

**Written evidence submitted by the Department for Levelling Up, Housing and Communities, with the Department for Business, Energy, and Industrial Strategy and Department for Environment, Food and Rural Affairs**

Introduction

On 17 March 2021, the UK Government published its first ever Industrial Decarbonisation Strategy. This, the first to be published by a major economy, sets out how industry can decarbonise in line with net zero, while remaining competitive and without pushing emissions abroad. It considers new policy approaches which government could introduce to accelerate the market for low-carbon industrial materials, including construction products. The Strategy builds upon commitments in the Clean Growth Strategy and the 25 Year Environment plan to increase the use of low-carbon materials in construction, including timber.

DLUHC's stewardship of the planning process and its role setting building regulations also provides valuable levers to significantly decrease the environmental impacts of construction. From 2025, the Future Homes Standard and Future Buildings Standard will produce highly efficient homes and non-domestic buildings which use low-carbon heat and have the best fabric standards possible, ensuring they are better for the environment and fit for the future.

Government also understands the importance of properly accounting for carbon, which is why we are working to ensure that the whole life of building materials is accounted for, including the impact of any embodied carbon, and is why we are promoting the benefits of reusing and retrofitting ahead of demolition.

How the Industrial Decarbonisation Strategy will set us on a course to decarbonise construction

The Industrial Decarbonisation Strategy sets out our ambition to create demand and grow the market for low embodied carbon industrial products, including key construction materials such as steel and cement. The Strategy commits to exploring a range of policy options that can support this ambition, including improving the transparency of embodied emissions data, product labelling, product standards, and changes to public and private procurement approaches.

To decarbonise the construction of new buildings we must use fewer materials more effectively and reduce the carbon content of the construction materials we do use. The National Model Design Code was published in July and has been prepared in a context of social, economic, and environmental change, acknowledging the role which well-designed places will play in reducing embodied carbon and our environmental impact. The guide encourages the careful selection of materials and construction techniques in improving efficiency and reducing their environmental impact. It also identifies measures to improve energy efficiency and minimise carbon emissions through mitigation and adaptation.

Replacing high emissions materials with timber can reduce emissions from new builds by 20-60%, locking away trees' carbon for the long-term and driving investment into new planting, while helping to meet UK planting commitments. The England Trees Action Plan, which was published earlier this year, outlines the immediate actions this Government is taking to increase the use of timber in construction, where it is safe to do so and with a focus on low-rise housing. These include working with key construction stakeholders to develop a policy roadmap on timber use; driving an increase in the use of certain modern methods of construction; and, working with Homes England and delivery partners to explore ways to increase timber use in the delivery of housing programmes.

The UK is the second largest timber importer in the world, after China, and increasing our domestic supply of timber will allow increased substitution benefits from using timber products to replace carbon-intensive materials in construction. Timber can reduce embodied carbon (emissions from making materials) in construction while also locking away carbon long term and driving investment into tree planting and establishment.

Felled trees store carbon within them and timber has the lowest embodied carbon of any mainstream building materials. Guided by fire safety and structural considerations as well as market analysis, key opportunities for the safe growth of timber use will be in low-rise buildings using traditional and certain modern methods of construction, and in a wide range of commercial and non-residential settings.

The carbon reduction benefits of Modern Methods of Construction (MMC) vary by system and technology. The housebuilding industry acknowledges that some types of MMC are far better equipped to achieve the country's net zero commitments than traditional construction. For example, industry report that off-site manufacture can lead to less pollution; less wastage of materials on site and in manufacture; and more recycling of materials and use of materials with higher recycled content.

#### Progress on the Climate Change Committee's recommendations on decarbonising the structural fabric of the new homes

The Building Regulations set standards for the design and construction of buildings to ensure the safety and health of people in or about those buildings. From 2025, the Future Homes Standard and Future Buildings Standard will produce highly efficient homes and non-domestic buildings which use low-carbon heat and have the best fabric standards possible, ensuring they are better for the environment and fit for the future.

We consider the principle of a fabric-first approach to be sound and under the Future Homes and Buildings Standards, we will be pushing building fabric standards further than ever before while also ensuring that low carbon heating is integral to the design of all new buildings. In the short term, our priority is to implement an interim 2021 Part L (conservation of fuel and power) uplift for new homes as swiftly as possible. We also intend to consult on the technical specification of the Future Homes Standard in 2023.

