RP3016: EnergyFit Homes Initiative

Working paper 3: National Consumer Survey Results

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Acknowledgements

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Executive Summary

This report is a milestone deliverable from CSIRO for the EnergyFit Homes Initiative. The project partners to this Initiative are the NSW Office of Environment and Heritage, CSR, AGL Energy, Australian Windows Association, Clean Energy Council, Energy Efficiency Council, Stockland, Fletcher Insulation, Knauf Insulation, the Centre for Liveability Real Estate, and the Energy Efficiency Certificate Creators Association.

This report presents the results from a national telephone survey of consumers about understanding what information, from what sources at what time, and in what form is required to drive market uptake of low carbon homes.

In total, a random sample of 866 Australians was interviewed for this survey. Respondents represented all Australian states and territories in proportions comparable to the Australian Bureau of Statistics Census data (2011).

Results indicate respondents havea strong interest in energy efficient (EE) homes and their associated lower running costs, and that such homes are regarded as a priority, possible to achieve and not a hassle. Promoting key EE features , namely ceiling insulation, natural light, EE lighting, EE heating systems, and EE air-conditioning, would likely be well-received by prospective buyers and tenants. EE homes were seen as providing comfort if they were cool in summer and warm in winter, had natural light, had good airflow/ventilation and were quiet. Therefore, promoting these features could increase the association of comfort with EE homes. The environmental benefits of EE homes were highlighted as motivating a decision and likely to elicit a response to buy or lease a home, especially if they were seen as popularly supported. Respondents were willing to pay for specific energy efficiency information about their prospective home, with about one third of respondents willing to pay $100 or more for information, although, respondents placed more emphasis on information on upfront costs than longer-term running costs. Respondents indicated their preferred timing for feature-specific information when buying or renting was in the building inspection report, at 'open for inspection' events, and in home sales/rental advertising. Their preferred channels of information were via friends and family, product brochures, browsing at hardware stores, and use of energy ratings tools.

The data indicated opportunities to address the following:

Interest in and support for EE homes

• Promote the benefits of EE homes within the context of improved home comfort such as good airflow, plenty of natural light, warm in winter/cool in summer and quietness.

• Promote the general home features of ceiling insulation, natural light, and energy efficient lighting, EE heating systems, and EE air-conditioning and its impact on home comfort and running energy costs.

• Promote the property aspects of natural light, energy efficiency, and running costs during home inspections.

• Improve the energy efficiency of a home is considered a priority, knowledge is not a barrier and is already occurring.

• Further investigate the reasons why younger (below 35 years of age) and older (above 70 years of age) have lower levels of interest in EE homes.

Comfort

• Emphasise the value of coolness, warmth, light, airflow and silence as contributing to a comfortable home

Affordability

• Promote upfront costs over running costs

• Frame energy efficiency information as a home feature worth paying for

Future communication

• Emphasise the environmental benefits and broad support for EE homes

Targeted information

• Provide information about popular EE features in building reports, builders' plans, open for inspections and with appliances.

• Focus on information provision through word of mouth, brochures, retail stores and energy ratings.

The next phase of the larger research project will apply these findings through 'message testing', an implementation report, and a broader business plan, with the intention to enhance the market uptake of EE homes.

Introduction

This report is a deliverable from CSIRO for Milestone 4b as part of Project RP3016: 'Enhancing the market for EnergyFit homes at point of sale and lease'. It is funded by the CRC for Low Carbon Living and other project partners. This project is publicly referred to as the "EnergyFit Homes Initiative: Empowering consumers to recognise and value homes with better health, comfort and sustainability benefits and lower running costs". The EnergyFit Homes Initiative aims to explore the key information and behavioural factors, as well as the market structures,that influence the purchase and leasing of new and existing energy efficient (EE) homes.

This report details the results from a national telephone survey of consumers regarding key aspects of the understanding of what information, from what sources at what time, and in what form is required to drive market uptake of low carbon homes.

This survey is based on two previous project deliverables for the EnergyFit Homes Initiative, namely a literature gap analysis and focus group analysis. The gap analysis included a review of the literature on publicly available information, research reports and papers about the factors that influence the purchase and leasing of new and existing low-carbon homes (Romanach et al., 2014). The focus groups followed on from the gap analysis and were conducted with the aim of establishing a baseline understanding of home buyers' and renters' perspectives on energy efficiency and energy rating tools and to explore these stakeholders' key information needs. Focus groups were conducted in four east coast cities and regions in September 2014. In the focus groups, views were sought from owner occupiers, investors and tenants. In total, focus groups involved 107 participants, including 26 participants in Canberra, 25 in Sydney, 27 in Brisbane, and 29 on the NSW Central Coast (see Hall et al., 2014).

This report describes the methods used for data collection and analysis, followed by the presentation of the survey results. A discussion of the findings and resulting conclusions from the data is then presented.

In addition to this survey, a parallel online survey of housing specialists, and real estate agents and property managers was also conducted. These results will be published in a companion report that also corresponds to Milestone 4b.

Method

Survey design

A telephone survey was developed to investigate the level of knowledge, required information, sources of preferred information, willingness to pay, preferred format and other aspects associated with purchase and lease of energy efficient, low carbon homes. Telephone surveys were selected as the data-gathering method over online surveys as they usually provide higher response rates than online surveys and are more likely to reach socially diverse participants (Fricker, et al. 2005). However, telephone surveys are more likely to be influenced by social desirability effects (answering based upon social norms) and are also more restrictive with respect to the types of questions and information that can be included in the survey instrument (Stephenson and Crête 2011).

The survey questions were based on outcomes from a literature gap analysis and focus group analysis, both previous project deliverables. In addition, extensive discussions were conducted with the EnergyFit Homes Initiative Steering Committee and Swinburne University's Computer Assisted Telephone Interview (CATI) unit to finalise the survey questions.

The resulting survey comprised of 23 questions that collected respondents' demographic and socio-economic data, as well as information about their attitudes and information needs regarding EE homes. It included attitudinal measures to assess pro-environmental beliefs (Steg et al., 2005; Stern, 2000), and environmental self-identity (Whitmarsh and O'Neill, 2010). It also included measures to assess subjective norms. Subjective norms are usually measured by asking respondents to rate the extent to which "important others" would approve or disapprove of their performing a given behaviour (Ajzen 1991). The project team worked with Swinburne University CATI Facility staff to ensure that the questions were in appropriate format for phone surveys. A copy of the survey is provided in Appendix A .

Survey and data analysis methods

The survey was conducted by the CATI method, and managed and conducted by the Swinburne University CATI Facility. This method involves conducting a telephone survey, during which the interviewer follows a script based upon the survey design which has been entered into the software. The responses to the questions are recorded into the software program as they are provided by the participant.

Landline and mobile Australian telephone numbers used for the survey were sourced through Sampleworx. To compile their database, this company randomly computer generates and validates phone numbers. The landline sample of this database is weighted approximately to Australian Bureau of Statistics (ABS) population statistics based on postcode. However, postcode information is not available for mobile numbers and therefore this information had to be gathered from the respondent.

The survey was conducted over the period from February 2nd to February 17th 2015, initiated with a pilot study to test the intended length of 15 minutes and question quality. On the 6th of February, with a sample of 215 completed surveys, the average survey length was found to be 17 minutes and 25 seconds. Therefore, in order to reduce the average completion time, 5 attitudinal measures were removed from question 15 in the survey. The measures removed related to energy efficiency attitudes and subjective norms.

The majority of the calls were made by 24 interviewers that are trained and are monitored by supervisors and the CATI Facility manager.

The analysis presented in the report consists of frequencies and summary statistics reported for the full sample and, where appropriate, summarised across relevant subsamples. Paired sample t-tests were conducted to determine whether there were significant differences in the mean values of two subsamples.

Sample characteristics

In total, a random sample of 866 Australians was interviewed for this survey. This represented a response rate of 18.14% from 4775 eligible responses. These responses resulted from 33,371 calls to 15,130 phone numbers. Out of the final sample, 456 of the surveys (53%) were completed from mobile phone numbers.

Residents from all Australian states and territories participated in this national survey, and a representative sample of the Australian population (aged 18 years and older) by State was sought. As shown in Table 1, the survey population closely matches the proportional population in each state from the ABS Census data (ABS, 2011), with 33% of respondents drawn from New South Wales, followed by Victoria (26%), and Queensland (17%).

