



# Forces housing: decreasing the environmental impact

Putney Flats London, Crown copyright 2010

As Defence Estates looks towards a more sustainable future, contractors have an important role to play. Here, Angharad Jones, Communications Manager at MODern Housing Solutions, tells MOD DCB about some examples of greener practices having a positive effect on Service Families' homes across England and Wales.

**D**efence Estates and its contractor in England and Wales, MODern Housing Solutions (MHS), are committed to providing sustainable services and minimising the impact of their operations on local communities and the natural environment. Working in partnership with the supply chain to provide housing maintenance and repairs to 45,000 Service Families' homes in England and Wales, as well as a programme of upgrades, it is imperative that environmental considerations are firmly embedded in working practices.

*Under the terms of its contract with Defence Estates, MHS is required to have its own environmental policy which outlines its commitment to being environmental responsible. This policy aims to:*

- promote sustainable sourcing of products and materials;
- prevent pollution and monitor the reduction of any adverse operational impact on the environment and the local community; and
- demonstrate efficiency in the use of energy, water and materials whilst also minimising waste and re-using and recycling wherever possible.

With these underlying principles in place, there are a number of practical examples of DE and MHS' environmental policy helping to lessen the environmental impact of Service families housing.

## Ground source heat pumps

DE and MHS has recently installed ground source heat pumps in 20 properties as a trial to see whether Service Family Accommodation would benefit from this provision of alternative heating. This first trial will take place in Bedfordshire, where a major upgrade programme has been undertaken, and will enable a comparison of efficiency to be made with identical properties.

The ground is a very good source of heat energy, staying at a constant 11-12 degrees Celsius at a depth of 1-2 meters, and this heat can be harnessed and used to heat buildings and in some cases help provide hot water.

Ground source heat pumps work by pumping a mixture of water and antifreeze through a pipe deep in the ground. The heat pump uses similar technology as a fridge, freezer or air conditioning unit; using the evaporation and condensing of a refrigerant to move heat from one place to another.

Although the heat pump does require electricity to work, this technology reduces emissions, is extremely efficient, highly reliable and low maintenance.

## Conservation

Looking after the natural habitat is an important aspect of any environmental policy. Working with DE, MHS has recently concentrated its efforts on conserving an endangered (and legally protected) species – the bat. Of the 16 species found in the UK, the Pipistrelle and Brown Long Eared bat seem to favour properties of the type found on the MOD housing estate.

Bat surveys undertaken by specialist ecologists instructed by MHS have found bats and/or their roosts on a number of current and future projects including those at Abingdon, Bulford, Halton, Leeming and Cranwell. Some require works to be completed under a licence issued by Natural England, the regulatory authority.

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When DE and MHS undertake a major refurbishment project they also try to limit the damage to the existing habitat, one way of doing this is to encourage bats into the area. This is just one aspect of the important conservation work that DE and MHS do. Therefore bat boxes are increasingly being found in various locations around the MOD estate as part of the DE refurbishment programme. Where possible, these are built into the fabric of a property or attached to external walls or on nearby trees.

## Using new technology to improve environmental practise

DE and MHS are at the forefront of using new technologies and modern building processes to improve Service homes. A recent example was the work undertaken at Putney, London to completely refurbish and upgrade 48 poorly insulated flats that were built in the 1950s.

This major refurbishment included improvements that Service families would immediately notice and benefit from – such as new kitchens, bathrooms, carpets, curtains and windows. But the really clever technology was employed to dramatically improve the insulation of the roof, walls and heating efficiency. In this case insulated (compressed foam) roofing panels were used that have been designed to mimic traditional tiling – therefore greatly increasing the insulation across the whole of the building. Brick effect external insulated wall coatings were also used to the same effect. New efficient boiler rooms were also installed to improve heating throughout the four blocks. The overall effect was good quality, efficient, modern flats that families want to move in to.

## Loft Insulation

By the end of April 2010, 8801 Service homes had benefitted as part of a drive by DE and MHS to install improved loft insulation. These homes now meet the current building regulations guide of 270mm thickness for loft insulation.

Loft insulation works by stopping the upwards movement of heated air, reducing the loss of heat from the rooms below which will in turn require less heating. Around 25 per cent of heat in an uninsulated house is lost through the roof. So not only are Service Personnel and their families able to stay warmer and save money on their energy bills but as a result of better loft insulation their carbon emissions are also reduced.

These are just some of the steps that the DE and MHS team are taking to ensure that not only do both organisations have an environmental policy, but that it is actually put into practice. By putting environmental considerations at the heart of its business and by being innovative in their approach, DE and MHS are helping to lessen their impact on the environment from Service housing.

## Further information

For more information, please visit:

Web: [www.mod.uk/DefenceInternet/Microsite/DE](http://www.mod.uk/DefenceInternet/Microsite/DE)

Web: [www.modern housingsolutions.com](http://www.modern housingsolutions.com)



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