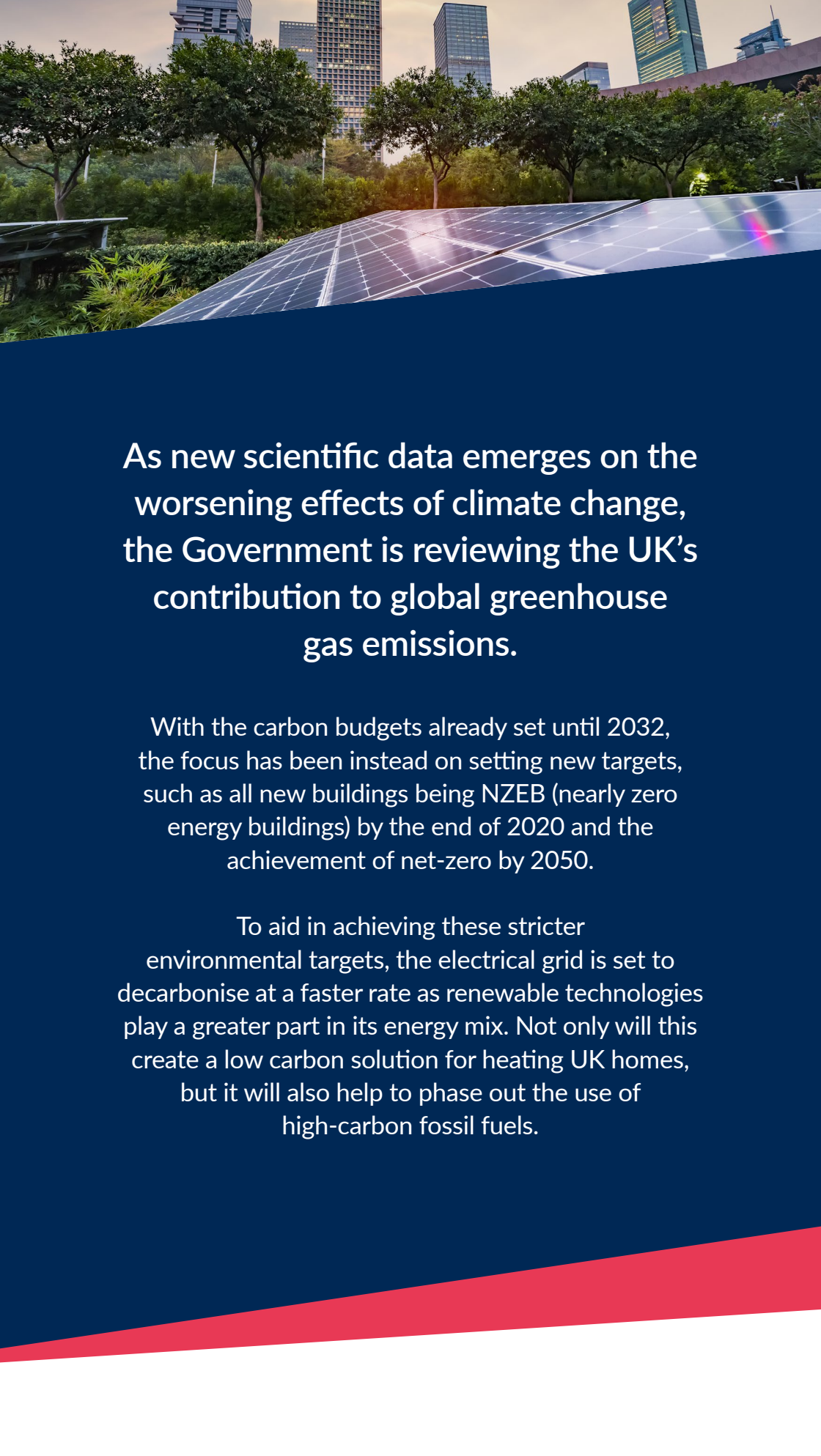




GlenDimplex   
HEATING & VENTILATION

How to:  
**Make the most  
of decarbonisation**



As new scientific data emerges on the worsening effects of climate change, the Government is reviewing the UK's contribution to global greenhouse gas emissions.

With the carbon budgets already set until 2032, the focus has been instead on setting new targets, such as all new buildings being NZEB (nearly zero energy buildings) by the end of 2020 and the achievement of net-zero by 2050.

To aid in achieving these stricter environmental targets, the electrical grid is set to decarbonise at a faster rate as renewable technologies play a greater part in its energy mix. Not only will this create a low carbon solution for heating UK homes, but it will also help to phase out the use of high-carbon fossil fuels.