Table 1 State of residence of participants (N=864)

STATE	N	%	ABS CENSUS (%)*
NSW	284	32.9	32.2
VIC	226	26.1	25.2
QLD	150	17.4	19.8
WA	81	9.4	10.3
SA	72	8.3	7.6
ACT	20	2.3	1.7
TAS	17	2.0	2.3
NT	14	1.6	0.9
Missing	2		
Total	**866**	**100**	**100**

*Australian population aged 18 years and older

The survey objective was to seek the views of owner-occupiers and renters on EE homes. In response to this criterion, survey respondents were screened to only capture responses from those who rent or own a home. As shown in Figure 1, 22% of respondents were renters, 34% of respondents owned their homes with a mortgage and 44% of respondents owned their homes outright (n=194, 291 and 381 respectively). These first two categories closely match the ABS Census data. However, a higher percentage of the survey sample owned their homes outright. Further details are provided in in Appendix B. Appendix B also provides tables for other respondents' demographic including age and gender, level of education, household status, property type and income.
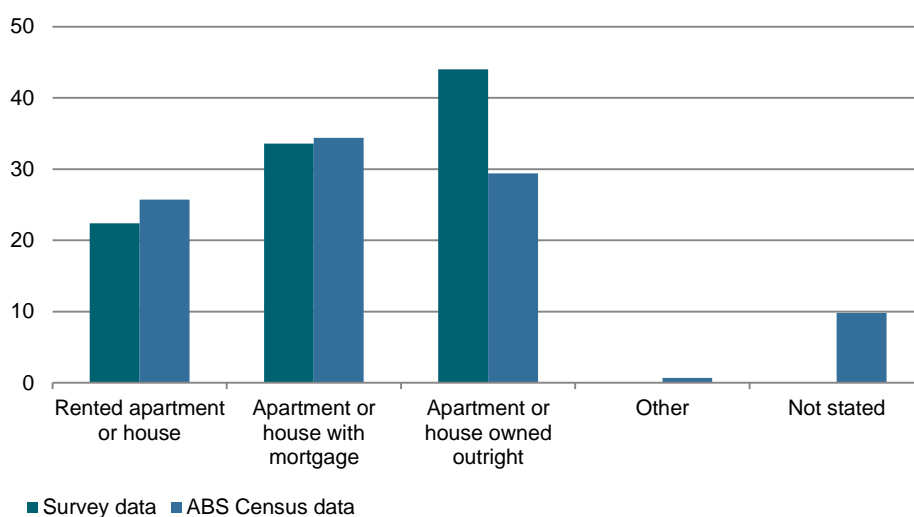
Figure 1 Participants' home type (%; N=864)

To understand whether the survey sample respondents participated in the home investment market, respondents were asked whether they own an investment residential property. In total, 23% (n=197) of survey respondents indicated that they own a residential property other than the one in which they live.

The survey also aimed to understand how many respondents were actively seeking to buy a home. Thirteen percent (n=109) of survey respondents indicated that they were actively looking, while the remainder were not (87%, n=756) or chose not to answer (0.1%, n=1).

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Results

This section presents the findings from the telephone survey, divided into four sub-sections. Initially, the respondents' specific attitudes towards EE homes are presented. These attitudes are then contextualised by presenting the types of attitudes that the respondents held, as tested through established measures. Later, the features sought by respondents when seeking to buy or lease are home are provided. Finally, the information sources relied upon by respondents on energy efficient housing are presented.

Attitudes towards EE homes

ATTRACTIVENESS OF EE HOMES FOR BUYERS

A large majority of survey respondents (89%, n=767) indicated that if they were told a home is energy efficient when buying or renting the home, the home would be more attractive to them. Most particularly, more than half of the survey respondents (56%, n=486) indicated that the home would be 'a lot more attractive to them', as shown in Figure 2.

There were no differences in interest in EE homes for the demographic variables asked in the survey such as gender, educational level, income, household composition, property type, property ownership and location. However, attitudes towards energy efficient homes differ amongst respondents according to their age. Figure 3 shows survey respondents under the age of 35 and above 75 years of age were more likely to say an energy efficient home would make no difference to them when compared to those aged between 35 and 74 years old. Respondents under 35 years of age were also less likely to state that an energy efficient home would be a lot more attractive to them when compared to other age group respondents. Survey respondents aged from 50 to 69 years old were more likely to state that an energy efficient home would be a lot more attractive to them.
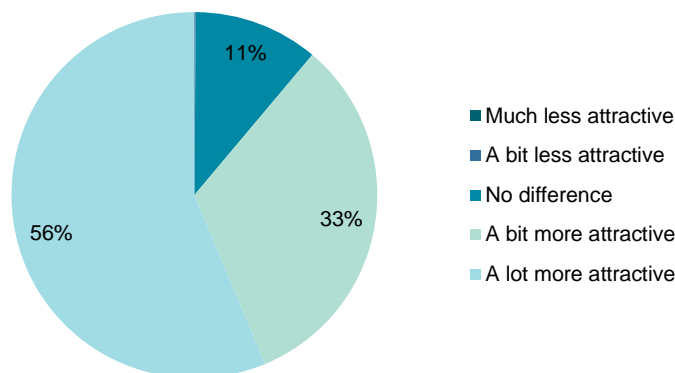
Figure 2 Attractiveness to buyers of an energy efficient home (N=863)
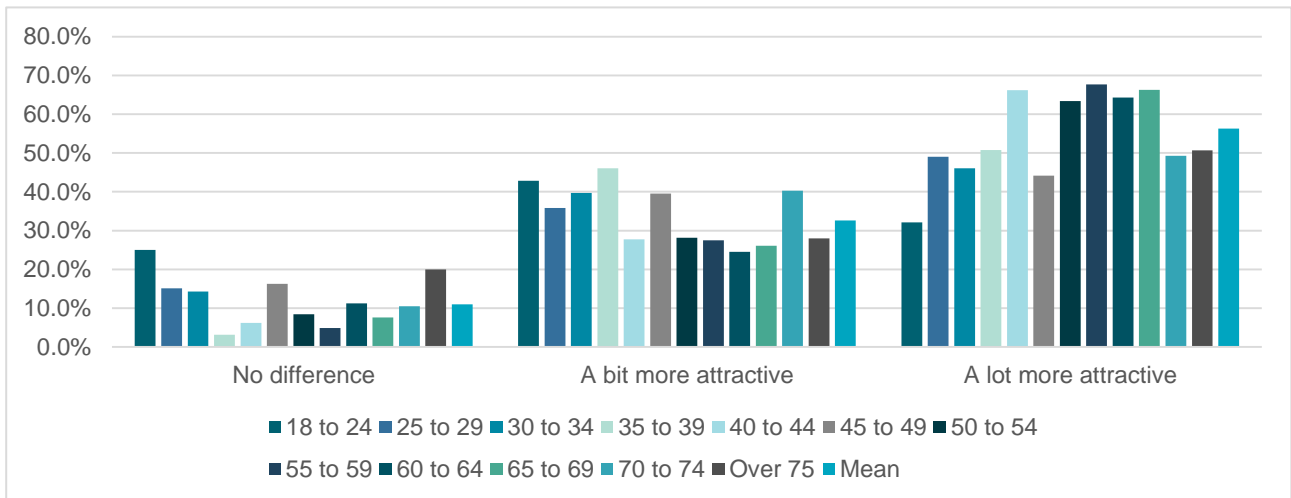
Pearson chi-square= 62.78; df=33; p<0.001

Figure 3 Attractiveness of energy efficient homes by age groups

RUNNING COSTS

A related question focused on the home running costs was posed to survey respondents. Similar to the above responses, a large majority of survey respondents (90%, n=775) indicated that if they were told a home has lower energy costs when buying or renting the home, the home would be more attractive to them, with more than half of the survey respondents (57%, n=489) indicating that the home would be 'a lot more attractive to them' (see Table 16 in Appendix B).

Attitudes towards homes with lower running costs differ amongst respondents according to their age and income. As shown in Pearson chi-square= 84.74; df =44; p< 0.001

Figure 4, both the younger respondents (under 39 years of age) and the older respondents surveyed (70 years old and above) were less likely to state that an energy efficient home would be 'a lot more attractive to them' when compared to respondents aged 40 to 69 years old. Survey respondents with household income under $1,000/week were more likely to state that a home with lower running costs is 'a lot more attractive to them' compared to other survey respondents (Pearson chi-square= 19.02; df=8; p<0.05).
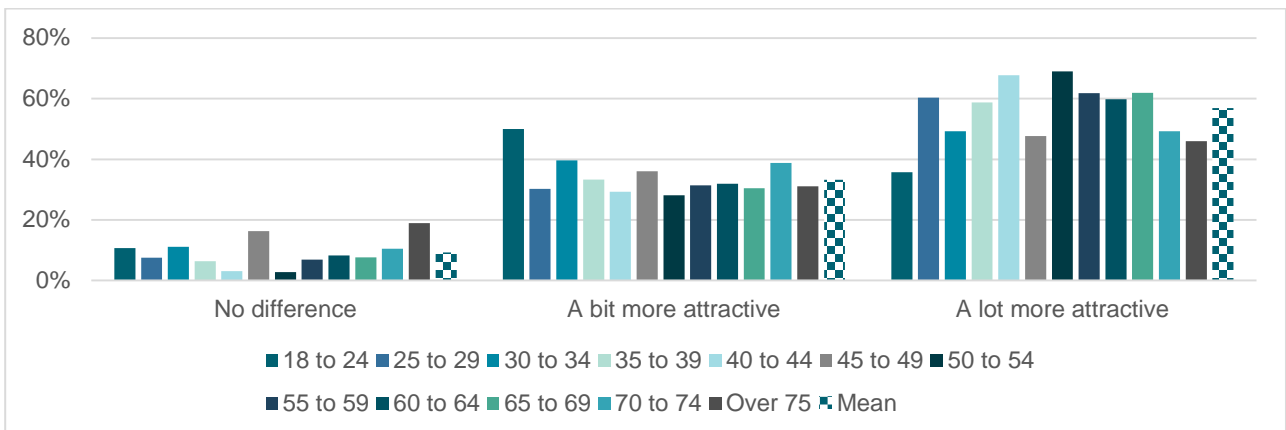
Pearson chi-square= 84.74; df =44; p< 0.001

