

ZCSP Report – Buildings

WORK IN PROGRESS - This document may be incomplete and not peer reviewed.

Comments and corrections are welcome.

Commercial Properties

Current Situation

Non-Residential buildings on average are 40% more energy intensive when compared to residential properties, with gas energy consumption representing the highest share of energy use.

Within the non-residential buildings portfolio are commercial properties - the UK commercial property sector is a highly developed market with an estimated value in the region of £900 billion.

Offices, retail space, hospitality, and industrial buildings account for around 80% of private sector buildings energy demand ¹

Around a half of all energy consumed in commercial and industrial buildings in England and Wales is in the rented sector.

Commercial property can be classified in 5 principal groups:

1. Office accommodation
2. Retail – retail stores, shopping centres, shops
3. Industrial – warehouse, factories
4. Leisure – hotels, pubs, restaurants, cafes, sport facilities
5. Healthcare – medical centres, hospitals, nursing homes

The operational energy performance of these properties is benchmarked through Display Energy Certificates (mandatory) in the public sector and through real estate Environmental Benchmarking (REEB) and the UK green Building Council benchmarks (both voluntary).

Whilst in the UK Energy Performance Certificates are required for both residential and non-residential properties, they provide no information in respect of operational performance and are therefore of little practical use in assessing the requirement to head towards net zero carbon.

Shared 2030 vision

The UK Green Building Council issued a net zero buildings framework definition in April 2019 that sets out definitions and principals around two approaches to net zero carbon, which have equal importance:

1. Net zero carbon – construction

“when the amount of carbon emissions associated with a building’s product and construction stages up to practical completion is zero or negative, through the use of offsets or the net export of on-site renewable”

2. Net zero carbon – operational energy

“when the amount of carbon emissions associated with the building’s operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset”

These definitions should be widely publicised to encourage property owners and developers to implement a net zero strategy that informs all investment decisions.

Energy White Paper – Powering our Net Zero Future

In December 2020 HM Government published an energy white paper, which identifies that all rented non-domestic buildings will be targeted as an EPC Band C by 2030, where cost effective.

Around a half of all energy consumed in commercial and industrial buildings in England and Wales is in the rented sector.

The white paper also proposes to introduce a performance-based rating scheme for a large commercial and industrial buildings, this will provide businesses and their investors with additional information on the actual performance of their buildings as part of an energy reduction strategy.

NABERS UK

A collaboration between BRE, NABERS and Better Building Partnership has seen the launch of NABERS UK.

NABERS UK is an adaption of the highly successful rating programme NABERS that operates in Australia.

It is likely that that HM Government will adopt this performance-based rating system to fulfil the commitment made in the white paper detailed above.

Unlike design-based energy ratings (EPCs), NABERS UK measures and rates the actual energy use of offices.

Next Steps

The adage of not being able to “manage what you cannot measure” is key to delivering a net zero pathway, the first steps must therefore be for businesses, owners, and investors to gather the information they need to understand energy consumption and how it can be reduced.

Businesses, owners, and investors should be encouraged to benchmark their performance against comparable operations and commit to develop a net zero strategy as part of their wider governance responsibility.

¹ BEIS (2016), 'Building Energy Efficiency Survey (BEIS)', table 3.9, www.gov.uk/government/publications/building-energy-efficiency-survey-bees

Neil Dady

14th December 2020