The role of open house events to improve energy efficiency: reaching the new or preaching to the converted?

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Abstract

Buildings have a significant impact on the natural environment. Prompted by community concern to address anthropogenic climate change, public open house events are being adopted to demonstrate and promote niche green housing technologies and practices. In Australia, the past 10 years has seen the annual national Sustainable House Day (SHD) become a celebration of energy and water efficient homes, many with renewable energy technologies. In the United Kingdom Old Home SuperHome and various other open house initiatives are used to demonstrate green niche housing and eco-refurbishment. Tapping into the popularity of DIY and home improvement phenomena, these eco open house events encourage the general public to visit environmentally sustainable new homes and recent eco-renovations in their local community, and to listen to the testimonials of owners, architects and builders. However, whether these events reach new audiences and inspire real change or simply 'preach to the converted' who have already made such changes is unknown. This paper addresses this knowledge gap by empirically examining the profile and actions of attendees of SHD and comparing their renovation behaviour to that of the general population. The research also explores whether participants learn from attendance and are motivated to create their own sustainable home as a result. The data consists of 2,166 interviews with attendees of the SHD event, conducted over three years. We find that that eco open house events attract a majority of new participants each year and that these participants, while showing slightly more pre-existing green renovation behaviour than the general public, are still fairly early on in their adoption of sustainable housing changes. Additionally, the events affect participants beyond just intended behaviours, providing evidence of the subsequent adoption of sustainable products. This research provides valuable insight into the role of such marketing initiatives in reaching new audiences and assisting behaviour change towards an energy-efficient and low-carbon community.

Introduction

Human impact on the global climate is most likely the greatest economic, social, political and environmental challenge facing this generation and our immediate future generations (Stern 2006; Garnaut 2008). The evidence presented by the world's leading climate scientists is showing that anthropogenic greenhouse gas impact has reached the level which is altering the global climate (CSIRO 2007; Metz et al. 2007).

Housing in developed nations such as Australia, USA, UK and Europe has evolved to the extent that households expect high levels of thermal comfort, the convenience of electricity available at the flick of a switch, and hot water on demand, irrespective of the environmental impact of making that energy available (Shove 2003). Consumer housing expectations and cultural norms, embedded institutional construction practices, regulatory standards and dominant technologies have evolved in parallel without due consideration of the resultant ecological footprint (Crabtree 2005). The final built form and the way we use buildings is the result of many social, economic and technical influences, such as the cultural institutions that shape communities, the technology norms applied by industry, the education and training of actors that meet market demand for

new housing, and the experience of actors that demand and use new residential products (Guy 2006). This interaction of actors, institutions, rules and technologies over many years has brought us to the point where housing in developed nations has a significant negative impact on the local environment and the global climate (Organisation for Economic Co-operation and Development 2003).

Recently, concern for anthropogenic greenhouse gas emissions has lead community groups, individuals and governments in many countries to consider a more sustainable level of building energy and carbon performance (Kapsalaki & Leal 2011). Academics and policy organisations alike have argued that improving the energy and carbon performance of residential buildings will play a key role in delivering substantial and sustainable greenhouse gas emission reductions in developed economies (Levine et al. 2007; Boardman 2009; Department of Climate Change and Energy Efficiency 2010; International Energy Agency 2010).

Yet the market response to rising demand for low-energy housing has been slower than expected from economic supply and demand theory (Lovell 2005). The science and technology studies literature suggests green niche developments, created relatively free of the constraints of the dominant incumbent socio-technical regime, may play a role in transitioning that regime to one with housing that has a lower environmental impact (Kemp, R, Schot & Hoogma 1998; Seyfang 2010). Evidence is available describing how low-energy niche housing can provide sites of learning and network building, helping to transform technology policy and create broader demand in the mainstream market (Smith 2007).

Although many energy-efficient renovation actions are economically beneficial, research has suggested that the largest barriers to action are a lack of knowledge and interest (Tommerup & Svendsen 2006; Meijer, Itard & Sunikka-Blank 2009). Interestingly recent studies have not found that consumers are lacking credible information on house related actions to reduce their energy usage (Jakob 2007; Sharp & Høj 2009). This suggests that while renovation information is available, the economic/fiscal benefits of sustainable product adoption are not well understood and awareness of the benefits could result in greater uptake (Jakob 2007).

