Eco Design Advisor: Customer Service Survey 2018

Leon Hoffman

April 2019

Technical Report 2019/005

RIMU Research and Evaluation Unit

Auckland Council
Te Kaunihera o Tāmaki Makaurau

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ISSN 2230-4525 (Print)
ISSN 2230-4533 (Online)

ISBN 978-1-98-858990-9 (Print)
ISBN 978-1-98-858991-6 (PDF)

This report has been peer reviewed by the Peer Review Panel.
Review completed on 16 April 2019 Reviewed by two reviewers
Approved for Auckland Council publication by: Name: Eva McLaren Position: Manager, Research and Evaluation (RIMU)
Name: Regan Solomon Position: Manager, Land Use and Infrastructure Research and Evaluation (RIMU)
Date: 16 April 2019

Recommended citation
Hoffman, L (2019). Eco Design Advisor: customer service survey 2018
Auckland Council technical report, TR2019/005

Executive summary

The Eco Design Advisor (EDA) service was established by the Building Research Association of New Zealand (BRANZ) in 2006 to offer free-of-charge, face-to-face sustainability advice for residential building projects, such as new builds and home improvements or renovations. The service is aimed at home-owners, designers/architects and builders; the advice may pertain to heating and insulation, ventilation and moisture, energy reduction or spatial layout, among other sustainability or ecological considerations. The service is currently operated out of eight territorial authorities: Auckland Council, Hamilton City Council, Palmerston North City Council, Kapiti Coast District Council, Hutt City Council, Nelson City Council, Christchurch City Council and Dunedin City Council.

To evaluate the EDA service, an online survey was sent to people who had undergone a consultation between 2016 and 2018. This report details the results of that survey. Survey participants were asked a number of questions regarding their motivations for booking a consultation, the topics covered with their advisor, changes they had made or planned to make to their properties as a result of the consultation, and their thoughts about the usefulness of the service.

The majority of EDA customers were using the service to obtain advice about home improvements or renovations. The exception is in Christchurch where most EDA customers were building new homes. Typically, EDA customers were using the service to receive advice about insulation, ventilation and moisture related queries. The advice and informational material received from EDA consultants was rated as very or highly useful. Eighty-two per cent of customers had already made or planned to make changes to their property based on advice from their consultant. Using advice provided by their EDA consultant, customers making changes to their properties tended to do so in the area of thermal efficiency (e.g. installing insulation or curtains), followed by alterations for ventilation and moisture control, and changes to ensure the efficient use of energy and water.

Generally, customers of the EDA programme rate it as useful, however, the results of this survey suggest that there may be some discrepancies between service centres in terms of advertisement and delivery of the service. Future work is suggested to determine the extent and nature of this.

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1.0 Introduction

Established by the Building Research Association of New Zealand (BRANZ) in 2006, the Eco Design Advisor (EDA) service offers free, face-to-face and telephone consultations for individuals, designers and builders undertaking new builds and home improvements or renovations. The service aims to provide tangible, expert and personalised advice regarding ecological and sustainable building, and to educate its customers on best practice use of energy, water and other materials in their projects. The EDA service is available across eight service centres in New Zealand, and is delivered by local territorial authorities: Auckland Council[1], Hamilton City Council, Palmerston North City Council, Hutt City Council, Kapiti Coast District Council, Nelson City Council, Christchurch City Council and Dunedin City Council.

1.1 This report

This survey follows several previous evaluations examining the effectiveness of the EDA service and the experiences of its customers. These were conducted in 2011 (Easton and Simperingham, 2011), 2013 (Jaques, 2013) and 2015 (Mohammadzadeh, 2015), and were deployed via web survey. The current study follows on from the 2015 examination, replicating the methodology and most questions to enable comparison between the two cohorts and understand how the EDA service and the experience of its customers have changed over time.

This report details the methodology and results of the 2018 Eco Design Advisor customer service survey. In section 2.0, the methodology is outlined, including information about the survey design and data collection. Section 3.0 reports the results of the survey, including participant characteristics and the types of properties and projects the participants have used the EDA service for. Next, the motivations for using the service are detailed, followed by participants' feelings about the usefulness of the service and details about the changes they did or did not make as a result of their consultation. Section 4.0 offers a discussion of some of the notable results of the survey, while sections 5.0 and 6.0 provide recommendations for changes to both the EDA service and the deployment of future research.

[1] Eco Design Advisors are usually council employees. However, during the 2016-2018 period the advisor role at Auckland Council was contracted to a third-party.

2.0 Methodology

This study uses a repeated cross-sectional design and follows on from similar cross-sectional surveys conducted in 2011 (Easton and Simperingham, 2011), 2013 (Jaques, 2013) and 2015 (Mohammadzadeh, 2015), as well as evaluations conducted in 2007 (Christie et al., 2007), 2008 (Unknown, cited in Easton, 2010) and 2009 (Easton and Jaques, 2010). This approach enables the description of the most recent cohort of EDA customers while examining how the population using the EDA service, and their experiences, may or may not have changed over time (Steel, 2008).

2.1 Survey design

Because this research follows on from previous surveys in 2011, 2013 and 2015, and aims to investigate changes in the EDA population over time, a considerable proportion of the questions remain consistent with earlier surveys. Additional questions have been included to address both the evolution of the EDA service and the avenues for future research suggested in earlier surveys. The survey questions have been designed to maintain anonymity among participants and have been reviewed and authorised by the Auckland Council Human Participant Ethics Committee.

2.2 Data collection

The data for this analysis was collected using web survey methodology. Web survey methodology was chosen for its ease of deployment, accessibility and reach (Wyatt, 2000), which is essential given the geographic spread of EDA customers. The use of a web survey is also consistent with the 2011, 2013 and 2015 EDA customer surveys.

Following approval by the Auckland Council Human Participant Ethics Committee (application #2018002), participants who met the criteria of this research were recruited. They were individuals who had partaken in an EDA consultation between 2016 and 2018, and had registered their email address with the service. These requirements ensure that potential participants are representative of current EDA service practices and experiences, and were easily able to access the survey. Email addresses were supplied to Auckland Council by the EDA centres at five of the eight

local authorities in New Zealand that provide the service[2]. An initial recruitment email was sent to 636 eligible EDA customers on 24/10/2018 to invite participation; a reminder email was sent on 02/11/2018 to 535 customers who had not responded to the initial invitation. To encourage participation, all completed surveys were entered to win one of two $150 vouchers to a local home improvement store. The survey was open from 24/10/2018 until 05/11/2018 and was implemented using UbiQuity, a digital customer engagement platform run by Qrious.

2.3 Caveats

When assessing the data in this report, some caveats are necessary. It is important to recognise that the regional sample sizes vary significantly. Readers should use caution when assessing the results with smaller sample sizes. Further, this complicates regional comparison and readers should keep this in mind when reading this report. Similarly, not all respondents provided answers to all questions (in some cases they were hindered by technological issues[3]). Where necessary, the response count has been provided and it must be remembered that percentage figures typically represent the proportion of participants who answered a question. Where the percentage is of the total survey respondents, this has been noted.

[2] Data was not collected from participants in Hamilton or Dunedin. Kapiti Coast failed to provide their customer email list in time.

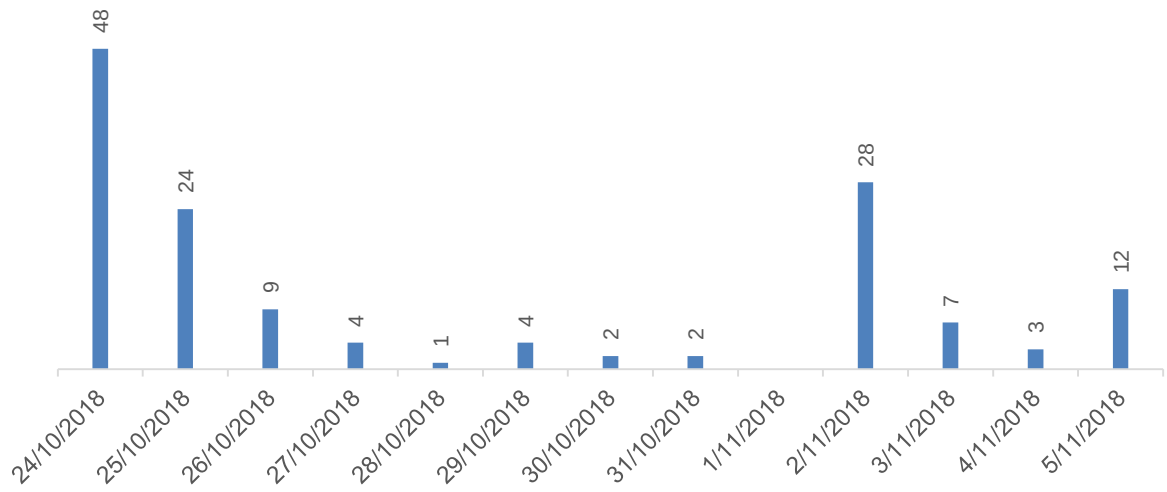
[3] E.g. Several participants noted that they were unable to answer drag-and-drop questions when using mobile devices.

3.0 Results

3.1 Participant response

Of the 636 EDA customers invited to participate in the survey, 144 responses were received[4]. This is equal to a response rate of 22.6 per cent which is lower than the previous three surveys – 36 per cent in 2015, 33 per cent in 2013 and 24 per cent in 2011. This response rate is large enough to provide a 95 per cent confidence level with a 7.2 per cent margin of error, which is acceptable for the current study. Figure 1 shows the number of survey responses by day. The largest proportion of responses were received on the day of (33 per cent) and day following (16 per cent) the initial invitation, and on the day of the reminder invitation (19 per cent).

Figure 1: Distribution of survey responses by day



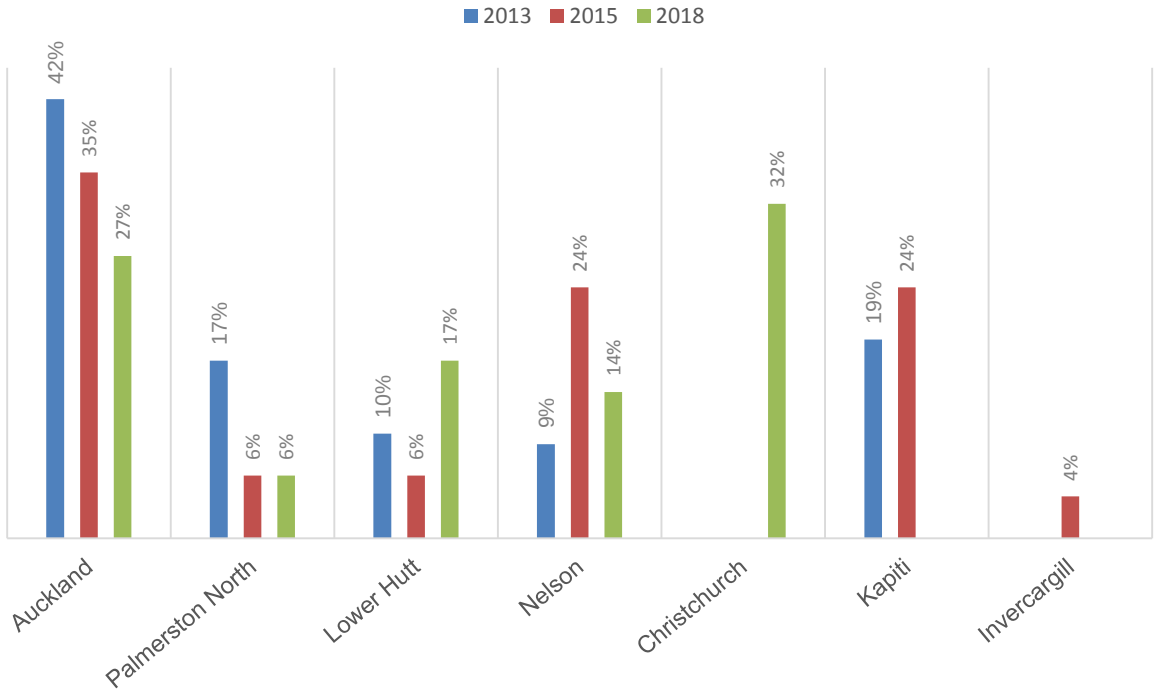
The geographic distribution of survey participants' properties was as follows: Auckland, 27 per cent; Palmerston North, six per cent; Lower Hutt, 17 per cent; Nelson, 13 per cent; Christchurch, 32 per cent; Other, four per cent (Figure 2). The five participants selecting 'other' located their properties in Amberly (North Canterbury), Church Bay (Waiheke Island), Dunedin, North Canterbury and Waipara[5]. While the geographic distribution of property locations has changed across the three implementations of this survey, the most significant change between the 2015 and 2018 results has been the introduction of EDA consultations for properties

[4] A breakdown of the invitation analytics is available in Appendix A.

[5] Due to the geographical dispersion of these respondents, 'other' has not been investigated as a region in this analysis.

in Christchurch, the proportion of which represents the largest EDA customer-base in New Zealand in 2018. Also of note is the 11 per cent increase in properties in Lower Hutt between 2015 and 2018. Significant reductions in properties are found in Auckland (8 percentage point reduction in respondents) and Nelson (10 percentage point reduction in respondents), however this can most probably be described as the result of the introduction of the survey in Christchurch. While potentially trivial, it should be noted that this question asked for the location of the property for which the EDA services were sought, rather than the location of the customer seeking advice. As such, this question may not fully represent the location of the EDA centre used.

Figure 2: Geographic distribution of survey participants 2013, 2015 and 2018[6]



3.2 Characteristics of survey participants

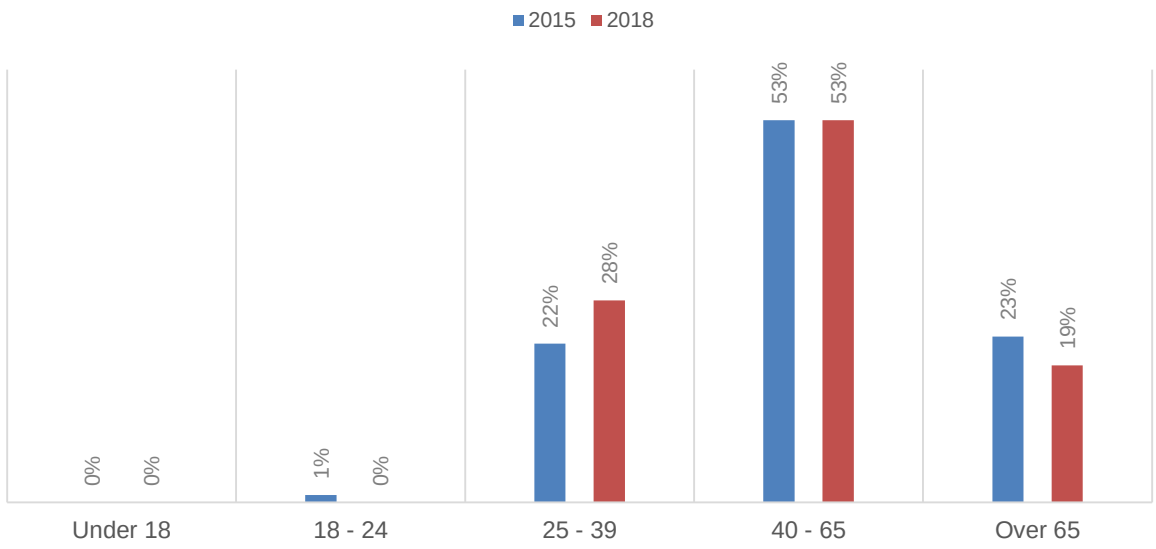
Different groups of people have different housing needs. As such, the survey included a number of demographic qualifiers to better understand the multiple reasons for undertaking an EDA consultation[7]. Divided into age cohorts, 53 per cent of participants identified as being between 40 and 64 years of age, 28 per cent of

[6] Lower Hutt was labelled as such in the 2018 survey. In 2015 and 2013, this area was labelled as Hutt Valley and Hutt City, respectively.

