

Adapting to Climate Change

Understand and manage the risks posed to by climate change and rising energy costs.

BRE has recently completed an in-depth research project under the Technology Strategy Board's (TSB) Design for Future Climate programme. From the knowledge gained through this study, BRE has introduced a new service to help clients understand their building's vulnerability to changing climate and to plan an adaptation strategy for mitigating the likely impacts.

Through this service, BRE will investigate the risks posed by climate change and explore the various measures and strategies that can be used to adapt to the changing conditions. From these findings, we can devise an ongoing adaptation strategy in order to reduce risks in the following key areas:

- Managing rising energy costs
- Carbon reduction commitment (CRC) penalties
- Building damage and durability
- Ensuring the building remains suitable for its end use.

Our methodology follows a set approach, which can be applied to any given site or development (built or planned).

A detailed computer model of the building is created, taking into account the unique features relating to its geographical context, building fabric, end-use and HVAC specification.



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Using the most up-to-date climate projection data (UKCP09) it is then possible to predict potential building issues (e.g. from increased flood risk) and forecast future energy demand.

Various aspects of the building's physical attributes (e.g. its glazing type) and its use profile (e.g. its occupancy rate) can be adjusted in the model in order to observe the effect that such changes would have under present and future climate conditions. A range of design challenges relating to the building's structure and water conservation strategy are also investigated and their suitability for use is discussed with the client and (where relevant) the design team.

The outputs of the building modelling form the basis of a comprehensive financial appraisal, which analyses the most cost-effective methods to employ and at which points in time. Ultimately, BRE will develop an overall building-specific adaptation strategy, which can inform the client and facilities managers on the best way to design and manage their building stock.

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