HR2420/9

Home*Smart* Renovations: Early Data from the Homeowner Interviews

Final

A report prepared for Beacon Pathway Limited
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Note: This report is an interim presentation of findings for 232 householders interviewed as at July 2009. The data does not yet represent the full set of participants. As such, the data must be treated with caution.

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About This Report

Title

HomeSmart Renovations: Early Data from the Homeowner Interviews

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Abstract

This report presents data from a set of householders interviewed at least a month after the receipt of their Home*Smart* Renovation Plan. It considers the profile of those householders, their perceptions of house condition and their past as well as their intended renovations. The data gives some early insights into the sort of issues that may arise when the complete set of data collected in the Home*Smart* Renovation project is matched and reported on.

Reference

Saville-Smith, K., August 2009. HomeSmart Renovations: Early Data from the Homeowner Interviews.Report HR2420/9 for Beacon Pathway Limited.

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1 Executive Summary

Home*Smart* Renovations provides homeowners with an assessment of their dwelling and a renovation and retrofit plan designed to bring dwellings to Beacon's HSS High Standard of Sustainability® (HSS®). A variety of data is being collected to assess both take-up of advice and the impact on dwelling performance of performance-based retrofit. , they do show some key characteristics of householders participating in Home*Smart* Renovations. Those householders are:

- in their middle years with two-thirds aged 31-50 years,
- living in households with higher incomes with 58 percent reporting household annual incomes in excess of $70,000, and
- living in households with no household members aged 65 years or more or aged 5 years or less.

These householders are also less likely than other householders to see their dwelling as in excellent or good condition. Of the 232 householders that completed the interview, just over half considered their dwelling in *Average* or worse house condition. These households also report that they have a low energy consumption profile. Only 18.5 percent of the householders described their energy consumption as high or very high and over a third of the participants described their household energy use as low or very low.

Overall it may be concluded that householders express relatively low awareness or concern with water relative to energy, and lower concern with the environment than improving comfort or warmth in dwellings. The data underpinning those conclusions is discussed in Sections 6-8. At this point it is sufficient to simply describe householders' reported energy and water circumstances.

60.3 percent of the householders reported that they had invested in excess of $2,000 in renovation work in the year prior to interviewing. 82.8 percent report that they intend to invest in excess of $2,000 in renovations and retrofit in the coming year. Among these households there is a strong orientation towards insulation for their intended renovations, especially for their future renovations.

47.1 percent of the householders reported that they have amended their renovation focus because of the Home*Smart* Renovation Plan. In addition, 62.2 percent of those in this phase of the interviewing reported that they had acted on the recommendations of the plan. 86.1 percent of householders reported that they saw the assessor as having *Good* or *Excellent* competency.

With regard to the Home*Smart* Renovation Plan:

- 88.2 percent of householders reported that the plan was comprehensive.
- 84 percent of householders reported that the plan was good or excellent at identifying key priorities.
- 78.2 percent of householders reported that the plan provided new and useful information.
- 73.9 percent of householders reported that the plan provided detailed recommendations.
- 71.8 percent of householders reported that the plan helped with decision-making.

Actions to implement the Home*Smart* Renovation Plan are at their early stages, however:

- 23.5 percent of householders reported that they had already paid a tradesperson to act on at least one of the recommendations in the Home*Smart* Renovation Plan.
- 19 percent of householders reported that they themselves had acted on at least one recommendation in the Home*Smart* Renovation Plan.
- 5.9 percent of householders were talking with suppliers at the time of interviewing
- 16 percent of householders were obtaining one or more quotes at the time of interviewing.

It is too early to comment on the implications of those actions for take-up of the range of recommendations contained in the Home*Smart* Renovation Plans.

31.9 percent of the interviewed householders found that the costs set out in the Home*Smart* Renovation Plan were higher than expected. For most (55.6 percent) the costs were about what they expected or somewhat less than expected. Over a fifth (21.6 percent) of householders reported that all of the packages would be affordable.

The largest proportion of households (92.7 percent), expect improved comfort or warmth. 80.2 percent of households expect reduced power bills. Less than three quarters of householders (73.3 percent) consider that retrofit improvements will increase the value of their dwelling. 78.4 percent believe that their home would be easier to sell. The proportion of households (68.9 percent) that value warmth or comfort ‘a lot’ exceeds those that value power bill savings ‘a lot’(37.8 percent).

The data presented here represents only one component of the Home*Smart* Renovation data collection and even this component has been attenuated because of delays in delivering Home*Smart* Renovation Assessments and Home*Smart* Renovation Plans to participants.

The participants could not be interviewed in this component until the providers had completed their assessments, provided a plan and we have given time for participants (usually at least one month after receipt of their plan). Interviewing was, and continues, to be a rolling process dependent on delivery of the assessments and the plans.

Not all participants who have received assessments and plans have been able to be contacted despite repeated attempts to do so by telephone and e-mail. Attempts to make contact with those who have received assessments and plans are continuing. However, it should be noted that, for the two reasons set out above, the dataset reported here does not yet include all potential interviewees.

Despite the fact that the interviewing has been undertaken relatively soon after receipt of Home*Smart* Renovation Assessments and Home*Smart* Renovation Plans, this data do provide some interesting indicators and questions around the:

- relationship between retrofitting and renovations
- prevalence of certain expectations (and the implications of those expectations) of energy savings among householders with a low use energy profile;
- determinants of affordability and their relationship to dwelling characteristics, household incomes, and the recommended Home*Smart* Renovations packages.

The data also shows some substantive findings including strong predispositions among this sub-set of households to:

- Address deficiencies in and invest in the thermal envelope.
- Be less positive about the condition of their house than the general population.
- Have higher incomes and lower levels of very young age and old age dependency within the household.
- Value comfort, warmth, health and environmental outcomes although a concern with water consumption is muted.

There is also some evidence that householders are both acting on the Home*Smart* Renovation Plan and are modifying both their views about their dwellings' condition as well as their renovation priorities in that context.

2 Introduction

The Home*Smart* Renovations Project is designed to take the learnings from the Papakowhai Renovation project, and develop a set of tools and guidelines (the Procedures) which would assist the home renovation industry, and homeowners, to retrofit and operate their homes to achieve a HSS High Standard of Sustainability® (HSS®).[1] The project involves an extended engagement with homeowners that enrol in the project. That engagement can be broadly divided into two types. Firstly, activities that provide home occupiers with an assessment of their dwelling and a tailored plan for retrofitting that dwelling. Secondly, home occupiers are involved in a variety of data gathering activities that will allow Beacon to establish the extent to which independent advice impacts on occupiers' renovation and retrofit plans, decisions and actions.

The research component involves gathering and analysing four types of data. Firstly, self-reported data around renovation intentions prior to receiving independent assessment and planning advice. Secondly, data related to occupiers current dwelling and appropriate pathways to improve dwelling performance *vis à vis* the HSS®. Thirdly, independent data on energy, water and as well as data on the humidity and temperature component of Internal Environmental Quality (IEQ). Finally, data collected from occupiers after receiving home assessments and renovation plans.

To date 256 householders have been involved in the latter. The number of interviewees to date reflects the attenuated delivery of Home*Smart* Renovation Assessments and Home*Smart* Renovation Plans as well as minor numbers of no contact and refusals (Section 4 refers). This report presents some preliminary findings based on that set of householders generated through the interviewing.

