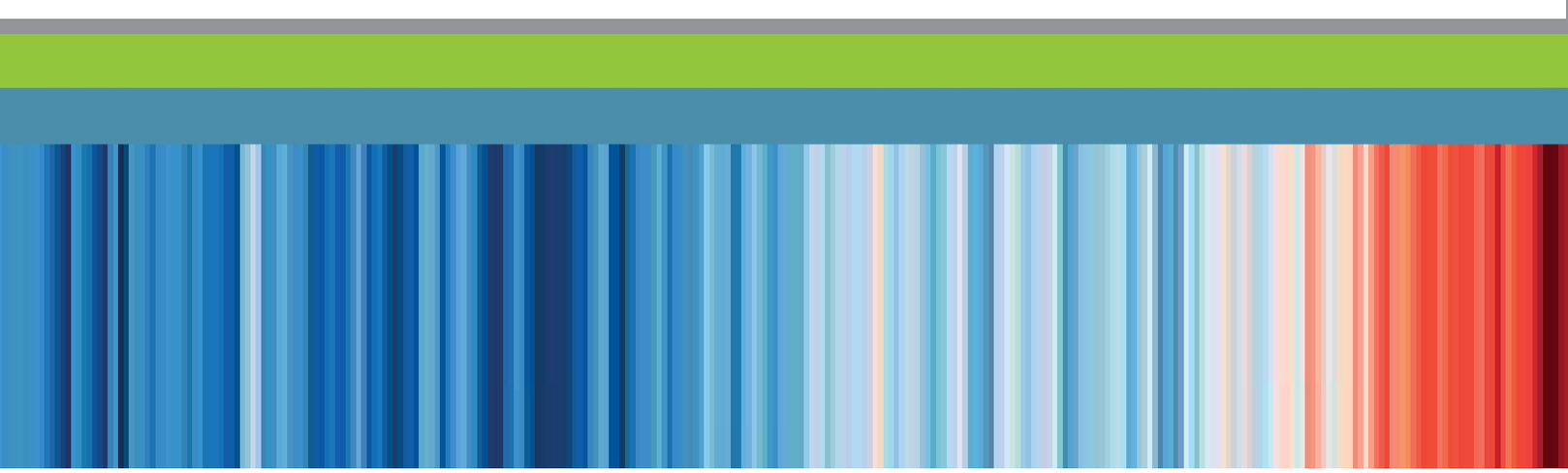

ADOPTED
NOVEMBER 2022

Plymouth and South West Devon Climate Emergency Planning Statement

1 Introduction

1.1 The growing effects of climate change are having a significant impact on communities and there is clear evidence that we need to take action now. The way we use the planning system, together with Building Regulations, can make a major contribution to tackling climate change. It can help shape new developments and existing places in ways that minimise carbon emissions and positively support community resilience to climate impacts, such as increasing temperatures, rising sea levels, increased rainfall and extreme weather events.

1.2 This Climate Emergency Planning Statement responds directly to the Climate Emergency declarations issued across Plymouth and South West Devon and identifies exactly what all new development should do to meet the challenge of climate change. It builds on existing planning policies set out within the Plymouth and South West Devon Joint Local Plan and its supplementary planning document, embraces new standards and proposes new requirements. The mitigation and adaptation measures set out in this planning statement relate only to new development that requires planning permission. We recognise that there is work to be done to existing homes to ensure they are resilient to climate change, but retrofitting is a key issue that will need to be addressed outside the planning process.

1.3 This planning statement is deliberately ambitious and challenges the 'business as normal' approach. It intentionally suggests measures that look to the future, and encourages development that goes further than current Building Regulations. This includes providing for energy storage, understanding embodied carbon, using low and zero carbon space and water heating systems and requiring resilient and low carbon building materials.

1.4 The mitigation (preventing/reducing carbon emissions) and adaptation (adjusting to current/future effects of climate change) measures are set out in detail in Appendices 2 and 3, however they are best viewed using the interactive online tool.

1.5 Consultation on the draft document took place for 7 weeks between 3 March 2022 and 19 April 2022. Over 1,800 comments were made by 128 individuals and organisations and a range of views were expressed. Detail is available in the consultation report**.** These comments have been taken into account in finalising the document. The measures contained in the planning statement balance the need for early action with the constraints of what can be required now. This begins a discussion about climate emergency planning policy that will continue and evolve as the Joint Local Plan is reviewed.

1.6 A glossary of all the terms used is set out in Appendix 5.

2 Why is this planning statement needed and what is its status

2.1 The Plymouth and South West Devon Joint Local Plan (JLP) provides a sound policy basis for the Local Planning Authorities to begin to tackle the impacts of climate change. However, we recognise that the knowledge, evidence and expertise surrounding climate change and its impacts is continually evolving. In the last 3 years following the adoption of the JLP, there have been a number of significant changes that have elevated the importance of addressing the climate challenge. This includes commitments made at the United Nations Climate Change Conference COP26 (Glasgow Autumn 2021), changes to national legislation and policy and relevant planning appeal decisions (summarised in Appendix 1).

2.2 Each council made Climate Emergency declarations in 2019[(1)] committing themselves to aiming for net zero by 2030,with further detail on how they intent to achieve this set out in climate emergency action plans[(2)]. South Hams District Council and West Devon Borough Council have also declared biodiversity emergencies. Taken together, these changes create an increased urgency for more radical action.

2.3 This planning statement does not change the status of the JLP, which remains the adopted development plan for the area and the starting point for decision making. This planning statement has the status of an interim policy statement and guidance and therefore must be taken into account when determining a planning application. This is a recognised approach, as set out in the National Planning Policy Guidance in relation to First Homes. [(3)], that enables us to put in place interim policy pending the next review of the JLP. As such, it is a new material consideration in the development management process.

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1 Plymouth City Council Full Council 18 March 2019, South Hams District Council Executive 6 June 2019, West Devon Borough Council full council 21 May 2019

2 South Hams: Action Plan and Activity | SH Climate Change (southhams.gov.uk), Plymouth: Climate Emergency Action Plan 202, West Devon: Action Plan and Activity | WD Climate Change (westdevon.gov.uk)

3 NPPG Paragraph: 009 Reference ID: 70-009-20210524.

3 How the planning statement relates to local planning policy and guidance

3.1 All new development is assessed against local planning policy and guidance as set out in the:

- Plymouth and South West Devon Joint Local Plan adopted in March 2019; and the
- Plymouth and South West Devon Supplementary Planning Document (SPD) adopted in June 2020.

3.2 The new measures within this planning statement are consistent with the adopted strategic objectives and policies within the JLP, and expand on the additional guidance in the adopted SPD. These documents work together in the pursuit of sustainable development in the JLP area.

3.3 JLP Strategic Objective SO11 Delivering high quality development already expects development to respond positively to the challenges of climate change, reducing carbon emissions and creating communities that are more resilient. Alongside this the strategic policies set the framework for growth based on the delivery of sustainable development:

- SPT1 Delivering sustainable development
- SPT2 Sustainable linked neighbourhoods and sustainable rural communities
- SPT9 Strategic principles for transport planning and strategy
- SPT10 Balanced transport strategy for growth and healthy and sustainable communities.

