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Net Zero Carbon

Our sustainability specialists have extensive experience in working collaboratively with architects, building services, structural and civil engineers, and cost consultants to lead on strategic approaches to designing net zero carbon buildings. We facilitate engagement with key stakeholders to develop a low carbon brief and, through the application of industry leading design tools, we are able to minimise whole life (operational and embodied) carbon, and have the technical and regulatory expertise to advise clients on the most effective pathways to offsetting any residual carbon emissions.

Our Experience

Bonham Quay

Essex Business School

BDP's Brewhouse Yard

Our Approach

Our team has developed a rigorous approach to designing net zero carbon buildings in collaboration with industry leaders including the World and UK Green Building Councils, Chartered Institute of Building Services Engineers and industry leading software developers including Bionova (One Click LCA). Our approach utilises our unique position at the heart of a multi-disciplinary urban design practice to ensure a comprehensive consideration of all impacts. The key components of our net zero carbon approach are as follows:

Operational Carbon:
We are experienced in supporting design teams to optimise energy performance through rigorous testing of passive and active systems to drive down primary energy demand. We have the expertise to undertake comprehensive energy modelling, going beyond basic Part L compliance modelling and applying the CIBSE TM54 methodology to gain an understanding of the real-world energy consumption across all regulated and, critically, unregulated loads. This requires often-early and more detailed briefing and user engagement to gain an understanding of use profiles, equipment and specialist functions. We apply a range of future carbon emissions factors to estimate the future operational liabilities.

Embodied Carbon
We have been assessing the embodied carbon of buildings and components for more than two years. Deploying our leading position in conducting life cycle analysis at concept and technical design stages using One Click LCA software. In support of this analysis, we work to optimise proposals by influencing form, orientation, adjacencies and layout to utilise natural features/flows, identify low carbon materials, systems and construction practices, and promote 'long-life-loose-fit' principles to optimise replacement cycles and end-of-life impacts in line with our Circular Economy framework.

Whole Life Carbon
The whole carbon methodology combines operational and embodied carbon by considering the interrelationship between the two to deliver a balanced approach to optimising carbon emissions over the building's life-cycle.

Carbon Offsetting
We can advise clients on pathways to offset any residual emissions in line with the World and UK Green Building Council net zero carbon definition. We advocate offsetting through a hierarchy of renewable energy generation on-site, followed by near-site and off-site generation, carbon sequestration and, as a last step, carbon offset credits.

Our team can provide guidance on the sizing of renewable energy systems, alongside certified and valuable offset options to maximise benefit to both the scheme and the wider locale.

Disclosure and Reporting
Finally, our team can support clients in ongoing operational carbon accounting and disclosure in accordance with GRI, GRESB, ISO 50001, and others.