

# CLEAN GROWTH STRATEGY: BUILT ENVIRONMENT POLICY RECOMMENDATIONS

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## Introduction

The UK Green Building Council welcomes the adoption of an ambitious fifth carbon budget and the continued Government commitment to the Climate Change Act. Setting the long term targets for 2050 and the interim milestones of the carbon budgets has so far proven to be very effective in driving down emissions, but in order to continue this momentum the same approach needs to be applied to individual sectors.

For the building sector, emissions reductions over the past eight years have primarily been driven by regulation, particularly through product standards and the installation of energy saving measures in homes. However current or planned policies for the built environment mean that we are not on track to meet the 5th carbon budget. Current projections show that emissions from the built environment will exceed those recommended by the Committee on Climate Change in 2030 by 18 per cent, while from 2030 to 2050 buildings emissions will need to reduce at a much more rapid rate than previously planned.

Encouraging the private sector to take a greater lead in reducing emissions will require much greater clarity about what needs to be achieved from the built environment by 2050. The Committee on Climate Change already produces sector-specific recommendations of the most cost-effective abatement. But in order to provide long term certainty to businesses and investors, the built environment requires mandated emissions reduction targets in line with the carbon budgets with clear milestones and transparent metrics. The policies and delivery mechanisms for achieving these targets will change according to the techniques and technologies that become available, but it is important that a clear overarching direction is maintained to drive action.

## Key recommendations

1. Set built environment carbon targets alongside each of the carbon budgets, in line with the trajectory to 2050. Sector specific targets should set out milestones for construction, infrastructure, residential and commercial buildings.
2. Tighten Building Regulations to require all new homes and other buildings to be 'net zero carbon' from 2030, with a managed transition from 2020 onwards. The 'net zero carbon buildings' standard would cover all energy use and be based on actual metered energy (rather than projections). Recognise energy efficiency as a national infrastructure priority and set long-term trajectories of increasing energy standards for existing homes and commercial buildings over the next 20 years.
3. Introduce mandatory operational energy ratings for all commercial buildings to enable transparency of performance to drive investment and innovation. Over time these should be integrated with a trajectory for tightening Minimum Energy Efficiency Standards.
4. Renew the Greening Government commitments for 2020 and then every five years, setting targets for emission reductions from public buildings. Use public procurement to drive higher standards in the commercial property market and new local authority housing.

## Built environment

Currently there is no high-level mandate for the construction and property industry to take action to reduce emissions. A wide number of companies are making progress towards reducing their impacts but this activity is uncoordinated and is not being measured at a sector level.

**Set built environment carbon targets alongside each of the carbon budgets, in line with the trajectory to 2050.**

The Government should introduce high-level legally binding emissions reduction targets for the whole UK built environment which would sit across all policies for buildings and construction. These targets should be derived from the Carbon Budgets and would provide clear five-year interim targets on the trajectory to 2050.

This approach was proposed by the Green Construction Board in the Low Carbon Routemap 2013 which set out emissions reduction levels that would need to be achieved by the sector alongside the second, third and fourth carbon budgets. The broad approach of setting a built environment-wide target was also adopted by the Infrastructure Carbon Review and the commitment to cut emissions by 50 per cent by 2025. This was in line with the targets recommended by the GCB alongside the carbon budgets but the target was voluntary and has not been robustly monitored.

To provide certainty to the industry, the emissions reductions levels recommended by the GCB Routemap should be adopted as mandatory sector-wide targets for the built environment and extended out to the fifth carbon budget. This would provide a high-level mandate for action in the sector without being prescriptive about how the emissions reductions would be achieved.

It is equally important that there is a robust process for monitoring progress towards these targets by a relevant industry-facing body, which would establish a feedback loop for the industry and facilitate the spreading of best practice. WRAP undertook this role effectively for targets to reduce construction waste and could be used as a model to consider. For the built environment as a whole, an existing body such as the Construction Leadership Council could be used to coordinate monitoring and report on progress towards the targets.