[7] A gender identity question was included in the 2015 survey. This was removed in 2018 as the 2015 author found that the gender of survey respondents does not provide meaningful information about the nature of EDA customers.

participants were aged between 25 and 39, and 19 per cent stated they were 65 years or older. No participants identified as belonging to either the 18 to 24 or under 18 categories. This age spread is similar to the 2015 survey. Notable changes include a six percentage point rise in EDA customers aged between 25 and 39, and a four percentage point drop in customers aged 65 years or older. Figure 3 compares 2015 and 2018 survey participants by age cohort.

Figure 3: Age distribution of survey participants 2015 and 2018



Survey respondents were asked to indicate one or more ethnic groups with which they identify (Figure 4). As such, results add to over 100 per cent. Participants in the 2018 EDA customer survey ethically identify in the following way: 83 per cent New Zealand European/Pākehā, three per cent Māori, two per cent Indian, one per cent Chinese, one per cent Niuean and 15 per cent Other. Within the Other category, over half identified as European or North American, while a quarter identified as a non-Chinese Asian ethnicity. While these results are mostly consistent with the 2015 survey, which found 82 per cent or participants identifying as Pākehā, and seven per cent as Māori, there are some significant differences when comparing the data to the 2013 New Zealand census which found 74 per cent identifying as New Zealand European, 14.9 per cent as Māori, 11.8 per cent as Asian and 7.4 per cent as Pacific (Statistics New Zealand, 2014a). It is clear that individuals identifying as New Zealand European/Pākehā are disproportionate users of the EDA service. Further comparison beyond the above is not possible due to changes in the response structure of this question between 2015 and 2018. As this question allowed survey respondents to select across multiple ethnicities, it is not possible to determine if

participants may have selected several options to describe themselves, or if they were also describing other members of their household involved in the EDA consultation.

Figure 4: Ethnic identity of survey participants

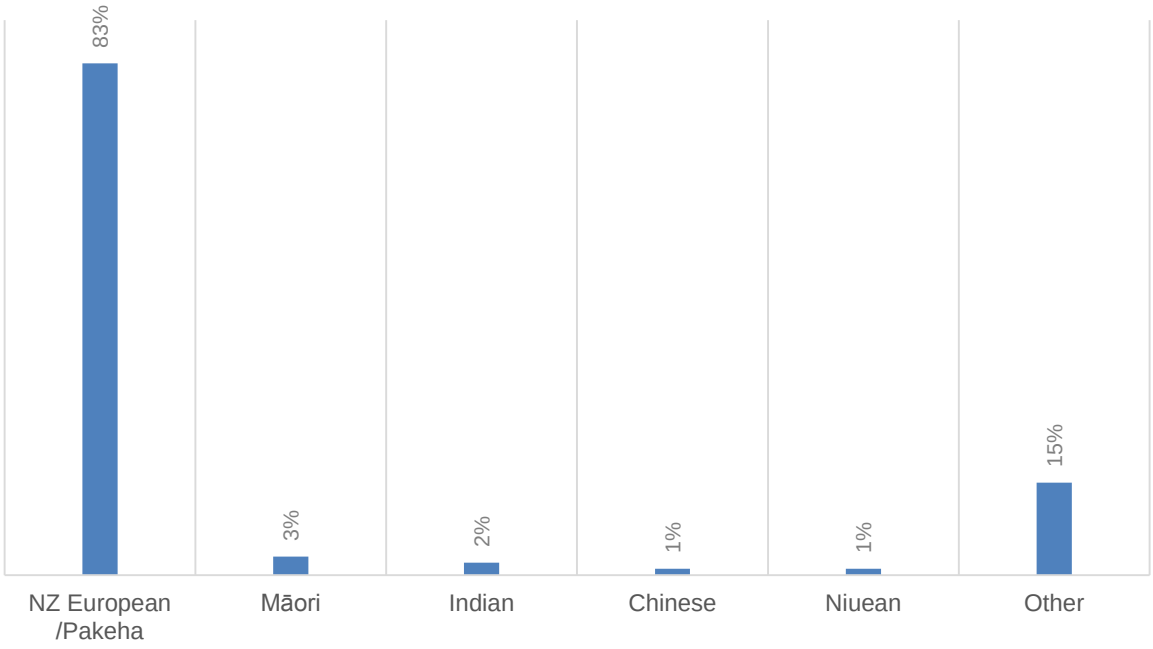


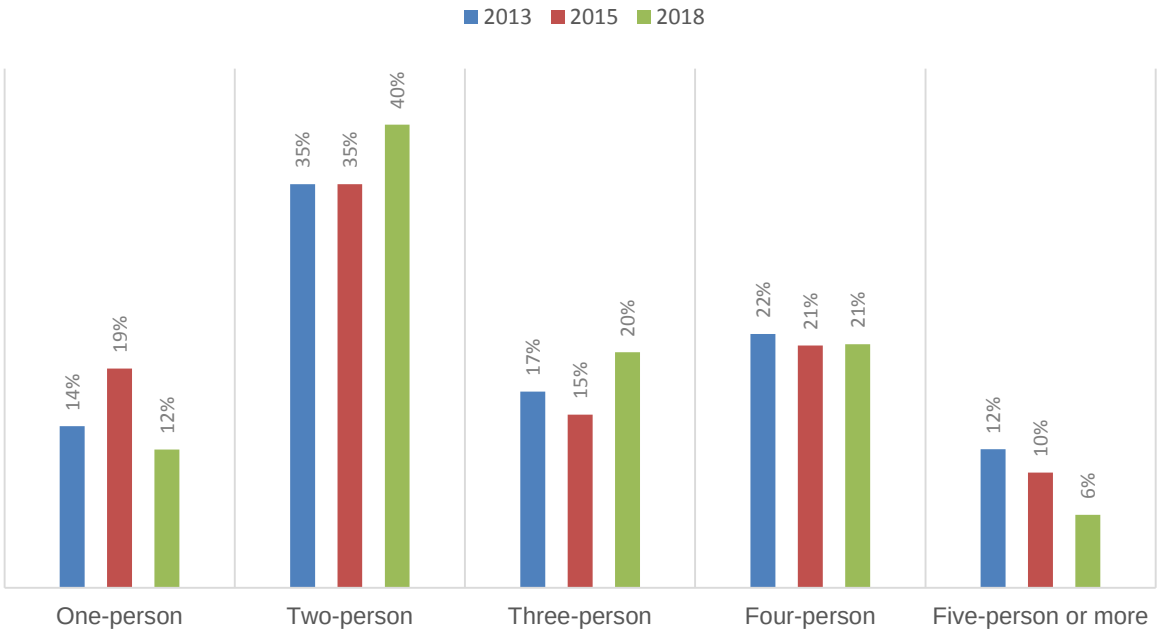
Table 1 shows the household size of the 2018 EDA customer survey's participants. The mean household size of participants remains consistent with the 2015 survey; it is higher than National Household Size as recorded in the 2013 New Zealand Census of Population and Dwellings (Statistics New Zealand, 2014b). Two-person households continue to be the dominant users of the EDA service[8]. In comparison with the census, survey respondents represent significantly more two-, three- and four-person households, and significantly fewer single-person households. In comparison with the 2015 EDA survey, single-person households have fallen by seven percentage points while both two- and three- person households have risen by five percentage points. Further, the proportion of single- and five-person households using the EDA service are the lowest, while the number of two- and three-person households are the highest, since the inception of this survey (Figure 5).

[8] Two-person households can have multiple arrangements, e.g. couple, parent with child, other non-traditional arrangements.

Table 1: Household size of EDA survey participants in 2018, 2015 and the 2013 New Zealand Census of Population and Dwellings (%)

Number of people	2018	2015	Census 2013
One-person	12	19	23
Two-person	40	35	24
Three-person	20	15	26
Four-person	21	21	15
Five-person or more	6	10	7

Figure 5: Household size of survey participants in 2013, 2015 and 2018

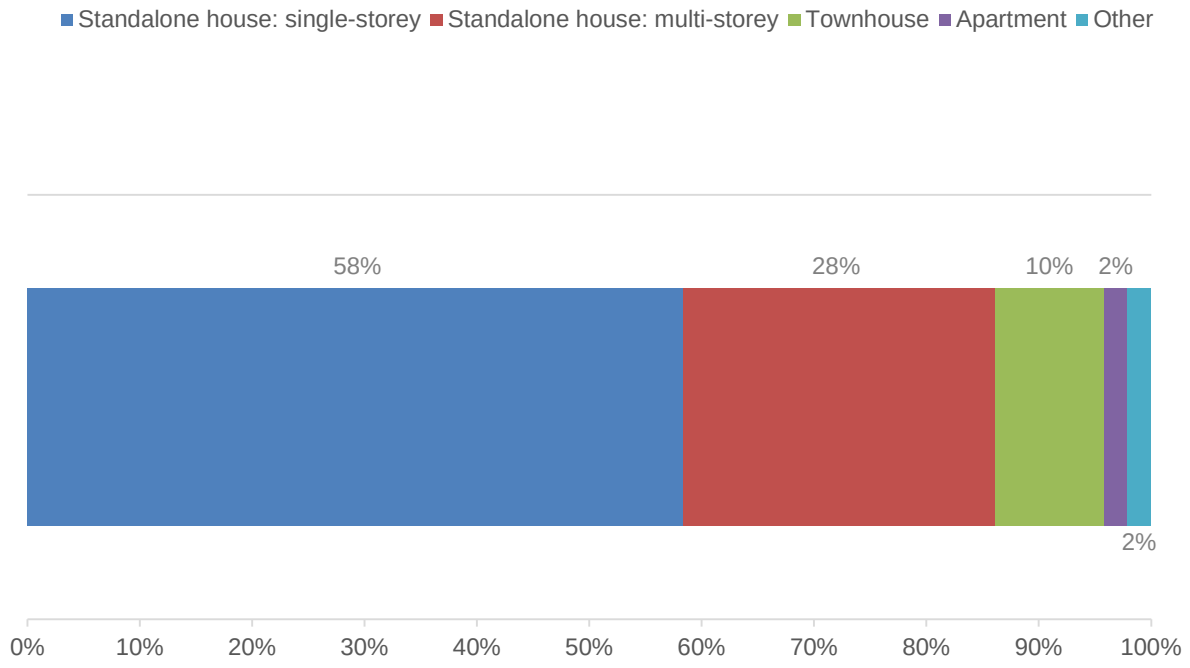


Dividing participants into their specified household arrangements, couples with one or more children represent the largest proportion of survey respondents (36 per cent); the second largest group are couples with no children (35 per cent), representing a five percentage point increase since 2015. One-person households are represented by 13 per cent of respondents, a six percentage point drop since 2015. There has been no significant change in households with a single parent and one or more children (5 per cent), or two or three family households (5 per cent). Households identifying as other comprise four per cent of the respondents and are typically couples with live-in family members or tenants.

3.3 Types of property and projects

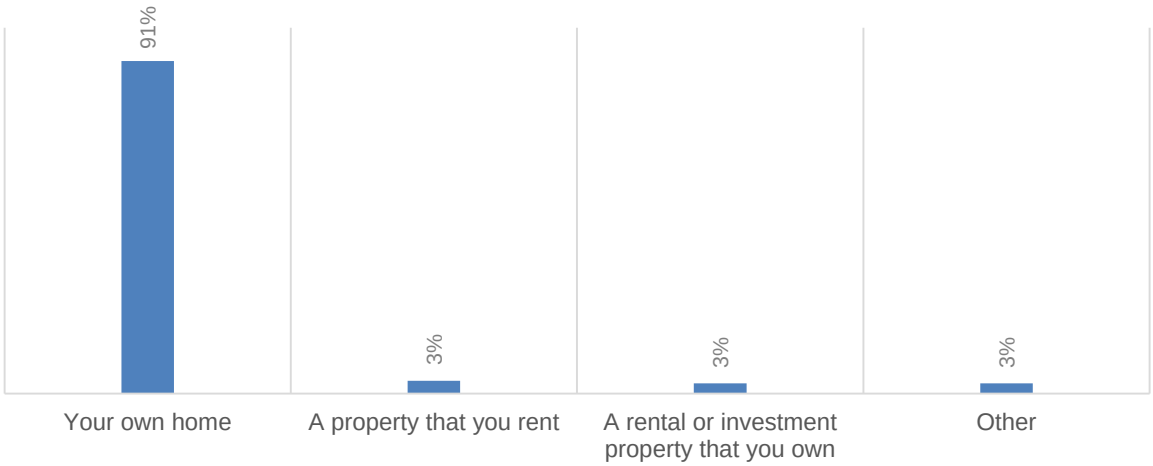
Evaluating the types of dwelling for which EDA consultation was undertaken, the vast majority were standalone houses: 58 per cent were single-story and 28 per cent were multi-story, for a total of 86 per cent (six percentage point drop from 2015). These were followed by townhouses (10 per cent), apartments (2 per cent) and other (2 per cent), including a house-bus. In comparison with 2015, consultations for single-story standalone houses remain the same, while multi-story standalone houses have dropped by five percentage points. Consultations for adjoining dwellings within the same structure such as townhouses, apartments and flats have risen by five percentage points. These results can be seen in Figure 6.

