

Improving the energy efficiency of homes in Moreland

Warm Home Cool Home and Concession Assist social research final report

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In Australia, growing concern about climate change and rising energy prices has renewed interest in residential energy efficiency. Between 2007 and 2012, Australian retail electricity prices have risen by 72 per cent (ABS 2012). Low-income households, which spend a higher proportion of their income on energy than other households, are particularly vulnerable to these price rises. We are also beginning to experience the impacts of climate change—including an increase in the intensity of heatwaves, to which low-income households are highly vulnerable (see ACOSS 2013; Edwards & Wiseman 2009).

Homes that are more energy efficient have the potential to reduce householders' vulnerability to rising energy prices, and may also reduce vulnerability to heatwaves. However, many low-income households face financial and other barriers to improving the energy efficiency of their homes.

This report presents the results of social research which investigated the impact of energy efficiency activity for households that participated in the Warm Home Cool Home (WHCH) and Concession Assist (CA) programs. The research described was conducted by the Brotherhood of St Laurence (BSL) through Moreland Solar City, which is part of the Australian Government's national Solar Cities program. Led by Moreland Energy Foundation Limited (MEFL), Moreland Solar City is a partnership with Moreland City Council, the BSL and Sustainability Victoria. The WHCH and CA programs were delivered by the BSL and MEFL. Like most energy efficiency programs targeted to low-income households, the programs aimed to address cost, information and trust barriers faced by these households in improving the energy efficiency of their homes.

The first phase of research examines impacts of the WHCH energy audit–retrofit program on energy saving, financial hardship, home comfort, health and wellbeing. The research engaged 85 people in 12-month pre-participation interviews, of whom 58 also completed post-participation interviews. A combination of tested, normed, quantitative measures and qualitative data on participants' experience of the program were collected. This interview data was compared to participants' actual energy use and energy audit data.

The WHCH program was significantly altered and the scope of the program and mode of delivery were changed. The new program, Concession Assist, was delivered as a service of Zero Carbon Moreland and—unlike WHCH—did not include insulation as part of the program offer. This redevelopment created an opportunity to undertake a second piece of research that was more forward-looking.

In addition to investigating relationships between home energy use, the factors underlying home energy use and barriers to more optimal use of energy, the research also sought participants' views on further action required to improve outcomes in their household in relation to energy efficiency and energy management, and explored participants' plans and capacity to undertake these improvements. The research also explored people's understanding of their energy bills and their preferred methods of receiving information about energy use and energy efficiency.

Findings

This research represents the views and experiences of 199 people who had contact with, or participated in the WHCH or CA programs delivered through the Moreland Solar City program, and an additional 33 Moreland residents recruited to take part in workshops about using energy and saving energy at home.

The programs

- Program participants were all on low incomes and had Commonwealth concession cards. Those in the research group tended to be home owners living in fully detached homes. The WHCH group tended to be older, female and living in one or two-person households. In the CA group, age and household size were fairly evenly distributed.
- The main reasons people joined either program were to save money and save energy. The WHCH group wanted to learn more and to take advantage of the expert advice provided in the program, and the CA group expressed a desire to make their homes warmer or cooler.
- Participants across both WHCH and CA were positive about their experiences on the programs. Suggestions for improving the programs included providing more and larger products and installations, opening the programs up to more people, providing discounts on related products and services, and providing more information. The BSL considers that better communication may improve program retention rates.

Energy use and energy bills

- Participants reported energy savings, and those who received more retrofit items saved more energy than others.
- WHCH participants adopted more energy-saving behaviours following participation in the program.
- Participants reported that the energy advice and information they received was helpful, with most reporting that the program had helped them understand their energy use better.
- Many CA participants took additional action beyond that offered by the program, and 60 per cent of the non-completer group (those who joined the program but later discontinued their participation) also took action to improve the energy efficiency of their homes, as did many workshop participants.
- MEFL calculated a deemed energy saving of around \$77 per household per year.

- Although almost half of the WHCH participants felt their participation in the program had helped them save money on their energy bills, measures of financial hardship did not show an improvement after participation in the program.
- During the study period there was a sharp increase in the retail price of electricity in Melbourne.

Thermal comfort, health and wellbeing

- Measures of changes to thermal comfort were assessed in the WHCH group. The majority experienced significant improvements in the thermal comfort of their homes. The proportion of the group reporting draughty homes decreased from over three-quarters to less than one-third after participating in the program.
- Results for changes to health and wellbeing were mixed and tended to vary depending on severity of health issue being experienced.

Barriers to upgrades

- Almost one-third of those who completed the CA program and 40 per cent of the non-completers reported an intention to upgrade an appliance or fixture that would improve the energy efficiency of their home; however almost two-thirds reported barriers to making such upgrades.
- The most commonly reported barrier to further improvements to home energy efficiency was cost, followed by rental tenure.
- While more than half the CA group who did not have Green Energy would like to install solar power or purchase Green Energy, three-quarters of them cannot afford to.

Information

- Over a quarter of the CA participants reported that their energy bills are difficult or very difficult to understand, and a quarter reported that they had experienced energy bill or contract-related problems, including issues with estimated bills, concessions, overcharging and door-to-door sales.
- Almost a third of the CA group used the internet to search for information about household energy usage, energy efficiency and ways to save on bills, with one-quarter of these using Google. Other people looked to mass media channels, government (federal, state and local) or organisations they already had contact with.

Vulnerable groups

The findings of this research further reinforce a difficult Catch-22: some people are unable to afford their energy bills, but cannot afford to take action to bring their energy use (and associated costs) down. This is particularly the case for renters, who experience an additional double-bind of having less disposable income and less capacity to make changes to a home they do not own. Renters also reported being unable or unwilling to approach landlords to request energy efficiency upgrades.

In light of the international evidence, the mixed findings on health and wellbeing in the WHCH research suggest the need to trial deeper energy efficiency interventions in the Australian context in order to assess their impact on health and wellbeing, in particular for people experiencing chronic or severe health issues.

References

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About the project

The program and research were undertaken as part of the Moreland Solar City, led by Moreland Energy Foundation in partnership with the BSL, Moreland City Council and Sustainability Victoria. The program and research received funding from the Australian Government's Solar Cities program.

For further information

The full report *Improving the energy efficiency of homes in Moreland: Warm Home Cool Home and Concession Assist social research final report* (PDF file, 623 KB), by Victoria Johnson, Damian Sullivan and Jo Totty may be downloaded from the Brotherhood of St Laurence website.

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Summary published in 2013 by
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