The Building Regulations will continue to set a performance-based standard rather than mandating or banning the use of any technologies. However, by continuing to set minimum standards through the regulations we will allow developers to continue pushing the boundaries of innovation so that today's trailblazing examples of green design become the industry standard of tomorrow. Some in the sector are already leading the way by building highly efficient, low carbon buildings and investing in the skills and supply chains that are needed to bring about a net zero future.

We will work with industry to develop sector-specific guidance for housebuilders, designers, and installers; and embed understanding of the technical specification of the Future Homes Standard. In the meantime, to provide greater certainty for all stakeholders, we have published a draft notional building specification for the Future Homes Standard alongside the consultation response. The specification is not final but provides a basis on which we can begin to engage with all parts of industry on the indicative technical detail of the Future Homes Standard.

### Minimising the carbon footprint of construction materials

The carbon footprint of construction materials can be reduced by using them in a resource efficient manner. For example, by retrofitting rather than demolishing and rebuilding, designing buildings to use less of carbon intensive materials such as steel and cement, reusing components like structural steel, and using recycled materials such as recycled steel. Defra has recently consulted on how to support greater resource efficiency. The Green Construction Board's Taskforce on Zero Avoidable Waste has also developed a road map for industry.

The Government is allocating funding across several existing government schemes to support reuse and retrofit, including the Local Authority Decarbonisation (LAD) Scheme, Home Upgrade Grant (HUG), and Social Housing Development Fund. The Social Housing Decarbonisation Fund will support the ambition set out in the Clean Growth Strategy, that as many social homes as possible are improved to Energy Performance Certificate (EPC) band C by 2035. The Home Upgrade Grant will provide energy efficiency upgrades and low-carbon heating to low-income households living off the gas grid in the worst performing homes in England. In addition, the Energy Company Obligation (ECO) scheme requires larger energy suppliers to install energy efficiency and heating measures to people's homes across Great Britain. The scheme has already installed 3.3 million measures in 2.3 million homes.

### The role of the planning system in delivering a sustainable built environment

Planning guides the way our towns, cities and countryside develop through local plan-making and decisions. This includes the use of land and buildings, the appearance of buildings, landscaping considerations, highway access and the impact that the development will have on the general environment. We have already taken steps to help realise the potential of the planning system in contributing to climate change targets.

The National Planning Policy Framework embeds policies on mitigating and adapting to climate change into the planning system, including minimising greenhouse gas emissions and designing and shaping sustainable places that are resilient to, and appropriate for, current and future climate change impacts. This has been further strengthened through the July 2021 update.

The National Model Design Code, also published in July this year, guides local planning authorities on measures they can include within design codes to help ensure development responds to the impacts of climate change, is energy efficient and minimises carbon emissions.

We have introduced new nationally set permitted development rights which permit change of use of existing buildings, including from commercial to residential use. These rights make an important contribution to housing delivery while making best use of existing buildings and avoid building on greenfield land. All homes delivered through such rights are required to meet building regulations.

We have also recently introduced a further permitted development right to allow vacant and redundant free-standing commercial and light industrial premises, and residential blocks of flats, to be demolished and replaced with new residential units. Under the right the developer must provide the local planning authority with a report for the management of the construction of the development, including the proposed use of materials, and the plans for the disposal and recycling of waste generated by the development.

We will make sure that the reformed planning system supports our efforts to combat climate change and help bring greenhouse gas emissions to net zero by 2050.

### Incorporating green infrastructure into building design and developments to achieve climate resilience and other benefits

The Government is committed to the creation, protection, enhancement, and management of networks of biodiversity and green infrastructure and have pledged to be the first generation to leave the natural environment in a better state than it was inherited. We have already taken steps to help realise the potential of the planning system in contributing to climate resilience, including the July updates to the National Planning Policy Framework (NPPF) and the National Model Design Code.

Builders increasingly must consider the use of renewable technologies in their designs. These could be solar panels, or they could be other types of renewable energy generation technology such as wind turbines, heat pumps and combined heat and power boilers. It is worth noting that some roofs are not suitable for solar photovoltaic panels because of shading and orientation.

The NPPF explains that new development should be planned for in ways that avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure.