The report is structured as follows:

- Section 3 sets out the objectives and phases of the Home*Smart* Renovations project.
- Section 4 provides an overview of the research methodology, progress on the implementation of that method and some of the barriers to research implementation.

[1] ***An overview of the project can be found at Easton, L., Gibbons, J., Karlik-Neale, M., Ryan, V., and Saville Smith, K. (2008) HomeSmart Renovations Phase One Report: Development of Procedures and Establishing the Pilot. Report 2420/5 for Beacon Pathway Limited.***

- Sections 5 to 9 set out the data generated in the householder interviews undertaken by CRESA interviewers January to July 2009. Those sections consist of:
  - Section 5: Households, Dwellings and Resource Consumption
  - Section 6: Last Year and Next Year Renovation Activities
  - Section 7: The Plan – Action and Affordability
  - Section 8: Why Do They Bother?
  - Section 9: Does it Matter?

3 HomeSmart Renovations Objectives and Overview

The HomeSmart Renovations project has five main objectives. They are to:

- Develop and implement HomeSmart Renovations Assessment, Procedures and Plans which will facilitate retrofitting of retrofitting of existing homes to meet Beacon's HSS High Standard of Sustainability®.
- Contribute to market transformation by providing householders independent advice on retrofitting and pathways to achieve effective retrofit which respond to the financial constraints that households face.
- Provide an opportunity for retrofit providers to develop capability delivering broader home assessment and retrofit planning tools than those currently available.
- Assess the impact of HomeSmart Renovations Assessments and Plans on the pattern of take-up among renovating owner occupiers.
- Identify the factors that motivate and/or deter householders from retrofit pathways that will bring their dwellings closer to Beacon's HSS®.

The project implementation of the HomeSmart Renovations has a number of phases. The first phase involved establishing HomeSmart Renovations procedures, delivery partners and the approach to the recruitment of householders. The development of the monitoring and evaluation framework was also part of that phase. The second phase has been an implementation phase. The third phase is a review, analysis and reporting phase. While these phases are broadly sequential, they do overlap. HomeSmart Renovations is currently in the process of winding down the second phase and is starting to enter the third phase.[2]

[2] ***Easton et al.(2008)***

4 Research Methodology

A monitoring and evaluation framework has been developed to answer some key questions about renovation take-up and subsequent dwelling performance. Those key questions are:

- Do people act on advice and action plans to improve the performance of their houses?
- What are the patterns of those actions?
- What are the determinants of those actions?
  - Socio-demographic characteristics
  - Dwelling characteristics
  - Climate characteristics.
- Do sustainability directed renovations impact on house performance?
- What renovations and dwelling conditions optimise house performance in relation to the HSS® benchmarks?

4.1 Sample Frame and Recruited Households

To explore those issues a sample frame targeting the recruitment of the 750 dwellings was developed. That framework specified two key sampling parameters – location and household income. A sub-sample of 200 dwellings for direct monitoring was also developed. The sample frame is set out in Table 1. The number of dwellings in each category in the sample frame allowed for over-recruitment to generate an eventual sample of 750 participant households. The sample of 750 dwellings has not been reached. Nevertheless, the achieved sample is sufficient to meet the analytic requirements of the study.

Table 1: Sample Frame for HomeSmart Renovations

Climate Zone	$0-25k	$25-50k	$50-100k	$100k+	Total
Auckland	30 (7)	30 (7)	48 (13)	42 (9)	150 (36)
Rotorua/Taupo	39 (8)	39 (8)	50 (10)	23 (5)	151 (31)
Wellington	35 (7)	35 (8)	47 (10)	34 (8)	151 (33)
Nelson/Marlborough	43 (9)	41 (9)	48 (10)	18 (4)	150 (32)
Christchurch	40 (9)	38 (9)	50 (11)	23 (6)	151 (35)
Dunedin/Invercargill	45 (10)	41 (9)	47 (10)	18 (4)	151 (33)
Total	232 (50)	188 (50)	290 (64)	158 (36)	904 (200)

Since the Home*Smart* Renovations project commenced more than 703 households expressed interest in participating. A number of those households were clearly ineligible because they did not fit the sample frame (Section 4 refers). In total, 665 households appeared to be eligible and were given a unique identifier. Of those, however, a number have subsequently been identified as outside the research study areas, duplicates, or have indicated they no longer wish to be involved in the research. The total number of eligible households participating in the research as at mid August 2009 is 530.

Infobox 1 sets out the profile of refinement to the current sample of household participants. Of the 530 active households, 200[3] plus households have been approached to be involved in intensive monitoring – including having temperature loggers installed in living areas and the main bedroom, installing humidity gauges and for a sub-set having a water metre installed. Table 2 sets out the distribution of monitored dwellings by area and household income.

Delays by providers in either the assessment and/or the provision of plans to participants have attenuated the householder interviewing process (see Table 3). Those delays may also reduce take-up of retrofit options. It is too early to establish whether this is in fact the case, but this will be an issue explored in the statistical analysis for the final report.

Infobox 1: Reduction of the Number of ID'd Households to Participant Households

Total ID'ed Households		**665**
Non-participant Households		
Inactive households	96	
Duplicates	6	
Outside Area	6	
Switched area so new ID issued	4	
Non contacts	11	
Christchurch houses unable to be done	12	
Total Participant Households		**530**

[3] ***Attempts were made to maintain the number of active monitored household at 200. Up to mid-July 2009 where a household with monitors indicated they were inactive a replacement household in that area was recruited. Consequently a total of around 214 households were approached and recruited over the period of the research.***

Table 2: Households with Direct Monitoring Devices by Region & Household income

Income group	Auckland	Rotorua -Taupo	Wellington	Nelson	Marlborough	Canterbury	Dunedin-Southland	Total
0-25k	1	0	3	0	2	6	3	15
26-50k	7	12	6	5	3	9	13	55
51-100k	16	14	13	7	1	14	14	79
101k+	11	8	10	0	4	5	5	43
Income not specified	0	2	0	0	3	0	1	6
Total	35	36	32	12	13	34	36	198

Table 3: Delivery to Households by Service Provider (mid-August 2009)

Community Partner	Number of households allocated	Completed assessments	Non-active	Non-contacts	Incomplete - Still to contact	Number of plans sent to homeowners
Energy Smart	233	174	34	2	23	166
Ecomatters	187	149	29	4	1	136
CEA	93	74	14	4	0	74
Energy Options	119	81	8	4	26	66
Total	632	478	85	14	50	442

4.2 Data Collection

Table 4 sets out the data sources, data collection instruments, who delivers data, whether data is collected, and who or what the data is about. In summary, data is being collected from:

- Households wanting to participate in Home*Smart* Renovations by way of the householders' own checklist
- The community partners undertaking in-house assessments
- Community partners' renovation plans
- Householders regarding retrofit take-up and renovation activities
- Directly measure monitored data for temperature, water and hot water related energy for sub-sets of households.