3.4 Collectively the JLP policies seek to deliver sustainable development of the right quality in the right location. This planning statement uses and reinforces the existing policies in the JLP that seek to deliver development which positively responds to the climate challenge. These policies collectively provide the hooks for this new planning statement.

3.5 Policy 'DEV32 Delivering low carbon development' already sets out a very progressive approach and is used alongside other adopted policies and allocations to achieve climate change mitigation, adaptation and resilience. Whilst applications are considered against the JLP as a whole the following policies are of particular relevance:

- PLY6 Improving Plymouth's city centre
- PLY20 Managing and enhancing Plymouth's waterfront
- PLY37Strategic Infrastructure measures for the City Centre and Waterfront Growth Area
- DEV1 Protecting health and amenity
- DEV2 Air, water, soil, noise, land and light
- DEV10 Delivering high quality housing
- DEV15 Supporting the rural economy
- DEV16 Providing retail and town centre uses in appropriate locations
- DEV20 Place shaping and the quality of the built environment
- DEV23 Landscape character
- DEV25 Nationally protected landscapes
- DEV26 Protecting and enhancing biodiversity and geological conservation

- DEV28 Trees, woodlands and hedgerows
- DEV29 Specific provisions relating to transport
- DEV33 Renewable and low carbon energy (including heat)
- DEV34 Community energy
- DEV35 Managing flood risk and water quality impacts
- DEV36 Coastal Change Management Areas

3.6 To support the JLP policies the SPD contains considerable detailed planning guidance explaining how the policies work and what is required to comply with them. In relation to policy 'DEV32 Delivering low carbon development' the SPD sets out the application requirements, promotes the reuse and recycling of building materials, explains the dangers of overheating, seeks the delivery of on site renewable energy generation to achieve regulated carbon emissions levels of 20% less than that required by the Building Regulation part L [(4)], identifies exactly what Energy Statements and Solar Masterplans should cover, explains the energy hierarchy and signposts to useful resources.

3.7 There are also numerous other parts of the SPD that are highly relevant to delivering a positive response to the climate challenge. This includes requirements for travel plans and electric vehicle charging as well as delivering resilient development with biodiversity net gain, sustainable drainage systems, flood management, district heat networks, green space, trees, woodlands and hedgerows.

4 Conservation of fuel and power: Approved Document L - GOV.UK (www.gov.uk)

4 What the planning statement does and how it works

4.1 The requirements and guidance set out in this planning statement aim to deliver the following Strategic Objective.

CES01 Strategic Objective

Delivering positive measures to address the climate emergency

To deliver development that contributes less to and mitigates the impacts of, climate change and adapts to its current and future effects through:

- ***Ensuring resilience by providing positive benefits that reduce carbon***
- ***Increasing renewable energy generation***
- ***Improving energy efficiency***
- ***Using sustainable local materials and minimising embodied carbon***
- ***Prioritising the retrofitting of existing buildings and reuse of materials***
- ***Reducing reliance on fossil fuels***
- ***Embracing electric vehicles and their charging infrastructure***
- ***Increasing walking, cycling and public transport opportunities***
- ***Reducing waste and increasing recycling***
- ***Effective use of solar gain, solar cooling and shading***
- ***Delivering biodiversity net gain and using nature based solutions***
- ***Managing flood risk, improving sustainable drainage and minimising impermeable surfaces***

4.2 This planning statement sets out a range of new requirements for all types and scales of development. It is split into two parts; mitigation measures and adaptation measures which are detailed in Appendices 2 and 3.

4.3 A simple web based tool has been developed to help applicants understand what is required of new development to meet the expectations of the climate emergency and ensure it is fit for the future.

4.4 **Use our user-friendly interactive online tool**.

4.5 All those seeking planning permission for new development should give proactive consideration to the implications of the climate emergency on their development at the beginning of the scoping and design stage. By working with developers, the opportunity exists to reduce the contribution to climate change from development and maximise climate change mitigation, adaptation and resilience. We want to achieve this by incorporating measures that reduce the impact, such as the emission of greenhouse gases, and adjust to the current and future effects of climate change.

4.6 In most instances, the requirements are consistent with the emerging Future Homes/Building Standard[5] that have now been incorporated into Building Regulations and came into force for applications made on or after 15 June 2022. Applications made prior to June 15, will be assessed against the previous standards providing substantial building work has begun before 15 June 2023 on all aspects of the application. This planning statement twin tracks these improved standards so they can also be properly considered in the planning system to ensure issues such as orientation are considered at the right stage of the process. However, given the scale of the emergency and the need for urgent action it also introduces some additional requirements, summarised below and set out in detail in Appendices 2 and 3.

4.7 We welcome and encourage proposals from developers that want to go further and be more ambitious, for example delivering carbon negative buildings.

Mitigation measures

4.8 The primary aim of the mitigation measures is to reduce the amount of carbon emitted through the development process. The proposals set an intentionally high bar in terms of demonstrating how carbon reduction permeates all aspects of a development scheme. The mitigation measures are set out in detail in Appendix 2 and include:

- The need for improved energy efficiency through ensuring the building minimises energy use, increasing on-site renewable energy generation, incorporating energy storage and maximising passive energy capture. This could help reduce the impact of volatile energy prices by promoting low and zero carbon space and water heating systems that do not use gas or oil boilers.
- Increased emphasis on sustainable, durable, recycled materials of UK or European origin in the construction process by introducing a hierarchy of acceptability and proof of provenance for roof slates and stone.
- Prioritising the re-use of buildings, rather than the demolition and replacement, and ensuring embodied carbon is a consideration in the planning process.
- Providing for Electric Vehicle charging facilities.
- Reducing the need to travel and avoiding development that locks in reliance on the private car, in favour of increasing sustainable transport options including the provision of adequate charging facilities for electric car and bikes as well as mobility hubs.

Adaptation Measures

4.9 Adaptation to the impacts and effects of climate change can often be overlooked in favour of mitigation measures to reduce the carbon impact of development. Effective adaptation is an important part of ensuring resilient development and delivering places that respond to the impacts of the climate emergency, in turn helps reduce carbon emissions.

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5 The Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings and https://www.gov.uk/government/consultations/the-future-buildings-standard

4.10 The policies of the JLP and existing guidance in the SPD provides considerable detail on how development should include measures to ensure the building and its wider site is adaptable to climate change. In many instances, the solutions and opportunities are interconnected and the design should consider these holistically, using nature based solutions to maximise the benefits and deliver buildings and greenspace that positively mitigate and adapt to the challenge of climate change.

4.11 All development should consider how the development adapts to a changing climate. This means positively:

- Incorporating passive solar design
- Protecting our soil resource
- Protecting hedges and trees, especially mature trees that have significant value, and enhancing tree cover in the right places
- Protecting and enhancing gardens, green spaces and greenfield sites
- Delivering sustainable drainage and surface water management, reducing flood risk and urban creep
- Delivering at least 10% biodiversity net gain and habitat improvements

4.12 The inclusion of positive adaptation measures within development schemes will be a material consideration in the decision making process.