There is also a body of literature that demonstrates that community-based social marketing strategies can lead to significant changes in household behaviour (Jackson 2004; Centre for Sustainable Energy & Community Development Xchange 2007; Adams & Berry 2008; Hamilton & Killip 2009; Middlemiss 2009; Preston et al. 2009; Mulugetta, Jackson & van der Horst 2010; Centre for Sustainable Energy 2011). Can community-level social marketing campaigns such as public eco open house events support a transition to sustainable housing?

With the pressing need to address anthropogenic greenhouse gas emissions, particularly those generated due to household energy use, this paper empirically examines the impact of local community action in the form of eco open house events in successfully engaging the public on climate change. Drawing upon examples of eco open house events in both the United Kingdom and Australia, the paper provides a detailed analysis of the impact of such events in terms of who attends, what they think of the event and what actions result from attendance. Repeated cross sectional as well as longitudinal tracking data is used to specifically examine the Australian national SHD event. This paper highlights the role such marketing initiatives play in assisting in behaviour change towards a more energy efficient and low carbon community.

Eco open house events and their potential role

Eco open house events are defined in this paper as organised events that allow the public to experience demonstration exemplar renovations or new housing which have a low environmental footprint. Eco open house events are public participation events whereby a house, or collection of houses, are made available for inspection to interested members of the general public, often on a particular day or weekend for a nominated period of hours. Experts and/or information materials are often available in the houses to describe the features that lower the buildings' ecological footprint. Houses are typically selected by local event organisers according to minimum energy efficiency, renewable energy or similar environmental standards. Houses are opened on a voluntary basis by the owners, typically without the expectation of financial gain, to demonstrate local examples of environmentally sustainable housing. A small admission fee is sometimes charged to visitors to cover organisation and house cleaning costs.

Such events are one type of local community climate change action that has gained popularity in both the United Kingdom and Australia over the past decade. For example: Hamilton and Killip (2009) documented ten eco open house events in 2007/08, and SHD (initially as Solar House Day) has been held annually in Australia since 2001. These eco open house events have showcased energy, water and waste reduction solutions relevant to the local climate and building typology, and become a focal point for community level engagement on climate change action.

There has been huge growth in government funded public programs aimed at shaping the general public's behaviour for improved environmental outcomes – especially around renewable energy and energy efficiency (Department of Climate Change and Energy Efficiency 2011; Eyre, Flanagan & Double 2011; Department of Climate Change and Energy Efficiency 2012). The adoption of solar energy, installation of high efficiency lighting and the insulating of homes are three examples of initiatives that have been driven by government policy on a national scale in both Australia and the United Kingdom, yet those campaigns have failed to deliver the necessary domestic energy reduction targets (Utley & Shorrock 2008), with the majority of household actions amounting to small behaviour changes and minor retrofit actions (Eyre, Flanagan & Double 2011). It may be time to consider alternative approaches to reach the wider community and support local solutions.

The task of reducing household emissions is multi-faceted, and researchers have suggested three ideals to aim towards when Governments and non government organisations (NGOs) undertake the task of reducing residential greenhouse gas emissions (Wood & Newborough 2003). Wood and Newborough (2003) stated that the existing housing stock would need to be replaced with low energy buildings designed at minimising peak heating and cooling loads; secondly, that there needs to be greater use of low energy domestic equipment (appliances and lighting) and thirdly, promotion

and achievement of 'energy conscious' behaviour among end users. But a decrease in emissions will simply not occur through improvements to new housing construction energy performance alone if no energy is saved through retrofitting the current housing stock (Verbeeck & Hens 2005). To achieve the ideals in residential emission reductions it is crucial for Governments and NGOs to better understand the drivers and barriers of sustainable product adoption and renovation behaviour. Desirable goals, such as lowering greenhouse gas emissions, reducing waste, and increasing energy and water efficiency can be met only if high levels of public participation are achieved (McKenzie-Mohr 2000). Eco open house events would seem to be an ideal means by which to showcase and promote just these behaviours.