Table 4: Summary of Intended Monitoring Methodology HomeSmart Renovations Pilot

Data Source	Instrument	Provider	When	Who/What
Potential Participants	Self complete application and registration questionnaire	Householder via questionnaire	Pre-retrofit	All potential participants
Dwelling In Home Assessment	In Home Assessment Tool	Partner assessor	Pre-retrofit	All assessed dwellings
Renovation Plan	Renovation Plan	Partner assessor	Pre-retrofit	All assessed dwellings
Retrofit Installation	Householder Survey	Surveyor	Post-retrofit	All installed dwellings
Administrative data	Reticulated energy	Householder via energy bills or by through supplier	Pre and post retrofit	All assessed dwellings
	Reticulated water	Householder via water bills or through supplier	Pre and post retrofit	All assessed dwellings if separate water billing
Direct monitored data	Temperature	Direct monitored	Pre-retrofit Post retrofit	200 dwellings-temperature
	Water			Up to 150 installed water meters
	Hot water (solar)			Up to 50 dwellings solar water heating
	Humidity			200 dwellings Fuginex tabs[4]
Participant survey	Householder survey	Surveyor	Pre-retrofit Post retrofit	200 householders

[4] ***These tabs change colour when exposed to humidity in excess of 75% relative humidity over an extended period of time (at least 4-8 hours).***

The data collected from those surveys is related to one or more of the following:

- IEQ performance
- Energy performance
- Water performance
- Other components of the HSS®
- Dwelling characteristics
- Household characteristics.

Direct monitoring of consumption patterns in relation to water and energy is limited to the sub-sample dwellings and all dwellings are being sought to provide reticulated energy data by way of permissions to access billing data from the household's supplier.

Water data, except where meters are installed, can only be provided in areas in which the local authority meters water. In some cases there is direct billing and charging. In other cases, such as Christchurch, water is metered but the Christchurch City Council does not see itself as 'billing' for water. BRANZ is currently conferring with Christchurch about the wording of the consent form for occupants.

In relation to energy, this involves a two-step process. Firstly, in the householder interview, participants are asked if they are willing to allow Beacon through BRANZ to access energy billing records. If they agree, BRANZ sends a consent form to the householder which BRANZ can then use as a basis for a request to the energy supplier.

Because we believe that some people are unaware of water billing and charging, householders in metered areas are also being separately approached with a request that they consent to Beacon through BRANZ accessing water consumption data. This involves the householder completing a consent form and returning it to BRANZ.

BRANZ has approached monitored dwellings without water meters in an effort to install water meters. To date, 36 have been installed. Originally, it was intended that if monitored dwellings did not agree to water metering that they would be excluded from the monitored set. Recruitment of participants into the monitored set was slow, however. Consequently, pursuing that approach would have meant rejecting a number of dwellings with householders willing to be otherwise monitored.

4.3 Data Matching and Analysis

The analysis that will be undertaken for Home*Smart* Renovations involves taking data from each of the data sources in Table 4 and matching that data for each participant household. The process of household matching is a considerable one. The risk of mismatching is high if undertaken without the final set of participants established. This task is not being undertaken until the complete sets of Home*Smart* Renovation Assessments and Plans are received from providers.

Once data matching is complete, a comprehensive analysis of the data can be undertaken. That includes analysis of:

- consumption pattern determinants,
- take-up, and
- the extent to which householders intentions and/or actions have been modified by the Home*Smart* Renovations assessments, plans and packages.

4.4 The Scope of Analysis in this Report

As of mid-August 2009, there were 530 participants in Home*Smart* Renovations project. At that time, 446 participants had been assessed and plans have been sent to them by the assessor provider. Because participants could not be interviewed unless they had had their plans at least one month, however, householder interviewing could only commence in January 2009 and to prepare this report had to be completed by 31 July 2009.

Only 314 participants were eligible for interviewing up to 31 July 2009. Of those 314, successful contact has been made with 238 households[5] and 232 agreed to complete a full interview.[6] This report is limited to the data generated by the 232 participant interviews undertaken prior to 31 July 2009.

[5] ***That leaves 76 households who have not responded to repeated calls and telephone messages seeking an interview or who were in the process of being scheduled for a phone interview.***

[6] ***This high level of response (74%) should not be interpreted as being satisfied with either the assessment process or the plan. While it is true that those that are satisfied are likely to agree to interview those who are dissatisfied will fall into two categories: Those that 'exit' and those that 'voice'. Those that wish to voice their dissatisfaction will agree to interviews.***

5 Households, Dwellings & Resource Consumption

This section is concerned with the household, dwelling and resource consumption characteristics of the surveyed participants.

The telephone survey instrument (see Annex A) elicited information from participants on the following aspects of households and dwellings.

- Households:
  - Life stage.
  - Household income.
  - Household size.
- Dwellings:
  - Perceived dwelling condition.
- Resource Consumption:
  - Perceived energy sources and consumption.
  - Monthly energy costs.
  - Water charging.

5.1 The Households

The participants in Home*Smart* Renovations who have been interviewed to date have a profile distinctly different from New Zealand households as a whole. They tend to be concentrated in the middle age and earning cohorts. Their incomes are higher than the New Zealand income pattern and they tend to be free of both young children and of older household members.

Table 5 provides a comparison of the socio-demographic characteristics of the Home*Smart* Renovations interviewees compared to the profile of households found in the 2006 census. In summary, the key characteristics of the participant households are:

- Two-thirds are aged 31-50 years.
- 58 percent have household annual incomes in excess of $70,000, and 74.4 percent households in excess of $50,000.
- About a fifth report being eligible for a Community Services Card.
- The largest single proportion of households has only two people, but 61.8 percent are households with 3 or more people.
- The vast majority (89.9 percent) have no household members aged 65 years or more.
- The vast majority (75.2 percent) have no children in the household aged 5 years or less.

Table 5: NZ Household and HomeSmart Renovations Household Socio-demographics

Socio-demographic Characteristics	HomeSmart Renovations Households	NZ Households
Householder Age		
Less than 25 years old	0.0%	6.1%[7]
25-59 years old	90.5%	67.2%
Over 60 years old	9.9%	26.8%
Household Income		
$20,000 or less	4.5%	Not currently available[8]
$20,001- $30,000	5.8%	Not currently available
$30,001 - $50,000	10.3%	Not currently available
$50,001 - $70,000	17.5%	Not currently available
$70,001 - $100,000	26.0%	Not currently available
Over $100,000	35.9%	Not currently available
Household Size		
1 person	7.8%	22.6%[9]
2 people	28.6%	34.0%
3 people	25.5%	16.5%
4 people	25.1%	15.2%
5 or more people	13.0%	11.7%
Average household size	3.1 people	2.7 people[10]

[7] ***2006 Census***

[8] ***Data is currently being prepared by Statistics New Zealand from the Household Economic Survey. This will be available for comparative analysis in reporting the full dataset.***

[9] ***2006 Census***

[10] ***2006 Census***

The profile indicated in Table 5 is predictable with the under-representation of young, as well as older, households and the income skew towards higher income households. Old and young householders tend to have constrained income and also smaller household sizes. Both of those characteristics are associated with lower levels of either owner occupation and/or investment in repairs, maintenance and renovation.[11]

5.2 Dwelling Condition

A multitude of research has found that high proportions of New Zealanders tend to assess their dwellings in as in *Excellent* or *Good* condition (Table 6). Indeed, New Zealanders tend to believe that their dwellings are in better condition than they are. In 2004 a matched data set of dwellings subject to both independent house condition surveying by BRANZ and householders participating in an associated repairs and maintenance telephone survey found that while 27.8 percent of dwellings were reported by householders to be in excellent condition only 16.8 percent met a House Condition Score of excellent when independently surveyed.[12]