Figure 4 Attractiveness of homes with lower energy costs by age groups

WILLLINGNESS TO PAY FOR INFORMATION

To further explore householders' interest in EE homes, respondents were asked if they would be willing to pay for information about a home's energy efficiency, when buying a home. Most respondents (57%, n=480) indicated that they would be willing to pay for energy efficiency information (see Table 17 in Appendix B). There were no differences in willingness to pay for energy efficiency information for the demographic variables asked in the survey. Survey respondents who were willing to pay for energy efficiency information when buying a home were asked to indicate how much they would be willing to pay for such information. As shown in Figure 5, 45% of respondents would be willing to pay up to $250 (n=206), and 33% (n=152) would be willing to pay up to $100. Response frequencies are displayed in Table 18 in Appendix B.
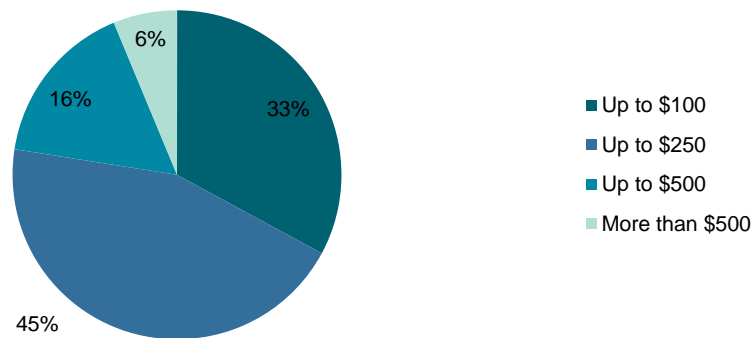
Figure 5 Proposed acceptable cost for energy efficiency home information (AUD; N=462)

Overall, these results regarding attitudes to EE homes suggest that respondents have a high level of interest in EE homes. In order to explore how respondents' responses vary according to respondent's level of interest in EE homes, the following results divides the survey respondents in two groups:

- Higher interest in EE homes: This group is composed by 37% (n=320) of respondents, which have stated that an energy efficient home is 'a lot more attractive' to them and that they are willing to pay for energy efficient information when buying a home.
- Lower interest in EE homes: This group is composed by the remaining 63% (n=544) of respondents.

In line with earlier findings, interest in EE homes varied according to respondent's age. As shown in Figure 6, younger respondents (aged under 35 years of age) and older respondents (aged 70 and above) were less likely to show interest in EE homes. Likewise, respondents aged between 40 to 44, and between 50 to 69 years old were more likely to state a higher interest in EE homes when compared to other age groups.
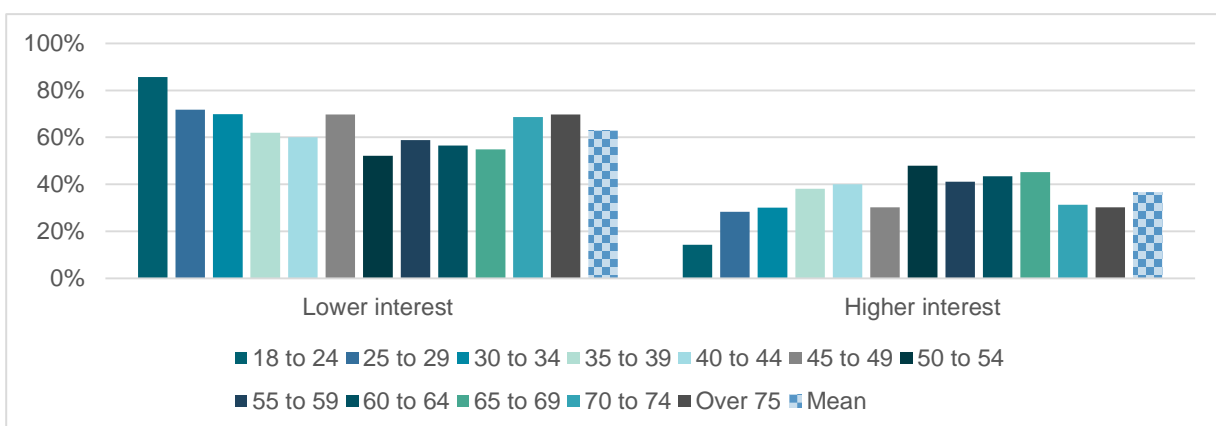
Figure 6 Respondents stated interest in EE homes by age groups

In addition, as shown in Table 2, respondents with a postgraduate degree were more likely to state a higher interest in EE homes and respondents that had completed Year 12 or less, stating lower interest in EE homes.

Table 2 Stated level of interest in EE homes according to respondents' educational level

	Low interest		High interest		Total
	Frequency	Percentage	Frequency	Percentage	Frequency
Less than Year 12	101	71.1%	41	28.9%	142
Year 12 Secondary	84	67.7%	40	32.3%	124
TAFE diploma or certificate	103	61.3%	65	38.7%	168
University degree or diploma	174	62.6%	104	37.4%	278
Postgraduate degree	83	54.6%	69	45.4%	152
Total	545	63.1%	319	36.9%	864

Pearson chi^2(4) = 10.0473   p< = 0.05

There were no statistically significant differences for other demographic variables asked in the survey such as income, household composition, property type, property ownership and location.

In order to understand and explore differences in the opinion according the respondent's level of interest in EE homes, the remainder of this report compares the views of these two groups when analysing key survey responses.

Attitudinal measures

ATTITUDES TOWARDS ENERGY EFFICIENCY

The survey included questions to explore respondents' past behaviour and perceptions towards energy efficiency. These attitudes were measured using responses to set phrases.

The total and divided responses are displayed in Table 3. Details on the frequency of responses for the attitudinal measures are displayed in Table 19 in Appendix B.

When considered as a whole sample, on average, responses indicate that:
- Respondents have improved the energy efficiency of their homes in the past.
- Respondents disagreed that they have to sacrifice comfort to improve their home energy efficiency.
- Respondents disagreed that energy efficiency is not a high priority to them.
- Respondents disagreed that they do not know how to improve their home energy efficiency.

Two of the questions in Table 3 were answered by a subset of respondents. These respondents tended to disagree that it was too difficult to find a tradesperson that recommends energy efficient products, and disagreed that it was too much of a hassle to improve the energy efficiency of their home. As shown in Table 3, significant differences were found when the responses of those with a higher level of interest in EE homes were compared to those who expressed a lower level of interest. The respondents with a higher interest held more positive attitudes. The 'higher interest' respondents were:
- More likely to have improved the energy efficiency of their homes in the past 2 years.
- Less likely to think that improving their home's energy efficiency is a 'hassle'.
- More likely to disagree that their home's energy efficiency is not a priority.
- More likely to disagree that they don't know how to improve their home energy efficiency.

Table 3 Mean level of agreement with attitudinal statements regarding energy efficiency

	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
In the past 2 years I have improved the energy efficiency of my home	314	3.97	1.16	542	3.59	1.33	856	3.73	1.29	t= -4.30; p<0.001
It's too difficult to find a tradesperson that recommends energy efficient products*	71	2.59	1.34	129	2.60	1.11	200	2.60	1.20	t= 0.03; n.s.
Improving the energy efficiency of my home means I have to sacrifice comfort	317	2.20	1.29	545	2.31	1.22	862	2.27	1.25	t= 1.32; n.s.
Improving the energy efficiency of my home is too much of a hassle*	75	1.91	1.13	138	2.36	1.26	213	2.20	1.23	t= 2.61; p<0.01
Energy efficiency of my home is not a high priority for me	318	1.64	1.06	544	2.33	1.13	862	2.08	1.15	t= 8.76; p<0.001
I don't know how to improve the energy efficiency of my home	314	1.93	1.10	545	2.15	1.18	859	2.07	1.16	t= 2.74; p<0.01

* Questions were completed by a subset of respondents (n=200) before questions were removed to reduce survey length

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'

PRO-ENVIRONMENTAL BELIEFS

To explore respondents' environmental views ('pro-environmental beliefs'), the survey asked respondents to rate their level of agreement with a range of statements. As shown in Table 4, overall, respondents agreed that:

- 'Environmental quality will improve if we use less energy'.
- 'Climate change is a problem for society'.
- 'Energy saving helps reduce climate change'.

A comparison of the mean responses, for each statement, between respondents who expressed a higher level of interest in EE homes and those who expressed a lower level of interest, revealed that the respondents with a higher interest had significantly stronger pro-environmental beliefs, as shown in Table 4.

Table 4 Mean level of agreement with attitudinal statements regarding environmental concerns

STATEMENT	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
Environmental quality will improve if we use less energy	317	4.38	0.99	535	3.96	1.14	852	4.12	1.10	t= -5.52; p<0.001
Climate change is a problem for society	315	4.32	1.15	543	3.97	1.29	858	4.10	1.25	t= -3.99; p<0.001
Energy saving helps reduce climate change	315	4.28	1.06	531	3.74	1.26	846	3.94	1.22	t= -6.31; p<0.001

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'

ENVIRONMENTAL IDENTITY

Three survey statements were provided to respondents to assess their environmental self-identity. From the total sample, results (Table 5) indicate that respondents held a strong environmental identity and agreed that they see themselves:

- As 'an environmentally friendly consumer'.
- As someone that is 'very concerned with environmental issues'.
- As someone who would like to be seen as 'having an environmentally friendly lifestyle'.

When the responses of respondents who expressed a higher level of interest in EE homes were compared to those who expressed a lower level of interest, the respondents with a higher interest displayed a significantly stronger environmental identity.

