



Brotherhood
of St Laurence

Working for an Australia free of poverty

Submission to the NSW Office of
Environment and Heritage

Review of Energy Efficiency Programs for Low-Income Households

Brotherhood of St Laurence

February 2014

About the Brotherhood of St Laurence

The Brotherhood of St Laurence (BSL) is an independent non-government organisation with strong community links that has been working to reduce poverty in Australia since the 1930s. Based in Melbourne, but with a national profile, the BSL continues to fight for an Australia free of poverty. We undertake research, service development and delivery, and advocacy with the objective of addressing unmet needs and translating the understandings gained into new policies, new programs and practices for implementation by government and others.

Brotherhood of St Laurence
67 Brunswick Street
Fitzroy Vic. 3065

ABN 24 603 467 024

www.bsl.org.au

Prepared by Damian Sullivan and Stacey Tabert
Edited by Deborah Patterson

For further information or to discuss this submission, please contact:

Damian Sullivan
Senior Manager, Equity in response to climate change
Brotherhood of St Laurence
Email: dsullivan@bsl.org.au
Ph: (03) 9483 1176

Summary

The Brotherhood of St Laurence welcomes the opportunity to comment on the issues paper for the Review of Energy Efficiency Programs for Low-Income Households.

The delivery of over 220,000 home audits and retrofit kits to low-income households resulted in energy savings of between 3.8 and 4.0 per cent; and those households that received all the kit items saved between 6.0 and 7.3 per cent during Phase 1 of the program (Rickwood et al. 2012). Such savings are important for households who have been struggling with rising energy prices.

The successful completion of the Home Power Savings Program (HPSP) provides an important opportunity to review the NSW Government's approach to energy efficiency in low-income households.

The Brotherhood of St Laurence has provided comments on the 16 questions raised in the issues paper.

Key points included in the responses include:

- There continues to be an important role for the NSW Government to play in addressing barriers to energy efficiency in low-income households.
- The priority areas for action include:
 - addressing the cost barriers to households upgrading high-cost, high-return items such as hot water systems, heating and cooling and insulation, through the provision of rebates and low interest financing
 - addressing the information barriers to upgrading the high-cost, high-return items
 - developing standards for rental properties, to be introduced along with incentives to help landlords upgrade the properties they own
- Future programs should aim to provide a graduated level of support, which increases with the household's needs. This should help to reduce the number of households who receive an intervention they do not really need, and in doing so, should increase the effectiveness of the program.
- The graduated support model could enable increased support to households with higher needs including high energy consumption and medical special needs, or those households with the need to have high-cost fixtures upgraded.

Introduction

This submission addresses the questions raised in the issues paper for the Review of Energy Efficiency Programs for Low-Income Households.

Like the issues paper, our submission focuses on the Home Power Savings Program (HPSP) and future opportunities for improving the energy efficiency of low-income households in NSW. The HPSP delivered 220,000 home visits, which resulted in average energy savings of between 3.8 and 4.0 per cent; and those households that received all the kit items saved between 6.0 and 7.3 per cent during Phase 1 of the program (Rickwood et al. 2012). The homes were serviced without any major incidents.

The HPSP and the evaluations of the program, which are still in progress, also provide a basis to assess the best approach for future energy efficiency support for low-income households in NSW.

1. Is energy efficiency a useful tool to help low-income households address bill pressure?

Residential energy efficiency is one of a number of important tools which should be used to address energy bill pressure for low-income households.

Energy efficiency is important because (when delivered effectively) it enables households to receive the benefits energy services provide (for example warmth, cooling and entertainment), while consuming less energy for the same amenity. Were energy prices to remain constant, the household could receive a similar level of amenity at reduced cost. This is particularly important for low-income households who spend proportionately more of their income on energy than wealthier households. The benefits for a household from energy efficiency improvements can also last over a number of years. Examples of the savings available from energy efficiency are outlined in Table 1 (Pipkorn & Department of Industry 2013).