Figure 6: EDA consultation by dwelling type



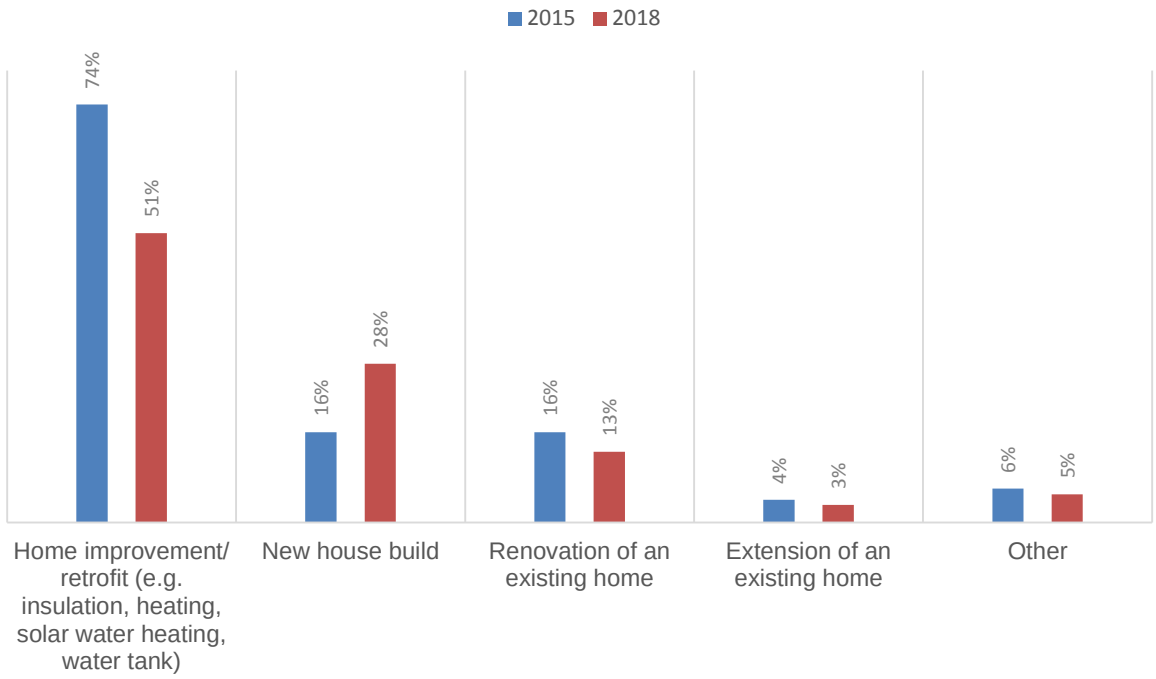
A new question for the 2018 survey, participants were asked to describe their relationship to the property for which the EDA consultation was undertaken (Figure 7). The majority of consultations were for the respondent's own home (91 per cent). This was followed by three per cent of respondents who were landlords, three per cent of respondents who were tenants and three per cent other – typically design advice for client builds.

Figure 7: EDA consultation by property type



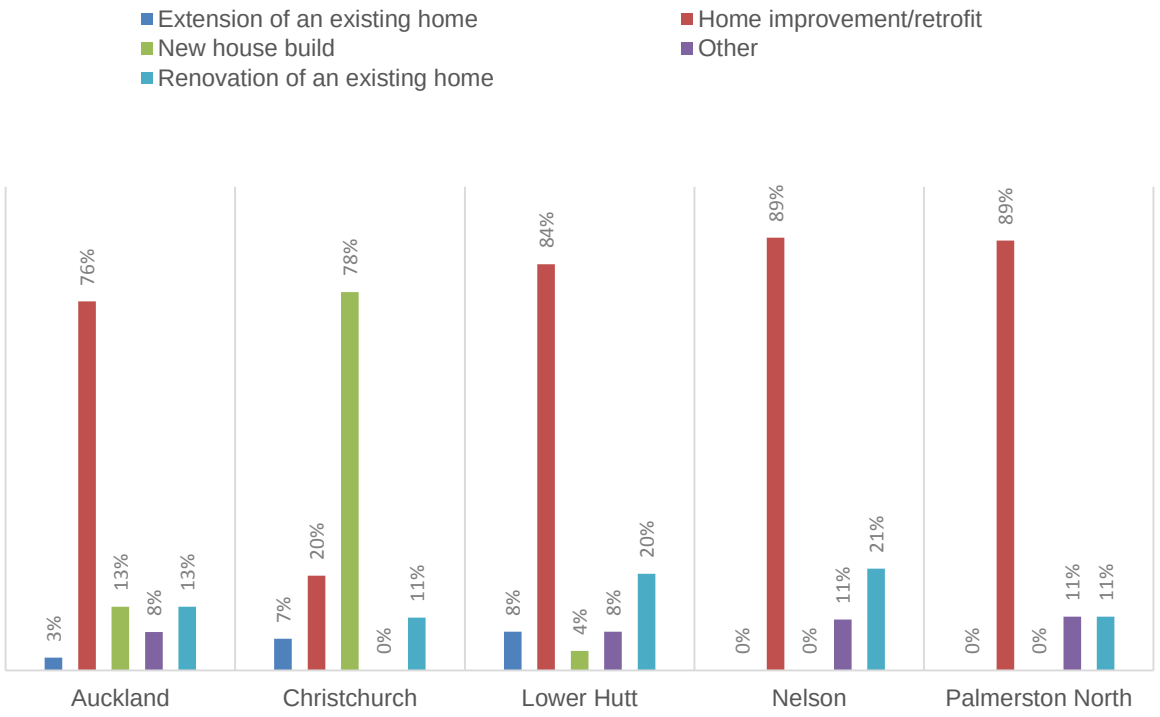
Participants were also asked to describe the type of project they were interested in receiving advice about. The results are shown in Figure 8; as participants were able to select multiple reasons for undergoing a consultation, the data totals over 100 per cent. Advice concerning home improvement or retrofitment projects (e.g. insulation, heating, solar water heating or water tanks) was the most sought after, with 51 per cent. Advice for new house builds was sought by 28 per cent of participants. 13 per cent of participants were looking for advice on the renovation of an existing home, while three per cent wanted advice for extensions to an existing home. Among the final five per cent who selected other, the majority wanted information on improving warmth or energy efficiency without having to undergo housing alterations. Of interest is that while the majority (67 per cent) of respondents wanted advice on improving existing buildings (renovations or extensions), this reflects a 23 percentage point drop from 2015. This is contrasted with a 12 percentage point increase in participants undergoing EDA consultations for new house builds.

Figure 8: EDA consultation by project type 2015 and 2018



Looking at project type by service centre area reveals that new house build projects are geographically weighted (Figure 9). While projects in Auckland, Lower Hutt, Nelson and Palmerston North were dominated by home improvement/retrofit projects and relatively few or no new house builds, the opposite is true in Christchurch where 78 per cent of projects were new house builds.

Figure 9: Project type by service centre area



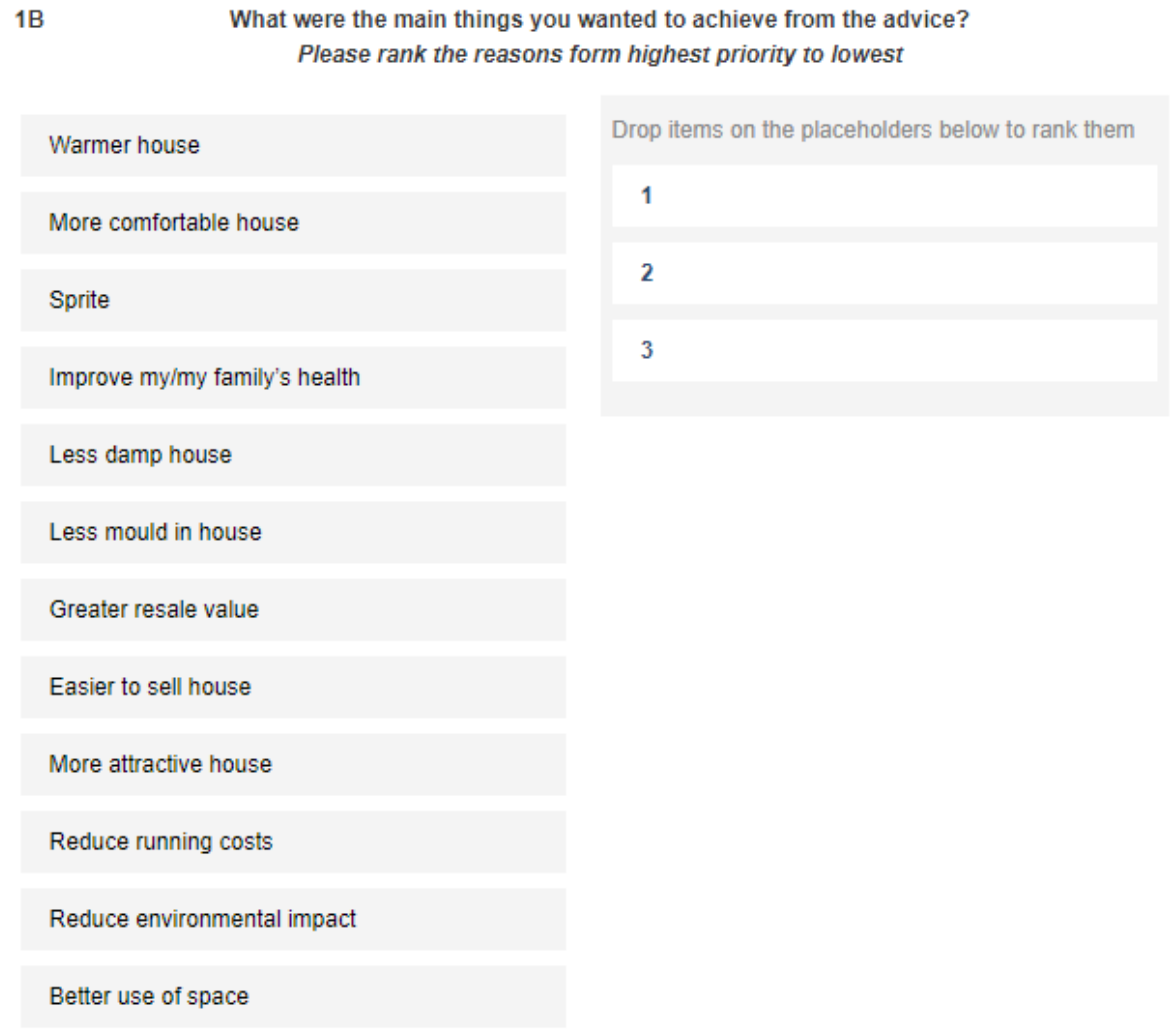
3.4 Motivations

Survey respondents were asked to choose up to three outcomes they would like to achieve by participating in an EDA consultation (see Figure 10 or Appendix C for a full list of options). This question was answered by 76 per cent of respondents (n=110). Of these respondents, 83 per cent selected *warmer house*, 64 per cent selected *reduce running costs* and 40 per cent selected *reduce environmental impact*, as one of the top three reasons for participating in an EDA consultation. Comparing this to the 2015 survey results, *warmer house* has increased by 10 percentage points, *reduced running costs* has increased 18 percentage points and *reduce environmental impact* has increased 14 percentage points. Further, *more comfortable house* and *less damp house* have each increased by 12 and 10 percentage points respectively. However, while these increases are significant, the 2018 survey did not include the option *energy efficient house*[9] which was selected by 75 per cent of participants in both the 2013 and 2015 surveys, making comparison

[9] In the 2018 survey, the *energy efficient house* option appears to have been replaced with *sprite*. As the author did not write the survey, the reason for this is unknown. However, it can be speculated that *sprite* occurs as an option due to user error or a software malfunction/bug. See Appendix C for a copy of the survey.

with earlier data potentially unreliable. Increased monetary or aesthetic value were low priority motivations for the respondents of this survey. For a comparison with 2013 and 2015, independent of rankings in the 2018 survey, see Figure 12.

Figure 10: Question 1B



Unlike in 2013 and 2015, participants in the 2018 survey were asked to assign a rank to the outcomes they wanted to achieve by undergoing an EDA consultation (Figure 10). Looking at these rankings, *warmer house* was selected as the most important reason for undertaking an EDA consultation by 63 per cent of respondents. This considerably outweighs other first place rankings, which are *more comfortable house* (15 per cent) and *reduce running costs* (9 per cent). The most common second place rankings were *reduced running costs* (32 per cent), *less damp house* (17 per cent) and *reduced environmental impact* (17 per cent). The most common third place rankings were *reduced running costs* (23 per cent), *reduced environmental impact*

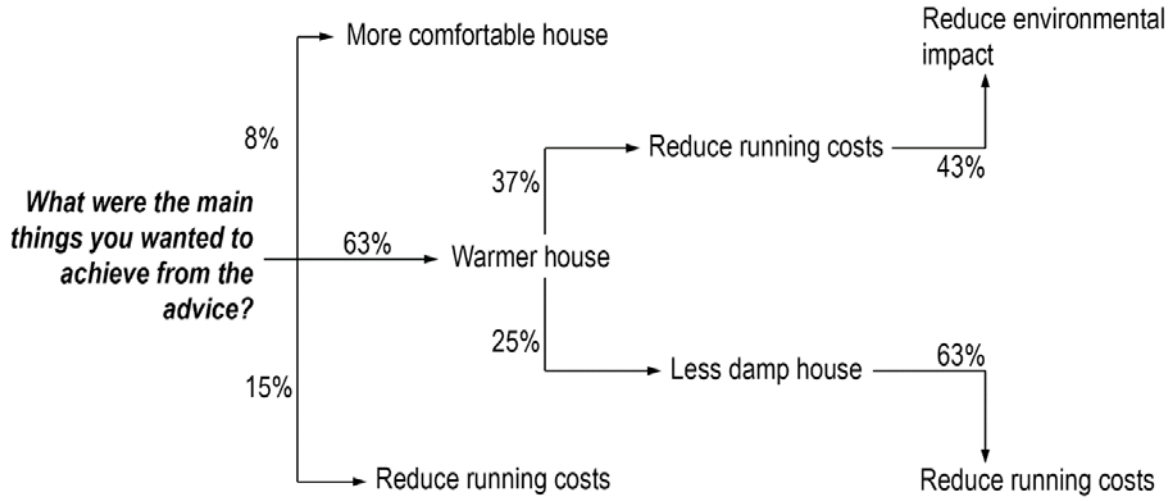
(18 per cent) and *less damp house* (14 per cent). Table 2 shows the ranking totals for each selectable motivation.

