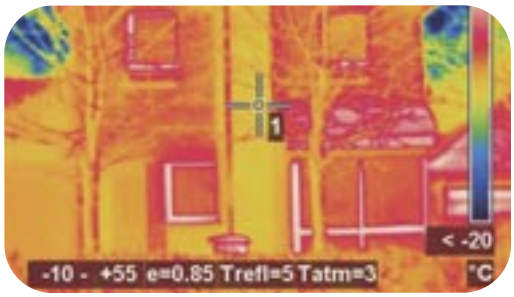
Building a **low carbon** future



Breakthrough insights into Britain's buildings will help shape a low-carbon society. Energy used to heat, light and cool buildings accounts for around half the UK's carbon emissions. But new findings, from the Carbon Vision Partnership, give a clear picture of the measures that can reduce that figure.

50%

Potential cut in carbon emissions from existing UK buildings through technologies identified by the Carbon Vision Partnership.

The work, supported by the UK Research Councils' Energy Programme and the Carbon Trust, will allow policy-makers to ensure energy regulations designed for both domestic and non-domestic buildings are effective.

The partnership covers three main projects and research has focused on the energy use associated with the way buildings are constructed, the service systems within buildings and the way occupants behave.

New computer models, developed by **the Carbon Reduction in Buildings (CaRB)** project, predict carbon savings based on improving building insulation or using solar power and other renewable energy measures in domestic and non-domestic buildings. They also calculate how much carbon could be saved as a result of advertising campaigns and financial incentives designed to encourage people to use less energy.

Principal investigator Kevin Lomas says: "Over 30 million tonnes a year of carbon dioxide is emitted due to energy use in UK buildings," he says. "The CaRB project is creating knowledge to underpin government and industry efforts to cut this figure in the decades ahead."

The Technology Assessment for Radically Improving the Built Asset Base (TARBASE) project is identifying carbon-saving technologies that, if incorporated into existing buildings, could cut their carbon emissions by 50 per cent by 2030. The work focuses on greater use of combined heat and power in buildings, improved building materials and the integration of renewable energy technologies into existing buildings.

TARBASE will allow building owners, building operators and policy-makers to make the best decisions on different types of building based on cost, ease of installation, social acceptability and carbon performance.

Professor Marcus Newborough of Heriot-Watt University and project co-investigator explains: "Clarifying which energy-saving technologies should be fitted to different building types will have a real impact on carbon emissions."

The BMT (Building Market Transformation) project is exploring the measures needed to halve building emissions as quickly as possible.

By involving key players and developing a publicly available computer model of the UK's building stock, the project will explore social and economic as well as environmental considerations with input from both CaRB and TARBASE.

Research Councils UK
Energy Programme
For a Low Carbon Future

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Research Councils' Energy Programme, led by EPSRC

The mission of the Energy Programme is to position the UK to meet its energy and environmental targets and policy goals through high quality research and postgraduate training.
The programme builds on a strong portfolio in power generation and supply and aims to grow the portfolio areas of demand reduction, alternative energy vectors, transport and security of supply.

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