TABLE 1: REDUCING ENERGY DEMAND IN YOUR HOME

	Energy use	Initial load (kWh)	Energy efficiency measures	Approx. energy efficiency saving	New load (kWh)	Approx. annual savings assuming	
						\$0.25c/kWh	\$0.50c/kWh
Heating and cooling	40%	1900	Improve house energy rating by at least 2 stars	35%	1235	\$166.25	\$332.50
Water heating	21%	1250	Change to solar HWS	50%	625	\$156.25	\$312.50
Other electrical appliances	19%	800	Improve efficiency and reduce use	10%	720	\$20.00	\$40.00
Lighting	6%	350	Change to efficient lighting (e.g. LED)	75%	88	\$65.63	\$131.25
Cooking	5%	200	Improve efficiency by using induction or microwave	30%	140	15.00	\$30.00
Refrigeration	6%	350	Improve efficiency by 2 stars	30%	245	\$26.25	\$52.50
Stand-by	3%	150	Turn off appliances at plug	90%	15	\$33.75	\$67.50
Total	100%	5000			3068	\$483.13	\$966.25

Source: (Pipkorn & Department of Industry 2013) p. 450, citing DEWHA 2008; AGO 2007

The role energy efficiency can play in addressing bill pressure in individual households depends on the specific factors driving up energy bills within the household. Factors, which can be addressed through improved energy efficiency measures include:

- inefficient large structural fixtures such as hot water systems, which lock the household into inefficient and expensive energy consumption.
- poor day-to-day energy-related behaviours (for example leaving on halogen lights unnecessarily), which can lead to inefficient energy usage. It should be noted that an important segment of low-income households are already constraining their consumption and therefore may not benefit from behavioural change initiatives. This can be seen in the relatively low average household energy usage for pensioner households.
- purchasing of inefficient appliances, often because they are cheaper or second-hand or because of a lack of accessible information about running costs.

In addition to savings on energy bills and reduced carbon emissions, household energy efficiency may also assist with:

- health and wellbeing, for example the health benefits of insulation (See Howden-Chapman et al. 2007)
- resistance to climate extremes such as heatwaves (See Barnett 2013).

Importantly, energy efficiency is not sufficient in isolation to address all the energy-related pressures that households face. Households also need access to:

- energy rebates or concessions to directly lower the cost of bills
- emergency assistance to pay energy bills
- energy market literacy, to assist households to take advantage of competitive energy retail markets.

Households will also benefit from systemic reform to address the energy market inefficiencies which flow through to higher bills (see, for example, Australian Industry Group et al. 2013).

2. Has the Home Power Savings Program been successful in addressing barriers to energy efficiency uptake in low-income households?

The HPSP program has successfully addressed some barriers to energy efficiency in low-income households but not others.

Given the wide range of barriers it would be unrealistic to expect the program to overcome all the barriers to residential energy efficiency.

Barriers the program fully or partially addressed include:

- Barriers to participation in energy efficiency programs by culturally and linguistically diverse communities.

The interim evaluation suggests HPSP was more successful in engaging some CALD communities than others, and that the highest number of participants came from CALD households who spoke English at home (ARTD Consultants 2012). The evaluation report

also identified that recruitment to the HPSP was more successful in some geographic areas. It is not clear to us what factors were material in the relative success (or failure) of recruitment strategies in different locations. It may be useful to carry out further analysis.

- Cost barriers to conducting a home energy audit and installing basic retrofit measures.

While we have not seen any specific data on this point, it is likely that many of the households who participated in the HPSP would not have paid for an energy audit themselves, and may not have paid for some of the retrofit kit items. By providing the audit free of charge the program was able to remove this potential barrier.

- Capacity barriers, for example physical ability or knowhow to install a new showerhead.

It is likely that some households would not have had the capacity to upgrade their showerheads themselves. The same might apply for light bulbs. By visiting the home and installing these items the program staff addressed this potential barrier.

- Split incentive between landlord and tenant.