**Sub-sector targets should set out milestones for construction, infrastructure, residential and commercial buildings.**

The Low Carbon Routemap recommended that the scope of the built environment targets should be made up of six sub-sector targets:

- 1) Capital emissions from infrastructure
- 2) Operational emissions from infrastructure
- 3) Capital emissions from non-domestic buildings
- 4) Operational emissions from non-domestic buildings
- 5) Capital emissions from domestic buildings
- 6) Operational emissions from domestic buildings

Each of these sub-sector targets are based on the realistic contributions they could make to the sector-wide target and therefore provide further clarity to help inform policy decisions and industry action.

For example, targets for reducing emissions from construction would bring together the three capital carbon targets for infrastructure, domestic buildings and non-domestic buildings. Equally, the operational targets for buildings would provide the basis for the tightening of new build standards and the introduction of minimum standards for existing buildings.

### Develop a long-term strategy for the rollout of low carbon heat

There is a significant overlap between the issue of emissions reduction from the built environment and the pressing need to decarbonise heat. There is a growing understanding of the technological options for adjusting our heating systems but it is unclear how these will be prioritised and delivered. As a priority, the government should set out a long-term strategy for the deployment of low carbon heat, setting a clear vision and targets in the current parliament ahead of mass rollout of solutions in the 2020s.

Successfully decarbonising heat will be heavily predicated on reducing demand through energy efficiency so it is vital that there is an integrated policy approach between these two objectives. Higher energy performance standards for new build should be accompanied by the installation of technologies such as heat pumps or heat networks where appropriate. Meanwhile the significant undertaking of retrofitting existing buildings also provides opportunities for installing low carbon heating at the same time.

## Construction

### Rationalise the current reporting landscape for measuring construction emissions

There are currently a plethora of different tools and methodologies for reporting on construction emissions. Clients often specify targets for specific projects but will do so using a range of different approaches. This variability in approach makes comparisons between projects and companies difficult, and creates difficulties in gathering consistent emissions data for tracking sector-wide progress.

To improve consistency and offer clarity to the industry, the Government should work closely with industry to rationalise the current set of metrics and establish a consistent set of standards which can be used to measure construction impacts. This will be particularly important in gathering consistent data for tracking progress towards the sector-wide emissions reduction targets.

### Mandatory emissions reporting covering all major construction projects

Tracking progress towards construction sector emissions reduction targets will require comprehensive reporting on major construction projects. As such, it is important to ensure that all major construction projects are covered by mandatory emissions reporting using consistent metrics and methodologies. Businesses should have flexibility for reporting on either a project or organisational basis and where possible this should align with reporting requirements under ESOS and mandatory GHG reporting.

## Building standards

### Introduce a 'net zero carbon' standard for all new homes and other buildings from 2030, with a managed transition from 2020

The cancellation of policies for zero carbon for homes and non-domestic buildings has created significant uncertainty about the future of energy standards in building regulations. The Committee on Climate Change has also highlighted that due to the ending of the zero carbon policy for homes, new properties are currently being built which will need to be expensively retrofitted in the next 15 years.

The Government should mandate a net zero carbon buildings standard for both homes and non-domestic buildings from 2030. This would cover all energy use (both regulated and unregulated) and be based on actual metered energy (rather than projections). There should be a managed transition to this standard from 2020, using metered energy use for compliance with building

regulations. Mandate the Net Zero Carbon Buildings standard<sup>8</sup> for all new homes by 2030, with a managed transition from 2020 using metered energy use for compliance with building regulations. Tightening Building Regulations to require all new homes and other buildings to be 'net zero carbon' from 2030, with a managed transition from 2020 onwards;

should recommit to introduce zero carbon standard for both homes and non-domestic buildings from 2020.

### ***Zero carbon homes***

The 2020 standard for homes should follow the original recommendations of the Zero Carbon Hub for the 2016 onsite standards and the introduction of allowable solutions to deploy funds into local energy efficiency improvements and heat networks. Further work needs to be undertaken to apply the definition to a wider range of building archetypes, but this should follow the same framework of Fabric Energy Efficiency Standards, Carbon Compliance and Allowable Solutions.

A key part of the new zero carbon homes standard should be a move towards a kWh/m<sup>2</sup> metric for compliance with Part L, in line with the Zero Carbon Hub recommendations for Fabric Energy Efficiency Standards. This would allow the measurement of actual performance of a new building and therefore help to address the performance gap, and could also help to reduce the regulatory burden on developers without negatively impacting on the energy performance. In order to minimise the disruption of a move towards kWh/m<sup>2</sup>, the new metric should be introduced as soon as possible as a voluntary alternative to the notional building approach to Part L compliance. This would help the industry to understand the new compliance mechanism before it becomes mandatory in 2020.