4.13 Biodiversity net gain is a key area where policy and practice is evolving with the introduction of provisions set out in the Environment Act. The JLP policy 'DEV26 Protecting and enhancing biodiversity and geological conservation' states that net gains in biodiversity will be sought from all major development proposals, and a 10% increase in biodiversity units will be compliant with this policy. This will be measured using the most up to date Biodiversity Metric. A proportionate approach will be taken for small-scale development. Additional detailed guidance on biodiversity net gain will be produced to assist developers and applicants with the use of the new biodiversity metrics, habitat banking and costs.

4.14 To complement the current policies and recognise the importance of adaptation measures on the environment a new Green Space Factor tool will be produced. This will ensure the multifunctional benefits of green and blue spaces are prioritised and recognise the role they play in maintaining our health and wellbeing. Further work is required to develop this tool, set appropriate thresholds and understand how it could be used to complement the approach on biodiversity net gain particularly on small sites. We will bring this forward separately as part of any biodiversity net gain guidance.

5 How the planning statement will be delivered

5.1 Planning applications submitted after the 31 October 2022 (when this planning statement is adopted) will need to meet the requirements set out in this planning statement and will have to complete a Climate Emergency Compliance Form to demonstrate how they will meet each of the mitigation requirements and deliver adaptation measures in their proposals. This will ensure applicants can explain exactly which document, plan, or drawing, demonstrates evidence of compliance. The measures could be included in:

- Energy Statement/Strategy
- Design and Access Statement
- Sustainability Statement
- Sustainable Travel Plan
- Energy Performance Certificate
- Standard Assessment Procedure (SAP) or
- specifically indicated on plans, drawings or other compliance reports.

5.2 The completion of the Climate Emergency Compliance Form will be included in the validation process and within the Local Validation Lists.

5.3 All mitigation and adaptation measures identified should be integrated into the design and layouts of developments and will be subject to control through building regulations and/or planning conditions. In some cases it will be necessary to secure delivery and management through the use of a S106 planning obligation. Developers and house builders should factor these requirements into their land purchases and will be expected to clearly demonstrate how they are being met, either through compliance with new building regulations or condition.

5.4 It is recognised that there may be some exceptional circumstances when it may not be possible to meet all the mitigation and adaptation requirements of this planning statement. Therefore if the requirements are not met in full proposals to mitigate the impact of non-compliance must be set out. In these cases, where it is demonstrably not possible to meet these requirements, a contribution to offset carbon emissions may be sought by the relevant Local Planning Authority, consistent with policy DEV32.3. Where a financial contribution commensurate with the direct carbon impact of the development is proposed, in line with policy DEL1 and paragraph 9.3 of the SPD, calculations should use the GLA Carbon Offset Funds guidance or updated version. All contributions will be secured by Section 106 agreements and allocated by the Local Planning Authorities to local offsetting schemes.

5.5 New development schemes are likely to be subject to additional costs, which could have an impact on development viability in some locations. However, the direction of travel towards low carbon and carbon neutral development has now been set for many years, and developers should be expected to factor these costs into their land valuation and profit expectations. The climate emergency is too important an issue for the entirety of humanity to continue with development that only serves to exacerbate the problem and leave significant retrofit costs for the future. The impact on viability will be considered on a case by case basis and difficult decisions about the balance of priorities may be necessary.

6 Appendix 1 Detailed justification for the Climate Emergency Planning Statement

National Policy and Legislation

6.1 The core purpose of the planning system is to create places which enable people to live happy and healthy lives, it is not possible to achieve this without considering the impact of climate change and addressing this through adaptation and mitigation. The UK has set ambitious targets for reducing greenhouse gas emissions and in all four UK nations there is law or policy requiring local planning authorities to consider and take action on mitigating and adapting to climate change. The planning system is set by and subject to a number of pieces of national legislation and regulation. This section identifies the most relevant legislation demonstrating the need for urgent action and justifying the priority to be given to climate change through this planning statement.

6.2 The Climate Change Act 2008 (amended in 2019) requires a 100% reduction in greenhouse gas emissions by 2050 (compared to 1990 levels). This is known as the net zero target. In June 2021 the Government adopted the sixth carbon budget[(6)] that sets out a more ambitious target of 68% reduction by 2030.

6.3 The Planning and Compulsory Purchase Act 2004 sets out the current structure of the local planning framework for England and Wales, including the duty on plan-making to mitigate and adapt to climate change. Local planning authorities are bound by the legal duty set out in Section 19 of the Planning and Compulsory Purchase Act 2004, as amended by the Planning Act 2008, to ensure that, taken as whole, plan policy contributes to the mitigation of, and adaptation to, climate change.

6.4 The Flood and Water Management Act 2010 addresses the threats of flooding and water scarcity. Under the Flood Risk Regulations 2009, the Environment Agency is responsible for managing flood risk from main rivers, the sea, and reservoirs. Lead local flood authorities (LLFAs) are responsible for local sources of flood risk, in particular surface water run-off, groundwater, and ordinary watercourses. LLFAs are statutory consultees on major development. Local authorities are responsible for ensuring that requirements for preliminary flood risk assessments are met.

6.5 The Planning and Energy Act 2008 sets out powers for local authorities to require a proportion of the energy need related to new development to be sourced in the locality of the development, through renewable or low-carbon generation. It also sets out powers for local planning authorities to set energy efficiency standards that exceed the energy requirements of the Building Regulations. There has been much discussion about whether LPAs can continue to set their own requirements and in January 2021 the Government responded to the consultation on the Future Homes Standards by stating 'To provide some certainty in the immediate term, the Government will not amend the Planning & Energy Act 2008, which means that local planning authorities will retain powers to set local energy efficiency standards for new homes.'

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6 The Carbon Budget Order 2021 (SI 2021/750)

6.6 The NPPF sets out the key national planning priorities for England. It was updated in 2021. It is non-statutory guidance, but is a powerful material consideration in plan-making and development management decisions. The NPPF is accompanied by online Planning Practice Guidance. Paragraph 152 of the NPPF underlines that the planning system should support the transition to a low-carbon future in a changing climate, taking full account of flood risk and coastal change. Paragraph 153 makes clear that local planning authorities are expected to adopt proactive strategies to mitigate and adapt to climate change, in line with the Climate Change Act 2008. Since compliance with national law and policy is central to the soundness test carried out on local development plans, compliance with the Climate Change Act is a clear obligation on both the Planning Inspectorate and local planning authorities.

6.7 The National Planning Policy Framework (NPPF)[7] was amended in July 2021 to include reference to the United Nations Sustainable Development Goals. These are set out below.

6.8 This means there is a duty to deliver development that contributes positively to goal 11 Sustainable Cities and Communities, and goal 13 Climate Action. While more is needed to enshrine the climate emergency within the NPPF, paragraph 8 identifies the opportunity to secure net gain and requires a positive approach to 'mitigating and adapting to climate change, including moving to a low carbon economy'. It also includes a chapter on meeting the challenge of climate change, flooding and coastal change, and within that is a requirement to help 'shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience'.