Table 2: Reasons for undertaking an EDA consultation, by ranking

Motivation	Rank 1	Rank 2	Rank 3
Warmer house	63%	7%	12%
More comfortable house	15%	9%	11%
Improve my/my family's health	2%	9%	10%
Less damp house	3%	17%	14%
Less mould in house	2%	6%	6%
Greater resale value	0%	1%	2%
Easier to sell house	0%	0%	1%
More attractive house	0%	0%	1%
Reduce running costs	8%	32%	23%
Reduce environmental impact	6%	17%	18%
Better use of space	1%	2%	3%

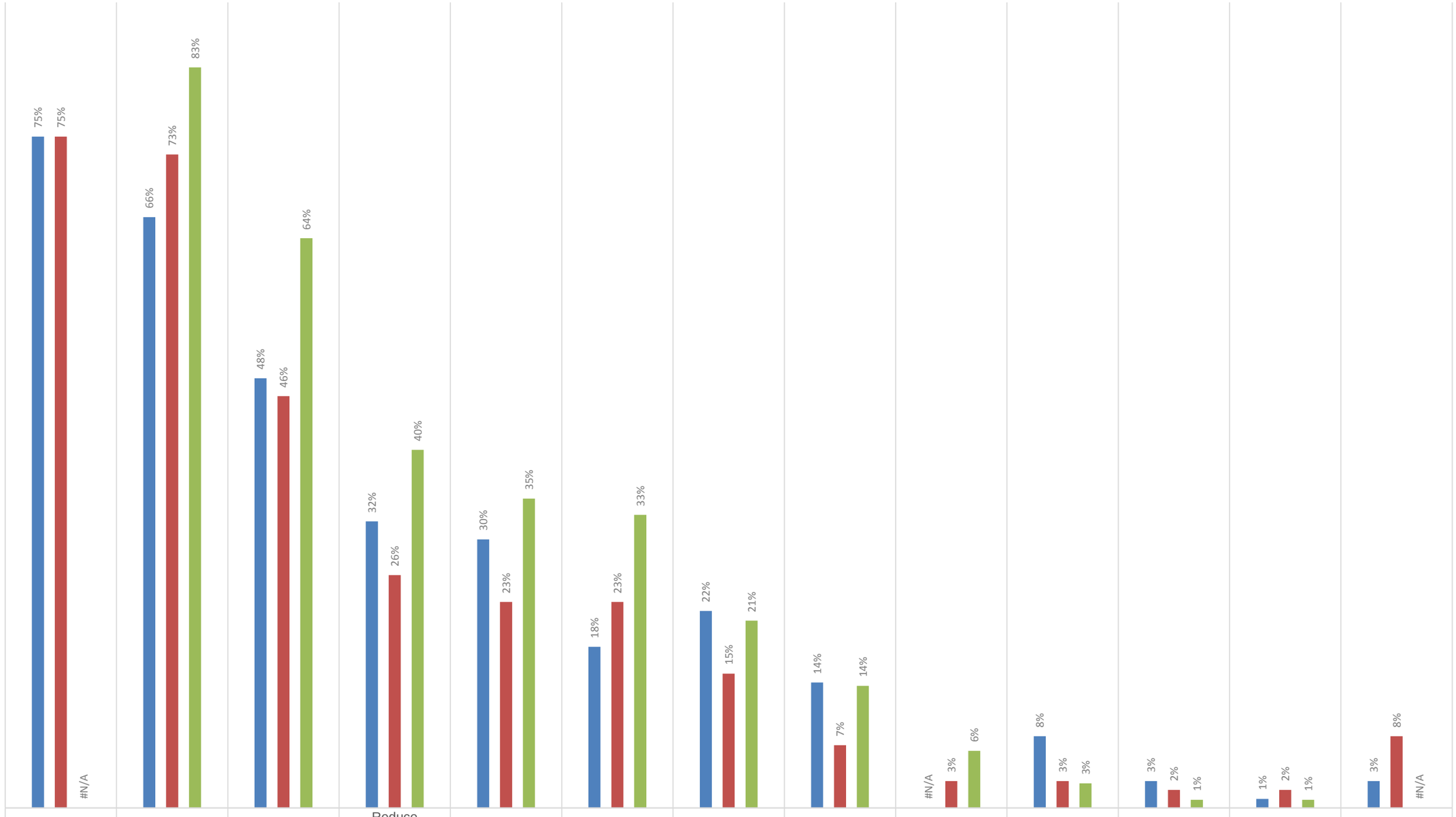
The ability for respondents to rank their motivations for participating in an EDA consultation also allows us to determine these motivations hierarchically. As already noted, *warmer house*, *more comfortable house* and *reduce running costs* were the most commonly cited motivations for undergoing an EDA consultation. Of the respondents who chose *warmer house* as their primary motivation, 37 per cent selected *reduce running costs*, and 25 per cent selected *less damp house*, as their secondary motivation. See Figure 11 for a visual interpretation of the ranked choices made by participants.

Figure 11: Ranking pathways for EDA consultation motivation



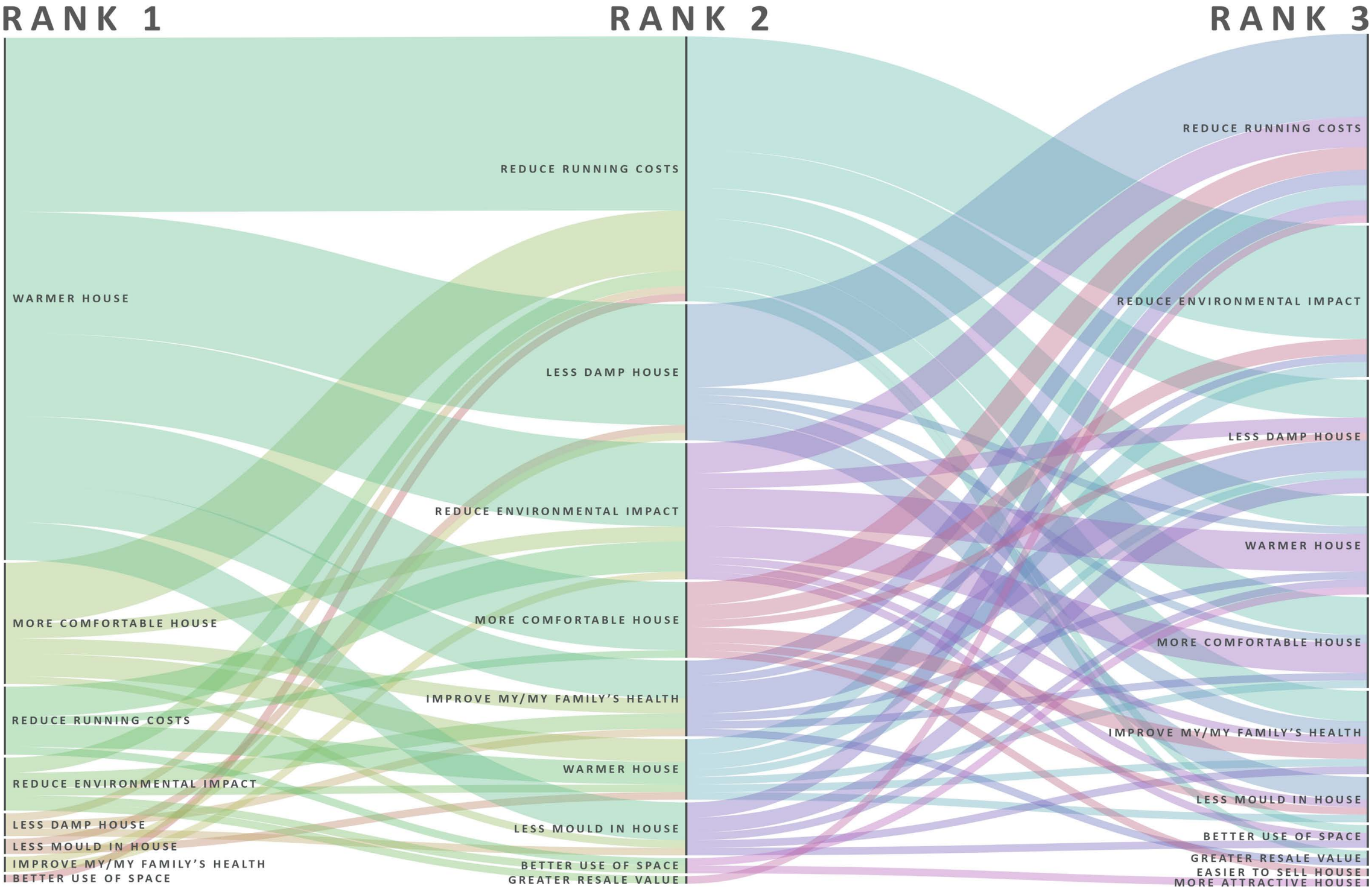
The following describes Figure 11: 63 per cent (n=69) of those who answered this question (n=110), when asked to rank their reasons for undertaking an EDA consultation, selected *warmer house* as their main priority. After this we see two main pathways. Of the initial 63 per cent who selected *warmer house* as their top priority, 37 per cent (n=25) chose *reduce running costs* as their second priority, with a further 43 per cent (n=11) of this group choosing *reduce environmental impact* as their third priority. The other pathway shows 25 per cent (n=17) of those who chose *warmer house* as their main priority choosing *less damp house* as their second priority, and a further 63 per cent (n=11) selecting *reduce running costs* as their third priority.

Figure 12: Motivations for undertaking EDA consultation, all responses, 2013, 2015 and 2018



	Energy efficient house	Warmer house	Reduce running costs	Reduce environmental impact	More comfortable house	Less damp house	Improve my/my family's health	Less mould in house	Better use of space	Greater resale value	Easier to sell house	More attractive house	Other
2013	75%	66%	48%	32%	30%	18%	22%	14%		8%	3%	1%	3%
2015	75%	73%	46%	26%	23%	23%	15%	7%	3%	3%	2%	2%	8%
2018		83%	64%	40%	35%	33%	21%	14%	6%	3%	1%	1%	

Figure 13: Ranking pathway for EDA consultation motivation, all responses



The Sankey diagram in Figure 13 shows, proportionately, how participants ranked their top three motivations for undertaking an EDA consultation. This diagram expands upon Table 2 and Figure 11, showing that the motivations of *warmer house*, *reduced running costs*, *less damp house*, *more comfortable house* and *reduce environmental impact* are likely to be picked by any one participant as one of their top three motivations for using the EDA service. It is important to note that the black bars represent the total proportion of each motivation chosen within each rank, while the coloured 'flow' represents the proportion of participants who went on to choose a motivation in 'rank 2' and 'rank 3.' For example, the tallest black bar in 'rank 1' is *warmer house*: the largest proportion of participants chose *warmer house* as their top reason for using the EDA service. The green flow then shows that of those participants who chose *warmer house* for 'rank 1,' most chose *reduce running costs* as 'rank 2', and the largest proportion of participants who chose *reduce running costs* as 'rank 2' chose *reduce environmental impact* as 'rank 3'. The diagram also shows that the proportion of participants who ranked *reduce running costs* as their second motivation also consists of a considerable number of people who had selected *more comfortable house* as 'rank 1.' While this diagram is proportional cannot show exactly how a participant might rank their motivations for undertaking an EDA consultation, it offers a visual depiction of how the choice of one particular motivation might predicate the choice of another, and offers a suggestion of how participants might rank the importance of these motivations.

As well as ranking the provided motivations, participants were given the option to comment on any other factors which motivated them to use the EDA service. Most comments reiterated already selected motivations such as wanting advice on improving thermal environments (e.g. "*professional advice [and] new ideas on how to keep my home warm and cosy*," *"we … wanted to make sure we made good decisions with regards to heating and ventilation*," "*we felt our house should be warmer given that we had insulation*") or ensuring best ecological practice (e.g. "*we desperately wanted to have as eco-friendly a house as possibly [sic]*," "*wanted to get advice from an environmental expert*," "*we were keen to build as efficiently as possible in light of climate change factors*"). A considerable proportion of respondents stated that they were motivated to use the EDA service because it offered impartial, non-biased advice regarding building practices and products. These participants voiced concern about industry sales practices, for example, noting that there are "*so many sales people out there saying their product is [the] most important*" or that "*it is very hard to get independent advice when looking at eco systems as everyone you speak to is [a] sales person*." In using the EDA service, these participants were looking for design and building advice from experts who were not affiliated with any

companies or products, and would provide unbiased and neutral best practice solutions. For these respondents, consulting with an advisor allowed peace of mind that they were not being swayed by commercial interests in their decision making.

Table 3 shows the reasons for undertaking an EDA consultation in each service centre by total responses (ranking removed). Across all five service centres, *warmer house* was the most selected motivation for undertaking an EDA consultation, while *reduced running costs* was the second most selection motivation for Auckland, Christchurch, Lower Hutt and Nelson; for Palmerston North, *health improvement* and *less damp* were equal as the second motivation (Palmerston North was the only centre for which *health improvement* was selected by 50 per cent or higher of respondents). There were also discrepancies between centres in the North and South Islands. *Reduced environmental impact* was a top-three selection in both Christchurch and Nelson but was not seen as a primary motivational factor in any North Island centres. Likewise, the motivation of *less damp house* was a primary motivation for respondents in Auckland, Palmerston North and Lower Hutt but not for any centres in the South Island. This is a departure from the 2015 survey where no significant differences between North and South Island participant motivations were reported. However, as noted earlier, it is important to remember that the motivation *energy efficient house* which appeared in both the 2013 and 2015 surveys was not present as an option in the 2018 survey, an error which may have affected the spread of answers.

It is also worth examining the absolute differences in motivations for each service centre across the 2015 and 2018 surveys (Table 4). In Auckland, the use of EDA services to learn how to lessen damp and mould in the participant's house have increased by 26 and 24 percentage points respectively, while the reduction of environmental impacts has fallen by seven percentage points. In Lower Hutt, motivations pertaining to the reduction of running costs grew by 41 percentage points, the largest increase of any motivation across all centres between 2015 and 2018. Further, in Lower Hutt, the motivations *warmer house* and *more comfortable house* each grew by 26 and 22 percentage points, while *improve my/my family's health* and *less mould in house* each fell by 10 percentage points. In Nelson, *reduce environmental impact* increased by 29 percentage points; other motivations remained insignificant in their change. Of all the centres, Palmerston North shows the most significant changes across multiple motivations. Increases include: *warmer house* (+31 percentage points), *less damp house* (+23 percentage points), *improve my/my family's health* (+23 percentage points) and *less mould* (+21 percentage points); while *more comfortable house* fell by 25 percentage points. Again, of note is the increase in Palmerston North participants who have undergone an EDA consultation

in order to improve their or their family's health (+23 percentage points). There is no comparison data for Christchurch.