Guidelines for good practice in social marketing specify the use of audience research at the outset and the careful segmentation of target audiences to ensure maximum program efficiency and effectiveness (Andreasen 2002). However, there is still much that remains unknown in terms of what response can be expected from such programs, who should be targeted, and how the programs should be marketed. This is also true in the context of eco open home events. Such knowledge is needed.

The body of literature on climate change and consumer behaviour would support the idea that eco open house events could be a successful path to achieving behaviour change. From the perspective of the lay general public, climate change, as a concept, can appear quite abstract and detached from everyday matters, and households can feel a sense of helplessness and disempowerment, perceived to be within their sphere of concern but not within their sphere of influence (Heiskanen et al. 2010; Cole 2012).

THE LOCAL NATURE OF INFORMATION IS IMPORTANT

Research has also found that engagement and participation in environment activities are likely to be greater when those issues are presented as local and directly relevant to the community (Action with Communities in Rural England 2009; Marshall 2009). Local sources of information are often more trusted and valued, whilst external information flows, particularly from commercial interests, are often less trusted (Roberts, Humphries & Hyldon 2004; Energy Saving Trust 2007; Preston et al. 2009; Kemp, M 2010; Mulugetta, Jackson & van der Horst 2010). The Energy Saving Trust (2007) suggests 'the main influences on our lives stem from local social connections, rather than from national ones.' Kemp (2010) states 'Local actors, whether neighbours, friends, social networks, local councils, independent agencies, are generally the most trusted sources of information and advice' and suggests that community-led schemes are more likely to be successful than those imposed by outside initiators. Mulugetta et al. (2010) notes that many studies have demonstrated that trusted intermediaries such as friends, neighbours and family, can play important roles in overcoming barriers to behaviour change, creating positive associations and awareness of energy reduction.

Further support for the likely success of eco open home events comes from social learning researchers specifically studying effective climate change action. They have established the value of local networks for social learning, the power of engaging communities, and the need to frame the issue in a locally meaningful way (Hounsham 2006; Bond 2010; Mulugetta, Jackson & van der Horst 2010; Hamilton 2011). Hamilton (2011) suggests that people learn from observing and replicating actions, and from observing the behaviour, attitudes and the outcomes of the actions of others. Kemp (2010) suggests that the learning of climate change science and solutions should be personal and local, visually engaging and memorable. Mulugetta et al (2010) argue that it is easier for local communities to share experiences since they are likely to face similar problems and can negotiate a shared vision. Hounsham (2006) finds that campaigns to encourage and persuade households to adopt green behaviours must be framed in terms that make sense to them, according to their own values and motivations, stating that a good recipe for success includes striving for a partnership (engage), making it easy (enable), leading by example (exemplify) and giving support and help (encourage).

Local exemplar projects provide an opportunity to demonstrate local sustainability solutions in a meaningful way to households, and to connect different elements of the community to exchange ideas and encourage new practices (Lovell 2007; Mulugetta, Jackson & van der Horst 2010). Lovell (2007) describes how demonstration low-energy housing developments provide credibility and authority for ideas through their translation into material form, providing an opportunity for social learning. Mulugetta et al (2010) argue that local low-energy demonstration projects provide a platform for learning and cooperation, allowing for the construction of social relationships and communities of practice.

In summary, the existing general literature suggests that eco open house events may be a successful way to engage the local community in a meaningful way, encouraging and supporting behaviour change. This includes not just the pre-existing experts on eco-housing, but rather the wider community.

The UK experience of eco open house events

Eco open house events to promote sustainable renovation and new house solutions have been operating in the United Kingdom for many years, and the number of events and houses open to the public has increased as new regions and new exemplars have joined the various promotions. Old Home SuperHome, managed by the Sustainable Energy Academy, is the largest of the UK events, starting with just 10 houses in 2007 and now having grown to over 120 homes in 2012. Other events have been run in Oxford, Stroud, London, Brighton, Cambridge, Forest of Dean, Norfork and many other cities and regions in the United Kingdom. For example: the Brighton and Hove event has operated since 2008 and attracts over 1,500 participants; and the Bristol Green Doors event represents one of the more recent additions to the eco open homes program starting in 2010 with 50 homes and over 2,700 visitors.