Table 5 Mean level of agreement with attitudinal statements regarding environmental identity

STATEMENT	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
I think of myself as an environmentally friendly consumer	318	4.27	0.82	544	3.74	1.04	862	3.94	1.00	t= -7.73; p<0.001
I think of myself as someone that is very concerned with environmental issues	318	4.28	0.92	545	3.61	1.10	863	3.86	1.09	t= -9.24; p<0.001
I would like to be seen as having an environmentally friendly lifestyle	317	4.27	0.97	545	3.61	1.19	862	3.85	1.16	t= -8.43; p<0.001

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'

SUBJECTIVE NORMS

The survey included three statements regarding how respondents respond to the expectations of those in their social circles, known as 'subjective norms'. These questions were only answered by an initial subset of respondents before the statements were removed to reduce the survey length. Overall, there was moderate agreement by these respondents that most of their family and friends 'do make an effort to save energy' and 'would encourage me to save energy'. However, respondents moderately disagreed that they 'try to save energy to please their family and friends'.

Respondents who expressed a higher level of interest in EE homes were found to have significantly higher agreement that most of their family and friends 'do make an effort to save energy' and 'would encourage me to save energy' when their responses was compared to those who expressed a lower level of interest in EE homes. These results are displayed in Table 6.

Table 6 Mean level of agreement with attitudinal statements regarding subjective norms

STATEMENT	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
Most of my family and friends do make an effort to save energy	76	3.86	0.99	135	3.55	1.10	211	3.66	1.07	t= -2.01; p<0.05
Most of my family and friends would encourage me to save energy	76	3.68	1.21	137	3.18	1.31	213	3.36	1.29	t= -2.75; p<0.01
I try to save energy to please family and friends	76	2.54	1.51	139	2.23	1.38	215	2.34	1.43	t= -1.52; n.s.

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'

Home features

FEATURES OF A COMFORTABLE HOME

The survey asked respondents to indicate the importance of five given features in making their home 'comfortable'. As shown in Table 7, on average, respondents strongly agreed that each of the features listed were all important in making a home comfortable. Full details of response frequencies are shown in Table 20 in Appendix B.

Comparison of responses between the 'higher interest' and 'lower interest' groups revealed that the respondents with a higher level of interest in EE homes were more likely than the other respondents to believe that the following features make a home comfortable: good airflow/ventilation, plenty of natural light, warm in winter and quiet, as shown in Table 7.

Table 7 Mean importance of features relating to home comfort

	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
Cool in summer	319	4.71	0.56	546	4.64	0.68	865	4.67	0.64	t=-1.56; n.s
Good airflow/ ventilation	319	4.72	0.53	546	4.58	0.63	865	4.63	0.60	t = -3.50; p<0.001
Plenty of natural light	319	4.70	0.52	546	4.43	0.78	865	4.53	0.70	t = -5.54; p<0.001
Warm in winter	319	4.60	0.70	547	4.41	0.93	864	4.48	0.85	t = -3.24; p<0.001
Quiet	319	4.43	0.74	545	4.24	0.87	864	4.31	0.83	t=-3.19; p<0.01

Agreement scale: from 1 ('not at all important') to 5 ('very important').

IMPORTANCE OF ENERGY EFFICIENT FEATURES

The survey asked respondents to indicate how important it was that their homes have a range of specific features, and a set list was provided of features that could all contribute to energy efficiency, although only some features were specifically described as 'energy efficient'. The results presented in Figure 7 and Table 8 reflect that all features were considered at least moderately important and that the top five most important features for the householders surveyed were ceiling insulation, natural light and energy efficient lighting, EE heating systems, and EE air-conditioning. The least important features to survey respondents were ceiling fans, energy efficient windows (double-glazed, tinted and/or draught-proof) and floor insulation. Full details of response frequencies are shown in Table 21 in Appendix B.

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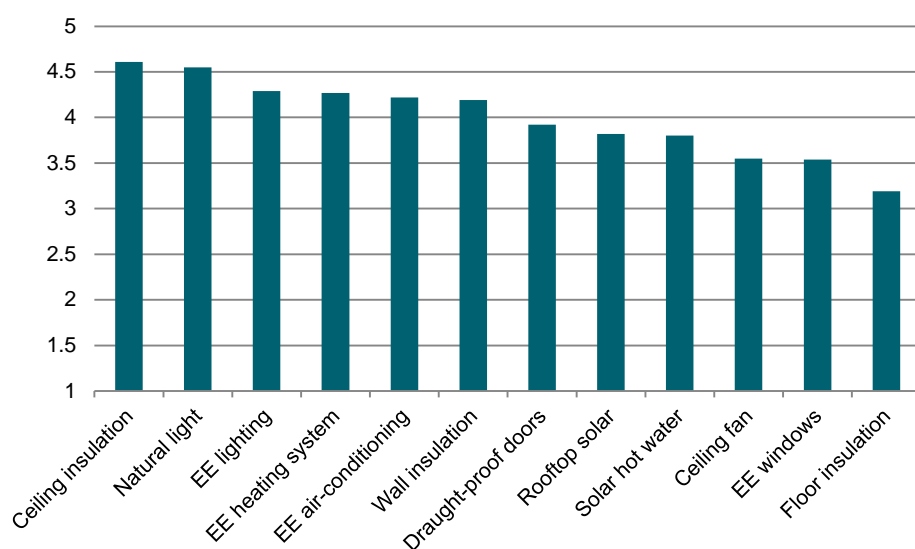
Agreement scale: from 1 ('not at all important') to 5 ('very important'). Note: 'EE'= 'energy efficiency'

Figure 7 Mean importance of energy efficient features

Table 8 shows that were significant differences between the average importance ratings provided by the 'higher interest' and 'lower interest' groups. The importance ratings by those with a higher level of interest in EE homes were significantly higher for all features, with the exception of ceiling fans.

Table 8 Mean importance of energy efficient features

	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
Ceiling insulation	319	4.76	0.53	545	4.52	0.86	864	4.61	0.76	t= -4.44; p<0.001
Natural light	314	4.72	0.50	534	4.45	0.74	848	4.55	0.67	t= -5.74; p<0.001
Energy efficient lighting	319	4.58	0.67	546	4.12	1.02	865	4.29	0.93	t= -7.25; p<0.001
Energy efficient heating system	319	4.53	0.89	546	4.11	1.10	865	4.27	1.05	t= -5.78; p<0.001
Energy efficient air-conditioning	317	4.39	1.10	543	4.11	1.14	860	4.22	1.13	t= -3.53; p<0.001
Wall insulation	318	4.40	0.91	544	4.07	1.12	862	4.19	1.06	t= -4.48; p<0.001
Draught-proof doors	317	4.16	1.00	543	3.78	1.19	860	3.92	1.14	t= -4.80; p<0.001
Rooftop solar panels	318	4.24	1.00	542	3.57	1.32	860	3.82	1.25	t= -7.84; p<0.001
Solar hot water system	318	4.11	1.06	542	3.61	1.27	860	3.80	1.22	t= -5.91; p<0.001
Ceiling fan	318	3.65	1.35	545	3.50	1.36	863	3.55	1.36	t= -1.58; n.s.
Double-glazed, tinted and/or draught-proof windows	315	3.86	1.18	541	3.36	1.26	856	3.54	1.25	t=-5.80 ; p<0.001
Floor insulation	315	3.48	1.34	540	3.02	1.33	855	3.19	1.35	t= -4.88; p<0.001

Agreement scale: from 1 ('not at all important') to 5 ('very important').

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APPLIANCE ENERGY RATINGS

Survey respondents were asked to indicate how often (if ever) they considered energy efficiency ratings when purchasing appliances. The majority of respondents (82%, n=714) answered that they considered these ratings 'most of the time' or 'always'. Almost three quarters (72%, n=230) of respondents who expressed a higher interest in EE homes indicated that they 'always' considered appliance energy ratings. This contrasts with those who had 'lower interest', with 42% (n=228) of these respondents indicating that appliance energy ratings were 'always' a consideration. Response frequencies are provided in Table 22 in Appendix B.

Information

IMPORTANCE OF INFORMATION ON PROPERTY ASPECTS

The survey asked respondents how important it was for them to have information on various property aspects when buying or planning to renovate a home. Many of the aspects listed are related to energy efficiency. The results presented in Figure 8 and Table 9 show that, on average, information on all listed features was considered important, with the greatest importance placed on information about upfront costs, natural light, energy efficiency and running costs. Full details of response frequencies are provided in Table 23 in Appendix B.
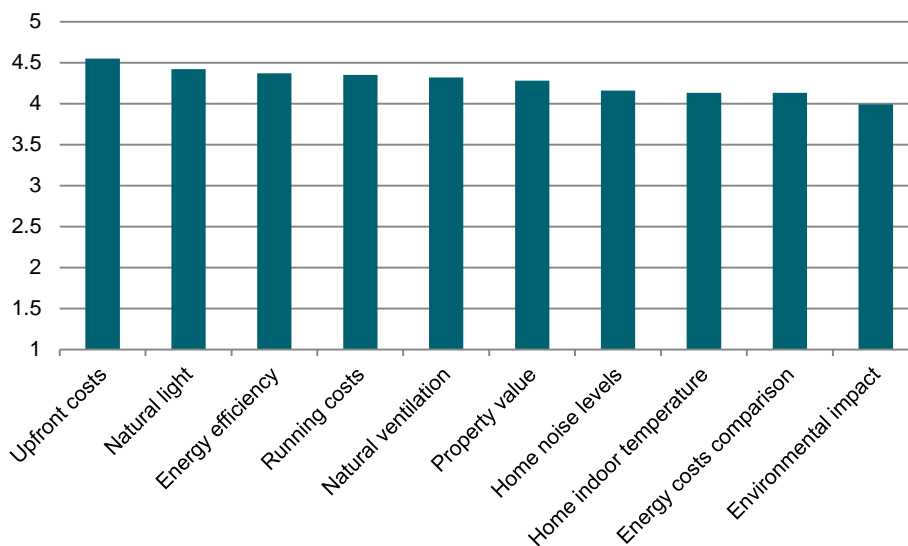
Agreement scale: from 1 ('not at all important') to 5 ('very important').