Table 3: EDA consultation motivation by service centre area, 2015 and 2018

Motivation	Auckland		Christchurch		Lower Hutt		Nelson		Palmerston North	
	2018	2015	2018	2015	2018	2015	2018	2015	2018	2015
Warmer house	74%	66%	75%	N/A	95%	69%	94%	81%	100%	69%
More comfortable house	33%	21%	36%	N/A	37%	15%	35%	33%	17%	42%
Improve my/my family's health	19%	15%	25%	N/A	11%	21%	24%	15%	50%	27%
Less damp house	44%	18%	14%	N/A	53%	42%	35%	24%	50%	27%
Less mould in house	33%	9%	3%	N/A	5%	15%	6%	3%	33%	12%
Greater resale value	0%	0%	6%	N/A	0%	0%	0%	3%	0%	0%
Easier to sell house	4%	3%	0%	N/A	0%	0%	0%	3%	0%	0%
More attractive house	0%	0%	3%	N/A	0%	0%	0%	3%	0%	0%
Reduce running costs	59%	48%	67%	N/A	74%	33%	59%	48%	33%	33%
Reduce environmental impact	26%	33%	58%	N/A	21%	5%	47%	18%	17%	27%
Better use of space	7%	3%	11%	N/A	5%	6%	0%	0%	0%	6%
Energy efficient house	N/A	75%		N/A	N/A	75%	N/A	69%	N/A	54%
Other	N/A	12%		N/A	N/A	9%	N/A	6%	N/A	6%

Table 4: Percentage point difference (absolute) between motivations 2015-2018, by service centre area[10]

Motivation	Auckland	Lower Hutt	Nelson	Palmerston North
	2015 - 2018	2015 - 2018	2015 - 2018	2015 - 2018
Warmer house	8%	26%	13%	31%
More comfortable house	12%	22%	2%	-25%
Improve my/my family's health	4%	-10%	9%	23%
Less damp house	26%	11%	11%	23%
Less mould in house	24%	-10%	3%	21%
Greater resale value	0%	0%	-3%	0%
Easier to sell house	1%	0%	-3%	0%
More attractive house	0%	0%	-3%	0%
Reduce running costs	11%	41%	11%	0%
Reduce environmental impact	-7%	16%	29%	-10%
Better use of space	4%	-1%	0%	-6%
Energy efficient house	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A

3.5 Usefulness of the EDA service and the informational material

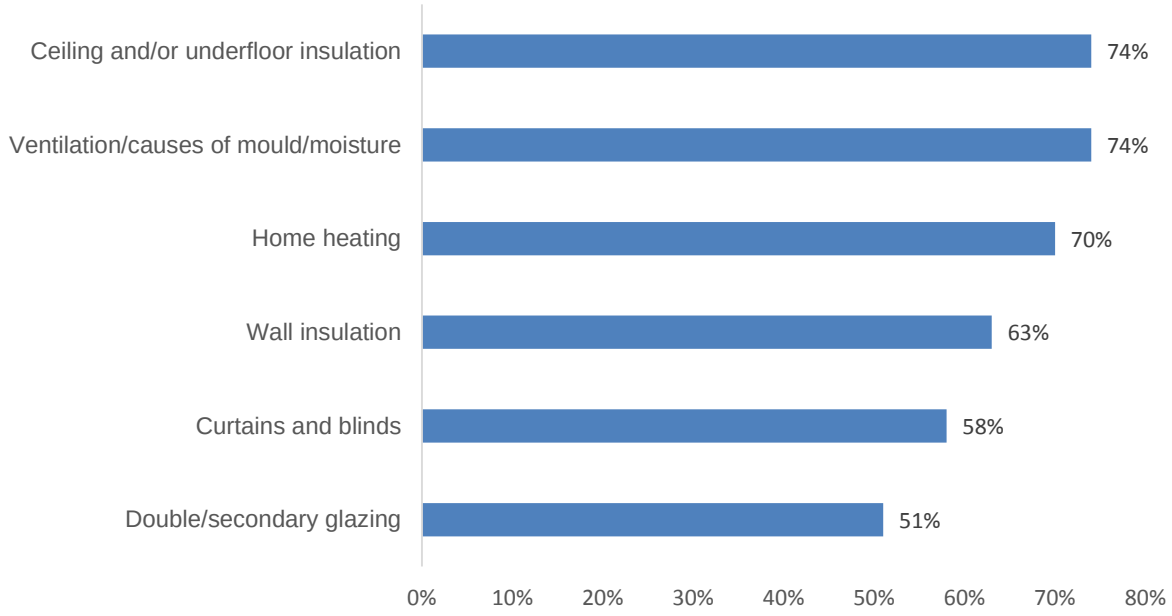
Participants were asked to select all of the topics that they discussed with their Eco Design Advisor. They were offered 22 options to select, as well as an 'other' category, with participants able to select as many as they liked[11]. This was answered by all 144 participants. It should be noted that these topics are not independent of each other. For example, those discussing *home heating* might have also discussed *double/secondary glazing* and *wall insulation*. Across all participants, the top three topics selected were *ceiling and/or underfloor insulation* (74 per cent), *ventilation/causes of mould/moisture* (74 per cent) and *home heating* (70 per cent). Four other topics were discussed by over 50 per cent of survey respondents: *wall insulation* (63 per cent), *curtains and blinds* (58 per cent), *double/secondary glazing* (51 per cent) and *energy/water efficiency* (51 per cent). Of the six categories discussed by over 50 per cent of respondents (Figure 14), it is not surprising that four

[10] The 2015 data in this table has been normalised to enable better comparison.

[11] See appendix C for a full list of options.

relate to the dwelling's internal temperature, as *warmer house* was the top motivation for undertaking an EDA consultation (see Section 3.4). Also of interest is that while only 33 per cent of respondents stated that *less damp house* was a primary motivation for undergoing an EDA consultation, 74 per cent spoke with their advisors about *ventilation/causes of mould/moisture*. Although the 2018 survey did not offer *energy efficient house* as a selectable motivation for undertaking an EDA consultation (see Section 3.4), that 51 per cent of respondents chose to speak with their advisors about *energy/water efficiency* reveals that this potentially remains an important motivation for consulting an Eco Design Advisor in 2018.

Figure 14: Top six topics discussed with Eco Design Advisor, all regions



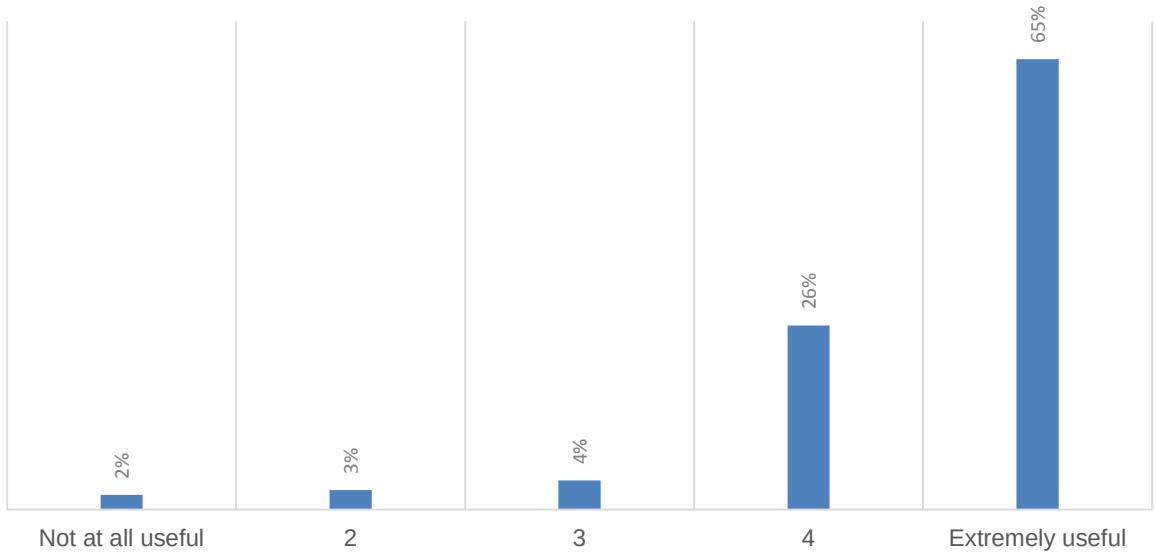
Viewing topics by service centre area, the results remain similar. Across Auckland, Lower Hutt, Palmerston North, Nelson and other, the top five topics all pertained to heating/warmth and/or ventilation and moisture reduction. These results can be found in Table 5. While *wall insulation* and *ventilation/causes of mould/moisture* were equally important topics for respondents in Christchurch, these residents were also interested in advice concerning *design/layout*, *choosing materials* and *energy/water efficiency*, topics less important in the other service areas. These results are not surprising given the geographic distribution of new builds (Figure 9) which were heavily concentrated in Christchurch.

Table 5: Top five topics discussed, by service centre area

Topic	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Ventilation/causes of mould/moisture	72%	76%		80%	100%
Curtains and blinds	62%		72%	90%	89%
Ceiling and/or underfloor insulation	62%		100%	90%	
Home heating	59%		76%	90%	89%
Draught proofing doors and windows	49%		64%	75%	78%
Wall insulation		76%	72%		78%
Design/layout		74%			
Choosing materials		67%			
Energy/water efficiency		67%			

Participants were asked a series of questions about the usefulness of the EDA service. Participants were first asked to think about the usefulness of the EDA consultation for the specific project there were wanting advice on. Answers were ranked on a 5-point Likert scale with 1 labelled as *not at all useful* and 5 labelled as *extremely useful*. While the question did not qualify points 2, 3 or 4 on the scale, for this current analysis they will be considered as: *not very useful* (2), *adequate* (3) and *quite useful* (4). Figure 15 shows the answers to this question. The advice provided by the EDA service was typically well received; the majority of participants rated it as either 5 (*extremely useful*; 65 per cent) or 4 (*quite useful*; 26 per cent) out of 5. The responses to this question remained consistent across the different service centres.

Figure 15: Usefulness of advice received from EDA service



Looking at the usefulness of the EDA service advice for each region, Table 6 shows that participants from Nelson were the most happy with the advice they received, with 95 per cent selecting it as *extremely useful*. 78 per cent of respondents in Palmerston North found the advice to be *extremely useful*. Similarly, respondents in Christchurch also felt the advice they received was *extremely useful*, with 74 per cent selecting this option. Respondents in Lower Hutt who selected the advice was *extremely useful* accounted for 64 per cent. With the exception of participants in Auckland, very few respondents described the advice as *adequate*, *not very useful* or *not at all useful*. In Auckland, only 38 per cent of participants described the advice they received as *extremely useful*, while *not very useful* and *not at all useful* were selected by 10 per cent and five per cent of respondents respectively. It has been suggested that Auckland's lower usefulness rating may have been associated with the employment of a third-party contractor as the Eco Design Advisor during the 2016-2018 period.

Table 6: Usefulness of advice received, by service centre area

Usefulness	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Extremely useful	38%	74%	64%	95%	78%
Quite useful	36%	24%	32%	5%	22%
Adequate	10%	0%	4%	0%	0%
Not very useful	10%	0%	0%	0%	0%
Not at all useful	5%	2%	0%	0%	0%

Participants were also asked to rank on a 5-point Likert scale the usefulness of the informational materials provided to them by the EDA service, such as fact sheets or brochures (Figure 16). Like above, 1 represented *not at all useful* and 5 represented *extremely useful*; a *not applicable* option was also included in this question and was selected by 16 per cent of respondents. Of those who did receive print material, 83 percent ranked it as either *quite useful* (35 per cent) or *extremely useful* (48 per cent).

Figure 16: Usefulness of informational material received from EDA service

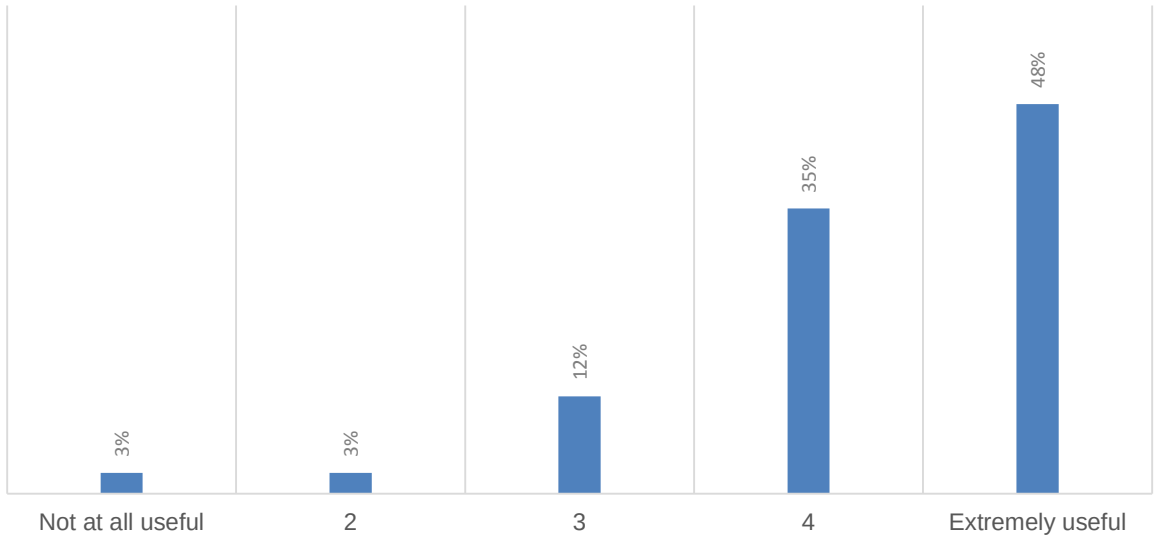


Table 7 breaks down the usefulness of printed material by region, an analysis which was conducted in the 2015 survey[12]. This comparison provides interesting data. Respondents in Palmerston North who described the usefulness of informational material as *extremely useful* accounted for 89 per cent, a 16-percentage point increase on the number selecting *very useful* (the top option) in same location in

[12] In the 2015 survey, the usefulness of printed material was selected on a 4-point Likert scale, rather a 5-point scale as used in the 2018 survey. As such, while comparison can be made, this should be noted as a caveat.

2015. In all other regions, the usefulness of printed material dropped significantly. For the *extremely useful* selection, Nelson dropped 14 percentage points to 55 percent (from 69 per cent in 2015), Lower Hutt dropped 11 percentage points to 44 per cent (from 53 per cent in 2015), and Auckland dropped 40 percentage points from 61 per cent (2015) to 21 per cent in 2018. It is worth noting that for a portion of time between 2016 and 2018 the EDA consultations in Auckland were provided by contractor rather than Auckland Council's in-house advisor, a factor which may account for this dramatic drop. The proportion of respondents who found the informational material to be *not very useful* or *not at all useful* remained relatively static between 2015 and 2018 across all service centres with the exception of Lower Hutt, where 0 per cent of respondents described the material in this way, a 20-percentage point drop from 2015. Of interest is that almost one quarter of participants from Christchurch selected the *not applicable* option – suggesting that they did not receive any print material.

Table 7: Usefulness of informational material received from EDA service, by service centre area

Usefulness	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Extremely useful	21%	39%	44%	55%	89%
Very useful	36%	20%	36%	35%	0%
Adequate	15%	9%	4%	5%	11%
Not very useful	8%	0%	0%	0%	0%
Not at all useful	5%	2%	0%	0%	0%
Don't know	0%	5%	0%	0%	0%
Not applicable	15%	25%	16%	5%	0%

As with previous questions, participants were able to add written comments to expand on how they did or did not find the EDA programme useful. Typically, these comments reiterated the mostly positive experiences measured above, with many participants mentioning their specific EDA consultant by name. The EDA consultants were especially praised for their high levels of knowledge (e.g. "*very knowledgeable; down-to-earth, thorough and helpful*," "*advisor was very friendly and knowledgeable*," "*it was extremely educational – we learned things that we didn't even know we wanted to know*") and ability to offer advice pertaining to budget-conscious changes which could be implemented by participants (e .g. "*valuable advice on most cost effective insulation methods*," "*cost effective and easy to do suggestions*," "*the advice was practical in terms of what could be done now on our budget*").