6.9 The Planning Practice Guidance (PPG) online resource provides vital additional and detailed guidance on aspects of the NPPF, and it is periodically updated to include interpretations of Ministerial Statements relevant to planning. The critical sections of PPG are on 'Climate change', 'Renewable and low carbon energy', and 'Flood risk and coastal change'. Paragraph 011 of the 'Climate change' section directs planners to the Climate Change Committee for further information and guidance. In recent years, significant changes

7 NPPF 2021 para 8c

have been made to the viability test that is applied to plan policy and particular applications. Paragraph 002 of the PPG section on viability and plan making now states that 'the price paid for land is not a relevant justification for failing to accord with relevant policies in the plan.'

6.10 On 14th July 2021 the Government published their Transport Decarbonisation Plan that sets out the pathway to net zero transport in the UK[8].

6.11 The National Model Design Code[9] published on 20th July 2021 requires codes to cover "sustainability including energy efficiency, net zero alignment and climate resilience". This reflects the National Design Guide that sets out the ten characteristics of a well-designed place that need to positively address environmental issues affecting climate.

6.12 On 19th October 2021 the Government published its Net Zero Strategy: Building Back Greener and its Heat and Buildings Strategy[10]. This contained a raft of commitments including ensuring the reformed planning system supports efforts to combat climate change. Key elements include retiring the internal combustion engine by banning petrol and diesel cars from 2030, phasing out the installation of new and replacement gas boilers by 2035, introducing interim Future Homes Standards from June 2022 and reviewing the NPPF. The Government intends to publish an electric vehicle infrastructure strategy later this year and the latest announcement[11] sets out that all new homes and buildings will be required by law to install electric vehicle charging points from the middle of 2022.

6.13 The recent Housing, Communities and Local Government Select Committee Report[12] requires action to deliver its Net Zero Strategy. This includes giving net zero a central role in the NPPF and bringing forward Future Homes Standard legislation as soon as possible. The Government response to this, published on 13th January 2022 commits to accelerating the legislation to introduce the full Future Homes Standard in 2024.

6.14 The Environment Act received royal assent on 9th November 2021. It provides increasing emphasis on the sustainable use of resources and the importance of nature in addressing the climate emergency. It sets out new requirements for waste, water, local nature recovery and expects all new developments to deliver a ten per cent biodiversity net gain managed for at least 30 years.

6.15 On 15th December 2021 the Government announced new building regulations[13] that will help deliver net zero through a number of measures including requiring new homes to produce 30% less carbon emissions and bringing in more EV charging. These standards came into force on 15th June 2022.

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8 https://www.gov.uk/government/publications/transport-decarbonisation-plan
9 National Model Design Code: Part 1 - The Coding Process (publishing.service.gov.uk)
10 M Government, Net Zero Strategy: Building Back Greener. (October 2021); HM Government, Heat and Buildings Strategy, (October 2021)
11 21st November 2021 https://www.bbc.co.uk/news/business-59369715
12 Fifth Report published 29th October 2021 Local government and the path to net zero - Committees - UK Parliament
13 New homes to produce nearly a third less carbon - GOV.UK (www.gov.uk)

6.16 On 17th January 2022 the Government published the UK Climate Change Risk Assessment 2022[(14)] which identifies that even under low warming scenarios the UK will be subject to a range of significant and costly impacts unless significant further action is taken now. It states that 'the evidence shows that we must do more to build climate change into any decisions that have long-term effects, such as in new housing or infrastructure, to avoid often costly remedial actions in the future'.

6.17 On 2nd February 2022 the Government published its Levelling Up White Paper[(15)] which supports the decarbonisation agenda and recognises changes to the planning system are needed to support the transition to net zero.

6.18 On the 11th May 2022 the Government published the Levelling Up and Regeneration Bill. The Bill seeks to improve the planning process so it can

- deliver high quality design and beautiful places, and protect our heritage
- enable the right infrastructure to come forward where it is needed
- enhance local democracy and engagement
- foster better environmental outcomes
- allow neighbourhoods to shape their surroundings, as this is where the impact of planning is most immediately felt

6.19 The Bill will also enable further changes to come forward which will enhance the way that planning works, including full digitalisation of the system, improving planning processes and the preparation of National Development Management Policies. It is currently not clear what will be included within these policies but it is likely that they will contain guidelines to help deliver the Government's Net Zero Agenda.

Case law and recent planning appeals

6.20 Legal judgements made by judges in the courts and planning appeal decisions are made by planning inspectors and provide a useful interpretation of planning policy. They are increasingly recognising the climate emergency as a significant material consideration in decision making.

6.21 Climate change as a whole, and the impact of embodied carbon in particular, are clearly material planning considerations in light of the relevant case law on the meaning of "material planning considerations": R(Wright) v Resilient Energy Severndale Ltd and Forest of Dean Council [2019] UKSC 53, [2019] 1 WLR 6562 at §§39-42 and R(Samuel Smith Old Brewery) v North Yorkshire CC [2020] UKSC 3, [2020] PTSR 221 at §§31-32. 8. The fact that a local authority has declared a climate emergency is also a material planning consideration, which was confirmed in 2020 by the Planning Inspectorate in a decision under section 78 of the Town and Country Planning Act 1990: appeal APP/Y2620/W/15/3134132 at §§86-89.

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14 UK Climate Change Risk Assessment 2022 (publishing.service.gov.uk)
15 Levelling Up White Paper (publishing.service.gov.uk)

6.22 In April 2021 the Secretary of State recognised that 'the scale and urgency of the climate change emergency is such that tackling climate change is a material consideration to which significant weight should be attached'[16]. In November 2021 in an appeal in Dartmouth the Inspector explicitly referred to the issue of climate change as one where planning policy may not be quite keeping pace with development elsewhere. In his decision letter[17] he states '*My site visit took place on the third day of the Cop26 climate conference in Glasgow where the need for urgent action was once again made crystal clear by the Prime Minister. The recent initiatives such as those mentioned above are therefore a material consideration which I believe should carry some weight. It seems to me folly to build new houses now that will commit the owners to potentially expensive and disruptive alterations as the UK moves to decarbonise the heating of its housing stock*'.

Stakeholder and developer statements

6.23 The Department for Environment, Food and Rural Affairs is the lead department for domestic climate adaptation, but across government actions and policies are being implemented. Adaptation is also embedded in other key government commitments such as the 25 Year Environment Plan. The climate emergency requires everyone involved in the built environment to take responsibility for climate resilience and therefore all stakeholders and developers are increasingly setting out how they can adapt their plans and programmes in response. Set out below are a number of examples:

6.24 The Environment Agency's strategy[18]is about living better with a changing climate and designing today for tomorrows climate. Their aim is to create a net zero nation that is resilient to climate change.

6.25 Natural England's vision for thriving nature for people and planet is at the heart of their action plan[19]. The natural environment can play an important role in tackling the climate crisis as healthy ecosystems take up and store a significant amount of carbon in soils, sediments and vegetation. The Carbon Storage by Habitat report provides detailed information and support for nature-based solutions for net zero [20].

6.26 National Highways have set out a plan[21] to 2050 for net zero highways and are investing in energy storage systems to support electric vehicle (EV) drivers.