Table 6*: *NZ Household Assessments of Dwelling Condition: Cross Study Comparison

Study and Year	Percentage Assessed Dwelling Condition				
	Excellent	Good	Average	Poor	Very Poor
2004 Repairs and Maintenance Survey[13]	27.8%	50.9%	18.8%	2.3%	0.2%
Recent Movers Survey 2008[14]	45.6%	37.4%	15.2%	1.7%	0.1%
High Energy User Survey 2008[15]	32.7%	43.4%	19.7%	3.6%	0.6%
National Older People Repairs and Maintenance Survey 2008[16]	46.1%	42.7%	10.2%	0.8%	0.3%

[11] ***Saville-Smith, K., (2005) Public Investment in the Repairs and Maintenance of Owner-Occupied Dwellings – A Review of International Policy and Practice.***

[12] ***Clark, S.J. et al. (2005)***

[13] ***Saville-Smith, K., (2005) National Home Maintenance Survey 2004: The Telephone Interview Data,***

[14] ***Saville-Smith, K., (2008) Annex A***

[15] ***Saville-Smith, K., (2008) Annex B***

[16] ***Saville-Smith, K. et al. (2008)***

What is striking about the interviewees in the Home*Smart* Renovations project is the skew of assessed house condition towards *Average* and lower house condition categories. Of the 232 householders that completed the interview, just over half considered their dwelling in *Average* or worse house condition (Table 7).

Table 7: HomeSmart Renovations Household Perceptions on House Condition

Householder Perceived House Condition	Home*Smart* Renovations Households	% Home*Smart* Renovations Households
Excellent	25	10.8
Good	89	38.4
Average	85	36.6
Poor	25	10.8
Very Poor	8	3.4
Total	***232***	***100***

There are two possible explanations for this pattern. Firstly, it might be a manifestation of self-selection bias. That is, it might be expected that those householders who see their dwelling as in relatively poorer condition are more likely to participate in the Home*Smart* Renovations project. Second, it might be suggested that the receipt of Home*Smart* Renovation Assessment and the Home*Smart* Renovation Plan has generated a more realistic understanding of the condition of the householders' dwellings.

There is every likelihood that a project such as Home*Smart* Renovations will attract people who look to renovate their dwelling because of perceived poor dwelling performance or because of perceived dwelling condition. The self-selection bias should not, however, be overstated.

There is a strong body of research that shows that New Zealanders tend to de-couple house condition from house performance, just as they de-couple renovations from improving dwelling performance. Among older people, for instance, a 2008 national survey found that while 88.8 percent of older householders reported their dwellings to be in Good or Excellent condition. Over half of older householders reported that their heating did not keep them warm

in winter. 34.4 percent of older householders reported that they had problems with mould, damp and condensation. [17]

Nevertheless, it must also be acknowledged that over the last year or so public discourse in product advertising, the delivery of retrofit programmes, and in the media generally have increasingly involved ideas about house condition, performance and comfort. What the Home*Smart* Renovation Assessment and the Home*Smart* Renovation Plans do is take those frequently amorphous media messages and make them both more specific while also detaching them from particular product and programme promotions. Under those circumstances, it is likely that many household participants have become both more aware and more realistic about the condition of their dwelling and its connection to dwelling performance. This will be explored at more length in the analysis of matched data to be undertaken in 2010.

5.3 Resource Consumption

In the householder interviews, householders were asked a number of questions relevant to resource consumption. Householders were asked specific questions about the source of their energy. That is whether they have reticulated electricity or gas. Householders were also asked whether they are billed and charged for water consumption.

In addition, householders were asked to identify past renovations and intended renovations. Some of those renovations impact specifically on resource consumption. For instance, installation of insulation and changes in heating systems may impact on energy consumption patterns. Installation of water tanks or low flow showerheads may impact on water consumption.

Finally householders were asked whether the recommendations in their Home*Smart* Renovations Plan are likely to impact on the performance of their home in relation to the environment, exposure to power bills, and exposure to water bills. Overall it may be concluded that householders express:

- Relatively low awareness or concern with water relative to energy;
- Lower concern with the environment than improving comfort or warmth in dwellings.

The data underpinning those conclusions is discussed in Sections 6-8. At this point it is sufficient to simply describe householders' reported energy and water circumstances.

[17] ***Saville-Smith, K. et al. (2008); Saville-Smith, K.,(2008)***

5.3.1 Energy

All householders reported having reticulated electricity.[18] Only 3 percent of householders reported consuming reticulated gas. Only 18.5 percent of the householders described their energy consumption as high or very high. As Table 8 shows over a third of the participants described their household energy use as low or very low.

Table 8: HomeSmart Renovations Household Perceptions of Energy Use

Householder Perceived House Condition	Home*Smart* Renovations Households	% Home*Smart* Renovations Households
Very High	8	3.5
High	35	15.2
About Average	100	43.3
Low	70	30.3
Very Low	18	7.8
Total	***231****	***100.1***^

* 1 missing case ^Due to rounding

That pattern of perceived energy consumption is a very different pattern from that found in previous research on populations that have not self-selected into a Beacon programme. For instance, Beacon's Recent Movers Survey found that 21.9 percent defined their household energy use as "high" or "very high" and 22.2 defined their energy use as "low" or "very low". A smaller survey in 2007 commissioned by EECA found that 18.7 percent identified themselves as "high" or "very high" and 23.2 percent described their energy consumption as "low" or "very low" energy users.[19]

[18] ***89.5 percent of the participants have agreed to allow Beacon to access energy consumption data direct from the supplier. Around 8 percent have refused to supply consumption data and the remaining small group report that they will provide billing data either by telephone or by e-mail prompt.***

[19] ***That study also found that householders that self-identified as "high" or "very high" energy users did in fact, have higher than average energy use. See Saville-Smith, K. and Fraser. R., 2007, Analysis Report on Telephone and Physical Survey Data, Report prepared for East Harbour Management Services.***

The patterns of energy consumption need to be explored when the full dataset is available when we can confirm whether the actual energy consumption pattern of householders is consistent with their perceptions of their comparative energy use. This early dataset, however, does raise some potential risks around disappointed expectations. If indeed these households are relatively low energy users, the likelihood of significant energy and energy-related cost savings among these households must be considered small, despite 80.2 percent of these householders expect that the retrofit options in their plans will lead to savings on their power bills.

5.3.2 Water

Only a little more than a third of the householders (35.8 percent) reported that they were billed specifically for water. It is estimated that at least half of interviewed households are subject to some sort of water charging. This suggests that many householders are simply unengaged with water charges and water consumption. This will be explored more fully when data is matched and subject to analysis for the final report. But this lack of interest in water is consistent with data from other research. The surveying undertaken in the development of the Neighbourhood Sustainability Framework found a lesser concern with the perceived dwelling water efficiency compared to perceived dwelling energy efficiency among householders.[20]

[20] ***Leitz, K. et al. (2006)***

6 Last Year and Next Year: Renovation Activities

More than half (60.3 percent) of the householders reported that they had invested in excess of $2,000 in renovation work in the year prior to interviewing. 82.8 percent report that they intend to invest in excess of $2,000 in renovations and retrofit in the coming year.

