

Case study summary

Northwards Housing, Manchester, UK

2010 Ashden Award

Northwards Housing's 2010 Ashden Award recognises the commitment it has shown to improving the energy efficiency of the properties that it manages, taking a 'whole house' approach and including hard-to-treat properties.

Since 2002 there has been a programme of work across the UK to renovate social housing in order to meet the 'Decent Homes' standard. This standard includes work to improve energy efficiency, but the required minimums are relatively low.

Northwards Housing is responsible for social housing in North Manchester, an area which includes many 'hard-to-treat' houses and flats with solid walls. It has gone much further than the minimum energy efficiency standard required by Decent Homes, and as a result has cut carbon emissions and fuel poverty.

- Over 9,000 of Northwards Housing's 12,500 homes have undergone renovations that improve energy efficiency.
- A 'whole house' approach is taken, addressing all aspects of insulation and use of energy.
- Over 200 hard-to-treat homes have received a full refurbishment package, including external wall insulation, double glazed windows, new doors and an A-rated boiler.
- Estimated annual CO₂ emissions from Northwards Housing's stock have fallen by over 17,500 tonnes per year, a drop of over 12%.
- Costs minimised by combining energy efficiency work with other renovations.
- Significant scope for replication by other social housing organisations.

Northwards Housing is an Arms Length Management Organisation (ALMO) that was set up in 2005 to manage the 12,500 council-owned properties in North Manchester. It is funded (through a management fee) by the city council and by Decent Homes funding from central government. The board includes councillors, tenants and independent members.

UK statistics

(IMF 2009, UNFCCC 2006)

GDP: £20,500/year per person

CO₂ emission: 9.2 tonnes/year per person

Location



"We've had a big drop in bills, £80 per quarter, as we used to have storage heaters and immersion heaters."

Charlotte Grant,
Chair of the Moorways Courts tenants association



Northwards Housing in Manchester are making great strides in upgrading their housing stock.

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Case study

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Background

Across the UK, more than half the social housing stock has either been transferred from local councils to Registered Social Landlords (RSLs) such as housing associations, or placed under the control of an Arms Length Management Organisation (ALMO), which manages the housing on the council's behalf.

Government funding has been available to ALMOs and RSLs since 2002 to bring their housing stock up to the Decent Homes standard. This involves reducing risks according to the Housing Health and Safety Rating System, ensuring the building is in a reasonable state of repair, ensuring reasonably modern facilities are available and providing a reasonable degree of thermal comfort. The amount of energy efficiency work required under the standard is, however, limited; for example, new boilers are only required to be 'C' rated, rather than the most efficient 'A' rated models, and the required level of insulation is well below current UK building regulations.

Northwards Housing has implemented a five year plan, starting in late 2005, to invest £200 million in its housing stock to bring it up to the Decent Homes standard. It has gone beyond the minimum energy efficiency requirements, where necessary adding its own funds to those from central government in order to do so. In particular, 'hard-to-treat' homes with solid walls have been improved, reducing energy use and fuel poverty for those most in need.

The organisation

Northwards Housing was set up in 2005 by Manchester City Council to operate as an Arms Length Management Organisation (ALMO) responsible for maintaining the 12,500 council-owned houses and flats in North Manchester. It has an annual budget of £26 million, and currently employs 300 staff.

Since it was established, it has also made 27% cost savings within its own organisation, allowing it to take on more ambitious work on improving energy efficiency than would have been possible otherwise.

The technology

How does it work?

Most of the technology installed by Northwards Housing focuses on improving energy efficiency. It has dealt particularly well with solid-wall properties, which are normally classed as 'hard-to-treat' and often excluded from energy efficiency upgrades. Northwards has fixed 60mm insulating boards onto the outside of houses and flats with solid walls and then covered them with a mineral render. This has reduced heat loss through the walls and improved appearance, whilst still complying with fire regulations.

Other technologies used in upgrading homes as part of the 'whole house' approach include cavity wall and loft insulation, replacement double glazed windows and doors, draughtproofing, A-rated boilers for heating, thermostatic radiator valves, low energy lighting, dual-flush toilets and spray-flow taps. Solar photovoltaic panels have also been installed on blocks of flats to power communal lighting, and solar thermal water heating installed on sheltered housing units.

The technology in more detail

25% of homes in the UK have solid walls, and so cannot benefit from cavity wall insulation. In an un-insulated solid-wall house, about 45% of heat lost is through the walls, so if energy efficiency is to be improved, then some sort of insulation must be used.

One option is to fix insulating boards to the inside faces of a building's walls; this is the cheaper option, but reduces the size of the rooms slightly, requires measures to prevent damp problems and doesn't make best use of the 'thermal mass' of the walls. External insulation is another option, usually using insulating boards that are fixed to the outer face of the wall with mechanical fixings and adhesives. These boards are then covered with render or cladding, according to aesthetic considerations. External insulation involves much less disruption to the home while the work is being done, and has the advantage of the thermal mass of the walls being inside the insulation – this helps regulate the temperature of the home, keeping it warmer in winter and cooler in summer.

The downside of external insulation is that it costs more, at £10-14,000 for a three bedroom house, while internal insulation costs £5-8,000. These costs assume that the work is done in isolation, but savings can be made if parts of the work (e.g. rendering or decorating) needed to be done anyway.

"Now we can just have the heating on for a couple of hours instead of all day long. It's definitely reduced the bills."
Susan Savill, tenant.

How much does it cost and how do users pay?