As noted earlier, a number of participants found the commercially unbiased nature of the advice to be a positive aspect of the service. However, a small number noted that they would have appreciated more specific advice. As one participant wrote:

> *I found it very useful, but only in principle, as the advisor couldn't push specific brands/products in order to remain neutral. This was frustrating, as I mostly just wanted them to state what they thought was best and why, so that I could narrow my options and research.*

This was also commented on by other participants who noted, for example, that they wanted "*specific guidance on some selections*" or that the consultant "*didn't know too much about new products on the market*."

Other participants also commented on less positive experiences. Some noted that they did not receive the expected written report following their consultation (e.g. "*there was to be a follow up by the advisor which never happened*," "*we could have done with a written summary provided afterwards to refer to,*" "*it took months and numerous requests to get a very brief written report on the property which was disappointing*"). Those who did receive a report found it to be positive, providing comments such as: "*incredible speed of report which was well detailed and we still look at as we improve our house*."

The most common issue with the EDA service – noted by a number of participants – concerned the type of advice provided. Some felt that the information provided was overly prescriptive and formulaic, providing comments such as "[the] *advice was generic rather than specific*," or "*the [consultant] did not give me any advice I didn't already know – he did not give specific examples on how to make these changes*." Others noted that the advice focused heavily upon information about internal thermal environments (e.g. "*I did get the sense [that it] was more focused on increasing warmth and decreasing running cost rather then [sic] environmental impact*") rather than actual sustainable building practices and ecological solutions, with one participant commenting:

> *It would have been nice to get a bit more detailed information about sustainable building e.g. rules/regulations/requirements for composting toilets, greywater systems, using natural materials like clay, lime, untreated timbers etc, rather than just the basic approach of designing for sun, increasing insulation and using double glazing*.

Participants were also asked to comment on the usefulness of the print material given to them during their consultation[13]. Of those who provided comments, a considerable number stated that they did not receive any print material ("*We didn't receive anything*," "*I don't recall any material being provided*"). Comments from those who did receive print material show it to be polarising. While a number of respondents found it to be "*limited*," "*nothing new or innovative*" or that it "*did not relate to my home*," others stated that the print material was "*good info with sufficient detail*," "*wide ranging and indepth [sic]*," and even "*comprehensive and tailored so very useful*." A number of participants also stated that they would like the print material to be available online.

As in 2013 and 2015, respondents were asked to specify which topics of advice that they found most useful. However, unlike the 2013 and 2015 surveys where respondents were asked to select all the topics they found useful, the 2018 survey asked respondents to rank the usefulness of discussed topics on the same 5-point Likert scale noted above. These results are shown in Figure 17 (the accompanying data table is available in Appendix B). Across all 22 topics of discussion, the majority of respondents found the provided advice to be either *quite useful* or *extremely useful*. On average, across all topics, *extremely useful* represented 50 per cent of selections, while *quite useful* made up an additional average of 28 per cent. Conversely, both *not at all useful* or *not very useful* were select, on average, by four per cent of participants across all topics.

Investigating the usefulness of individual topics, the following results do not include answers with fewer than 36 (25 per cent of total) respondents. This is to ensure confidence of 95 per cent with *at most* a 14.5 per cent margin of error for each topic (most will have a significantly lower margin of error). Eight topics have been removed to leave a total of 14[14]. Across these remaining topics, *extremely useful* was selected by an average of 48 per cent of respondents and *quite useful* by an average of 33 per cent of respondents. Looking at individual topics, those pertaining to dwelling warmth were found to be the most useful. For example, *curtains and blinds* was considered to be the most useful topic and was selected as *extremely useful* by 56 per cent of the respondents who discussed it with their EDA consultant (n=79). This was followed by *home heating* (n=98) and *ceiling and/or underfloor insulation* (n=99), which were each selected as *extremely useful* by 54 per cent of participants,

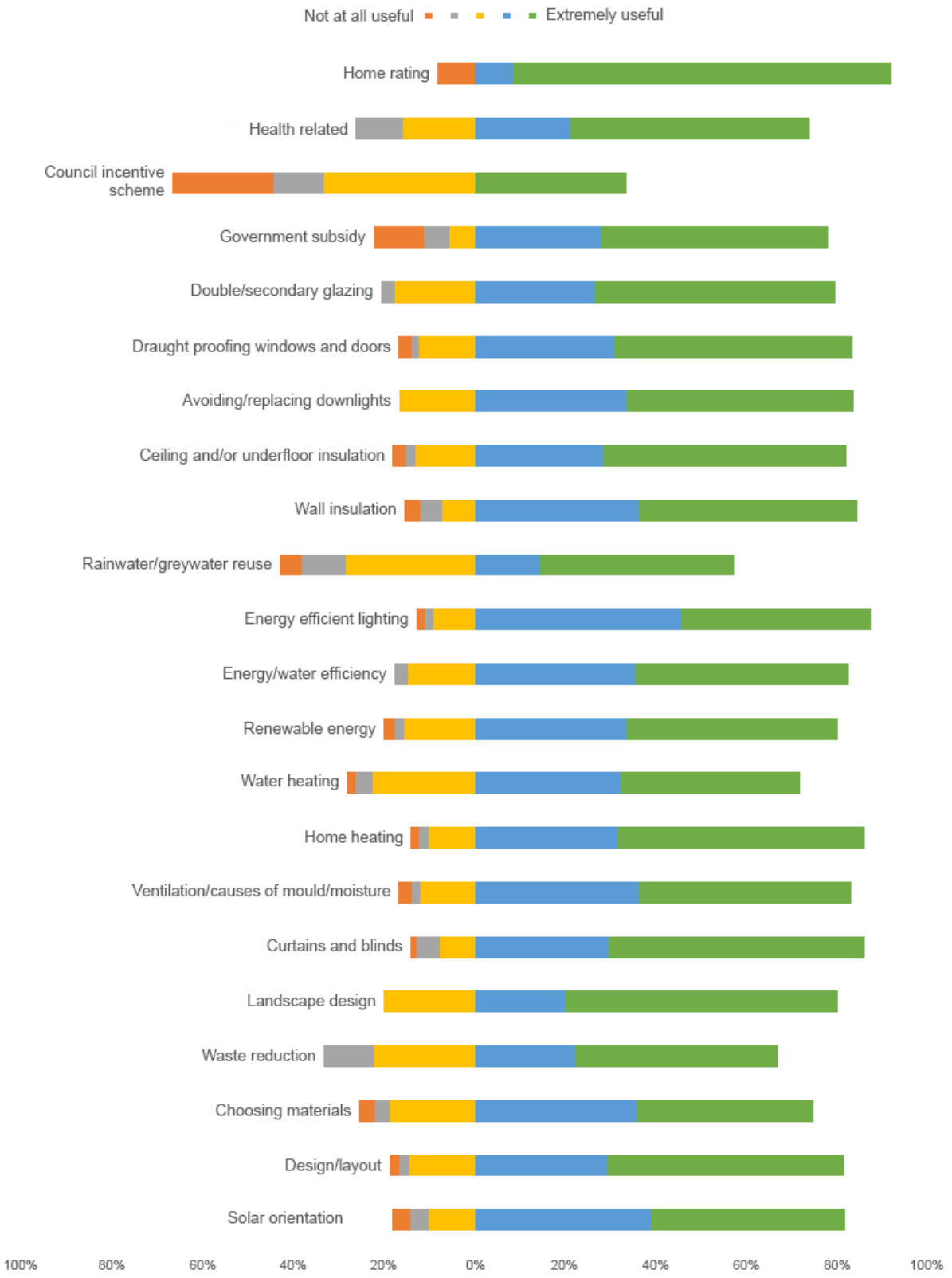
[13] It is difficult to ascertain if participants are commenting on generic print material or on customised reports.

[14] Topics not included in this analysis are: waste reduction (n=9 respondents), landscape design (n=5), rainwater/greywater reuse (n=21), avoiding/replacing downlights (n=24), government subsidy (n=18), council incentive scheme (n=9), health related (n=19), home rating (n=12).

double/secondary glazing (53 per cent; n=68) and *draught proofing doors and windows* (53 per cent; n=65). Adding together the percentage of respondents selecting both *quite useful and extremely useful* for each topic, the results remain largely the same. *Energy efficient lighting* (n=55) becomes the most useful topic, with 87 per cent selecting either *quite useful* or *extremely useful*; the following four topics again pertain to dwelling warmth: *curtains and blinds* (86 per cent), *home heating* (86 per cent), *wall insulation* (84 percent; n=83), *draught proofing doors and windows* (83 per cent).

Of the 14 topics included in this analysis, an insignificant proportion of respondents selected them as either *not at all useful* or *not very useful*. However, while their sample sizes are not large enough to warrant high confidence in their data, it is of worth noting the excluded topics which were not found to be useful. Advice pertaining to *government subsidies* (n=18) and *council incentive schemes* (n=9) was selected as the least useful. *Council incentive scheme* was selected as *not at all useful* by 22 percent and *not very useful* by 11 per cent of respondents. *Government subsidy* was selected as *not at all useful* or *not very useful* by 11 per cent and six per cent of discussing participants respectively. It would be of interest to learn if these topics were selected as less useful purely because of the nature of the information provided, or whether, through the information gained, participants learned that they were not applicable for these programmes and were therefore describing their belief about the usefulness of the incentives or subsidies.

Figure 17: Usefulness of advice by topic



3.6 Changes made as a result of the advice

In order to assess whether the EDA service is effective, participants were asked if, based on the advice they received, they had already or intended to make changes to their property. Of those answering this question, 82 per cent indicated that they had or planned to make changes. This is the same proportion as the 2013 survey but six percentage points lower than in 2015 (88 per cent). 11 per cent of participants indicated that they had not or did not plan to make any changes based on the advice they received. The remaining eight per cent did not know or determined this question not applicable.

Table 8: Changes made or planned to be made based upon advice received, by region

Changes	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Yes	68%	84%	84%	100%	89%
No	21%	11%	8%	0%	0%
Don't know	5%	0%	8%	0%	11%
Not Applicable	5%	4%	0%	0%	0%

Table 8 shows the percentage of participants in each service centre area who have already made or have planned to make changes following their EDA consultation. Across all areas, a high proportion of participants have made or intend to make changes to their properties, including 100 per cent (n=14) of respondents in Nelson. Participants in Auckland were less likely to already have made or be intending to make changes, with 68 per cent selecting that they had or were planning to make changes, and 21 per cent selecting that they had not made or were not planning to make change. These are significantly different proportions in comparison with the other service centre areas which trend more positively.

3.6.1 Specific changes

The following section looks at only the participants who have already made changes following their EDA consultation (n=110).

Participants who had already made changes following their EDA consultation were asked to expand on the nature of those changes. 110 of the total 144 participants responded to this question, suggesting that 76 per cent of all survey participants have already made changes to their property as a result of their EDA consultation. Participants could select from 33 different options falling under six broader

categories: *thermal efficiency/passive design*; *moisture reduction/ventilation*; *efficient low emission heating*; *efficient hot water/renewable energy*; *energy and water efficient appliances and fittings*; and *materials/waste/landscaping*. Of the participants who made changes, one participant indicated that they made 19 changes, while three participants made 17 changes and three different participants made 16 changes. The average number of changes across all participants who made them was 5.2. This average remains relatively consistent across service centre regions (4.7-5.4).

Figure 18: Percentage of respondents who made a change following EDA consultation, by category