If this was a general population, it could be argued that the actual proportion of households likely to act as they have said they will act would be substantially lower. There is a considerable body of research that suggests that the probability of householders' investing in future repairs, maintenance and renovations is higher if they have undertaken renovations in the past.[21]

This population of households is, however, a distinct subset of potential renovators. They have self-selected into Home*Smart* Renovations because they have a desire to undertake effective, performance based renovation. For that reason, it is reasonable to expect that the proportion of these households who actually renovate may be close to the proportions reporting an intention to renovate. As Table 9 shows, among these households there is a strong orientation towards insulation for their intended renovations, especially for their future renovations.

Table 9: HomeSmart Renovations Household Past and Intended Renovations (n=232)

Renovation Activity	Renovations Undertaken in Previous Year % of Households	Intended Renovations % of Households
Install underfloor insulation	10.5	34.5
Install ceiling insulation	13.9	28.6
Install double glazing	6.8	13.9
Install wall insulation	8.9	11.8
Install heat pump	10.5	10.1
Install solar hot water	1.7	7.6
Install rainwater tank	0.0	5.5
Roof replacement	3.4	4.6
Replace kitchen appliances	1.3	4.2
Replace bathroom cabinetry	3.4	4.2
Replace kitchen cabinetry	1.7	4.2

[21] ***Saville-Smith, K., (2005). National Home Maintenance Survey 2004: The Telephone Interview Data; Saville-Smith, K., and Amey, B., (1999)***

Replumbing	3.8	4.2
Install extractor fan in bathroom	2.1	4.0
Replace bathroom whiteware	4.2	3.8
Interior recladding	2.1	3.4
Install low flow shower head	2.5	3.4
Install woodburner	3.4	2.9
Install dual flush toilet	3.4	2.9
Install new hot water cylinder	1.7	2.5
Full exterior repaint	4.2	2.1
Install ventilation system	2.5	2.1
Carpeting	4.6	1.7
Adding rooms	1.7	1.7
Install pellet burner	0.0	1.7
Install heat pump hot water	0.4	1.7
Install rangehood or kitchen extractor fan	0.8	1.7
Rewiring	2.5	1.3
Interior repainting/wallpapering	2.1	0.4
Install pressure vents in the windows	0.0	0.4
Replace significant areas of exterior cladding	0.8	0.0
Polishing floors	0.4	0.0
Install gas hot water	0.4	0.0

The extent to which this pattern constitutes a shift from original intentions when joining the Home*Smart* Renovations project (and the nature of any shift) will be analysed when all the datasets are matched for the analysis for the final report.

At this point, it can be noted that the strong performance orientation of these households can be contrasted to the serial renovators that emerged among the households participating in Beacon's High Energy User Survey and Beacon's Recent Movers Survey summarised in Table 10.[22] Table 11 shows the tendency for those general populations to be directed to more cosmetic renovation activities despite there being considerable evidence that many of their dwellings were performing inadequately.

[22] ***Saville-Smith, K., (2008). House Owners and Energy – Retrofit, Renovation and Getting House Performance.***

Table 10: Renovation & Retrofitting Activities among Owner Occupiers by Recent Movers and High Energy Users

Renovation or Retrofit	Recent Movers (n=724)		High Energy Users (n=700)	
	n	%	n	%
Interior repainting and/or wallpapering	155	45.7	46	19.7
Replacement of kitchen appliances	117	34.5	22	9.4
Carpeting	104	30.7	31	13.3
Replacement of kitchen cabinetry	90	26.5	19	8.2
Installing a heat pump	81	23.8	23	9.9
Replacement of bathroom whiteware	77	22.7	37	15.9
Replumbing	66	19.5	8	3.4
Installing an extractor fan in the bathroom	64	18.9	3	1.3
Installing a rangehood/extractor fan in the kitchen	64	18.9	1	0.4
Full exterior re-paint	63	18.6	28	12.0
Replacement of bathroom cabinetry	62	18.3	15	6.4
Rewiring full or significant part of the dwelling	54	15.9	5	2.1
Installing ceiling insulation	46	13.6	13	5.6
Installing wall insulation	46	13.6	7	3.0
Installing a new hot water cylinder	44	13.0	7	3.0
Renovation or Retrofit	**Recent Movers (n=724)**		**High Energy Users (n=700)**	
	n	%	n	%
Replacement of interior cladding	41	12.1	15	6.4
Installing a ventilation system e.g. HRV, DVS	40	11.8	17	7.3
Installing underfloor insulation	35	10.3	8	3.4
Adding rooms	31	9.1	16	6.9
Installing a wood burner	26	7.7	6	2.6
Roof replacement	25	7.4	15	6.4
Polishing floors	24	7.1	3	1.3

Upgrading hot water systems to instant gas	24	7.1	1	0.4
Venting drier to the outside	23	6.8	1	0.4
Installing a low flow showerhead	21	6.2	1	0.4
Replacement of significant amounts of exterior cladding	20	5.9	7	3.0
Installing double glazing	17	5.0	4	1.7
Installing a rainwater tank	11	3.2	1	0.4
Installing a pellet burner	7	2.1	1	0.4
Installing a solar hot water system	6	1.8	4	1.7
Installing a wet back hot water system	3	0.9	1	0.4
Installing a heat pump hot water system	2	0.6	4	1.7
Installing passive vents in windows	1	0.3	0	0.0

* Multiple response

7 The Plan: Action and Affordability

At this early stage it can be stated that 47.1 percent of the householders reported that they have amended their renovation focus because of the Home*Smart* Renovation Plan. In addition, 62.2 percent of those in this phase of the interviewing reported that they had acted on the recommendations of the Home*Smart* Renovation Plan. This is consistent with the relative high satisfaction levels expressed by householders with the assessment process and the Home*Smart* Renovation Plan itself, although there has been a persistent desire for greater specification around the plan recommendations.[23]

With regard to the assessment and the assessors, 86.1 percent of householders reported that they saw the assessor as having *Good* or *Excellent* competency. With regard to the Home*Smart* Renovation Plan:

- 88.2 percent of householders reported that the plan was comprehensive.
- 84 percent of householders reported that the plan was good or excellent at identifying key priorities.
- 78.2 percent of householders reported that the plan provided new and useful information.
- 73.9 percent of householders reported that the plan provided detailed recommendations.
- 71.8 percent of householders reported that the plan helped with decision-making.

Actions to implement the Home*Smart* Renovation Plan are at their early stages. However, 23.5 percent of householders reported that they had already paid a tradesperson to act on at least one of the recommendations in the Home*Smart* Renovation Plan. In addition, 19 percent of householders reported that they themselves had acted on at least one recommendation in the Home*Smart* Renovation Plan. 5.9 percent of householders were talking with suppliers at the time of interviewing and 16 percent of householders were obtaining one or more quotes at the time of interviewing.

The apparently rapid response to at least some of the Home*Smart* Renovation Plan might be explained in terms of the affordability of the packages. A substantial proportion of the householders (31.9 percent) found that the costs set out in the Home*Smart* Renovation Plan were higher than expected. But for most (55.6 percent) the costs were about what they expected or somewhat less than expected. Over a fifth (21.6 percent) of householders reported that all of the packages would be affordable. It should be noted, of course, that most participants have not yet commissioned or received quotes in relation to their chosen package or retrofit options. Participant views may be different after doing so.