The basic tenet of these events is that by showcasing local exemplar environmentally sustainable homes it will encourage and help others improve the environmental performance of their home. This is reflected in goals of the events such as those for the Bristol Green Doors project (Cole 2012) which states their aims as being to:

1. Present good practice of green refurbishment
2. Increase the uptake of green refurbishment

3. Develop the green economy supply chain
4. Celebrate local sustainability (people & homes)
5. Facilitate successful community activity
6. Pilot an effective project that other cities can use.

Only limited empirical evidence exists by which to evaluate if these aims are being met. Several eco open house events have incorporated participant surveys during and/or post the event to facilitate participant feedback and analysis. Participant surveys were conducted for Old Home SuperHome events from 2007 to 2010 to build a better understanding of who attended, their satisfaction with the event, and their intention to take action (Sustainable Energy Academy 2010). The data was collected by email survey amongst participants who had visited a SuperHome. However, sample sizes were low (fewer than 100 respondents in some years) and variable response rates to the self-completion questions (some as low as 35 percent) raise the question of representativeness of the sample and response bias in the results. It could be that only the more engaged or 'converted' event participants responded to the survey which required effort to complete and return. It is also not clear how the sampling frame, a much smaller group than the total pool of visitors, was determined. And the survey results support concerns over these potential biases. Averaging the results across the years, approximately two thirds of respondents felt the visit had inspired lifestyle changes such as using the car less and 98 percent of Old Home SuperHome participants were pleased they attended the event, with 78 percent inspired to undertake more improvements to their homes (Sustainable Energy Academy 2010).

The Bristol Green Doors 2010 event incorporated two follow-up participant surveys, at three months and 15 months, to build an understanding of the economic impact of the event (Cole 2012). Again, the research was conducted as an email follow-up amongst visitors who left their contact details at an open house or attended follow-up events. The Bristol Green Doors research found participants not only had increased awareness and aspirations of action, with evidence of some undertaking these changes within 15 months of participation. However, with the contact list being only 16 percent of the estimated visitors and the final sample of 121 for the first survey and 57 for the second, the question of data representativeness is again raised. In its concluding comments, the report acknowledges the research's evidence that the event attracts participants with "pre-existing committment to green energy practices" and that the event may play a role in perpetrating the stereotype that green consumerism is the preserve of the affluent. These findings, however, could be just a reflection of the research sample bias rather than of the event participants as a whole. Clearly additional empirical research is needed.

More broadly, if we are to take the SuperHome and Bristol Green Doors results as indicative findings, there is a very positive reaction from participants to eco open house events and high levels of those claiming to take action to improve the environmental performance of their own home from attendance of the event. Overall, the experience of eco open house events in the United Kingdom is that they have been good examples of social learning, raising awareness and inspiring visitors about the opportunities and potential for low-energy housing (Hamilton & Killip 2009).

Consistent with the literature, eco open house events in the United Kingdom have been effective at bringing climate change action into the realm of the general public, scaling climate change action to the reality of household activity, and have used trusted local information sources to engage their community. Hamilton and Killip (2009) capture the power and effectiveness of eco open house events in 'The greatest strength of the Open Days events seems to be the power of real-life experience and the telling of a 'story' by an ordinary citizen about their own home'. These authors also call for more research on such events to examine how well these intentions translate into actual behaviour.

The experience of Sustainable House Day in Australia

SHD is now in its twelth year as an annual community based event that has been promoted nationally in Australia since 2001. In the large cities and many major regional towns, new and retrofitted homes are on display during a single weekend to show practical, locally relevant and attainable solutions for reducing energy and water consumption in the home such as passive solar design, high performance glazing, efficient lighting, renewable energy technologies, and water storage and recycling systems. It has grown rapidly in recent years with the 2008 event seeing 11,500 people visiting 140 houses and the 2010 event peaking at 40,000 participants with 272 homes on display.