US\$1 = £0.81 (Great Britain Pounds) [May 2010]

Tenants in social housing do not pay for the improvement work; funding is from a combination of central government through the Decent Homes programme, Northwards Housing's own funds and other sources such as the Carbon Emissions Reduction Target (CERT). However, social housing tenants in the UK have had a 'right to buy' their homes since 1980, and the areas where Northwards has been working also includes owner-occupiers that have exercised this right. Owner-occupiers do not receive the improvements free of charge, but they are able to benefit from the volume discounts that contractors have given to Northwards. Manchester City Council has also helped owner-occupiers by providing low-cost loans to fund the work.

Wherever possible, Northwards Housing has minimised costs by combining energy efficiency improvement work with renovation work already taking place on properties, adding incremental funds for the energy efficiency component. For example, some solid-walled houses needed re-rendering as part of the Decent Homes programme, which required scaffolding to be set up – these are two of the main costs associated with external wall insulation, so the incremental cost was just the purchase and installation of the insulating boards. Loft insulation, replacement windows and boilers are other areas where it is straightforward to enhance energy efficiency at minimal cost when other renovation work is already planned.

How is it manufactured, promoted and maintained?

Most of the technology used by Northwards Housing is manufactured in the UK, with local contractors used to carry out installation. Quality control is carried out by checking a proportion of all properties after renovations are completed, and performing a further check six months later for any problems that subsequently become apparent. Tenants can report problems at any time after this point.

Although Northwards Housing makes the decisions about when to renovate different houses and flats, the tenants are consulted extensively, as required by law. Northwards takes tenants' views into account in deciding precisely how and when to carry out renovations, and also offers them choices on the equipment that is installed, how bills are paid in flats, and even the colour of the exterior render applied over the insulating boards.

Benefits

Of the 12,457 houses and flats managed by Northwards Housing, double glazed windows have been installed in 9,000, A-rated boilers in 6,000, loft insulation in 3,000 and cavity wall insulation in 1,200 homes.

1,522 of Northwards Housing's houses and flats are classed as 'hard-to-treat', and so far 207 of these have been renovated, including external wall insulation.

Environmental benefits

By improving the energy efficiency of its housing stock, Northwards Housing has cut the estimated annual carbon emissions by over 17,500 tonnes CO₂, a drop of over 12%. Since 2009, Northwards has also used PVC window frames constructed from 98% recycled materials.

Social benefits

Some of the housing which Northwards took responsibility for in 2005 was in a poor state of repair, and the renovations have brought living conditions for tenants up to modern standards. Energy efficiency, assessed using the Standard Assessment Procedure (SAP), has typically improved from a 'D' or 'E' rating to a 'C', saving the tenants between £300 and £500 a year on energy costs. This saving is sufficient to lift some tenants out of fuel poverty, and allows most to affordably heat their homes to a comfortable level.

By providing low-cost loans, Manchester City Council has helped owner-occupiers take advantage of the work Northwards has been carrying out in their area, providing similar benefits in cost savings and reduced fuel poverty.



Solid walls are insulated externally as can be clearly seen on the building on the left.

“Hand on heart, I've been so much better off since we got the work done to reduce the energy bills.”

Marie Burke, owner-occupier



Close-up of external wall insulation.



The house on the right has been refurbished by Northwards including external wall insulation.

Economic and employment benefits

By using local contractors, Northwards Housing has supported local businesses, which have employed 47 apprentices and trainees during the work so far. The money saved by tenants on energy bills is likely to be spent locally, helping the wider local economy.

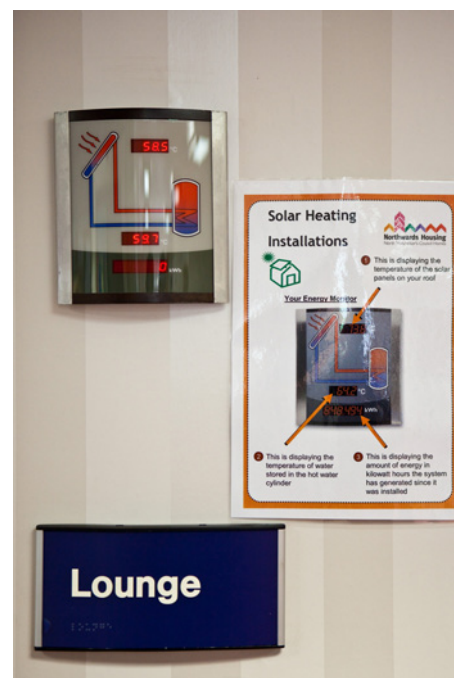
Potential for growth and replication

The work funded by the Decent Homes programme will be coming to an end in 2010/11 across the UK, but Northwards Housing will continue to work on improving the energy efficiency of its housing stock, especially the remaining hard-to-treat homes. Other sources of funding, such as the Carbon Emissions Reduction Target (CERT), the Community Energy Saving Programme (CESP) and the European Regional Development Fund (ERDF) can all potentially be used by Northwards and other ALMOs and RSLs for energy efficiency work.

Key to the successful replication of this programme by other ALMOs and RSLs is the way Northwards Housing combined energy efficiency with other renovation work being carried out on properties, using incremental additional funds to deliver significant energy efficiency improvements. The internal efficiency savings it made helped to fund this work, and the use of a comprehensive database on the state of repair and energy efficiency of its housing stock helped target funds in the most cost effective way.



Northwards' installations include solar PV on blocks of flats to power communal lighting.



Monitors for a solar thermal water heating system installed on a care home by Northwards.

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“We used to have just one storage heater, and the flats were freezing and draughty. Now we have gas central heating and the draughts are sealed.”

Charlotte Grant,
Chair of the Moorways Courts tenants association

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