While some aspects of the split incentive between landlord and tenant were not addressed by the program, providing the audit and basic kit free of charge meant that landlords were more likely to take up the measures than otherwise. Further, the ability to provide the program in social housing resulted in many tenants benefitting.

Barriers the program did not address:

- Capital barriers for household fixtures with a high up-front cost.

HPSP was not targeted to address household fixtures which have high upfront costs and can generate larger energy savings (such as efficient heating, cooling, hot water systems or insulation). In our experience, many low-income households do not have the up-front cash to upgrade to a more efficient option. In the case of hot water systems, at the time of replacement many low-income households choose the least expensive option, or a like-for-like replacement, even if another more efficient option might save them money over time.

- Information barriers

It is often difficult for an individual to compare the overall savings between different fixtures or appliances, with different upfront costs, such as hot water systems with different star ratings. This information barrier is particularly important for higher cost items such as hot water, heating and cooling systems, where a cheaper purchase may lead to high running costs over time (for example an LPG storage hot water system).

- Principal-agent problems

The split incentive between landlord and tenant remains a significant issue for low-income households. Addressing energy efficiency in private rented accommodation with low-income tenants is particularly important, as these households face financial pressures related to the high proportion of their income they spend on rent.

Other principal-agent problems also exist. For example, householders replacing a hot water system are likely to rely on a plumber to advise them on the best choice. The plumber's recommendation may not be based on the overall cost of the product (including the running costs).

3. Are there ongoing barriers to reducing bill pressure that existing and non-government programs do not address?

Among the ongoing barriers to reducing bill pressure, we draw attention to the following:

- capital barriers related to the high upfront cost of larger household fixtures (and solar photovoltaics)
- information barriers related to high-cost, high-return household fixtures such as hot water systems
- the split incentive between landlord and tenant
- barriers to energy efficiency in apartments and in other dwelling types such as caravan parks or rooming houses.

4. Is the market, the State or the Commonwealth Government most appropriate to deliver programs to address these barriers? Why?

The market, the State and the Commonwealth governments all have roles to play. Improving energy efficiency involves the whole society; however, the role of government should be focused on those segments of society that explicitly need support. For low-income households government intervention is needed to address the capital and information barriers. Government intervention is also warranted to address the split incentive between landlord and tenant.

The NSW Government is particularly well placed to address the barriers to energy efficiency in low-income households because:

- it has extensive experience in energy efficiency program delivery, including in residential energy efficiency
- it has well developed links with community sector organisations, and therefore the capacity to create productive partnerships
- it has shown leadership in energy efficiency policies and programs

Upfront capital barriers

For items where a capital barrier exists to the uptake of energy efficiency, the NSW government has an important role to play. The government should deliver programs which:

- reduce the size of the capital barrier through rebates.
To increase the number of low-income households who can access the rebates, they should be linked where needed to low-interest loans (see below).
- enable affordable financing options, with the costs clearly explained to householders.

Limitations on the financing currently available for energy efficiency (or solar) upgrades include the minimum loan size and the hefty costs of credit. For solar hot water a number of providers offer non-bank financing. The financing arrangements vary widely in terms of interest rates (ranging from 0% to 22.5% per annum), and their set-up fees and accounting keeping fees. Some financing arrangements advertised as 'no interest' also involve hidden costs. In some cases the costs would significantly reduce, or even negate, the savings promised by an energy efficiency upgrade.

The NSW Government could address financing issues in a number of ways. Options include:

- directly providing a low-interest financing scheme
- contracting service providers to offer affordable financing
- developing a list of approved financiers which offer affordable financing with transparent terms and conditions
- funding innovation in financing arrangements, for example incentivising local governments to pursue financing connected to rate repayments.

Provision of information for specific target groups

Some groups who could benefit from energy efficiency interventions are likely to miss out if it is left to the market. These include:

- some CALD communities, and particularly households who speak limited English at home (these groups are likely to be more expensive to reach than other households)
- some Aboriginal and Torres Strait Islander households
- households with health, disability or other special needs which lead to higher energy costs.