METHODOLOGY

The data used in this paper was collected each year from 2009 to 2011 across all participating open houses using a paper-based survey that was administered to participants at the end of their visit to a SHD home. Each home had volunteers on site to help with the running of the event and these volunteers were used to physically pass out and collect the questionnaires and encourage participation. They were briefed about the purpose and importance of the research and supplied with copies of the questionnaire. Having a paper-based survey administered face-to-face reduced the issue of self selection bias noted in earlier eco open house research, where only the more interested or dis/satisfied participants would make the effort to participate in the research. Participants could either complete the questionnaire on site and put it in a collection box or take it away and post it back (postage paid on reception). Additionally, subscriptions to an eco-magazine were offered as an incentive to participate in the research.

The questionnaire was designed, data entered and analysed by the University research partner of SHD, ensuring respondent anonimity and confidentiality.

The sample sizes achieved are detailed in Table 1. Follow-up phone interviews with the same individuals were conducted in 2009 in order to assess how intentions translated into actual behaviour change. These interviews were conducted by Australian Social and Market Research Society accredited telephone interviewers using a CATI system and occurred 10 months after the event. The data was entered and cleaned by a professional data entry coder and analysed using SPSS 21.

In order to determine how SHD participants compare to the general population of renovators, benchmarks were needed that capture the renovation and building profile of the general population of Australian homeowners. This was available in

Table 1. Achieved sample sizes for Sustainable House Day nationally.

Year	Sample size	Follow-up sample size
2009	546	391
2010	772	NA
2011	457	NA

Table 2. New and repeat Sustainable House Day visitors.

Year	2009	2010	2011
Sample size	546	772	457
First time (%)	75	69	61
Repeat (%)	25	31	39
	100%	100%	100%

the form of survey data collected for an unrelated Australian Government project in 2009. This online survey was randomly administered to 1,500 homeowners (outright ownership or still paying off the home). The sample was geographically representative nationally. Respondents were screened to be 18 years of age or older and playing, at minimum, a joint decision-making role in significant outlay purchases for their home. An online method allowed respondents to see long, detailed lists of possible renovations they may have made. This data serves as a benchmark for the 'average' incidence of renovation behaviours amongst the general population in 2009, which we use for comparison purposes.

Findings

SUSTAINABLE HOUSE DAY ATTENDANCE AND MOTIVATIONS

One of the simpliest ways to assess the new audience reach of SHD is to examine the proportion of participants who are first timers and repeat visitors. Table 2 shows that the event is attracting a majority of newcomers each year, but that this is decreasing over time. This is a positive finding in terms of the event reaching new audiences – over 10 years after the event's introduction four in 10 participants are still new to the event. Over time, the event is increasingly drawing repeat visitors. This may be a good possible indicator of the events' perceived worth amongst attendees.

To assess the likelihood of SHD affecting actual behaviour, it is necessary to have a picture of the renovation or building projects participants are undertaking. This was done through asking respondents their main reason for attending the event. As the results showed high consistency across years, only the 2011 results are reported in detail. In 2011, 65 percent of participants stated they went to SHD to 'gather information for their own project'. A quarter of the respondents were going just for 'general interest in the area'. The remaining 10 percent were either going for 'other' reasons such as 'for work', 'for comparison', or 'to accompany a friend'. This shows that the majority of people attending would be able to apply the things they see and learn to an actual project of their own.

Looking at specific projects being undertaken, approximately four in 10 participants were intending to renovate their own home, three in 10 were expecting to build a new home, while the rest were either 'not sure' (just over one in 10) or had no solid plans to build or renovate (just over one in 10). The small remainder were making changes to investment or rental properties. Again, this pattern was seen consistently across all years of data collection.

Half of the respondents planning to build or renovate had a timeframe of within one year. This highlights their interest in the area and confirms the result earlier with 65 percent of visitors stating they were gathering interest for a personal project. About one quarter of respondents (26 percent) were actively renovating their home or building a new one at the time of Sustainable House Day.