For example, the recent update of the NPPF details that all sources of flood risk need to be considered during planning (including areas that are at risk of surface water flooding due to drainage problems) and reflects the benefits of natural flood management. Working with natural processes can help to protect and restore the natural functions of catchments, floodplains, rivers, and the coast. We have committed to double the number of government-funded projects which include nature-based solutions to reduce flood and coastal erosion risk. The NPPF also sets out that the design and use of built and natural environments, including green infrastructure, are major determinants of health and wellbeing. Access to high quality open spaces not only have an ecological value but can provide health and recreation benefits to people living and working nearby. This can also play an important part in the landscape and setting of built development and contribute to the achievement of sustainable development more broadly.

The supporting National Model Design Code provides detailed guidance on the production of design codes, guides, and policies to promote successful design. It sets a baseline standard of quality and practice for local planning authorities, which includes how landscape, green infrastructure and biodiversity can be approached; the importance of streets being tree-lined; the layout of new development, including infrastructure; and how the design of new development can enhance the health and wellbeing of local communities and create safe, inclusive, accessible, and active environments.

### Taking account of the embodied carbon impact of manufacture and delivery to site and enabling customers to assess these impacts between materials

The government has committed to developing detailed policy proposals in this area, beginning with a call for evidence on demand-side policy by Spring 2022. The call for evidence will investigate how we can define low carbon products and the emissions reporting that will be required to facilitate

those definitions. The call for evidence will also explore the delivery of demand-side policy levers, with a view to the potential introduction of policy as early as 2025.

Our engagement with industry to date suggests that for developers large and small this is unfamiliar territory, and many will be more engaged with the immediate requirements to meet our planned Part L Uplift and the Future Homes Standard. Those who are accounting for embodied carbon in construction projects tend to be guided by the British Standard for Sustainability of Construction Works (BS EN 15978) or by industry guidance that has been created to aid its implementation. However, we are also aware that a range of voluntary definitions and standards have been developed and that consistency of implementation of these methodologies varies across the industry.

As part of our plan to improve this, the Department for Business, Energy, and Industrial Strategy (BEIS) and Infrastructure and Projects Authority (IPA) are working across Government, including with DLUHC, to develop a common set of metrics to better understand construction performance across government and support organisations in improving delivery performance. This involves the application of UK standards BS EN 15978:2011, BS EN 15804:2012+A2:2019, the RICS Professional Statement: 'Whole Life Carbon Assessment for the Built Environment' and PAS 2080.

The methodology for the in-use and end of life embodied carbon emissions in construction will be the subject of the cross Government working group on Government Construction Metrics run by the IPA.

#### The Industrial Energy Transformation Fund

The UK government is supporting industry to cut energy use and carbon emissions during the manufacturing process. BEIS launched the Industrial Energy Transformation Fund across England, Wales, and Northern Ireland with £289m investment (with Scotland administering a separate £34 million Scottish IETF pot). The IETF is open to businesses of all sizes across many UK industrial sectors, including those who manufacture materials used in construction.

The Phase 2 competition window runs from 27 September to 6 of December 2021 and is made up to £60m of funding available to businesses, providing funding for three types of projects. These are studies which investigate identified energy efficiency and decarbonisation projects prior to making an investment decision, deployment of technologies to reduce industrial energy consumption, and deployment of technologies to achieve emissions savings.

Through grants of up to £30 million, companies may invest into a wide range of actions including installing more efficient boilers, electric motors, and heat pumps to replace their natural gas-fired boilers and steam turbines, as well as developing technologies for industrial carbon capture, fuel switching and recycling waste heat into renewable electricity.

#### Conclusion

The Government is committed to enhancing the sustainability of the built environment and has taken significant steps towards this through our net zero commitments. We recognise that the carbon emitted during the construction of homes and buildings, or embodied carbon, can account for a considerable proportion of the total carbon emissions over the lifetime of a building. As we transition to a net zero economy, reducing these emissions and increasing the use of low-carbon materials in construction will be vital. DLUHC will carry out longer-term work to consider the future of energy efficient buildings beyond the Future Homes Standard and the Future Buildings Standard.

This will enable us to examine wider and more fundamental questions around how we can ensure that all new buildings are designed and constructed to be fit for a zero-carbon future.

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