Split incentive – landlord and tenant

Measures to address the split incentive between landlord and tenant are also essential. Anecdotal reports suggest voluntary action by landlords has not been effective in significantly improving the energy efficiency of the rental stock.

The NSW government is well placed to address this issue because it is responsible for regulating the rental market and it is the largest landlord in the state.

Government action based on a mix of obligations and incentives is likely to be the most effective approach. Such an approach should combine:

- a mandated standard for energy efficiency in rental properties. Such a standard should include sufficient advance notice (for example, a standard identified in 2014 to be reached in all rental households by 2020) for landlords to improve the efficiency of their properties. The efficiency requirements should be progressively strengthened over time.
- incentives for landlords to upgrade the efficiency of their properties to meet the mandated energy efficiency target.

5. Did the Home Power Savings Program target the right households?

Given the type of intervention the HPSP program offered, a home audit and general retrofit, the broad eligibility was reasonable.

The benefits of the broad targeting are likely to have included lower recruitment costs and quicker recruitment, which helped with program efficiencies.

A broad recruitment approach also resulted in the participation of a wider range of households, and the identification of some households who are in need of assistance but would have missed out with

stricter targeting (for example based on energy hardship criteria, or high energy consumption criteria).

On the downside, the broad approach meant that:

- some households who could probably pay for the HPSP service received it free of charge
- some households who received the service did not really need it. For example, some had already undertaken many of the changes that the HPSP program offered. This reduced the overall impact and effectiveness of the program.

Some of these households might have received a comparable benefit from a different type of approach, such as contact via the internet or through other avenues, rather than a home visit.

Some households would have benefited from a more intensive intervention, such as upgrades to their hot water system.

6. If not, which low-income households should have been targeted? How could these households be identified and engaged?

Targeting could have preferentially addressed households with:

- high energy consumption
- energy billing hardship
- health or disabilities which require higher energy consumption
- households with specific energy efficiency needs, such as replacing an inefficient hot water system.

Such targeting is likely to have resulted in greater savings per household. However, each approach would have raised new issues. These include:

- Targeting based on inability to pay energy bills or on high consumption is likely to exclude many households in need of energy efficiency support.

For example it would exclude households who are restraining their consumption (sometimes to the detriment of their health and wellbeing) or going without in other areas of life, in order to pay their bills (Chester 2013). These households are the hidden face of energy hardship, and need support.

- Narrow targeting might bring into question the appropriateness of the HPSP to address the underlying issues that cause high energy consumption and billing hardship.

Some of these target groups are in need of a high level of assistance, often extending beyond energy efficiency. It is not clear to us whether the HPSP would have been the best program to address the energy-related issues faced by these groups. If these groups were targeted and the HPSP proved not to be the most appropriate intervention, then the impact on the households would be reduced, as would the overall impact of the HPSP.

If tighter targeting is used in future programs, the program should be tailored to the specific needs of each target group.

7. Have you directed clients or customers to Home Power Savings Program? If not, why?

No, the Brotherhood of St Laurence is not offering energy-related services in NSW at this stage.

8. Was the Home Power Savings Program effective in reducing bill pressure for low-income households? Why or why not?

The evaluation of the first phase of the program suggests it has had an impact on low-income households' bills. Across all households the savings identified were between 3.8 and 4.0 per cent, and those households that received all the kit items saved between 6.0 and 7.3 per cent during Phase 1 of the program (Rickwood et al. 2012).

Further evaluations will be more instructive on the impact of the program.

Given the recent increases in energy bills, such smaller gains are likely to have provided a useful offset to the rising prices.

Further detailed analysis would be required to assess whether these changes flow through to changes in disconnections or bill payment issues for program participants.

9. If so, what aspects of the design or objectives made it effective? If not, how could it have been better designed to improve its effectiveness?