[23] ***It is too early to come to any definitive views about participant satisfaction with or the effectiveness of the HomeSmart Renovations plans.***

Moreover, the affordability of different packages is, however, complex. The proportion of households that reported the most expensive packages as unaffordable is, for instance, smaller than proportion of households that have pronounced a less expensive package unaffordable. This probably arises out of the particular distribution of household incomes in relation to the dwelling stock and in relation to stock in different climate zones. Teasing out those dynamics will be a particular focus when the datasets are household matched and analysed.

8 Why Do They Bother?

The Home*Smart* Renovations interview instrument explores the reasons that householders retrofit or intend to renovate their dwellings for improved performance in two ways. Firstly, it explores what householders expect to happen to their dwellings if they undertake retrofits as set out in the Home*Smart* Renovation Plan. Secondly, it explores what aspects of dwelling performance are important to them and to what extent.

8.1 Expected Impacts of the Home*Smart* Renovation Plan

Despite the considerable emphasis in the public arena that has been placed on improving dwelling performance as a pathway to reduced power bills:

- the largest proportion of households (92.7 percent) expect improved comfort or warmth.
- 89.2 percent of householders report that the Home*Smart* Renovation Plan recommendations would make their home healthier.
- 85.3 percent of householders believe that implementing the Home*Smart* Renovation Plan would lead to their home being better for the environment.
- 80.2 percent of households expect reduced power bills.
- 73.3 percent) of households considers that retrofit improvements will increase the value of their dwelling.
- 78.4 percent of these householders believe that their home would be easier to sell after undertaking sustainability related renovations or retrofits.

8.2 Dwelling Outcomes Important to Householders

Consistent with the findings of other Beacon research,[24] householders have a range of outcomes that are important to them when considering renovation and retrofit. In this self-selected set of households, whose entry into the Home*Smart* Renovations project was prompted by an engagement with Beacon as an organisation specifically concerned with improving the sustainable performance of dwellings, the importance of comfort, health and warmth to householders is very evident.

This is not to suggest that immediate monetary benefits are unimportant. However, as Table 11 shows, the proportion of households that value warmth or comfort ‘a lot’ exceeds those that value power bill savings ‘a lot’. Similarly, higher proportions of households report that power savings and the capital gain are ‘not at all’ important to them in the context of retrofit investment.

[24] ***Saville-Smith, K., (2008). House Owners and Energy: Retrofit, Renovation and Getting House Performance.***

Table 11: Importance to Householders of Different Retrofit Outcomes (n=238)

Outcome	**Importance** ***A Lot***	**Importance** ***A Little Bit***	**Importance** ***Not At All***	***Not Stated/ Don't Know***
Improved Comfort and/or Warmth	68.9%	23.5%	2.5%	5.1%
Making Home Healthier	57.6%	30.7%	7.1%	4.6%
Making Home Better for the Environment	49.2%	35.3%	8.8%	6.7%
Savings on Power Bill	37.8%	42.4%	11.3%	8.5%
Making Home Easier to Sell	33.6%	41.6%	13.9%	10.9%
Adding to Value of Home	30.7%	46.2%	13.9%	9.2%

9 Does it Matter?

This data needs to be treated as preliminary and with caution. Firstly, this data represents only a proportion of the expected participants. Second, the study is designed to collect together and analyse a variety of subjective and objective data across a variety of different parameters. The data presented here represents only one component of that dataset. However, the data do have both some substantive implications and indicate some areas in which some analytic focus will be required when the full dataset is matched.

With regard to future analysis, the questions for the research have already been set out. However, this data does raise some further questions regarding:

- The prevalence and implications of expectations of energy savings among householders with a low use energy profile.
- The lack of interest shown by participants in relation to water.
- The determinants of affordability and their relationship to dwelling characteristics, household incomes, and recommended Home*Smart* Renovations packages.
- The extent to, and timeliness with which, intended retrofit and renovation actions are executed.

This partial set of data also suggests some substantive findings including strong predispositions among this sub-set of households to:

- Address deficiencies in and invest in the thermal envelope.
- Be less positive about the condition of their house than the general population.
- Have higher incomes and lower levels of very young age and old age dependency within the household.
- Value comfort, warmth, health and environmental outcomes.

There is also some evidence that householders are both acting on the Home*Smart* Renovation Plan and are modifying both their views about their dwellings' condition as well as their renovation priorities in that context.

There are three potential explanations for the higher proportion of Home*Smart* Renovations householders focusing on insulation and heating than found among householders who have participated in Beacon's other surveys. The first is simply the self-selection effect already noted. The second is that this may reflect a market transformation associated with higher market and policy profile being given to the importance of warm homes. If this was the case, one might expect a replication of the Recent Home Movers Survey and the High Energy Users Survey to show a similar pattern. The third explanation is that the Home*Smart*

Renovation Plan has made a significant impact on householder intentions. These are not mutually exclusive explanations. The latter will be a particular focus in the final analysis.

Finally, there is some indication that water efficiency may be staring to raise itself as an issue for households, albeit a minority. Rainwater tank installation and the installation of low flow shower heads both emerge as having an increased proportion of the participants reporting an intention to for the future relative to their actions in the past. Again, however, this should not be overstated. Reported intentions are not always a good indicator of action, particularly when such small numbers are involved. Moreover, when compared to the reported intention to undertake insulation installations or even double glazing, the households reporting an intention regarding water efficiency is very small.

10 References

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11 Annex A: Phone survey instrument

ID Number: _____

Home*Smart* Renovations
Post Assessment and Plan Questionnaire

Good evening my name is _____

I am ringing on behalf of Beacon. You have been participating in the Home*Smarts* Renovation Project and should have had an in-house assessment and received a Home*Smarts* renovation plan.

Can I check whether you have:

- Had an in-house assessment

  ❑$_1$ Yes ❑$_2$ No → If NO do not proceed with interview

- Received the Home*Smarts* renovation plan?

  ❑$_1$ Yes ❑$_2$ No → If NO do not proceed with interview

As part of the research into what helps people to improve their home's performance, we would like to ask you some questions about how you found the in-house assessment, the Home*Smarts* renovation plan, and the extent it is helping you to make decisions about home renovation. If you have your plan handy somewhere then you might like to grab it so you can refer to it if needed while we're talking.

All data collected in this survey will be aggregated and used for research purposes only. Your responses are confidential. No individual details will be used in reports or research summaries.

You can withdraw from this or any other part of the research at any time. Remember you don't have to go ahead with renovations to stay part of the project. We are interested in the decisions you make and why you make them.

Are you happy to proceed with the interview?

❑$_1$ No, not at all – *Whether they intend to withdraw and why?*

❑$_2$ Yes but not now – *Make another time*

❑$_3$ Yes – *Proceed* ➔ Note date of interview _____

First we need to ask you some questions about the in-house assessment

Q.1 Can you remember the name of the group that came to do the in-house assessment?

Do not prompt – Tick nearest name

❑$_1$ Community Energy Action
❑$_2$ Energysmart
❑$_3$ Ecomatters
❑$_4$ Energyoptions
❑$_5$ Other
❑$_6$ Can't remember

Q.2 How would you rate the in-house assessors on each of the following things?