Figure 8 Mean importance of information on property aspects

As shown in Table 9, respondents who expressed a higher level of interest in EE homes placed a significantly higher value in having information about most of these aspects when buying a home or planning to renovate. Upfront costs and property value were the exception, as the importance placed on information on these aspects was not significantly different between the two groups of respondents.

Table 9 Mean level of importance of information on specific aspects of a property when buying or planning to renovate

	HIGHER INTEREST IN EE HOMES			LOWER INTEREST IN EE HOMES			TOTAL			
	N	MEAN	SD	N	MEAN	SD	N	MEAN	SD	MEAN TEST
Upfront costs	318	4.60	0.66	543	4.53	0.74	861	4.55	0.71	t= -1.37; n.s.
Natural light	318	4.63	0.60	544	4.30	0.82	862	4.42	0.76	t= -6.17; p<0.001
Energy efficiency	319	4.65	0.57	545	4.20	0.86	864	4.37	0.80	t= -8.33 ; p<0.001
Running costs	318	4.52	0.69	545	4.25	0.83	863	4.35	0.79	t= -4.96; p<0.001
Natural ventilation	317	4.54	0.67	544	4.20	0.84	861	4.32	0.80	t= -6.29; p<0.001
Property value	317	4.32	0.86	544	4.25	0.89	861	4.28	0.88	t= -1.24; n.s.
Home noise levels	318	4.32	0.79	545	4.07	0.92	863	4.16	0.88	t= -4.13 ; p<0.001
Home indoor temperature	318	4.36	0.77	544	4.00	0.99	862	4.13	0.93	t= -5.55 ; p<0.001
Energy costs comparison	319	4.39	0.75	540	3.98	1.02	859	4.13	0.95	t= -6.27 ; p<0.001
Environmental impact	319	4.36	0.83	545	3.77	1.07	864	3.99	1.03	t= -8.43; p<0.001

Agreement scale from 1 'not at all important' to 5 'very important'

TIMING OF ENERGY EFFICIENCY INFORMATION DELIVERY

The survey asked respondents whether they thought it would be important to have information about a home's energy efficiency at specific times when buying or renting a home, as well as when renovating a home. As shown in Figure 9, the majority of respondents considered information would be important at all of the events proposed when buying or renting, but particularly in the building inspection report (93%, n=787), at 'open for inspection' events (83%, n=708), and in home sales/rental advertising (72%, n=615).

When renovating a home, most respondents considered it would be particularly important to receive information about the home's energy efficiency as part of the builder's or architect's renovation plans (93%, n=793), when looking at appliances on sale and in product advertisements (92%, n=787), and in quotes from professionals to upgrade/install home products (92%, n=784). Response frequencies are provided in Table 24 in Appendix B.
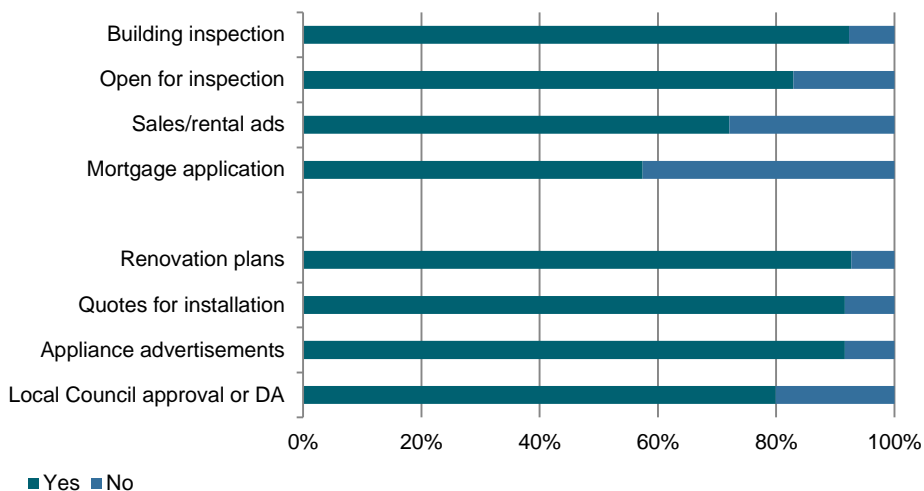
Figure 9 Importance of information at specific moments when buying/renting or renovating a home

PREFERRED INFORMATION CHANNELS

The survey explored the information channels most likely to be used by householders when considering buying, renting or renovating their home. As presented in Figure 10, the channels used by most respondents when seeking information about buying, renting or renovating their home were: asking friends and family (85%, n=731), through product brochures (78%, n=675), browsing at hardware stores (76%, n=655), and through energy ratings tools (76%, n=628). The lesser-used channels of information were online forums (43%, n=363), community and non-government organisations (49%, n=416) and real estate websites (48%, n=416). Further information on response frequencies is provided in Appendix B.
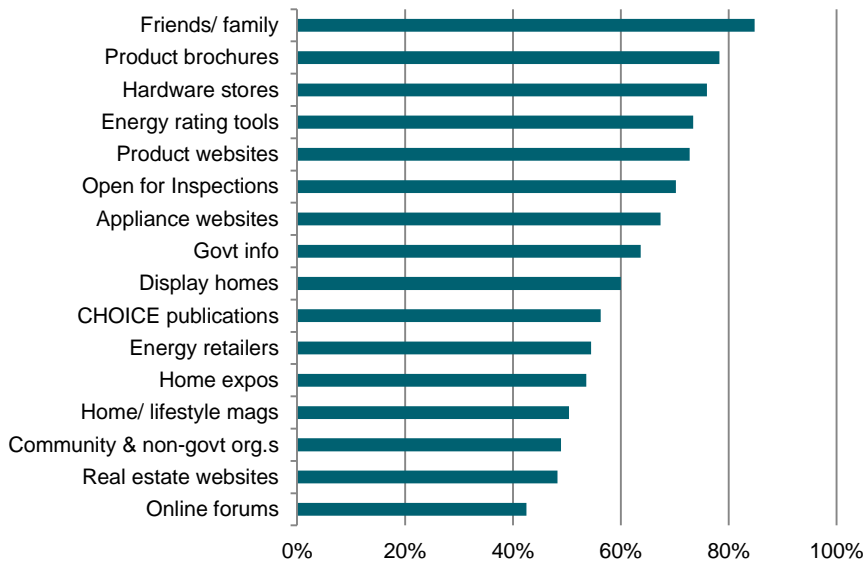
Figure 10 Preferred information sources when buying, renting or renovating (N=864)

TRUST IN INFORMATION SOURCES

The survey asked respondents to rate their level of trust in a range of professionals and/or organisations in providing information about buying or renovating a home. As presented in Figure 11, on average, trust in information sources ranged from moderate trust to moderate distrust. The most trusted professionals identified were architects (M=3.68, SD=0.93), electricians (M=3.62, SD=0.97), building inspectors (M=3.5, SD=1.04), builders (M=3.42, SD=0.98) and plumbers (M=3.4, SD=1.04). The least trusted professionals are real estate agents (M=2.45, SD=1.07), display home staff (M=2.64, SD=1.05), mortgage providers (M=2.8, SD=1.06) and home insurers (M=2.95, SD=1.06). The frequencies and mean responses for all information sources are displayed respectively in Table 26 and Table 27 in Appendix B.
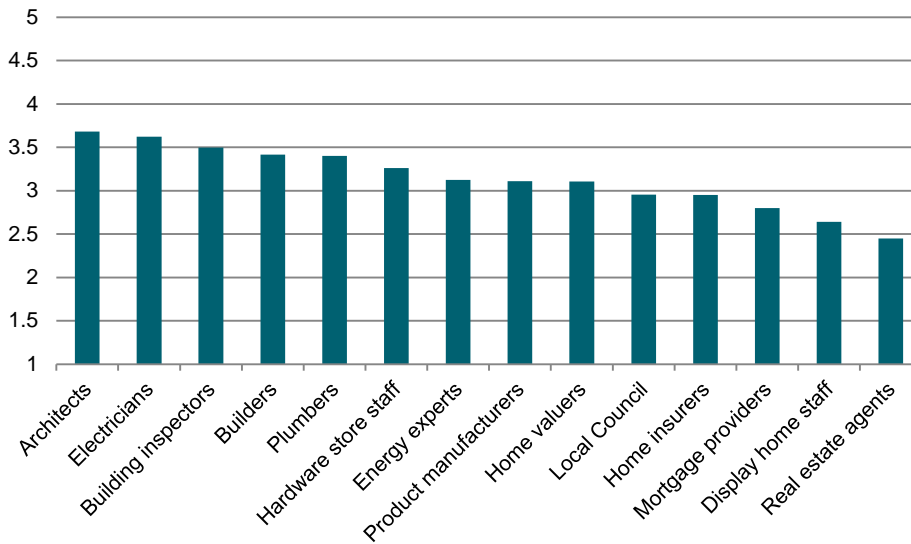
Trust scale from 1 'don't trust at all' to 5 'trust a great deal'

Figure 11 Mean trust in information sources for buying or renovating a home (N=864)

Discussion and Conclusions

The data was gathered through the telephone survey of 866 Australians from all states and territories, representing home owners, investors and tenants aged over 18 years old. The results described in the previous section reveal some key dimensions of the consumer market for EE homes in terms of the interest in such homes, key perceptions of comfort and affordability of EE homes, insights into the attitudes and identities of these consumers- and associated suggestions for tailored communication methods, and the preferred information delivery for such consumers. Below, a discussion of these aspects is presented. This section closes with a reflection on the use of telephone surveys for a survey of this nature and topic.