16 APP/V2255/W/19/3233606 Secretary of State decision. Appeal by Quinn Estates Ltd and Mulberry Estates (Sittingbourne) Ltd against Swale Borough Council.
17 APP/K1128/X/20/3252613, APP/K1128/W/20/3252623. Appeal by Mr David Holloway against South Hams District Council.
18 Living better with a changing climate - Climate Adaptation and Reporting Third Round: Climate Emergency
19 Natural England action plan 2021 to 2022
20 http://publications.naturalengland.org.uk/publication/5419124441481216
21 https://nationalhighways.co.uk/netzerohighways/

6.27 The Town and Country Planning Association (TCPA) and Royal Town Planning Institute (RTPI) explores ways local authorities and communities can make a real difference and conclude that 'The threat of climate change is real, and time is running dangerously short. A resilient and sustainable future is achievable, but only if we act now'[(22)].

6.28 House builders and Commercial organisations are also committed to addressing climate change. Persimmon's Annual report 2020[(23)] identifies climate change action and resilience as the single most important material issues to be addressed and have set targets aligned to the UN Sustainable Development Goals. This includes the 'aim to be net zero carbon for our homes in use by 2030 and in our operations by 2040 and 50% of our homes will be built using timber frames from our off-site manufacturing facilities by 2025'.

6.29 Taylor Wimpey in their 2020 Annual Report[(24)] explicitly identify climate change as one of their priorities recognising it as 'the most significant global environmental threat and we are determined to play our part in tackling it'. This has translated into setting targets and recognising the need to purchase land that factors in the new costs associated with the Future Homes Standard and EV charging regulations.

6.30 The Planning Practice Guidance is very clear that it is the responsibility of site promoters to engage in plan making, take into account any costs including their own profit expectations and risks, and ensure that proposals for development are fully compliant with up to date plan policies. Decisions on applications will be considered against the adopted and emerging policies. The price paid for land is not a relevant justification for failing to accord with policies in the plan. Landowners and site purchasers should consider this when agreeing land transactions[(25)].

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22 TCPA/RTPI, The Climate Crisis – a guide for planning authorities on planning for climate change, October 2021 https://www.tcpa.org.uk/planning-for-climate-change

23 persimmon_ar2020_web_bmarks-final.pdf

24 Annual Report and Accounts 2020 □ Taylor Wimpey

25 NPPG Paragraph: 002 Reference ID: 10-002-20190509

7 Appendix 2 Mitigation measures

M1 – Onsite renewable energy generation

7.1 **For major and minor planning applications, adopted JLP policy DEV32.5 will apply in order to secure an equivalent 20% carbon saving through onsite renewable energy generation.**

7.2 **The baseline 'target emissions rate' (TER) will be calculated using the most up-to-date version of SAP10 (or other versions of SAP should SAP10 be superseded) to ensure that the latest carbon factors are used to create both a robust baseline for the proposal, and to calculate the most accurate carbon savings from renewable energy generation.**

7.3 **Extensions that benefit from favourable conditions to support roof mounted PV, and where the host building does not already generate renewable energy onsite, should include a rooftop PV system of a minimum installed capacity of 1kWp.**

7.4 Generating renewable energy onsite improves energy resilience and reduces fuel prices for occupiers. Onsite energy generation will also help reduce energy demand from the national grid, allowing more energy to be used to support the transition to electric vehicles and heat pumps, both of which are important elements of the UK decarbonisation strategy.

7.5 Building Regulation Approved Document Part L has been updated in December 2021 and introduced in June 2022, and this introduces higher standards of thermal efficiency for buildings. As such, it is appropriate to ensure that the DEV32.5 20% carbon reduction requirement is only secured through onsite renewable energy generation, with no mechanism to count alternative savings through a fabric first approach, as this has already been incorporated into the 2021 Part L uplift.

7.6 Favourable conditions for extensions include no overshading of the proposed roof, with the roof having an easterly, southerly or westerly aspect. A 1kW system is likely to comprise of at least 4 PV panels.

7.7 Further information is available: Approved Document Part L 2021, Energy Saving Trust guide to solar panels and The Renewable Energy Hub

M2 – Energy storage

7.8 **New development proposals should identify on submitted floor plans an area close to the main circuit board that could accommodate a battery storage system capable of meeting at least 50% of the daily energy demand of the building, unless this is technically unfeasible, or incompatible with the technological requirements of a specific battery.**

7.9 Battery storage enables buildings to better use energy that is generated onsite, or purchased at favourable tariffs overnight when demand is low. The use of battery storage as part of smart system has benefits on the grid, as it reduces demand at peak times, and allows users to be more resilient to power outages, as well as paying less for the energy they consume.

7.10 Batteries can be floor or wall mounted, and space needs to be identified that allows for suitable access and maintenance arrangements. Although a battery storage system does not need to be located next to a mains circuit board or solar PV inverter, it does make for a less intrusive installation process for the occupier.

7.11 If suitable space next to the mains circuit board cannot be accommodated, alternative spaces will be considered that are compatible with the technical requirements of a specific product or system.

7.12 Further information is available: Energy Saving Trust guide to battery storage

M3 – Low and zero carbon space and water heating systems

7.13 **All minor and major development proposals should be served by low or zero carbon space and water heating and where relevant cooling systems, with an emphasis on ground, air and water source heat pumps. Other options for low carbon heating systems include solar thermal/ solar thermodynamic/ or solar PVT systems or biomass in rural areas.**

7.14 **Buildings served by district energy systems for heating and cooling will be considered to meet the requirements of the policy, providing the fuel used within the district energy network is low or zero carbon. Proposals that meet the prescribed characteristics in the SPD, and/or are in a defined area for district energy potential will need to connect to an existing heat network, where this exists, be future-proofed for connection to a future heat network or provide analysis and justification for why they cannot connect to a heat network.**

7.15 In order to meet binding legislative carbon reduction targets, the UK needs to rapidly decarbonise all aspects of societal behaviour. Reducing reliance on fossil fuels is the single biggest action that will contribute to rapid decarbonisation. For many, this will result in the installation of a heat pump, although other systems may also meet the wider policy aims, such as solar thermal heating and biomass boilers.

7.16 Hydrogen based systems are not considered compatible with the aims of this policy, as the fuel is not proven at scale for domestic or commercial buildings, and only 'green' energy is low or zero carbon, with grey or blue hydrogen being formed from fossil fuels. Where three phase electricity supply is available this must be fully enabled internally, to support the full range of low carbon technologies available to the occupants now and in the future.

7.17 Further information is available: The Renewable Energy Hub and Micro Certification Scheme

M4 – Resilient and low carbon building materials

7.18 **Slate used on all new buildings with pitched roofs and/or natural stone used for paving must accord with the hierarchy of origin as well as meeting the requirements to be compatible with local vernacular and design:**

- **Reclaimed UK or European slates where available with proof of origin from supplier**
- **New UK derived slates with proof of origin from supplier**
- **New European derived slates with proof of origin from supplier**
- **No other natural slate products will be considered acceptable**

7.19 **All new roof slates and natural stone must be covered by a minimum warranty period of 50 years.**

7.20 The number and type of materials used to construct a building is extensive, and the planning process rarely seeks to influence materials used in construction except where there may be an issue of visual impact. However, as well considering the colour and tone of certain materials, DEV32.1 requires us to reduce the wider environmental impact of building materials, and this requirement is rarely considered or conditioned.