READ: The responses are excellent, very good, neither good nor bad, poor, very poor. *Tick <u>one</u> response only for each*

Read each	Excellent	Good	Neither good nor poor	Poor	Very poor
(a) Turning up on time	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(b) Competency of assessors	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(c) Attitude and helpfulness	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(d) Promptness of plan delivery	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$

Q.3 How would you rate the Home*Smarts* Renovation Plan you received for each of the following things?

READ: The responses are the same as the previous question *Tick <u>one</u> response only for each*

Read each statement	Excellent	Good	Neither good nor poor	Poor	Very poor
(a) Being comprehensive	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(b) Providing new and useful information	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(c) Helping with decision making	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(d) Providing detailed recommendations	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$
(e) Identifying key priorities	❑$_1$	❑$_2$	❑$_3$	❑$_4$	❑$_5$

Q.4 Is the cost of getting your house to a high standard of sustainability as set out in the plan**: READ 1-3**

❑$_1$ More than expected ❑$_2$ About expected ❑$_3$ Less than expected

[**Don't read 4** - but tick if required ❑$_4$ Don't know/no expectations]

Q.5 Did the plan show you that you were eligible for grants or subsidies to help you improve the sustainability of your home?

❑$_1$ Yes → Go to Q5a
❑$_2$ No
❑$_3$ Don't know

Q5a Were you aware that those grants, subsidies or assistance was available to you before the in-house assessment or the renovation plan?

❑$_1$ Yes ❑$_2$ No

READ: I want to talk to you about the affordability of each package in the plan. Just look at the final page of your plan.

Q.6 Would you find any of those packages unaffordable?

❑$_1$ Yes → Go to Q6a ❑$_2$ No → Go to Q7

Q6a If yes, which of the packages are unaffordable?

DON"T PROMPT – tick any that apply

❑$_1$ Package 1
❑$_2$ Package 2
❑$_3$ Package 3
❑$_4$ Package 4

comments if required_____
_____

Q.7 Have you taken any action in relation to the recommendations in the plan already?

❑$_1$ Yes→ Go to Q8 ❑$_2$ No → Go to 9

Q.8 What have you done? *Please tick (✓) <u>any</u> that apply.* ***DON'T PROMPT***

- ❑$_1$ Talked to suppliers
- ❑$_2$ Obtained one or more quotes – **also answer 8a**
- ❑$_3$ Undertaken to do one or more of the recommendations ourselves
- ❑$_4$ Had unpaid assistance to do one or more of the recommendations
- ❑$_5$ Paid tradespeople/community partners to undertake one or more of the recommendations
- ❑$_6$ Incorporated one or more recommendations into our building/renovations plans with architect etc
- ❑$_7$ Other (please specify) _____

Q.8a **If ticked 8.2 ONLY otherwise go on to Q9 -** What renovations have you had quoted and who did you get a quote from?

What	Who

Q.9 What recommendations in the plan, if any, would you expect to undertake in:

Year 1

Year 2

Year 3

Year 4

Year 5

Q.10 What recommendations in the plan, if any, would you never undertake?

List	Reason

Q.10a. Why won't you undertake those recommendations? (Put reasons in the reasons column for Q10).

Q.11 If you happened to follow ALL the plan recommendations how likely do you think the performance of your home would improve? *Tick (✓) one for each*

	Very likely	Likely	Unlikely	Not at all likely	Don't know	N/A
a. Improved comfort or warmth	❑1	❑2	❑3	❑4	❑5	
b. Savings on my power bills	❑1	❑2	❑3	❑4	❑5	
c. Savings on my water bills	❑1	❑2	❑3	❑4	❑5	❑6
d. Adding to the value of my home	❑1	❑2	❑3	❑4	❑5	
e. Making my home better for the environment	❑1	❑2	❑3	❑4	❑5	
f. Making my home healthier	❑1	❑2	❑3	❑4	❑5	
g. Making my home easier to sell	❑1	❑2	❑3	❑4	❑5	

Q.12 If you followed just the recommendations you are **likely** to take up, do you think the performance of your home would improve a lot, a little bit or not at all? *Tick (✓) one for each*

	A Lot	A Little Bit	Not at All	Don't know
a. Improved comfort or warmth	❑1	❑2	❑3	❑5
b. Savings on my power bills	❑1	❑2	❑3	❑5
c. Adding to the value of my home	❑1	❑2	❑3	❑5
d. Making my home better for the environment	❑1	❑2	❑3	❑5
e. Making my home healthier	❑1	❑2	❑3	❑5
f. Making my home easier to sell	❑1	❑2	❑3	❑5

Q.13 In the last year, have you undertaken any renovations or major maintenance on your dwelling costing in excess of $2,000? *Please tick (✓) <u>one</u> box only*

❑1 Yes ❑2 No → If NO, go to Question 15

Q.14 What did those renovations or major maintenance involve? *Please tick (✓) <u>any</u> that apply.*

- ❑1 Roof replacement
- ❑2 Full exterior re-paint
- ❑3 Replacement of significant amounts of exterior cladding
- ❑4 Replacement of interior cladding
- ❑5 Interior repainting and/or wallpapering
- ❑6 Carpeting
- ❑7 Polishing floors
- ❑8 Adding rooms (*Please specify and indicate number)* _____
- ❑9 Replace bathroom whiteware
- ❑10 Replace kitchen appliances
- ❑11 Replace bathroom cabinetry of
- ❑12 Replace kitchen cabinetry
- ❑13 Rewiring full or significant part of the dwelling
- ❑14 Replumbing
- ❑15 Install underfloor insulation
- ❑16 Install ceiling insulation
- ❑17 Install wall insulation
- ❑18 Install double glazing
- ❑19 Install wood burner
- ❑20 Install pellet burner
- ❑21 Install heat pump
- ❑22 Install solar hot water system
- ❑23 Install heat pump hot water system
- ❑24 Install wet back hot water system
- ❑25 Install ventilation systems, such as HRV/DVS
- ❑26 Install rainwater tank
- ❑27 Install new hot water cylinder
- ❑28 Installing a rangehood/ extractor fan in the bathroom
- ❑29 Installing an extractor fan in the bathroom
- ❑30 Venting the drier to the outside
- ❑31 Installing passive vents in the windows
- ❑32 Upgrading hot water system to instant gas
- ❑33 Upgrading hot water system to solar hot water
- ❑34 Putting in a wetback hot water system
- ❑35 Installing a low flow shower head
- ❑36 Polishing floors
- ❑37 Replace laundry whiteware
- ❑38 Installing a dual flush toilet
- ❑39 Other

*If 'other', please specify:*_____

_____

Q.15 In the next year, do you intend to you undertake any renovations or major maintenance on your dwelling costing in excess of $2,000? *Please tick (✓) <u>one</u> box only*