Interest in EE homes

The literature gap analysis (EnergyFit Milestone 2; August 2014) recommended that the consumer survey examine individuals' knowledge, awareness and level of interest in information about EE homes, and in different life stages. In response, the survey explored this level of interest. Although younger (below 35 years of age) and older (above 70 years of age) respondents had lower levels of interest in EE homes, the survey results indicated overall that Australian householders have a high level of interest in EE homes as well as in information about such homes. Indeed, a large majority of survey respondents indicated a home would be more attractive to them if they were informed that it was energy efficient when buying or renting. Furthermore, if respondents were informed that the home had lower running costs, which are associated with EE homes, then this would also increase the attractiveness the home to their consideration to buy or rent it.

The literature gap analysis and focus group reports both identified the importance of identifying individuals' perceptions of specific energy efficient features. In response, this survey identified that the top five most important features from a set list of features were ceiling insulation, natural light, EElighting, EE heating systems, and EE air-conditioning. Promoting these features could result in stronger identification and uptake of EE homes.

Finally, the information about a property purchase or renovation, considered to be of high importance included information about upfront costs, natural light, energy efficiency, and running costs (from a set list).

Support for EE homes

The survey results also show that householders disagree with the barriers investigated in the survey such as lack of knowledge of how to improve their home's energy efficiency, loss of comfort, or energy efficiency being too hard to seek.

The survey results indicate that consumers consider energy efficiency to be a priority, actively seek to improve the energy efficiency of their homes, and they know how to take these steps.

Overall, the research found that improving the energy efficiency of a home is considered a priority, knowledge is not a barrier and is already occurring.

Comfort

The literature gap analysis identified that householders' notions of home comfort and its relationship to low-carbon products/homes was examined. In response, survey results showed that survey respondents value energy efficient aspects in making their home comfortable, such as a home that is cool in summer and warm in winter; that has plenty of natural light; that has good airflow/ventilation and that is quiet. When communicating about EE homes, these five features could be most heavily promoted to link the comfort benefits to EE homes.

Affordability

The literature gap analysis identified that it was important to understand individuals' perceptions of the costs of EE homes and its effect on home affordability. Results showed that survey respondents place a high value on information about upfront costs and running costs. Therefore, promoting lower running costs is likely to increase the attractiveness of a property to a prospective buyer or tenant, and most respondents indicated that they would be willing to pay for energy efficiency information (57%). Overall 36% would pay over $100.

Future communication

The consumer survey identified that the majority of respondents held a strong environmental identity about their behaviour and issues of concern, and were highly likely to be receptive to the environmental benefits of EE homes. Furthermore, the survey identified that one-third of respondents has a higher level of interest in EE homes, and therefore

could be a key consumer group for engagement on EE homes. They displayed stronger pro-environmental values, and are thus likely to be even more receptive to the environmental benefits of EE homes.

Targeted information

This survey sought to identify what information, at what time, from whom and through which delivery would be best received by prospective buyers and tenants of EE homes.

What information: Information on property aspects considered to be the most important when buying or renovating were upfront costs, natural light, energy efficiency, and running costs. In addition, and as described above, information about specific home features should include ceiling insulation, natural light and energy efficient lighting, heating systems, and air-conditioning.

At what time: The literature gap analysis recommended that it was important to identify individuals' perceptions of 'moments of change' and the reasons why it might facilitate the adoption of new technology and/or practices. In response, this survey found that the delivery of energy efficiency information was considered important throughout the different stages of buying or renovating a property. It was particularly crucial in the building inspection report, at 'open for inspection' events, and in home sales/rental advertising. When renovating a home, the preferred timing was in a builder's or architect's renovation plans, when looking at appliances on sale and in product advertisements, and in quotes from professionals to upgrade/install home products.

From whom: The most trusted personnel to provide energy efficiency information about a home were architects, electricians, building inspectors, builders and plumbers.

Through which delivery: The majority of respondents stated that they considered appliance energy ratings 'most of the time' or 'always'. The focus group report recommended that the potential influence of home energy rating be explored as an information source. In response, the survey found that the preferred information channels identified by respondents when seeking information about buying, renting or renovating their home were asking friends and family, through product brochures, browsing at hardware stores, and through home energy ratings tools.

Limitations of the telephone survey method

To close this section, some aspects of the data gathering method require discussion. As outlined in the Methods section, telephone surveys were identified as a useful method to ensure a reasonable response rate and a representative sample. In developing the survey questions, however, the preferred approach of using a Likert scale of responses to options and statements was discouraged as this added complexity to the oral questions and added length to the survey duration. Furthermore, telephone respondents are less likely to recall all options offered form a set list, and more likely to choose the most recently-stated options towards the end of the list- a bias known as the 'recency effect' (Xing and Handy 2014). To avoid this, simpler yes/no questions, or limited response options were encouraged. Therefore, the resulting data showed less variance and was limited in its depth and complexity.

A further concern that arose for the researchers on receiving the telephone survey data was whether the social interaction of speaking with an interviewer in person by telephone resulted in a bias to 'please' the interviewer rather than perhaps the more honest response. This is known as 'social desirability response bias', and has been found to be higher in telephone survey responses than in online surveys (Chang and Krosnick 2009). This may describe some of the results for the strong environmental attitudes, support for EE homes and information expressed by respondents, although this cannot be known without further testing of the same respondents through other modes of data gathering.

Finally, the length and structure of the telephone survey required that the predominant focus of the research was on energy efficiency. This limitation of length prevented additional questions being asked on broader factors that affect housing choices such as affordability, availability and location.

Next steps

The next phase of the larger research project will apply these findings through a series of 'message testing', an implementation report, and a broader business plan, with the intention to enhance the market uptake of EE homes.
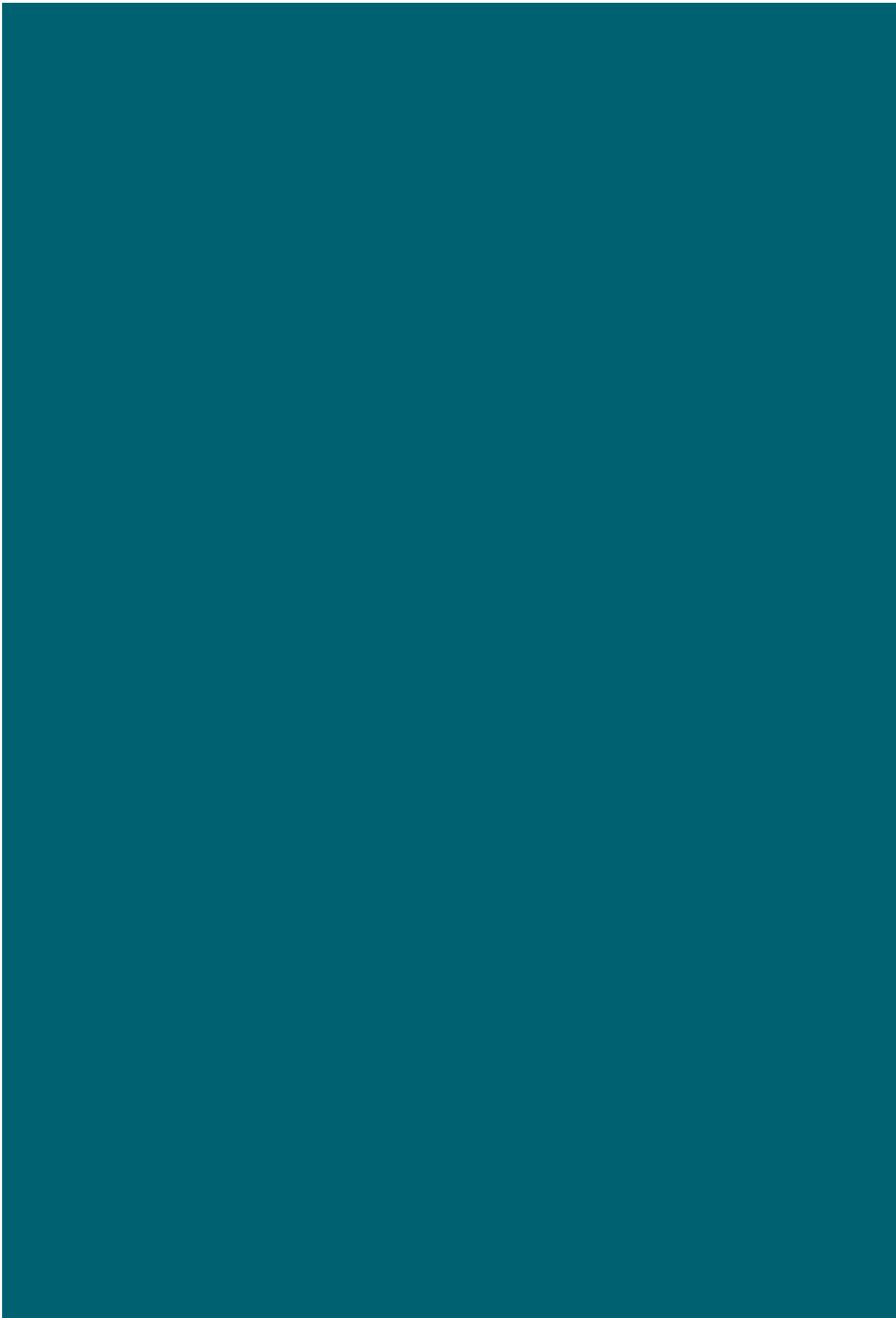
Appendix A: Survey

Q1. Which of the following _best_ describes the home in which you live?