Respondents' satisfaction at the event was high with a consistent six in 10 respondents claiming to have 'found what they wanted' and a further four in ten 'somewhat'. Consistently across years, 5 percent or fewer said they had not found what they wanted or were 'unsure'.

In the follow-up survey in 2009, SHD was rated in comparison to other sources of renovating/building information. On a 0 to 10 scale, where '0' was 'not at all helpful' and '10' was 'extremely helpful', SHD had a mean rating of 7.8, with 84 percent of respondents giving a rating of 7 or higher. Again, this is a positive finding for the role of SHD and supports the findings from the previous UK eco open home event research.

THE PROFILE OF PARTICIPANTS

The profile of survey respondents was examined and compared to the general population of homeowners. Table 3 shows the stability in profile of SHD survey respondents in terms of the mean number and type of changes already made to their home prior to attending the event. There is a high consistency over the research years for the proportion of participants who had installed each product prior to attending the event. In terms of the mean number of items pre-installed by each participant from the five most prevalent installation items, there is also not much variation across the years. It can be concluded then that product ownership is at a stable level across the years (ie no statistically significant change), except for a growth in solar panel ownership.

Given that the incidence of installation does not change much over the years, we can use 2009 as a typical year for participants and use the research to compare the profile of SHD participants to the more general population data also from 2009. Table 4 shows that SHD survey respondents have a higher incidence of having installed insulation, rainwater tanks and solar panels, but a slightly lower incidence of shade blinds compared to the

Table 3. Sustainable products installed prior to Sustainable House Day.

	2009	2010	2011	Average
Sample size	546	754	457	
Insulation (%)	61	59	62	57
Energy efficient appliances (%)	53	47	57	49
Blinds for shading (%)	50	45	49	45
Rainwater tank (%)	46	39	43	41
Solar panels (%)	17	21	33	19
Mean number of items installed out of 5	2.7	2.3	2.6	

Table 4. Comparison of product installation against national benchmarks.

	Benchmark 2009	SHD 2009	Difference (2009)
Sample size	1500	546	
Insulation (%)	40	61	+21
Blinds for shading (%)	54	50	-4
Rainwater tank (%)	32	46	+14
Solar panels (%)	6	17	+11
Mean items installed	1.5	1.7	+0.2

general population. These were the only sustainable renovations common across the two pieces of 2009 research. This suggests that the participants of SHD are already more 'converted' than the average homeowner. But it also shows that the two populations are not that different in terms of the total number of changes made (comparing means) and that both groups show significant scope for further improvements to their home. This confirms the UK findings but also adds more depth of understanding as to the degree by which SHD participants have the potential to make additional changes to their home.

As an additional way of understanding the SHD's participants' level of expertise in 2011 respondents were asked questions to self-assess their level of awareness of sustainable principles and renovations. The respondents were asked (on a scale of 0–10 with '0' being 'strongly disagree' and '10' being 'strongly agree') "how much do you think you know about building and renovations compared to the average person?". They were also asked a similar question in regards to their effort to incorporate sustainable principles in their own home compared to the average person. More than half (55 percent, mean 6.0) of respondents indicated they strongly felt they knew more about building and renovations compared to the 'average' person. The remainder of responses tended towards the midpoint (unsure). Two thirds of respondents stated that 'compared to the average person' they were doing more to incorporate sustainable principles into their home (mean 6.7). These results show only a slightly higher perceived level of knowledge and engagement than the more general population towards both subjects (renovation and incorporating sustainable principles). This again supports the presumption that the participants of SHD are a little more knowledgeable and engaged but not to the extent they are already the 'converted'.

BEHAVIOUR CHANGE AS A RESULT OF SUSTAINABLE HOUSE DAY

In order to assess if SHD had an influence on participants' resultant behaviour, they were asked if the event has increased their likelihood of adopting sustainable principles in their home. In 2009, nine in 10 respondents stated positively (either 'yes, a lot' (55 percent), or 'somewhat' (35 percent)) that SHD has increased their likelihood of using sustainable principles in their own home immediately after attending the event. Again, these results were similar to other years. The respondents who answered 'no' (9 percent), were asked to specify why. The majority of these responses stated they "were already knowledgeable about sustainable principles" and/or "already using them".