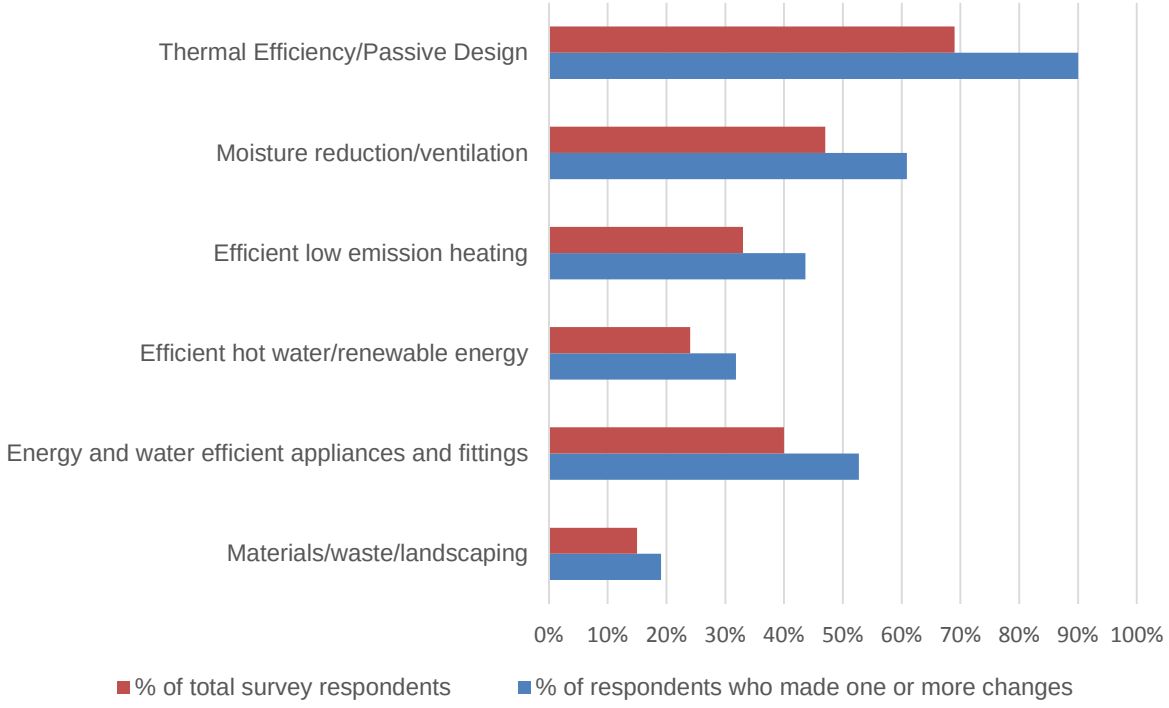


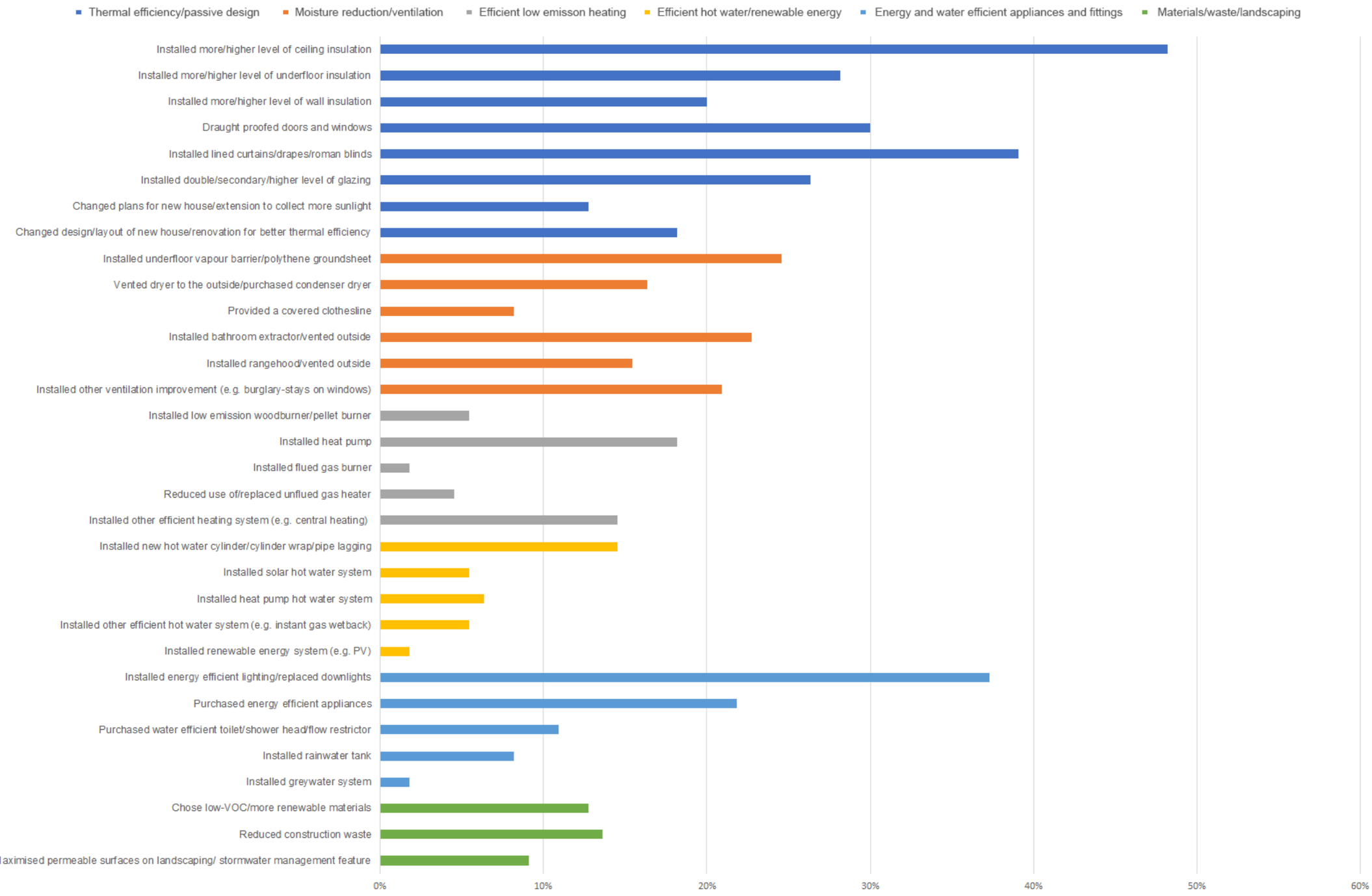
Figure 18 shows the percentage of respondents who made a change in each category[15]. For those who made changes, modifications to *thermal efficiency and/or passive design* were the most common (90 per cent), followed by *moisture reduction and ventilation* (61 per cent), and *energy and water efficient appliances and fittings* (53 per cent). The percentage of respondents who made (at least one) changes in each category can also be delimited by service centre region, as is shown below in Table 9.

[15] This graph counts each participant only once per category. It does not consider if they made multiple changes per category.

Table 9: Percentage of respondents who made at least one change, by category and region

Change category	Auckland		Christchurch			
	% of change makers	% total resp.	% of change makers	% total resp.		
Thermal Efficiency/Passive Design	88%	56%	88%	63%		
Moisture reduction/ventilation	80%	51%	39%	28%		
Efficient low emission heating	28%	18%	55%	39%		
Efficient hot water/renewable energy	32%	21%	42%	30%		
Energy and water efficient appliances and fittings	48%	31%	52%	37%		
Materials/waste/landscaping	12%	8%	30%	22%		
	Lower Hutt		Nelson		Palmerston North	
	% of change makers	% total resp.	% of change makers	% total resp.	% of change makers	% total resp.
Thermal Efficiency/Passive Design	95%	76%	90%	90%	88%	78%
Moisture reduction/ventilation	40%	32%	80%	80%	88%	78%
Efficient low emission heating	45%	36%	35%	35%	50%	44%
Efficient hot water/renewable energy	20%	16%	30%	30%	13%	11%
Energy and water efficient appliances and fittings	40%	32%	60%	60%	75%	67%
Materials/waste/landscaping	20%	16%	10%	10%	13%	11%

Figure 19: Percentage of respondents who made associated change following EDA consultation[16]



[16] This graph only counts respondents who indicated they made a change following their EDA consultation.

Table 10: Specific changes made by respondents, by service centre area[17]

Change made	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Installed more/higher level of ceiling insulation	60%	45%	45%	50%	38%
Installed more/higher level of underfloor insulation	24%	24%	35%	40%	13%
Installed more/higher level of wall insulation	20%	30%	25%	5%	0%
Draught proofed doors and windows	32%	18%	40%	30%	63%
Installed lined curtains/drapes/roman blinds	28%	18%	60%	60%	63%
Installed double/secondary/higher level of glazing	20%	36%	25%	25%	13%
Changed plans for new house/extension to collect more sunlight	12%	18%	10%	0%	13%
Changed design/layout of new house/renovation for better thermal efficiency	8%	39%	5%	10%	13%
Installed underfloor vapour barrier/polythene groundsheet	32%	6%	25%	50%	13%
Vented dryer to the outside/purchased condenser dryer	28%	6%	10%	20%	25%
Provided a covered clothesline	8%	18%	0%	0%	13%
Installed bathroom extractor/vented outside	32%	9%	15%	30%	50%
Installed rangehood/vented outside	24%	12%	5%	15%	25%
Installed other ventilation improvement (e.g. burglary-stays on windows)	16%	18%	15%	25%	38%
Installed low emission woodburner/pellet burner	12%	3%	0%	5%	0%
Installed heat pump	16%	21%	30%	10%	0%
Installed flued gas burner	0%	6%	0%	0%	0%
Reduced use of/replaced unflued gas heater	0%	3%	5%	0%	38%
Installed other efficient heating system (e.g. central heating)	0%	24%	15%	20%	13%
Installed new hot water cylinder/cylinder wrap/pipe lagging	20%	9%	10%	25%	13%
Installed solar hot water system	4%	12%	0%	0%	0%
Installed heat pump hot water system	4%	15%	5%	0%	0%
Installed other efficient hot water system (e.g. instant gas wetback)	0%	9%	5%	5%	0%
Installed renewable energy system (e.g. PV)	8%	0%	0%	0%	0%
Installed energy efficient lighting/replaced downlights	44%	27%	30%	40%	63%
Purchased energy efficient appliances	16%	24%	10%	30%	38%
Purchased water efficient toilet/shower head/flow restrictor	12%	12%	5%	10%	13%
Installed rainwater tank	8%	12%	5%	0%	13%
Installed greywater system	4%	0%	0%	5%	0%
Chose low-VOC/more renewable materials	4%	21%	15%	10%	13%
Reduced construction waste	8%	24%	10%	5%	13%
Maximised permeable surfaces on landscaping/ stormwater management feature	12%	15%	10%	0%	0%

[17] This table only counts respondents who made changes. E.g. Of respondents in Auckland who made changes following their EDA consultation, 60% installed more/higher level of ceiling insulation.

Looking at the specific changes made by participants (Figure 19), the results are similar to both the 2013 and 2015 surveys, with five of the top six changes being identical between 2015 and 2018 (Figure 20). In 2018, the most prevalent change was *installed more/higher level of ceiling insulation*, which was undertaken by 48 per cent of participants who made changes. This is the same proportion noted in the 2013 survey and is an increase from 38 per cent in 2015 (+10 percentage points). This was followed by *installed lined curtains/drapes/roman blinds* (39 per cent) which was the highest ranked change in the 2015 survey (40 per cent). This is interesting considering only five per cent of participants previously noted that they were looking for thermal environment advice that did not involve major modifications to their property. This suggests that EDA consultants may be recommending that customers try lower-cost initiatives before attempting large-scale, higher-price projects. *Installed energy efficient lighting/replaced downlights* (37 per cent) is the third most prevalent change and is up from approximately 24 per cent in 2015 – a marked increase of 13 percentage points. The three next most prevalent changes remain within the thermal *efficiency/passive design* category, suggesting, as previous responses in this survey have outlined, that those participating in an EDA consultation were likely to do so in order to obtain information about thermal efficiency and/or passive design. They are: *draught proofed windows and doors* (30 per cent), *installed more/higher level of underfloor insulation* (28 per cent) and *installed double/secondary/higher level of glazing* (26 per cent).

Figure 20: Percentage of respondents who made a change following EDA consultation, top six topics, 2015 and 2018

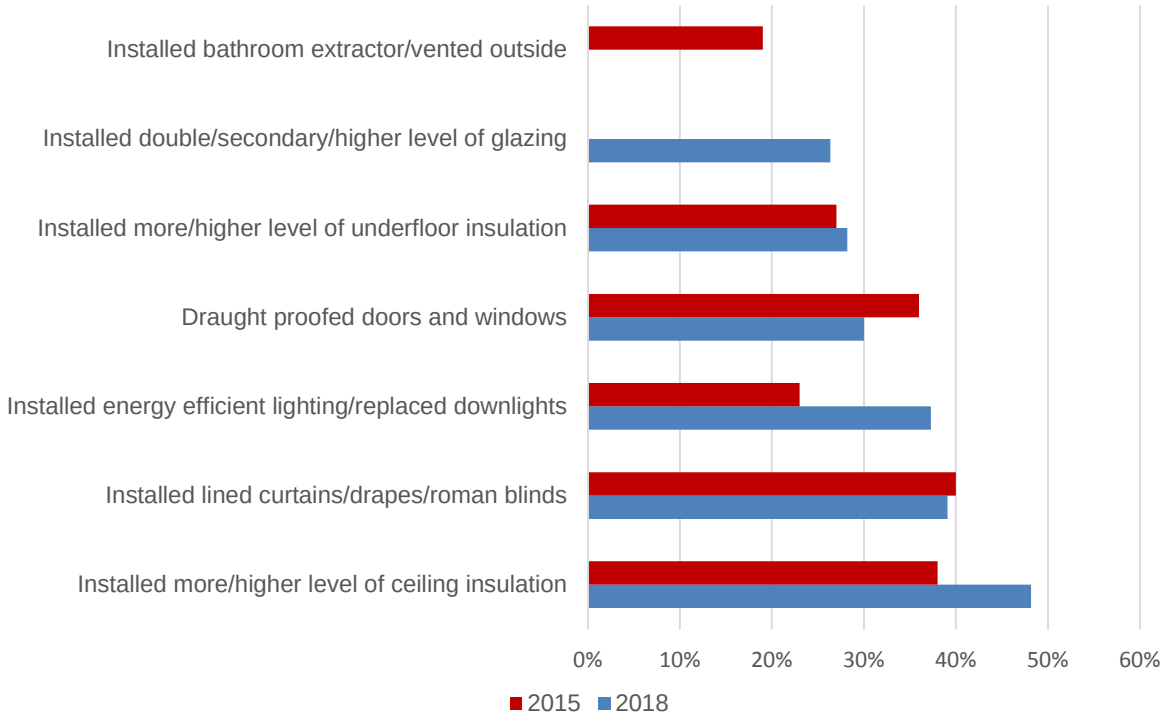
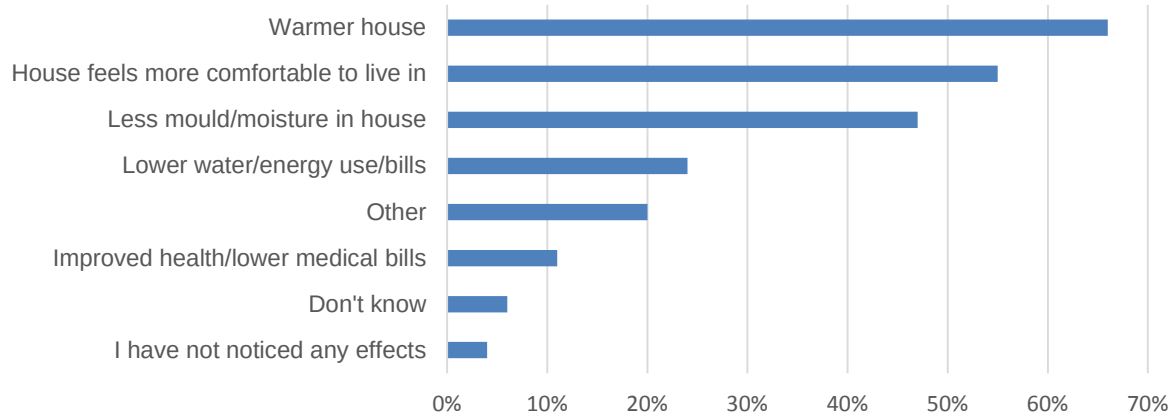


Table 10 above breaks down this data into regional sub-categories, showing the percentage of change-making respondents from each region who undertook the associated change. Reviewing this table reveals some interesting differences in the choices made between different service centres. For example, while changes to *thermal efficiency/passive design* were the most common across all five areas, participants in Auckland and Christchurch were most likely to *install more/higher level of ceiling insulation* (60 per cent; 45 per cent), whereas respondents in Lower Hutt, Nelson and Palmerston North were most likely to *install lined curtains/drapes/roman blinds* (60 per cent; 60 per cent; 63 per cent) or had *draught proofed doors and windows* (Palmerston North – 63 per cent). There is a significant cost difference between the installation of insulation and curtains, drapes or blinds. Participants in Nelson were also significantly more likely to install energy efficient lighting or replace downlights, again suggesting that there may be differences in service delivery content across service centre areas.