1. You rent your home

2. You own your home

Neither (Failed screener – end survey)

Refused (Failed screener – end survey)

Q2. Are you actively looking to buy a home?

1. Yes

2. No

Q3. I'd like to ask you about people that you might depend on for information about buying or renovating a home. On a scale from 1 to 5 where I means 'don't trust at all' and 5 means 'trust a great deal', for information about buying or renovating a home. How much do you trust…?

1. Architects

2. Builders

3. Plumbers

4. Electricians

5. Building inspectors

6. Energy experts

7. Real estate agents

8. Hardware store staff

9. Display home staff

10. Product manufactures

11. Home valuers

12. Home insurers

13. Mortgage providers

14. Local Council

(Randomised)

Q4. Now, using a scale from 1 to 5, where 1 means 'not at all important' and 5 means 'very important. How important is it to you to have information about the following aspects when you are buying or planning to renovate?

1. Home indoor temperature

2. Home noise levels

3. Upfront costs

4. Running costs

5. Energy efficiency

6. Environmental impact

7. Property value

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8. Natural light

9. Natural ventilation

10. Energy costs compared with similar sized homes

(Randomised)

Q5. When buying a home, would you be willing to pay for information about the home energy efficiency?

1. Yes

2. No (Skip to Q7)

Q6. How much would you be willing to pay for this information?

1. Up to $100

2. Up to $250

3. Up to $500

4. More than $500

Q7. For buying or renting a home, would information about the home's energy efficiency be important to you at the following times? (Yes/No)

1. In home sales/rental ads

2. At open for inspections

3. In the building inspection report

4. At the mortgage application

(Randomised)

Q8. For renovating a home, would information about the home's energy efficiency be important to you in the following situations? (Yes/No)

1. When looking at appliances and product advertisements

2. Getting quotes from professionals for upgrading/installing home products

3. As part of builders/architects renovation plans

4. When getting advice or DA approval from local council

(Randomised)

Q9. When or if you are thinking about buying, renting or renovating your home, do you seek information through the following ways? (Yes/No)

1. Real estate websites

2. Energy retailer websites

3. Appliance retailer websites

4. Product supplier websites

5. Online forums such as 'Whirlpool'

6. CHOICE website or magazine

7. Home and lifestyle magazines

8. Home expos

9. Energy rating tools

10. Visiting display homes

11. Visiting open for inspections

12. Product brochures

13. Browsing at hardware stores such as Bunnings

14. Asking friends and family

15. Government information, such as local council websites

16. Community organisations and non-government organisations

(Randomised)

Q10. Now I'd like to ask you about features that make your home comfortable. Using a scale from 1 to 5, where 1 means 'not at all important', and 5 means 'very important. How important are the following features in making your home comfortable?

1. Cool in summer

2. Warm in winter

3. Plenty of natural light

4. Good airflow/ventilation

5. Quiet

(Randomised)

Q11. Still using the same scale, how important is it that your home has the following features?

1. Double-glazed, tinted and/or draught-proof windows

2. Draught-proof doors

3. Energy efficient heating system

4. Energy efficient air-conditioning

5. Ceiling fan

6. Ceiling insulation

7. Wall insulation

8. Floor insulation

9. Solar hot water system

10. Rooftop solar panels

11. Energy efficient lighting

12. Natural light

(Randomised)

Q12. When buying or renting a home, if you were told a home is energy efficient, would it make the home…

1. Much less attractive to you

2. A bit less attractive to you

3. No difference to you

4. A bit more attractive to you

5. A lot more attractive to you

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Q13. When buying or renting a home, if you were told a home has lower running costs compared to other similar homes, would it make the home…

1. Much less attractive to you

2. A bit less attractive to you

3. No difference to you

4. A bit more attractive to you

5. A lot more attractive to you

Q14. How often do you consider energy efficient star ratings when buying new appliances?

1. Never

2. Rarely

3. Some of the time

4. Most of the time

5. Always

Q15. Now I'd like you to tell me how much you agree or disagree with the following statements. Using a scale from one to five, where 1 means 'strongly disagree, and 5 means 'strongly agree'. How much do you agree with the statement…?

1. It's too difficult to find a tradesperson that recommends energy efficient products

2. Improving the energy efficiency of my home is too much of a hassle

3. I don't know how to improve the energy efficiency of my home

4. In the past 2 years I have improved the energy efficiency of my home

5. Energy efficiency of my home is not a high priority for me

6. Improving the energy efficiency of my home means I have to sacrifice comfort

7. I think of myself as an environmentally friendly consumer

8. I think of myself as someone that is very concerned with environmental issues

9. I would like to be seen as having an environmentally friendly lifestyle

10. Most of my family and friends do make an effort to save energy

11. Most of my family and friends would encourage me to save energy

12. I try to save energy to please family and friends

13. Climate change is a problem for society

14. Energy saving helps reduce climate change

15. Environmental quality will improve if we use less energy

(Randomised)

Q16. What is the highest level of education you have completed?

1. Less than Year 12 Secondary School

2. Year 12 Secondary School

3. TAFE diploma or certificate

4. University degree or diploma

5. Postgraduate degree

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Q17. Which of the following best describes your household composition?

1. Single person household

2. Shared person household

3. Couple with no child/children

4. Couple with child/children

5. One parent with child/children

6. Other family (e.g. extended family household)

Q18. Which building type best describes the home in which you live?

1. Detached house [not connected to another house]

2. Semi-detached house [terrace, row or townhouse]

3. Flat, unit or apartment

4. Other (specify)

Q19. May I have your postcode please?

Q20. In what year were you born?

Q22. Which state / territory do you live in?

1. NSW

2. ACT

3. NT

4. QLD

5. SA

6. TAS

7. VIC

8. WA

Q23. What is your approximate household income before tax?

1. Less than $199 per week ($10,399 per year)

2. $200 - $299 per week ($10,400 - $15,599 per year)

3. $300 - $399 per week ($15,600 - $20,799 per year)

4. $400 - $599 per week ($20,800 - $31,199 per year)

5. $600 - $799 per week ($31,200 - $41,599 per year)

6. $800 - $999 per week ($41,600 - $51,999 per year)

7. $1,000 - $1,249 per week ($52,000 - $64,999 per year)

8. $1,250 - $1,499 per week ($65,000 - $77,999 per year)

9. $1,500 - $1,999 per week ($78,000 - $103,999 per year)

10. $2,000 or more per week ($104,000 or more per year)

Appendix B: Additional data tables

Sample demographics

Table 10 Respondents' age and gender

	MALE		FEMALE		TOTAL		2011 CENSUS DATA (%)		
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE	MALE	FEMALE	TOTAL
18 to 24	15	1.7	13	1.5	28	3.2	6.2	6.0	12.2
25 to 29	28	3.2	25	2.9	53	6.1	4.6	4.6	9.2
30 to 34	28	3.2	35	4.0	63	7.3	4.4	4.4	8.8
35 to 39	27	3.1	36	4.2	63	7.3	4.5	4.7	9.2
40 to 44	26	3.0	39	4.5	65	7.5	4.6	4.8	9.3
45 to 49	37	4.3	49	5.7	86	9.9	4.5	4.6	9.1
50 to 54	30	3.5	41	4.7	71	8.2	4.3	4.5	8.8
55 to 59	34	3.9	68	7.9	102	11.8	3.9	4.0	7.9
60 to 64	43	5.0	56	6.5	99	11.4	3.6	3.7	7.3
65 to 69	44	5.1	49	5.7	93	10.7	2.8	2.8	5.6
70 to 74	31	3.6	36	4.2	67	7.7	2.1	2.2	4.3
Over 75	25	2.9	51	5.9	76	8.8	3.5	4.9	8.4
Total	368	42.5	498	57.5	866	100.0	**48.8**	**51.2**	**100.0**

Table 11 Respondents' level of education

	FREQUENCY	PERCENTAGE
Less than Year 12 Secondary School	142	16.4
Year 12 Secondary School	124	14.3
TAFE diploma or certificate	168	19.4
University degree or diploma	278	32.1
Postgraduate degree	152	17.6
Not stated	2	0.2
Total	866	100.0

Table 12 Respondents' household status

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	FREQUENCY	PERCENTAGE	CENSUS %
Single person household	131	15.1	12
Shared person household	70	8.1	4.4
Couple with no child/children	278	32.1	25.1
Couple with child/children	287	33.1	36.1
One parent with child/children	51	5.9	8.8
Other family (e.g. extended family household)	48	5.5	4.5
Other		0.0	4.6
Not stated	1	0.1	4.5
Total	866	100.0	100

Table 13 Participants' home type

	FREQUENCY	PERCENTAGE	CENSUS %
Detached house (not connected to another house)	702	81.1	74.3
Semi-detached house (terrace, row or townhouse)	57	6.6	8.4
Flat, unit or apartment	98	11.3	11.4
Other (specify Q18a)	8	0.9	1.2
Not stated	1	0.1	4.7
Total	866	100.0	100

Table 14 Participants' home ownership

HOME TYPE	N	%	ABS CENSUS %
A rented apartment or house	194	22.4	25.7
An apartment or house with a mortgage	291	33.6	34.4
An apartment or house owned outright	381	44	29.4
Other	-	-	0.7
Not stated		-	9.8
Total	866	100	100