The energy savings from the program appear to be attributable to the retrofit kit measures (Rickwood et al. 2012). Those households who received the full retrofit kit achieved larger savings than those who only received one or two items.

One important way to improve the program's effectiveness would be to minimise the number of households who receive the program intervention but do not need it. Options to address this issue may include:

- **Utilise a basic self-assessment filter**

A basic household energy efficiency self-assessment (online or paper) could be provided for households who are able to complete it. Community organisations could also be contracted to undertake a basic assessment (similar to a triage arrangement). The initial assessment would screen for:

- the major energy usage factors which make a material difference to household consumption
- program priorities (for example, low-flow showerheads, if the department is offering a program with showerhead replacements; or hot water system type if the department is offering a hot water rebate; or behavioural factors if the department is offering behaviour change interventions).

The screening process could be a gateway to further assistance such as a home audit or a rebate, as needed.

- **Provide alternative services to households who have already addressed the basic issues**

The resources that would have otherwise been applied to a home visit could then be channelled to that household as a rebate for a more efficient product or service (if needed).

10. How have barriers been successfully addressed in other past or current programs or policies in NSW or elsewhere?

Many countries have schemes to improve the energy efficiency of low-income households and properties. For example the United States has a national Weatherization program, and the United Kingdom has the ECO program (a white certificates scheme, focused on low-income households).

In the United Kingdom, an earlier scheme—Warm Front— provided energy efficiency upgrades to low-income households. The assistance per household was significantly larger than that in Australian schemes. When EAGA were operating the program, they successfully combined the Warm Front incentives with the Carbon Emissions Reduction (CERT) scheme. In doing so they were able to deliver the maximum benefit to households.

11. Do you think energy efficiency programs like the Home Power Savings Program are an efficient way to reduce bill pressure on low-income households?

HPSP provided a useful means to interact with a broad target population and according to the interim evaluation has had some impact on energy bills.

While HPSP is by no means a total solution to the diverse factors that contribute to energy hardship, it is important to note that the annual household savings from the HPSP can be assumed to continue for the lifetime of the various measures installed (for example the showerheads). This is likely to be the case because many of the savings are not dependent on day-to-day energy efficiency behaviours, which can revert back following a behavioural intervention.

The specific audit and retrofit offering made in the HPSP was delivered efficiently. The NSW government was able to provide households with a series of measures at significantly below the cost that a householder would have paid for the same upgrades. However there are measures that could be taken to improve the efficiency of the intervention, as outlined below.

12. If not, how could energy efficiency programs be delivered more efficiently, or what other programs do you think would be more efficient?

One approach to improving the delivery of services to low-income households is to provide a service with an initial broad targeting, and graduated levels of support depending on need. This could include:

- online energy efficiency ‘health’ self-assessments to assess the basics of home energy efficiency literacy and management

- support such as an audit and basic retrofit, for households identified as in need through the online portal or community service organisations or government agencies
- rebates and further support in combination with a co-payment, for households who need to upgrade a major fixture, such as a hot water system.

This rebate/co-payment could be based either on self-assessed need, i.e. a household identifies they need a new hot water system and they could apply for the rebate, or via referral from the energy audit process. Where possible an audit should not be mandatory, as the audit itself can be quite resource-intensive. This type of support could also be applied by using the existing HPSP database and offering further assistance based on the audit that has already been undertaken.

13. How could energy efficiency for low-income households be delivered through the NSW Energy Savings Scheme?

For more expensive items such as hot water systems, a booster grant should be delivered alongside any ESS incentives should they be introduced.

For low or no cost items among the ESS interventions, consideration should be given to providing resources for community sector organisations to deliver them directly, or developing incentives for private sector organisations to partner with community sector organisations.

14. In your experience was it simple to find information about and participate in the Home Power Savings Program? How could participation be simplified?

We were not directly involved in recruitment in NSW.