Respondents were again asked, in the follow-up research, after 10 months, if participation in the event had increased the use of sustainable principles around their home. 75 percent stated it had (10 percent 'a lot', 28 percent 'somewhat', 37 percent 'a little'). This is a reduction from the initial levels of agreement, which may be explained by the passage of time reducing some of the intentions the event initially generated. None-theless, the result still shows participants perceive a direct effect from participating.

For an objective, rather than claimed, measure of behaviour change, the 2009 follow-up research asked participants what changes they had actually made during the 10 months after the event. Given that the main stated reason for attending SHD was to "gather information for my own project" (65 percent stated this as the key reason for attending in 2011), it is important to capture the effect of participating. The initial 2009 research had identified the future changes that visitors to SHD were intending to make after their visit. To achieve this, the respondents who answered positively (91 percent) to using sustainable principles in their home were asked which products were they most likely to change or install in their home within the next 12 month. These change estimates and the actual level of installation 10 months later are shown in Table 5.

Table 5 shows high levels of carrying through with intentions within the specified timeframe for the six sustainability changes examined. This is again positive evidence for the impact of eco open home events.

Table 5. Planned changes intended and installed by SHD participants.

	Initial survey 2009		Follow-up survey
	Intentions next 5 years	Intentions next 12 months	Installed within 10 months
Sample size	546	546	427
Solar panels (%)	58	22	20
Rainwater tanks (%)	42	23	21
Greywater recycling (%)	39	17	7
External shading (%)	34	21	19
Insulation (%)	31	19	24
Green power (%)	33	15	14

Conclusion

There is a substantial body of evidence of the need to address anthropogenic climate change, and a large component of carbon emission reduction activity will focus on required changes to the energy efficiency of our homes, the way we use energy in our homes, and to the energy cost of our lifestyles. The challenge to governments, industry and community groups is how best to engage and stimulate action by individual households.

Community-based climate change activity has demonstrated success in establishing action as locally relevant, utilising trusted local agents to inspire and support household behaviour change. Community-based activity has been found to create ownership and commitment to change through scaling action to the realm of households, enabling shared learning, and by supporting behaviour change.

Eco open house events in the United Kingdom and Australia have been found to create awareness of sustainable renovation and new home solutions, stimulate social learning, and inspire visitors to take action. This paper adds new knowledge to the area through establishing that:

- Eco open house events reach a majority of new audiences each year.
- Eco open house events attract people who are actively engaged in a project, the bulk of whom intend to undertake their project within a year. Whilst these people are slightly more likely to have made some sustainability changes already and to consider themselves more knowledgeable on the topic, they still have significant scope for making additional changes to their project to improve water and energy efficiency.
- Eco open house events are seen as a useful means of providing this required knowledge transfer by participants, as reflected in high satisfaction and helpfulness scores for the events.
- The participants of eco open house events have high levels of follow-through on their stated plans to make sustainability changes to their homes.

These findings are useful to eco open house event organisers, trade who wish to showcase their products, policy makers and marketers as they demonstrate how these events work to engage the public in reducing the water and energy consumption of the home and assist in promoting and supporting behaviour change to achieve this.

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Glossary

CATI system	A computer-assisted telephone interviewing technique where the interviewer follows a script provided by a software application
DIY	The culture of 'do it yourself' home renovations where the householders undertake many or all of the renovation tasks without the assistance of paid professionals
Eco	An abbreviation for ecological. For example: 'eco house' is a house that has a lower ecological footprint
Green power	A renewable electricity product offered by many Australian energy suppliers
NGOs	Non government organisations – organisations that operate independently of any form of government
SHD	Sustainable House Day – a public open house event in Australia featuring environmentally sustainable exemplar houses.
SPSS 21	IBM SPSS Statistics software version 21.0 (originally branded Statistical Package for the Social Sciences)
UK	United Kingdom
USA	United States of America