7.21 Many building materials are increasingly accompanied by information that quantifies not only the origin of the product, but also the environmental impact. Where possible, a product should be obtained that has an Environmental Product Declaration (EPD). If an EPD is not available, a verifiable certificate of origin or provenance will need to be supplied.

7.22 Further information is available: Environmental Product Declaration

M5 – Demolition and rebuild

7.23 **Priority will be given to the reuse and retrofitting of buildings. Where an existing building is proposed to be demolished and rebuilt, the net overall carbon cost of the project should be offset within 25 years through carbon savings achieved by operational use of the replacement building.**

7.24 The JLP policies DEV31 and DEV32.1 advocate reuse, recycling and resource minimisation through the development process. In 2019 the Architects Journal launched their RetroFirst campaign, that seeks to ensure that our existing buildings in the UK are only demolished and replaced as a last resort, and where retrofitting is proven to be not technically feasible. However, we recognise that there are some circumstances when demolition may be necessary.

7.25 The age of a building is not in itself justification for demolishing it. Old windows can be replaced, insulation added either internally or externally, roofs replaced with more resilient and lower impact materials. Air tightness can be greatly improved by combining external interventions, with particular focus on the reinstatement of doors and window. A comprehensive approach to improving air tightness through whole-building retrofit will also allow for a suitable ventilation system to be designed and incorporated.

7.26 A project wide assessment of the net carbon impact of the development proposal will form the basis of how much energy needs to be saved through operational efficiencies. Further detail is available in Architects Journal RetroFirstand RICS whole life carbon assessment for the built environment and set out below:

Further information

The baseline for this assessment will be the target emissions rate as derived from building regulations Part L, using the most up-to-date SAP software, with savings calculated using the difference between the TER and the dwelling emissions rate (DER, for domestic buildings) or building emissions rate (BER, for non-domestic buildings).

Embodied carbon calculations for existing and proposed buildings should be submitted in full using software that complies with RICS whole life carbon assessment principles.

Justification for demolition will only be considered acceptable under the following circumstances;

1. The building is structurally unsafe and is in a condition that cannot be safely remediated as part of a comprehensive retrofit; or,
2. The demolition and rebuild will result in significant social and environmental benefits, such as large scale regeneration, and affordable-housing led development proposals

((TER x floorspace) x25) – ((DER x floorspace) x25) = more than or equal to the net embodied carbon of original and new structure.

M6 – Electric Vehicle Charging Points

7.27 **Domestic charging points will be installed in accordance with 2021 Building Regulations Approved Document Part S, which will need to be demonstrated as part of the planning application.**

7.28 The quantity of charging points for non-domestic development will also need accord with 2021 Approved Document Part S. The minimum installed capacity for each charging point will be;

- **Class E – 22kw**
- **All other non-domestic development – 11kw**

7.29 Electric vehicles represent an opportunity to reduce reliance on fossil fuels, and will contribute to decarbonising transport emissions across the UK as part of the Government's Transport Decarbonisation Plan. To ensure that the transition to electric vehicles is achieved at a trajectory that secures adequate levels of emissions savings, charging infrastructure must be available and accessible in all new developments.

7.30 Whilst switching fuels in private and commercial vehicles has a clear role to play in decarbonising transport, it should not be confused with the greater benefits that can be achieved by reducing the need to travel in the first place, and increasing the number of journeys by sustainable and active modes of travel.

7.31 Further information is here:Approved Document Part S 2021

M7 – Active and Sustainable Travel

7.32 All new buildings must incorporate measures to encourage use of active and sustainable travel options and should avoid locking-in reliance on the private car.

7.33 Minor development proposals should be guided by the requirements of the adopted policies 'SPT10 Balanced transport strategy for growth and healthy and sustainable communities', 'SPT12.9 Strategic approach to the natural environment', 'DEV15Supporting the rural economy' and 'DEV29 Specific provisions relating to transport', as well as the associated sections of the SPD.

7.34 Major developments will need to include an assessment of sustainable and active travel opportunities and constraints in their Design and Access Statement (DAS). This should identify what benefits are being proposed as part of the development highlighting how these benefits will achieve modal shift within and beyond the proposed development.

7.35 In addition, residential developments of over 50 dwellings will need to include an assessment of onsite car club and ebike hire potential, as well as identifying opportunities to contribute to existing active and sustainable travel projects within the local area. In Plymouth, an assessment of how the proposal can link with existing and planned mobility hubs will be required.

7.36 The location of new development should continue to be considered against the adopted spatial strategy set out in the JLP and specifically policies 'SPT1 Delivering sustainable development', 'SPT2 Sustainable linked neighbourhoods and sustainable rural communities' and 'TTV1 Prioritising growth through a hierarchy of sustainable settlements' and 'TTV2 Delivering sustainable development in the Thriving Towns and Villages Policy Area'. Switching to EV is not a substitute for sound placemaking based around the core principles of reducing

the need to travel and maximising the use of sustainable and active travel modes. Any development proposal that locks-in reliance upon the private car, and exclusively caters for car borne customers, such as drive through restaurants, cannot be considered to meet the most basic requirements of the JLP or accord with paragraph 104 of the National Planning Policy Framework.

7.37 Government policy is increasingly supportive of locating development in the most sustainable places and designing development to facilitate modal shift to active travel (see LTN1/20: Cycle Infrastructure Design; Gear Change: A bold vision for cycling and walking) and bus service (Bus Back Better: National Bus Strategy for England. Further information is also available at: Planning and Net Zero Transport

8 Appendix 3 Adaptation measures

8.1 The JLP policies and SPD already include numerous requirements to ensure our communities are both resilient and adaptable to the impacts of climate change. Strategic Objective 'SO11.6 delivering high quality development' within the JLP explicitly requires development to respond positively to the challenges of climate change, reducing carbon and creating communities that are more resilient.

8.2 Given the importance adaptation plays in climate change, it is essential that all schemes are designed to include positive adaptation measures. In all applications additional consideration and increased emphasis will be given to the following adaptation requirements in the decision making process because of their importance in capturing carbon and providing more resilience of extreme weather events.

A1 – Passive Solar Design

8.3 **All development is required to :**

- **be compliant with 2021 Building Regulations Approved Document Part O – Overheating, and provide a copy of the Part O Compliance Checklist (Appendix B) as part of their planning application**
- **incorporate sound design principles that take every opportunity to incorporate passive solar gain in line with SPD guidance.**

8.4 As the world gets hotter our buildings will need to adapt to rising temperatures. Building design will need to make best use of heat from the sun to create a comfortable internal temperature, whilst avoiding overheating when the sun is at its hottest. Approved document

Part O – Overheating applies to all new buildings and extensions, and includes specific window to floor ratios that need to be adhered to in each elevation. The checklist is a summary document that collates all of the room and window data into a concise format.

8.5 The benefit of this information at planning application stage is that it can be amended during the consideration of the application. This is preferable to identifying and issue at the inspection stage as to rectify any issues then is likely to result in resubmission of planning information and expensive reconstruction of the building.