15. Is there duplication among any existing programs or policies?

There is some duplication; however there are also gaps. Unlike NSW Government environment programs, several recent Commonwealth programs have been cut short or altered during the life of the program. Most recently this applies to the Home Energy Saver Scheme home visit program, which had one year cut from its planned operational time. Similarly, while the HESS subsidy is currently scheduled to run until mid 2015 it is quite possible that there will be changes to the program.

Program development for low-income households should focus on the gaps, such as high-cost high-return items, and be cautious about relying on Commonwealth programs remaining in place.

16. How could programs or policies be better aligned to target gaps and avoid duplication?

The NSW Government's planned approach to energy efficiency, as outlined in the NSW Energy Efficiency Action Plan, is the best means to avoid duplication and address gaps. Importantly a planned approach when commitments are met (as has been the case with the HPSP) provides greater certainty for households and the industry.

Where possible the NSW Government should seek to work with other levels of government and non-government entities to avoid duplication. However, this is clearly not always possible. The NSW government can provide an energy efficiency framework for other entities to work within. Investigating approaches such as Collective Impact may be useful in this regard.

While avoiding duplication is important, the NSW government should not restrict its activities in important areas, such as high-cost high-return items, if an existing Commonwealth program such as the HESS subsidy will not be ongoing (it is scheduled to cease at the end of June 2015).

To avoid duplication with the ESS, any initiatives specifically targeting low-income households should be developed to leverage the benefits of the ESS for low-income households. This will still require specific programs for low-income households. Enabling participation could include:

- Providing an additional grant (or rebate) alongside the ESS grant, in recognition of the heightened capital constraints in low-income households. This grant would act as a booster to increase uptake in low-income households. Such an approach would be particularly useful for higher cost fixtures (discussed above), which are more difficult for low-income households to purchase.
- Providing access to low-interest loans (see discussion on pages 7–8).

References

- ARTD Consultants 2012, *Home Power Savings Program 2012 independent evaluation*, Office of Environment and Heritage, Sydney, viewed 18 February 2014, <<http://www.cleartheair.nsw.gov.au/resources/climatechange/140053hpspintev.pdf>>.
- Australian Industry Group, Brotherhood of St Laurence, Choice & Energy Efficiency Council 2013, *A plan for affordable energy*, viewed 18 February 2014, <http://www.bsl.org.au/pdfs/Joint_plan_for_affordable_energy_Oct2012.pdf>.
- Barnett, B, Beaty, RM, Chen, D, McFallan, S, Meyers, J, Nguyen, M, Ren, R, Spinks, A & Wang, X 2013, *Pathways to climate adapted and healthy low income housing*, National Climate Change Adaptation Research Facility, Gold Coast, Qld, <http://www.nccarf.edu.au/sites/default/files/attached_files_publications/Barnett_2013_Climate_adapted_low_income_housing.pdf>.
- Chester, L 2013, *The impacts and consequences for low-income Australian households of rising energy prices*, University of Sydney, <http://www.householdenergyuse.com/resources/Impacts_Consequences_Low_Income_Households_Rising_Energy-Bills_Oct2013.pdf>.
- Howden-Chapman, P, Matheson, A, Crane, J, Viggers, H, Cunningham, M, Blakely, T, Cunningham, C, Woodward, A, Saville-Smith, K, O’Dea, D, Kennedy, M, Baker, M, Waipara, N, Chapman, R & Davie, G 2007, 'Effect of insulating existing houses on health inequality: cluster randomised study in the community', *British Medical Journal*, vol.10, no. 1136. On line first. doi:10.1136/bmj.39070.573032.80
- Pipkorn, J & Department of Industry 2013, 'Carbon zero, carbon positive', *Your home: Australia’s guide to environmentally sustainable homes*, 5th edn, Commonwealth of Australia (Department of Industry), Canberra.
- Rickwood, P, Mohr, S, Nguyen, M & Milne, G 2012, Evaluation of the home power savings program - phase 1, The Institute for Sustainable Futures, UTS, Sydney, <<http://www.environment.nsw.gov.au/resources/climatechange/140051hpsp.pdf>>