## Key industry targets



# What are the carbon budgets?

In 2008, the Government introduced the Climate Change Act, transposing the achievement of five carbon budgets into UK law, which currently run until 2032.

It is these carbon budgets which have driven the changes in the Building Regulations and the requirement for all new developments to reduce carbon emissions.

This approach has helped the UK to meet the first three of the five carbon budgets and reduce emission by 43% (compared to the 1990 baseline), without negatively impacting the economy. However, the Government has been warned that to achieve the fourth and fifth carbon budgets the UK will need to take 'more challenging measures<sup>1</sup>'.



# 2

## What is the definition of a NZEB?

The Energy Performance of Buildings Directive (EPBD) defines a nearly zero energy building (NZEB) as ‘a building that has a very high energy performance, where the very low amount of energy that is required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby’.<sup>2</sup>

This directive also mandates that the energy performance target of a NZEB is measured in primary energy, which government has reflected in the recent Part L 2020 consultation.





# 3

## What is net-zero 2050?

The Government has announced that net-zero by 2050 will be UK law and that this will drive the creation of the carbon budgets post 2032.

This will require the UK to comply with a 100% reduction in greenhouse gases (GHGs) from 1990 levels, compared to the current target of 80%, across the economy.



## Top tips for decarbonised HVAC specification



### Specification under new targets

The rapid decarbonisation of the electrical grid will be reflected in compliance systems at an increasingly frequent rate, as electricity carbon and primary energy factors are expected to be updated more regularly within the Standard Assessment Procedure (SAP).

The aim of this is to better represent the energy mix and carbon intensity of electric and move new developments away from fossil fuel heavy solutions.

This will make electric heating and hot water solutions increasingly specifiable for meeting the heating requirements of a dwelling, especially as the Building Regulations are updated.

Electricity is no longer the dirty fuel that many still consider it, and there are many benefits to using electricity as an energy source for heating and hot water.



## TOP TIP:

Consider using electric heating and hot water solutions, including heat pump solutions, in your new developments to aid in meeting tightening environmental targets.



# 2

## Futureproof your projects

As we move towards the net-zero 2050 target, designers will fall under increasing regulations to futureproof the housing stock of the future.

The decarbonisation of the electrical grid grants many advantages to designers for this, as the incorporation of electrical solutions, even initially as part of hybrid systems, could reduce the difficulty of retrofitting later on.



### TOP TIP

Introduce electrical heating solutions during a building's design phase to simplify any future retrofit requirements to the heating system.





## Simplify construction

With the government target to produce at least 300,000 homes per year, a rise of 35% on the current output, modern methods of construction are likely to be increasingly supported through grants and by local councils.

Due to simplified installation processes compared to gas or water-based systems, electric solutions are well suited to off-site construction techniques, especially in volumetric designs.

The 'greener grid' also allows for a single service to be introduced into a building, as electrical connections cover the needs for the heating as well as energy for appliances. Not only would this provide one utility bill, but it will also reduce the resources required on-site, given an electrical connection is already required.

# Why choose electric panel heating for your next project?



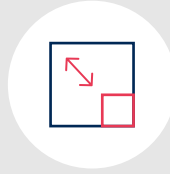
Lower capital costs



No pipework



Removed need  
for gas



No oversized plant



Faster build  
speeds



Design flexibility





No flue runs or  
boiler condensate  
pipework



Lower  
overheating risk



No complex billing  
arrangements  
or heat meters



No service/  
maintenance costs



No risk of leaks

### TOP TIP

Include electric heating solutions into projects to save time on site and simplify designs, especially for modular construction techniques.

# 4

## Electric heating solutions: efficient and cost-effective

GDHV are the world's largest supplier of electric heating solutions, with a team of industry experts dedicated to understanding where the built environment is heading.

We have an extensive range of panel heating solutions, including brands such as Dimplex and Creda.

Our products come in a range of aesthetics and sizes to meet your design needs, with our internal Applications Design team on hand to aid in the design and SAP calculations of your development.





## TOP TIP

Combining panel heating with a hot water heat pump provides a low carbon solution for heating and hot water which includes an on-site renewable contribution.

For apartments, this will also remove the need for a central plant for heating requirements, as the production of hot water is generated in each local apartment, through a single energy source.





To find out more about solutions which can help you comply with the latest environmental targets, or to speak to us about the different electrical solutions available for heating and hot water, call:

**0330 0580 560**

or email

**[Maxwell.lawther@gdhvsolutions.co.uk](mailto:Maxwell.lawther@gdhvsolutions.co.uk)**

<sup>1</sup> <https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/how-the-uk-is-progressing/>

<sup>2</sup> Article 2, Energy permanence of Buildings Directive 2018