8.6 JLP Policy 'SPT2 Sustainable linked neighbourhoods and sustainable rural communities' seeks to reduce the use of energy through design and 'DEV32.4 Low Carbon Development' addresses issues of layout, orientation and design. The opportunities for maximising the cooling benefits of planting should not be restricted to areas surrounding a building, but also within the fabric of the building itself. As global temperatures rise we will need to look at whole systems approaches to reducing the risk of overheating, not just in the design and orientation of buildings themselves, but through managing the relationship between buildings and their surroundings. Green walls and roofs offer significant potential to reduce the risk of overheating, whilst also benefitting biodiversity and habitat creation. All proposals should therefore demonstrate what additional adaptation measures are included to reduce the risk of overheating. Building design should avoid relying upon 'bolt-on' technologies like air conditioning units to cool the internal temperature of the building. Mechanical heat recovery and ventilation systems could be suitable technology to use as the air tightness of buildings improves, although care should be taken to ensure that the energy demand from these systems is kept to a minimum, and ideally offset completely by onsite renewable generation.

8.7 Further guidance on green walls and roofs will be made available.

A2. Protecting our soil resource

8.8 The JLP prioritises the development of previously developed land and promotes resilient development and policy DEV2.6 gives further detail on protecting soils. Because of the importance our soil resource plays in carbon storage the plan seeks to protect greenfield sites unless allocated or there is a need for the development.

8.9 Soils support biodiversity, sequester carbon and absorb water and play an important role in capturing carbon, providing sustainable drainage, as well as increasing resilience to extreme weather event. The loss of soil cover to impermeable surfaces has numerous detrimental impacts which erode their important role in addressing the climate emergency.

8.10 **The Climate Emergency Compliance Form should include measures to protect the soil resource.**

A3. Protecting and enhancing tree cover

8.11 JLP policy DEV28 protects trees, woodlands and hedgerows, require net gain and appropriate mitigation. Trees are crucial in delivering a wide range of adaptation benefits and for helping to maintain our health and wellbeing; for example spending time around trees and looking at trees can reduce stress, lower blood pressure, and improve mood.

8.12 Trees play a vital role in addressing the climate emergency through their storage of carbon, reducing run off, increasing drainage, shade and improving air quality, as well as addressing local climatic effects and reducing energy demand. Trees also support a huge amount of habitats and species. Tree planting at a massive scale is a key component of the government plan to net zero. Existing trees, especially mature trees that have significant value should be protected and development should provide enhanced tree cover with the right new trees in the right places.

8.13 **The Climate Emergency Compliance Form should include measures to protect and enhance tree cover and to address their important role in the climate emergency.**

A4. Protecting and enhancing gardens, green spaces and greenfield sites

8.14 JLP policy 'SPT1 Delivering sustainable development' and 'SPT2 Sustainable linked neighbourhoods and sustainable rural communities'' prioritise the re-use of previously developed sites reducing the need for greenfield development. This in turn helps protect natural assets and promotes the creation of a wildlife rich local environment with well designed public and natural spaces. These key strategic policies, along with other policies in the JLP collectively promote resilient development and the efficient use of land protecting and enhancing gardens, green spaces and greenfield sites.

8.15 Green spaces and green fields sites have an intrinsic value as a natural resource that makes a significant contribution to addressing the climate emergency. They offer a wide range of existing multifunctional benefits. These include as a soil resource, which provides an important role in capturing carbon, and providing increased resilience to extreme weather events through managing drainage and surface water. As well as making a positive contribution to climate change adaptation they are an important source of biodiversity and habitats as well as playing an important role in maintaining our health and wellbeing. This includes delivering opportunities for food production that reduces food miles and grocery costs, growing food protects the soil, creates habitats, manages water run-off and helps reduce the risk of overheating.

8.16 **The Climate Emergency Compliance Form should demonstrate how the benefits and functions of all green spaces will be protected and enhanced.**

A5. Delivering sustainable drainage, surface water management and restricting urban creep

8.17 JLP policy 'DEV35 Managing flood risk and water quality impacts' requires sustainable water management measures. Being able to absorb water through permeable surfaces reduces the need to manage water offsite, which in turn reduces the risk of flooding. Urban creep is the gradual paving of porous surfaces and leads to an increased need to manage surface water. Good water management onsite will also assist in supporting biodiversity and habitats, as well as reducing the risk of overheating.

8.18 Specific rules apply for householders wanting to pave over their front gardens. You will not need planning permission if a new or replacement driveway of any size uses permeable (or porous) surfacing which allows water to drain through, such as gravel, permeable concrete

block paving or porous asphalt, or if the rainwater is directed to a lawn or border to drain naturally. However, if the surface to be covered is more than five square metres planning permission is required for laying traditional, impermeable driveways that do not provide for the water to run to a permeable area.

8.19 **The Climate Emergency Compliance Form should demonstrate how surface water will be managed to ensure sustainable water drainage and reduced flood risk.**

A6. Delivering biodiversity net gain and habitat improvements

8.20 JLP policy 'DEV26 Protecting and enhancing biodiversity and geological conservation' requires 10% biodiversity net gain in all major development, a proportionate approach to minor development and enhancements for wildlife from all scales of development. The SPD provides detailed guidance including provision for 30-year maintenance and acknowledges that there will be a new Biodiversity Metric and updated guidance will be required. The Environment Act increases the importance of this issue and makes 10% biodiversity net gain mandatory.

8.21 Biodiversity and habitats are hugely significant to personal health and wellbeing, supporting ecosystems, enhancing ecology, capturing and storing carbon capture and encouraging food production. The RSPB reports that the UK ranks in the bottom 12% of countries globally for biodiversity intactness, and has lost 60% of our habitats since 1970.

8.22 New guidance will be produced on biodiversity net gain including habitat banking and costs. In addition, a Green Space Factor Tool will be produced and consulted on separately. Further information is available Biodiversity in new housing developments: creating wildlife-friendly communities

8.23 **The Climate Emergency Compliance Form should demonstrate how appropriate levels of biodiversity net gain will be achieved.**

9 Appendix 4 Impact assessment

9.1 The Climate Emergency Planning Statement was assessed during its preparation against sustainability objectives and a supporting Impact Assessment Document was published alongside the consultation version.

9.2 This assessment also began to consider climate justice and how climate change can impact on different groups, however it did not attempt to provide a comprehensive assessment of this but only considered the small impact the document would have. As the Planning Statement will only apply to new development, submitted after 30 September 2022, its impact will be limited to new dwellings and extensions and other development requiring permission.

9.3 Moving forward the Councils recognise the importance of working closely with health authorities and emergency services to plan how to deal with potential emergencies such as storms, heat waves, extreme cold, further pandemics, floods, water or food shortages, wildfires, extreme air pollution, pest invasions, and associated mental health issues.

9.4 We recognise that climate change impacts differently on people and communities and their capacity to adapt will depend on different factors including:

- Personal features of the individual, such as age and health, which affect their sensitivity to climate impacts;
- Environmental characteristics, such as the availability of green space, quality of housing stock or elevation of buildings, which can increase or offset exposure to flooding or heat;
- Social and institutional context, such as levels of inequality and income, the strength of social networks, the cohesion of neighbourhoods and the day-to-day practices of institutions, such as care regimes in nursing homes, which affect people's ability to adapt.

