

RETROFIT FOR THE FUTURE

CARBON EMISSIONS

By retrofiting homes, carbon emissions can be reduced dramatically.

On completion, **24** properties achieved carbon emissions **less than half** of the national average.

ිරිරි 3 houses achieved 80% - 90%

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The retrofit challenge was to apply innovative retrofit technology to find out how real-life homes could reach the Government's target of an 80% reduction in carbon emissions.

How the retrofits achieved this:

THE WHOLE-HOUSE APPROACH

The most effective retrofit planning was to take a **'whole-house'** approach considering **six key themes**.



Each theme affected the others and the whole-house plan.



1. RETROFIT PLANNING

Pre-design considerations incorporating **energy** and **construction solutions**, **performance targets** and **procurement**.



2. BUILDING FABRIC

Addressing the major area of **heat loss** by adding internal or external wall, loft and floor insulation as well as new windows and doors.



3. INDOOR AIR QUALITY

Balancing the improvement of **airtightness** with the need for **sufficient ventilation** to maintain **air quality**.



4. SERVICES

Ensuring the retrofit elements combine with **heating systems**, **lighting**, **renewable energy** and **controls** is integral to the retrofit performance.





Coordinating **complex construction works** and **multiple suppliers**, on and off site, and ensuring quality of on-site delivery.



6. ENGAGING RESIDENTS

Engagement and collaboration with residents is vital.

Technology Strategy Board

Driving Innovation

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