### ***Zero carbon non-domestic buildings***

In parallel, the Government should work closely with the industry to develop a zero carbon definition for new non-domestic buildings for introduction in 2020. This should mirror the definition for homes with a viable onsite standard accompanied by an allowable solutions offset mechanism.

The government should also signal an intention for non-domestic building energy efficiency regulations from 2020 to be accompanied by a new regime requiring actual base building annual energy use to be measured and a performance rating publicly disclosed within two years of occupation. The Design for Performance project is pioneering and testing the use of developer guaranteed performance agreements at project initiation stage for new buildings.

### ***Commit to a trajectory of further tightening standards up to 2032 to encourage investment in skills and innovation.***

The original zero carbon policy was based on a ten-year trajectory of improvements to building regulations which would lead to the final zero carbon standards for homes in 2016 and non-domestic buildings in 2019. These trajectories provided clarity for the industry over the medium term, helping to galvanise investment in innovation and skills, and drive significant cost reductions in delivering more energy efficient homes.

Building on this progress, a future trajectory should be set out for tightening building regulations up to 2032 and the end of the fifth carbon budget. Over this period, the scope of building regulations should be extended to include unregulated and embodied energy.

## Existing homes

### Recognise energy efficiency as a national infrastructure priority

The Government should recognise energy efficiency as a national infrastructure priority and ensure that long term targets are set for improving all existing homes. Energy efficiency fulfils each of the Government's three primary objectives of energy policy: controlling household bills, increasing energy security, and reducing carbon emissions. The delivery of energy efficiency improvements can also drive economic growth and create jobs in every region in the UK.

Identifying energy efficiency as a national infrastructure priority would recognise the importance of this issue, provide confidence to the industry, encourage cross departmental support for a national programme and provide access to new investment streams. The National Infrastructure Commission could also help to facilitate the development of a long-term delivery plan which is co-owned by both government and industry.

### Set a long-term trajectory of increasing energy standards for existing homes

In line with overarching built environment sector carbon target, the Government should set a trajectory for all existing homes to meet a minimum standard of EPC Band C by 2035. This would build on the current Minimum Energy Efficiency Standards for the private rented sector but extend to all tenures with EPC improvement trajectories for each housing sector:

- Low income households (all tenures) to Band C by 2025
- Social housing sector to Band C by 2025
- Private rented sector to Band C by 2027
- Owner occupier sector to Band C by 2035

For owner-occupiers, minimum standards should be used as a back-stop for laggards in the market, with the majority of households incentivised to comply in advance. To enable a householder to easily relate their home's performance to the milestones, the anticipated minimum EPC levels should be included on the EPC.

The introduction of Home Retrofit Roadmaps to supplement the EPC measure recommendations would encourage a whole house approach being taken from the outset. Roadmaps would set out what improvements a home needs to reach EPC Band C (and beyond to 2050) and describe a sensible sequence in which individual home improvements can be made without locking the home into inadequate performance or unnecessarily increasing the cost of later improvements.

Alongside the minimum standards trajectory, the Government should set out a process for improving the EPC itself. This should include ongoing technical adjustments to improve the accuracy of the methodology for different building archetypes and a more robust compliance regime to improve the quality of assessments. In the medium term, there is also the potential to link the EPC to smart meter data to create a dynamic certificate which is based upon actual performance data.

### Introduce a range of finance options and incentives which provide an offer for all tenures and household circumstances

Property owners should be encouraged to comply early with the EPC minimum standards through a complementary suite of finance options and incentives. A range of policies will be needed which are relevant to different tenures and household circumstances, ensuring that there is an offer for every household.

The owner-occupier sector should be driven by incentives linked to property value including variable Stamp Duty rates based on energy performance and inclusion of the EPC in mortgage

affordability calculations. Private rented homes should be encouraged to take action through the introduction of a Total Cost of Occupancy on property marketing and tax incentives for landlords to make improvements, for example via the restoration of the Landlords Energy Saving Allowance, which was scrapped in March 2015. A range of finance options including low interest loans, green mortgages, equity release loans and pay as you save schemes should provide viable funding options for property owners across all tenures.