9.5 There will be variations in how communities respond to the risks of climate change and some groups of people such as those with physical or mental health problems, care home residents, the homeless, the socially isolated, children, the elderly, the disabled, and people of low income can experience different levels of vulnerability to climate change impacts.

9.6 Understanding the full impacts of climate change on the JLP area will form part of the evidence to support any update or review of the Joint Local Plan in the future. In the period before the review/update of the JLP, the measures set out in the document will help ensure that new developments are responding to climate change. This will have direct impacts for those who are living within the properties or use services and facilities that have adapted or mitigated for climate change.

9.7 There might also be some secondary benefits for our communities, for example flood risk to existing development could be reduced as a result of contributions towards flood risk management schemes. Measures which seek to enhance green space and urban cooling measures, including nature based solutions, have the potential to reduce urban temperatures. These secondary benefits are consistent with National Planning Policy Framework aims to wherever possible help reduce flood risk overall and provide wider sustainability benefits to the community

9.8 This planning statement seeks to improve the resilience of future development and its ability to adapt to climate change and raises awareness about climate change and how the Councils are responding. In terms of Equalities Impact Assessment, it does not have any direct negative impacts on different groups, it seeks to ensure that new development delivers positive benefits and responds appropriately to the Climate Emergency we are facing.

10 Appendix 5: Glossary

Active Travel

Active travel simply means making journeys in physically active ways - like walking, wheeling (using a wheelchair or mobility aid), cycling, or scooting.

Adaptation

Climate change adaptation is the process of adjusting to current or expected climate change and its effects. It is one of the ways to respond to climate change, along with mitigation.

Air Source Heat Pump

An air source heat pump is a renewable heating system that extracts low-temperature solar energy from the air and compresses this energy into a higher temperature. An air source heat pump provides a building with 100% of its heating and hot water all year round.

Biodiversity

The numbers and relative abundances of different genes (genetic diversity), species, and ecosystems (communities) in a particular area.

Biomass boiler

A heating system that uses natural/non-fossil fuel resources to create heat for use throughout a home or premises.

Brise Soleil

Brise soleil (taken from the French for 'sun breaker') is a type of solar shading system that uses a series of horizontal or vertical blades to control the amount of sunlight and solar heat that enters a building.

Carbon footprint

The amount of carbon an entity of any type (e.g., person, group, vehicle, event, building, corporation) emits into the atmosphere.

Carbon sink

Anything storing carbon such as trees and other vegetation, forests, oceans and grasslands.

Class E

The Town and Country Planning (Use Classes) Order 1987 (as amended) introduced a new use class E – Commercial, Business and Service. This covers a variety of uses including retail, restaurant and café, financial and professional services, indoor sport, recreation and fitness, medical or health services, crèche or day centre, offices, research and development and industrial services. Further detail can be found at Planning portal use classes

Eaves

The area where a roof extends a small way past the wall of a building is usually referred to as the eaves. Extending the eaves can assist with increasing shade at times when the sun is at its highest.

Ecosystem

A system of interacting living organisms together with their physical environment. The boundaries of what could be called an ecosystem are somewhat arbitrary, depending on the focus of interest or study. Thus, the extent of an ecosystem may range from very small spatial scales to, ultimately, the entire Earth.

Emissions

In the climate change context, emissions refer to the release of greenhouse gases (primarily carbon) into the atmosphere over a specified area and period of time.

Embodied carbon

Embodied carbon is the total greenhouse gas (GHG) emissions (often simplified to “carbon”) generated to produce a built asset. This includes emissions caused by extraction, manufacture/processing, transportation and assembly of every product and element in an asset.

Extension

An addition to an existing building that, for the purposes of this document, requires planning permission

Fossil fuels

Carbon-based fuels from fossil carbon deposits, including coal, oil, and natural gas.

Future Building Standard (FBS)

The aim of the Future Buildings Standard is to improve the energy efficiency and sustainability of new and renovated buildings other than new dwellings, which are covered by the Future Homes Standard.

Future Homes Standard (FHS)

The Future Homes Standard is a set of standards that will complement the Building Regulations to ensure new homes built from 2025 will produce 75-80% less carbon emissions than homes delivered under current regulations. Interim standards were introduced from 15 June 2022.

Green Roof

A green roof is a layer of vegetation planted over a waterproofing system that is installed on top of a flat or slightly–sloped roof. Plants help to reduce overheating, retain water and increase biodiversity and habitats.

Green Walls

A green wall is a vertical built structure intentionally covered by vegetation. Plants help to reduce overheating, retain water and increase biodiversity and habitats.

Ground Source Heat Pump

A ground source heat pump is a renewable heating system that extracts low-temperature solar energy stored in the ground or water using buried pipework and compresses this energy into a higher temperature. A ground source heat pump provides a building with 100% of its heating and hot water all year round.

Habitat

The particular environment or place where an organism or species tend to live; a more locally circumscribed portion of the total environment.

Major Development

For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more.

For non-residential development it means additional floorspace of 1,000m2 or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

Minor development

A minor development is anything below the threshold for major developments**.** For example: the number of dwellings is between one and nine, or the floorspace is less than 1,000sqm or the site area less than one hectare.

Mitigation

Climate change mitigation consists of actions to limit global warming and its related effects. This involves reductions in human emissions of greenhouse gases as well as activities that reduce their concentration in the atmosphere. It is one of the ways to respond to climate change, along with adaptation.

Offsetting

A carbon offset is a reduction or removal of emissions of carbon dioxide or other greenhouse gases made in order to compensate for emissions made elsewhere. Offsets are measured in tonnes of carbon dioxide-equivalent. Carbon offsetting is just one tool in our toolbox to

tackle climate change and should not be considered as a stand-alone action. Organisations and individuals should look to reduce their emissions as much as possible, as well as taking responsibility for what remains, by offsetting it.

Photo Voltaic (PV) Panels

PV panels, also known as solar panels, capture the sun's energy and convert it into electricity.

Renewable Energy

Energy obtained from natural sources such as geothermal, wind, photovoltaic, solar, and biomass. The harvesting and use of this energy resource does not result in additional carbon being emitted into the atmosphere.

Solar PVT

A combination of solar photo voltaic panels and solar thermal panels in one module and produces electricity and heat simultaneously.

Solar thermal

System that uses energy from the sun to warm water for storage in a hot water cylinder or thermal store.

Solar thermaldynamic

A flat plate collector which gains energy from the sun as well as the ambient air.

Standard Assessment Procedure (SAP)

A SAP assessment is the only government approved method for calculating the energy performance of dwellings. These can be done at a design stage, which forecasts the energy performance of a dwelling, and also ‘as built’ which calculates the actual energy performance of the constructed building.

Sustainable Transport

Sustainable transportation is the capacity to support the mobility needs of a society in a manner that is the least damageable to the environment and does not impair the mobility needs of future generations. The most sustainable forms of transport often move multiple people between fixed points, in the UK buses and trains are considered the most sustainable of mainstream transport modes. These can be made more sustainable by using renewable and low carbon fuels.

Thermal efficiency

Is a measure of how well a building uses energy for space heating. A higher level of energy efficiency means that a building uses less energy than a building of an equivalent size, (reducing energy waste) because less energy is lost through the fabric of the building.

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