❑$_1$ Yes ❑$_2$ No → If NO, go to Question 17

Q.16 What will those involve? *Please tick (✓) <u>any</u> that apply.*

❑$_1$ Roof replacement
❑$_2$ Full exterior re-paint
❑$_3$ Replacement of significant amounts of exterior cladding
❑$_4$ Replacement of interior cladding
❑$_5$ Interior repainting and/or wallpapering
❑$_6$ Carpeting
❑$_7$ Polishing floors
❑$_8$ Adding rooms (*Please specify and indicate number)* _____
❑$_9$ Replace bathroom whiteware
❑$_{10}$ Replace kitchen appliances
❑$_{11}$ Replace bathroom cabinetry of
❑$_{12}$ Replace kitchen cabinetry
❑$_{13}$ Rewiring full or significant part of the dwelling
❑$_{14}$ Replumbing
❑$_{15}$ Install underfloor insulation
❑$_{16}$ Install ceiling insulation
❑$_{17}$ Install wall insulation
❑$_{18}$ Install double glazing
❑$_{19}$ Install wood burner
❑$_{20}$ Install pellet burner
❑$_{21}$ Install heat pump
❑$_{22}$ Install solar hot water system
❑$_{23}$ Install heat pump hot water system
❑$_{24}$ Install wet back hot water system
❑$_{25}$ Install ventilation systems, such as HRV/DVS
❑$_{26}$ Install rainwater tank
❑$_{27}$ Install new hot water cylinder
❑$_{28}$ Installing a rangehood/ extractor fan in the bathroom
❑$_{29}$ Installing an extractor fan in the bathroom
❑$_{30}$ Venting the drier to the outside
❑$_{31}$ Installing passive vents in the windows
❑$_{32}$ Upgrading hot water system to instant gas
❑$_{33}$ Uprgrading hot water system to solar hot water
❑$_{34}$ Putting in a wetback hot water system
❑$_{35}$ Installing a low flow shower head
❑$_{36}$ Polishing floors
❑$_{37}$ Replace laundry whiteware
❑$_{38}$ Installing a dual flush toilet
❑$_{39}$ Other

*If 'other', please specify:*_____

_____

Q.17 Have your renovation intentions for the coming year changed because you have seen the plan?

❑$_1$ Yes ❑$_2$ No

If yes, how?

_____

_____

Q.18 Are you likely to install solar water heating or a heat pump hot water heater in the next year?

❑$_1$ Yes – solar hot water heating
❑$_2$ Yes – a heat pump hot water heater
❑$_3$ No - Neither

Any comments

_____

_____

Q.19 How useful have you found the Project Management Guide? *Please tick (✓) <u>one</u> box only*

❑$_1$ Useful
❑$_2$ Not useful
❑$_3$ Haven't read it
❑$_4$ Too early to say
❑$_5$ Don't know

Q.20 How useful have you found the Homeowner Manual? *Please tick (✓) <u>one</u> box only*

❑$_1$ Useful
❑$_2$ Not useful
❑$_3$ Haven't read it
❑$_4$ Too early to say
❑$_5$ Don't know

Now some questions about energy and water

Q.21 Compared with other households, would you say your household energy consumption is…? *Please tick (✓) <u>one</u> box only*

- ❑$_1$ Very High
- ❑$_2$ High
- ❑$_3$ About Average
- ❑$_4$ Low
- ❑$_5$ Very Low

Q.22 What was your last month's energy bill? *Please ask for dollar amount and kWh as on last power bill with an actual reading. If no bill available ask for estimate. Also check who their supplier is. If they are billed separately for gas you will need to record two different amounts.*

$_____ kWh_____

Supplier: _____

- ❑$_1$ Estimate
- ❑$_2$ Actual

Q.23 Are you billed for water usage?

❑$_1$ Yes - If YES, go to Question 23a
❑$_2$ No - If NO, go to Question 24

Q23a If yes, What was your last water bill? *Please ask for dollar amount and measure and period. If billed – also need to check that the bill does NOT include wastewater as some people are also billed for this.*

$_____

billed per: ❑$_1$ Cubic metre ❑$_2$ Other (specify) _____

frequency: ❑$_1$ Monthly ❑$_2$ Quarterly ❑$_3$ Other (specify) _____

Q.24 We would like to get this energy and water information regularly. How would you like us to do this?

- ❑$_1$ Give permission to access energy and water data from supplier

  READ: We will send you a form so the person named on the water or energy bill can sign this request to the supplier.
- ❑$_2$ Save up energy and water bills and report quarterly for each month by telephone.
- ❑$_3$ Respond to an email prompt from us.
- ❑$_4$ Do not wish to supply.

Now some questions about your desire to do renovations

Q.25 How would you describe the condition of your house?

READ: The responses are excellent, good, average, poor, very poor.

Please tick (✓) <u>one</u> box only

- ❑$_1$ Excellent – No immediate repair and maintenance needed
- ❑$_2$ Good – Minor maintenance needed
- ❑$_3$ Average – Some repair and maintenance needed
- ❑$_4$ Poor – Immediate repairs and maintenance needed
- ❑$_5$ Very poor – Extensive and immediate repair and maintenance needed

Q.26 If you undertake renovations how important is achieving the following?

READ: The responses are important or not important for each one.

	Important	Not Important	Not Applicable
a. A warmer house	❑$_1$	❑$_2$	❑$_3$
b. A more energy efficient house	❑$_1$	❑$_2$	❑$_3$
c. A less damp house	❑$_1$	❑$_2$	❑$_3$
d. Less mould in the house	❑$_1$	❑$_2$	❑$_3$
e. A healthier home	❑$_1$	❑$_2$	❑$_3$
f. A more comfortable home	❑$_1$	❑$_2$	❑$_3$
g. Greater resale value	❑$_1$	❑$_2$	❑$_3$
h. A bigger home	❑$_1$	❑$_2$	❑$_3$

Q.27 What is your main reason for renovating your house?

READ *Please tick (✓) One*

- ❑$_1$ A warmer house
- ❑$_2$ A more energy efficient house
- ❑$_3$ A less damp house
- ❑$_4$ Less mould in the house
- ❑$_5$ A healthier home
- ❑$_6$ A more comfortable home
- ❑$_7$ Greater resale value
- ❑$_8$ A bigger home
- ❑$_9$ A more attractive home
- ❑$_{10}$ Other – *Specify*

The final questions ask for some details that describe yourself and your household.

Q.28 Which age group do you fall into?

READ *Please tick (✓) <u>one</u> box only*

- ❑$_1$ 24 years or under
- ❑$_2$ 25 to 30 years
- ❑$_3$ 31 to 40 years
- ❑$_4$ 41 to 50 years
- ❑$_5$ 51 to 60 years
- ❑$_6$ 61 to 64 years
- ❑$_7$ 65 years or over

Q.29 What is your household's <u>total</u> annual income before tax?

READ *Please tick (✓) <u>one</u> box only*

- ❑$_1$ $10,000 or less
- ❑$_2$ $10,001 to $20,000
- ❑$_3$ $20,001 to $30,000
- ❑$_4$ $30,001 to $40,000
- ❑$_5$ $40,001 to $50,000
- ❑$_6$ $50,001 to $70,000
- ❑$_7$ $70,001 to $100,000
- ❑$_8$ Over $100,000

Q30 Do you have or are you eligible for a Community Services Card?
❑1 Yes
❑2 No
❑3 Don't know

Q.31 Including yourself, how many people live in your household? _____

Q.32 Are there people aged 65 years and over in your house? How many? _____

Q.33 Are there children aged 5 and under live in the household? How many? ____