## Existing commercial buildings

### Introduce mandatory operational energy ratings for all commercial buildings to enable transparency of performance to drive investment and innovation

The introduction of mandatory operational energy ratings for commercial buildings will be crucial for encouraging ongoing actual energy savings in commercial buildings. The first step towards mandatory ratings will be developing an agreed metric, building on the Display Energy Certificate methodology and the Bigger, Better Data project.

Given the uncertain accuracy of commercial building sectoral benchmarks for DEC's, it would be important for the Government to announce a 'soft-start' process for revising and improving the existing benchmarks based on the central collection of new empirical data for whole building energy use. Separating base building energy use from the energy used for occupiers' activities will also be key to aligning operational ratings with the market, allowing landlords and tenants to manage the energy uses they are able to control directly.

A phased introduction of mandatory operational ratings should begin with rollout to larger commercial buildings over 1,000m<sup>2</sup>, with the requirement later extended to smaller properties in stages. The DEC methodology is likely to be a disproportionate burden for the smallest so it will be important to develop an automated rating based on smart meter data for these properties.

### Set a long-term trajectory of increasing energy standards for existing commercial buildings

Minimum Energy Efficiency Standards (MEES) have already had a significant impact on the commercial property market ahead of their introduction in 2018 by informing investment decisions and driving improvement works. Building on this momentum, a trajectory for tightening MEES should be introduced to provide certainty for the sector over the next fifteen years, offering additional clarity and encouraging early compliance.

The introduction of mandatory operational ratings also opens up the potential for future minimum standards to be based upon actual energy performance. This could help to streamline reporting for building owners while also driving real rather than theoretical energy savings. The timetable for transitioning to minimum standards based on operational ratings will need to be clearly set out in advance to allow the industry time to prepare.

### Establish an effective reporting framework and incentives which drive action

Alongside operational ratings and a trajectory for tightening MEES, there needs to be a complementary policy framework which drives positive action. The current Business Energy Tax Review provides an opportunity to set out an effective new approach to reporting and incentives for businesses.

Reporting should be based on the current Energy Saving Opportunities Scheme, covering the existing participants for the scheme as well as being extended to the public sector. For buildings, ESOS should be based on the mandatory operational ratings methodology to minimise

the burden of compliance. In addition to this, Greenhouse Gas Reporting should be maintained at board level and made publicly available to drive decision making at the highest level.

Businesses should be incentivised to act on ESOS recommendations and make energy improvements ahead of the trajectory for MEES. Introducing tax relief for acting on these recommendations would send a strong signal that businesses should act early to improve their buildings.

## Public sector leading by example

**Renew the Greening Government commitments for 2020 and then every five years, setting targets for emission reductions from public buildings.**

The public sector accounts for 41% of direct and 21% of electricity-related emissions from non-residential buildings. Public bodies therefore have a key role to play in driving emissions reductions from buildings but there is currently a lack of clear drivers and inconsistency in approaches across different levels of government.

The Greening Government commitments, which the previous Government introduced for the period 2010-15, included a target to reduce greenhouse gas emissions from the central Government estate by 25% from a 2009-2010 baseline. The Government should now consider renewing the commitment until 2020 and sketch out further renewals for 2025 and 2030. The Commitment should also be extended to the wider public sector, including local government buildings.

**Use public procurement to drive higher standards in the commercial property market and new local authority housing.**

In addition to the Greening Government targets, the public sector can show leadership using purchasing power and supply chains. They should use their own procurement processes to drive best practice and target setting throughout the industry. The requirement for Building Information Modelling through public procurement provides a good example of government action accelerating change within the industry.

In particular, the public sector can drive change in procurement for, and renovation standards of, commercial buildings. Mandatory operational ratings provide an opportunity for central and local government to specify minimum performance standards when procuring public buildings. This would follow the example of NABERS in Australia which several state governments used to set minimum operational ratings in public procurement and in doing so drove higher standards in the local commercial property market.

Equally, local authorities can help to drive up the standards of new homes in an area by requiring higher standards from developments built on publicly owned land. This approach has been successfully adopted by city authorities in Cambridge and Brighton as a condition when public land is sold for development.