

Carbon neutral standard: implementation test case

Summary

Context: BHCC carbon neutral policy, carbon compensation sum

Example: Test case: American Express office development, Brighton, November 2009

Context

SPD 08 Sustainable Building Design was implemented in Sep 2008. This included a carbon neutral standard for new build residential development of 3 or more units where new build should emit zero net annual CO₂ emissions from energy use (regulated and unregulated emissions). The intention of the policy is to prevent the increase in the city's carbon footprint through new build residential development. The approach is adapted to Brighton & Hove from a policy pioneered in Milton Keynes.

Where carbon neutrality is NOT delivered on site, SPD offers 2 options for off-setting outstanding onsite CO₂ emissions:

- § via financial contribution (£1/kg CO₂/annum*) to council's energy efficiency and renewable energy grants for local householders; or
- § via improvements to existing stock delivered by developer.

Legal and planning processes have been developed to implement this approach.

* £1/kgC/annum or £1,000/tonneC is a one off payment was consulted on for SPD08 (see SPD annexe) and represents the financial cost of reducing emissions in housing through a series of measures to be implemented through grant funding (based on BRE research paper). Measures include e.g. insulation (loft & cavity wall etc), boiler replacement, draught proofing and solar thermal installation.

This approach relates closely to govt proposals to achieve Zero Carbon Homes through 'Allowable Solutions' and government are researching through the Zero Carbon hub those councils that are implementing this type of approach in order to gain insight on the practicality of the approach.

The B&H carbon compensation sum appears to be less than the cost per tonne being considered for Allowable Solutions where a figure of £100/tonneC for a lifetime assumed to be 30years and equates to a one off sum of £3000/tonneC.

American Express test case

During planning negotiations for new American Express office development on their current site in Brighton, energy consultants worked hard to meet the energy and carbon standards set through local planning policy for major non residential development. This included BREEAM 'excellent' including 60% in BREEAM energy section (SPD08), and 40% carbon reduction target against a Part L compliant development (SPD04).

The large floor plate, deep plan air conditioned office space combined with 24hr usage of 2000 workstations meant that even with gas CCHP and a 250m² PV array the on site carbon reductions were predicted to be only 26%.

The development achieves a score *equivalent* to excellent but because the mandatory minimum standard within the energy category is not met 'very good' is likely to be awarded. The energy section is predicted to achieve only 30% falling short of the council's 60% standard for the BREEAM energy section.

Recognising how far these standards fell short of Brighton and Hove's expected standards, and how important these were to the local planning authority, American Express were willing to negotiate on offsite options. In discussing the BHCC carbon compensation approach, American Express opted for a solution which combined option one and two above. They chose to opt for Section 106 contributions to reduce carbon emissions in the school neighbouring the site: Carlton Hill Primary School, who currently have an oil fired boiler in urgent need of upgrade. Carbon savings are predicted to be 22 Ctonnes annually.

American Express sought to offset emissions to the level of 40% carbon reduction as expected through Brighton & Hove's policy. They used a different financial value for carbon offset which was lower than the value BHCC proposes. However, the LPA were prepared to negotiate since this was a test case and the development delivers additional benefits to the city.

Conclusions

Brighton and Hove City Council sees this case as a significant success in the application of an approach seeking to mitigate the carbon impacts of development in the city. It has been a test case for Brighton & Hove City Council prior to implementation on medium and major housing development. It demonstrates that the approach is now widely understood and accepted, and can also be applied to non residential development.