Table 15 Participants' income

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	FREQUENCY	PERCENTAGE
Up to $399 (up to $20,799)	43	4.97
$400-$599 ($20,800-$31,199)	71	8.2
$600-$799 ($31,200-$41,599)	41	4.73
$800-$999 ($41,600-$51,999)	50	5.77
$1,000-$1,249 ($52,000-$64,999)	55	6.35
$1,250-$1,499 ($65,000-$77,999)	47	5.43
$1,500-$1,999 ($78,000-$103,999)	121	13.97
$2,000-$2,499 ($104,000-$129,999)	76	8.78
$2,500-$2,999 ($130,000-$155,999)	81	9.35
$3,000-$3,499 ($156,000-$181,999)	44	5.08
$3,500-$3,999 ($182,000-$207,999)	31	3.58
$4,000-$4,999 ($208,000 or more)	57	6.58
Not stated	149	17.21
Total	866	100

Attitudes towards EE homes

Table 16 Attractiveness towards homes with lower energy running costs by income groups

	UNDER $1,000/WEEK		BETWEEN $1,000-$2,500/WEEK		OVER $2,500/WEEK		TOTAL	
	N	%	N	%	N	%	N	%
Much less attractive	0	0	0	0	1	0.28	1	0.12
A bit less attractive	3	1.46	0	0	3	0.83	6	0.7
No difference to you	20	9.76	22	7.43	37	10.28	79	9.18
A bit more attractive	48	23.41	105	35.47	133	36.94	286	33.22
A lot more attractive	134	65.37	169	57.09	186	51.67	489	56.79
Total	205	100	296	100	360	100	861	100

Pearson chi-square= 19.02; df=8; p<0.05

Table 17 Frequency of responses for willingness to pay for energy efficiency information

WILLINGNESS TO PAY...	N	%
Yes	480	57.07
No	361	42.93
Total	841	100

Table 18 Frequency of responses for amount participants are willing to pay for energy efficiency information

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AMOUNT	N	%
Up to $100	152	32.9
Up to $250	206	44.59
Up to $500	75	16.23
More than $500	29	6.28
Total	462	100

Table 19 Frequency of responses to attitudinal statements

STATEMENT	STRONGLY DISAGREE	2	3	4	STRONGLY AGREE	TOTAL
It's too difficult to find a tradesperson that recommends energy efficient products	45	48	66	25	16	200
Improving the energy efficiency of my home is too much of a hassle	78	66	31	24	14	213
I don't know how to improve the energy efficiency of my home	353	251	135	83	37	859
In the past 2 years I have improved the energy efficiency of my home	76	87	137	249	307	856
Energy efficiency of my home is not a high priority for me	357	235	149	90	31	862
Improving the energy efficiency of my home means I have to sacrifice comfort	308	233	158	107	56	862
I think of myself as an environmentally friendly consumer	25	39	192	315	291	862
I think of myself as someone that is very concerned with environmental issues	37	48	216	264	298	863
I would like to be seen as having an environmentally friendly lifestyle	50	58	177	264	313	862
Most of my family and friends do make an effort to save energy	7	23	58	70	53	211
Most of my family and friends would encourage me to save energy	24	31	52	56	50	213
I try to save energy to please family and friends	91	38	34	26	26	215
Climate change is a problem for society	62	52	102	165	477	858
Energy saving helps reduce climate change	59	52	142	220	373	846
Environmental quality will improve if we use less energy	35	53	107	241	416	852

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'

Table 20 Frequency of responses for importance of features relating to home comfort

FEATURE	NOT IMPORTANT	2	3	4	VERY IMPORTANT	TOTAL
Cool in summer	5	5	36	178	641	865
Good airflow/ventilation	1	5	34	232	593	865
Plenty of natural light	3	12	52	253	545	865
Warm in winter	15	18	64	209	560	864
Quiet	9	9	122	287	437	864

Agreement scale from 1 'not at all important' to 5 'very important'

Table 21 Frequency of responses of importance of energy efficiency features

FEATURE	NOT IMPORTANT	2	3	4	VERY IMPORTANT	TOTAL
Double-glazed, tinted and/or draught-proof windows	75	86	245	198	252	856
Draught-proof doors	44	52	175	247	342	860
Energy efficient heating system	35	32	82	235	481	865
Energy efficient air-conditioning	48	34	85	209	484	860
Ceiling fan	103	88	189	195	288	863
Ceiling insulation	12	7	55	161	629	864
Wall insulation	27	44	121	213	457	862
Floor insulation	125	140	237	153	200	855
Solar hot water system	60	59	207	205	329	860
Rooftop solar panels	64	67	180	198	351	860
Energy efficient lighting	15	30	105	258	457	865
Natural light	3	7	48	250	540	848

Agreement scale: from 1 ('not at all important') to 5 ('very important').

Table 22 Frequency of responses for consideration of appliance energy ratings

	HIGHER INTEREST IN ENERGYFIT HOMES		LOWER INTEREST IN ENERGYFIT HOMES		TOTAL	
LEVEL OF ATTRACTION	N	%	N	%	N	%
Never	1	0.3	13	2.4	14	1.62
Rarely	1	0.3	26	4.8	27	3.12
Some of the time	10	3.1	101	18.5	111	12.82
Most of the time	77	24.2	179	32.7	256	29.56
Always	230	72.1	228	41.6	458	52.89
Total	319	100	547	100	864	100

Table 23 Frequency of responses for importance of information on specific aspects of a home

ASPECT	NOT AT ALL IMPORTANT	2	3	4	VERY IMPORTANT	TOTAL
Home indoor temperature	11	39	140	307	365	862
Home noise levels	9	31	130	336	357	863
Upfront costs	2	11	67	209	572	861
Running costs	4	17	97	303	442	863
Energy efficiency	6	13	98	287	460	864
Environmental impact	20	60	164	288	332	864
Property value	11	21	116	284	429	861
Natural light	3	15	81	280	483	862
Natural ventilation	5	17	97	317	425	861
Energy costs compared with similar sized homes	13	42	135	297	372	859

Agreement scale: from 1 ('not at all important') to 5 ('very important').

Table 24 Frequency of responses for importance of energy efficiency information delivery at specific times when buying/renting or renovating a home

TIME OF DELIVERY	YES		NO		TOTAL	
	N	%	N	%	N	%
Buying or renting a home						
In the building inspection report	787	92.3	66	7.7	853	100
At open inspections	708	82.9	146	17.1	854	100
In home sales/rental ads	615	72.1	238	27.9	853	100
At the mortgage/leaseapplication	481	57.4	357	42.6	838	100
Renovating a home						
As part of builder's/architect's renovation plans	793	92.7	62	7.3	855	100
When looking at appliances and product advertisements	787	91.6	72	8.4	859	100
Getting quotes from professionals for upgrading/installing home products	784	91.6	72	8.4	856	100
When getting advice or development application approval from local council	681	79.9	171	20.1	852	100

Table 25 Frequency of responses for use of information sources when thinking about buying, renting or renovating

INFORMATION SOURCE	YES		NO		TOTAL	
	N	%	N	%	N	%
Asking friends and family	731	84.8	131	15.2	862	100
Product brochures	675	78.3	187	21.7	862	100
Browsing at hardware stores such as Bunnings	655	76	207	24	862	100
Energy rating tools (e.g. websites, apps, certificates)	628	73.4	228	26.6	856	100
Product supplier websites	625	72.8	233	27.2	858	100
Visiting open for inspections	603	70.2	256	29.8	859	100
Appliance retailer websites	578	67.4	279	32.6	857	100
Government information, such as local council websites	545	63.7	310	36.3	855	100
Visiting display homes	517	60	345	40	862	100
CHOICE magazine or website	485	56.3	376	43.7	861	100
Energy retailer websites	467	54.5	390	45.5	857	100
Home expos	459	53.6	397	46.4	856	100
Home and lifestyle magazines	434	50.4	427	49.6	861	100
Real estate websites	416	48.3	445	51.7	861	100
Community organisations and non-government organisations	416	48.9	435	51.1	851	100
Online forums such as Whirlpool	363	42.5	491	57.5	854	100

Table 26 Frequency of responses for trust in information sources

INFORMATION SOURCE	DON'T TRUST	2	3	4	TRUST A GREAT DEAL	TOTAL
Architects	20	58	201	367	129	775
Builders	37	92	294	322	97	842
Plumbers	47	102	284	308	115	856
Electricians	25	77	244	359	151	856
Building inspectors	48	81	230	358	118	835
Energy experts	93	116	275	256	73	813
Real estate agents	196	237	283	116	22	854
Hardware store staff	68	132	272	276	108	856
Display home staff	132	202	299	125	29	787
Product manufacturers	52	135	365	253	39	844
Home valuers	63	143	323	246	55	830

Home insurers	94	168	332	206	54	854
Mortgage providers	111	188	307	176	35	817
Local council	125	150	294	211	75	855

Trust scale from 1 'don't trust at all' to 5 'trust a great deal'

Table 27 Mean level of trust in sources of information about buying or renovating a home

Information source	N	Mean	SD
Architects	775	3.68	0.925
Electricians	856	3.624	0.971
Building inspectors	835	3.499	1.036
Builders	842	3.416	0.978
Plumbers	856	3.4	1.038
Hardware store staff	856	3.262	1.11
Energy experts	813	3.123	1.123
Product manufacturers	844	3.109	0.938
Home valuers	830	3.105	1.014
Local Council	855	2.954	1.165
Home insurers	854	2.951	1.063
Mortgage providers	817	2.799	1.059
Display home staff	787	2.64	1.052
Real estate agents	854	2.451	1.065