

1980s detached park home

South Gloucestershire

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Case study 28

£214

Saving
on fuel bills

22%

Reduction
in carbon
emissions

Measures installed	Total cost	Annual CO ₂ saving (tonnes)	Annual fuel bill saving
External wall insulation	£5,323	1.24	£214
Total package	£5,323	1.24	£214

The home

This is a detached park home originally built in the early 1980s. The current owner purchased the property towards the end of 2009 and began the process of improving and refurbishing the home, which was in need of updating. She installed a new gas condensing boiler, replaced the doors and windows with double glazed units and fitted some insulation within the floor area when replacing the floor coverings.

Park homes are designed to be transported, so they are inevitably of lightweight construction. The walls are thin and although they have a cavity, it is very narrow, far below the minimum 50mm cavity gap typically specified by installers.

Even if it was possible to inject insulation into this cavity it would only provide a very minimal improvement to the heat loss properties of the wall.

External insulation is the most effective method of insulating walls because it keeps the structure warm as well as the interior. This method is ideally suited to park homes as they are generally detached and well spaced from adjacent homes. External insulation also helps to preserve valuable space indoors.

What they did

The Target 2050 survey and report provided an assessment of energy use within the property and highlighted that the key recommendation to improve comfort would be to externally insulate the home.

"The insulation has made a fantastic difference. I now feel as snug as a bug in a rug."



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energy agency



External wall insulation

Park home insulation tends to be carried out by specialist companies, in this case Therm-Eco from Devon. The householder was keen that as much work as possible be completed before the winter so the job was completed in two stages. Firstly, the 60mm interlocking insulation boarding and render base coat were installed, so the householder had the benefit of the measure during very cold weather in the winter of 2010/11. All rendering is affected by low temperatures and wet weather, in this case the coloured top coat is particularly affected so it was not possible to complete the work until January 2011. Final adjustments were made to the siting of the downpipes to accommodate the thickness of the insulation, and the job was completed at a total cost of £5,300.

As soon as the insulation boarding was complete the householder reported that she immediately felt warmer inside. She no longer needs to use the focal point electric fire in the living room, and she has already built up a credit of £100 on her gas bill because she does not need to run her central heating for long periods.

With the inevitable increase in gas and electricity costs in the future, the householder said that the small amount of discomfort and inconvenience experienced during the installation process was well worth it, and that she would certainly recommend external insulation to other similar properties.

Next steps

The householder continues to be energy aware at home, and is replacing incandescent light bulbs with energy saving versions wherever possible. She is enjoying the benefits of her warmer home, and is acting on the energy saving tips that the Target 2050 team regularly send through to help her to reduce her costs and emissions even further.



*Top: External insulation attached to wall of park home
Above: Completed installation, windows are now slightly recessed compared to photo on front page*

Energy consumption	Total (kWh)	Per m ² floor area
Before improvement (2010)	25,893	389
After improvement (2011)	19,494	293
With all possible measures	10,465	157
UK average (2011) ¹	19,800 ¹	217 ⁴

CO ₂ emissions	Total (tonnes)	Kg per m ² floor area
Before improvement (2010)	5.69	86
After improvement (2011)	4.45	67
With all possible measures	2.20	33
UK average (2011) ²	6.00 ²	66 ⁴

Running costs	Total	Per m ² floor area
Before improvement (2010)	£1,259	£18.93
After improvement (2011)	£1,045	£15.71
With all possible measures	£609	£9.16
UK average (2011) ³	£1,032 ³	£11.34 ⁴

¹Ofgem 2011

²English Housing Condition Survey 2011

³Ofgem 2011

⁴Based on 91m² from English Housing Condition Survey 2011