Figure 21: Effects felt as a result of changes made

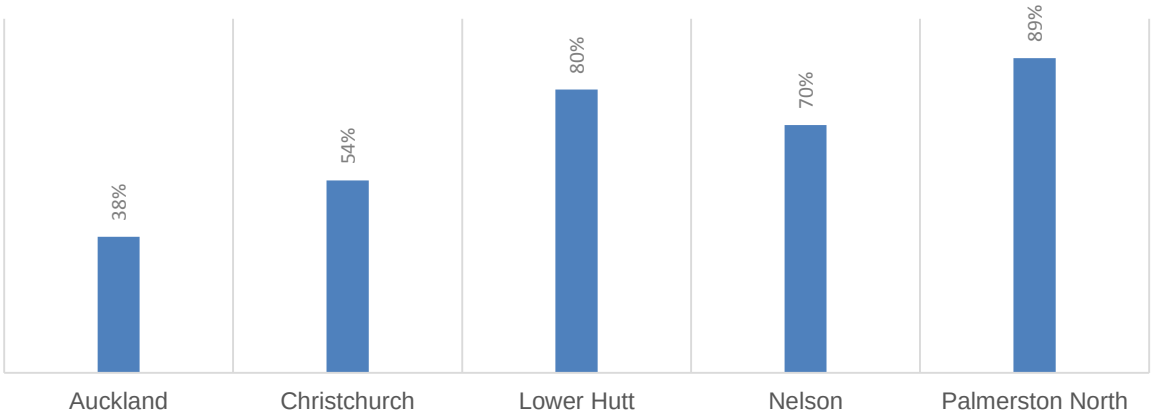


Following being asked about the changes they had made, participants were asked if they had noticed any specific effects resulting from the modifications. These are shown above in Figure 21. The average number of effects felt by participants who made changes to their property is 2.2. The most common effect felt as a result of changes made was *warmer house*, with 66% of participants noticing this change within their property, an eight percentage point increase on the 2015 survey results. This was followed by *house feels more comfortable to live in* (55 per cent) and *less mould/moisture in house* (47 per cent), which were also the second and third most experienced effects in the 2015 survey. These effects correspond to the types of changes participants made, suggesting that the EDA consultants are providing accurate and effective advice.

3.6.2 Changes participants planned to make

While numerous changes were made following EDA consultations, 60 per cent of participants noted their intention to make further changes based on the advice they received. Figure 22 shows the proportion of participants in each region who intend to make one or more changes. As shown, a large percentage of participants in Lower Hutt (80 per cent), Nelson (70 per cent) and Palmerston North (89 per cent) intend to make one or more changes to their property.

Figure 22: Participants intending to make changes, by region

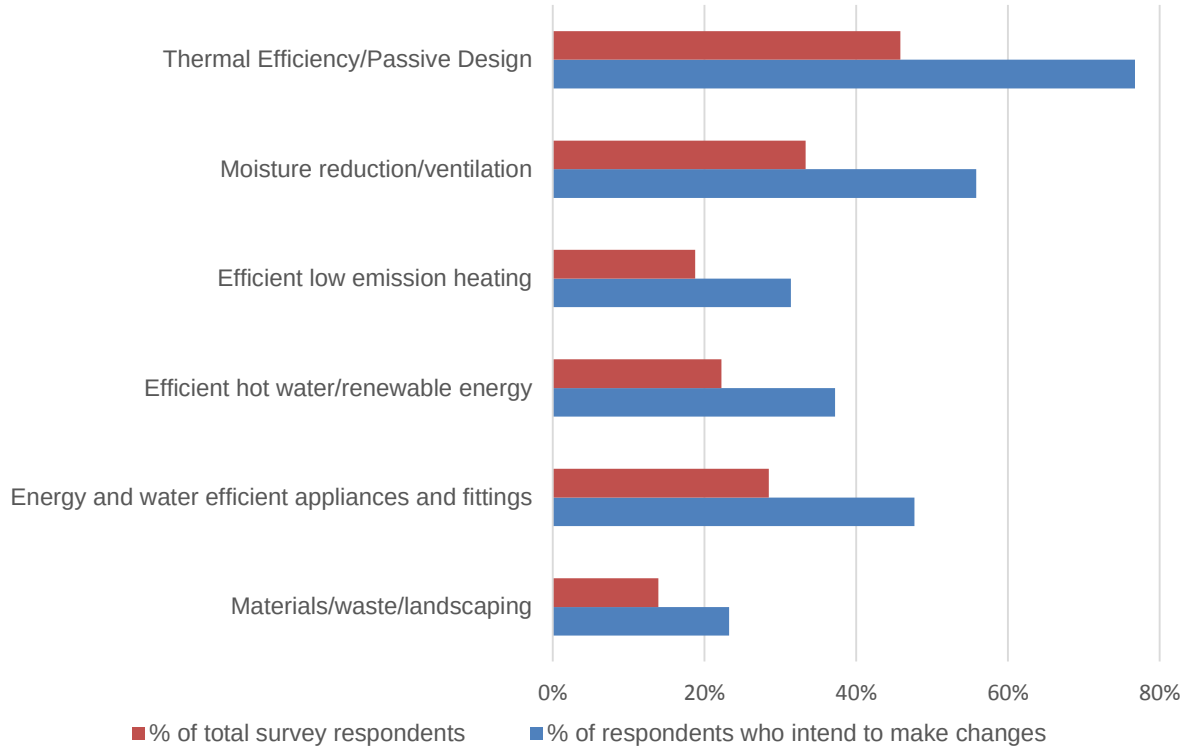


Like above, participants were asked to select all the changes they planned to make to their properties. Again, participants could select from 33 different options falling under six broader categories: *thermal efficiency/passive design*; *moisture reduction/ventilation*; *efficient low emission heating*; *efficient hot water/renewable energy*; *energy and water efficient appliances and fittings*; and *materials/waste/landscaping*. One participant planned to make 22 changes, another planned to make 18. The average number of planned changes was 4.7.

Figure 23 shows the categories in which participants intend to make (further[18]) changes. While the numbers are slightly lower than those who have already made changes, the top three categories remain the same. Changes to *thermal efficiency/passive design* continue to be the most popular changes, with 77 per cent of participants who intend to make changes (n=86) planning to do so within this category (46 per cent of all survey participants).

[18] It is not possible to distinguish between participants who have not yet made changes and plan to in the future, and participants who have made changes and plan to make more.

Figure 23: Category in which participants plan to make (further) changes to their property following EDA consultation



3.6.3 Deciding not to make changes

Following their EDA consultation, some participants decided that they would not undertake the changes that they had previously planned. 114 participants (79 per cent) answered this question. Of these participants, 32 per cent (26 per cent of total respondents) stated that they had decided to not make the changes that they had initially planned. Participants were asked to expand on their decision.

Of these participants, most commented that they were still intending to make improvements to their dwelling but that the nature of these alterations had changed after using the EDA service. For the most part, participants made changes to the way they planned to upgrade their thermal environment. For example, one respondent noted that they "*learnt [that] thermal curtains are a waste of time so got paper blinds*" while another learned that "*an HRV … would not be an efficient system for my home due to the old concrete tile roof*." For the most part, participants who decided not to make changes following their EDA consultation replaced their plans with more cost-effective solutions. For example, a number of participants decided not to retrofit double-glazed windows and instead upgraded their insulation or installed curtains ("*we were thinking about double glazing, but due to cost and cheaper things we could*

do to improve heating have held off," "*retro double glazing, very expensive*"). Further, water and home heating systems were also found to be cost ineffective by a number of participants who subsequently decided not to install them ("*we were looking at possibly installing solar water heating but were advised that it wouldn't be cost-effective for our two person household*").

3.6.4 Rental properties

Participants who own rental properties were asked whether or not, based on changes made to the property, tenants had changed their behaviour or noticed any differences such as increased warmth. However, this question was only answered by three participants (2 per cent), a non-representative sample size, and has been left out of this analysis. It appears that the EDA service is not attractive to residential landlords.

3.7 Application for government or council assistance

Participants were also asked if, following their EDA consultation, they had applied for funding assistance in the form of a government subsidy or council incentive scheme. Only eight per cent noted that they had applied for one or both. Of this eight per cent, 64 per cent (5 per cent of total) had applied for a government subsidy, while 45 per cent (4 per cent of total) had applied for a council incentive scheme. Participants were also asked if they planned to apply for funding assistance in the future. Only four participants stated that they planned to apply for assistance, with one planning to apply for a government subsidy and three planning to apply for a council incentive scheme. There is no further information describing the reasons why participants did or did not apply for various funding opportunities. However, given the considerably low response rate to these questions, it may be assumed that typical users of the EDA service are unaware of, do not qualify for, or do not need funding assistance. A question concerning household income would be of worth in future surveys.

3.8 Feedback

The Eco Design Advisor service is advertised across numerous mediums. Participants were asked to state how they found out about the consultation service. This is shown in Figure 24. Overwhelmingly, the participants in this survey learned about the EDA service via *word of mouth*, with 42 per cent selecting this option – a significant increase from 25 per cent in 2015 (+17 percentage points). This was followed by council sources, including from *staff* (15 per cent), *publications* (15 per cent) and *websites* (14 per cent). Unfortunately, the survey did not provide the option

to expand on the *word of mouth* option, so it is not possible to determine from whom participants found about the EDA service from.

Figure 24: How participants found out about the EDA service

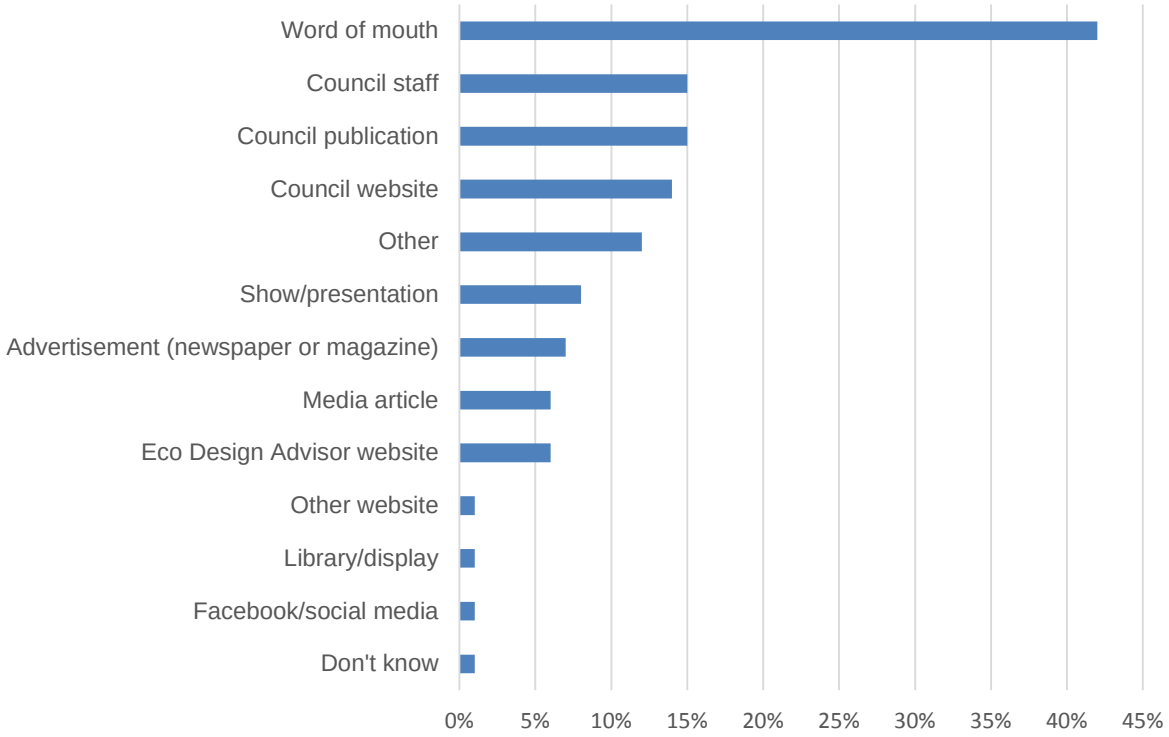


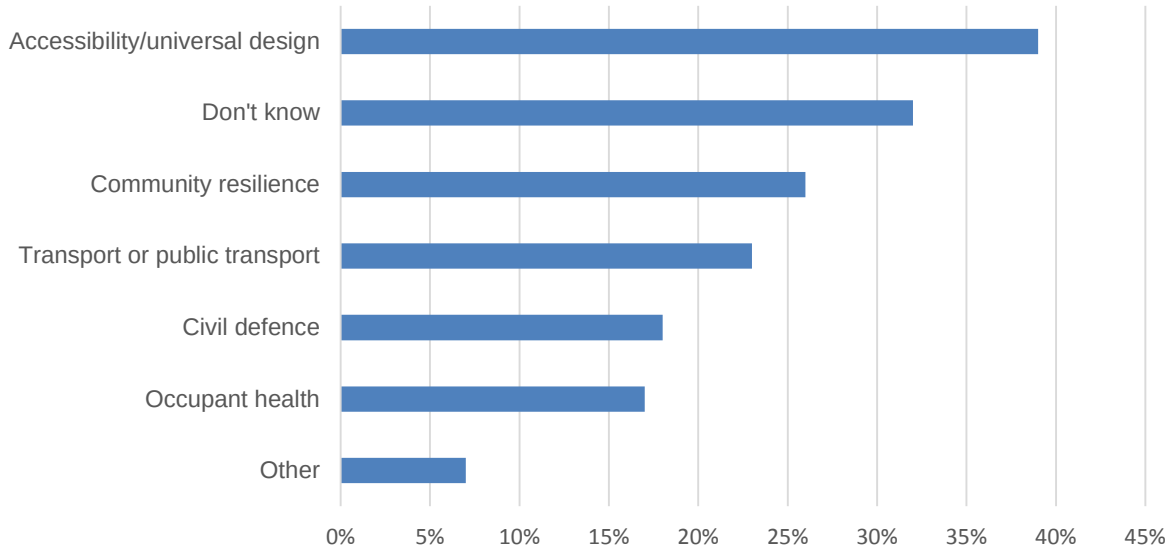
Table 11 shows how survey respondents found out about the EDA service in each region. As shown, *word of mouth* was the most common across all areas, trending upwards the smaller the population of the region. However, if all council avenues (staff, websites, publications) are considered together, these outweigh word of mouth in Auckland (49 per cent) and Palmerston North (73 per cent), equal word of mouth in Christchurch (46 per cent) and Lower Hutt (36 per cent) and are lower than word of mouth in Nelson (45 per cent). These results suggest that across all regions, council promotion of the EDA service is adequate, however Lower Hutt might benefit from increased attention in this area.

Table 11: How participants found out about the EDA service, by region

Medium	Auckland	Christchurch	Lower Hutt	Nelson	Palmerston North
Advertisement	5%	4%	12%	15%	
Council publication	21%	11%	8%	20%	18%
Council staff	5%	24%	20%	10%	9%
Council website	23%	11%	8%	15%	9%
Don't know		2%	4%		
EDA website	8%	7%		5%	
Facebook/social media				5%	
Library/display	3%				
Media article	8%		8%	10%	9%
Other	23%	9%	8%	5%	
Other website		2%			
Show/presentation	8%	17%			
Word of mouth	33%	46%	36%	55%	55%

Participants were invited to suggest other topics that they think the EDA service should also provide advice on. The results are detailed in Figure 25. Most popularly, participants wanted the EDA service to provide information about *accessibility/universal design*, with 39 per cent choosing this option. This was followed by *don't know* (32 per cent) and *community resilience* (26 per cent).

Figure 25: Other topics the EDA service should provide advice about



Finally, participants were invited to offer any comments about, or suggestions on how to improve, the EDA service. Generally, comments reiterated participants' positive

experiences with the service (e.g. "*overall my partner and I thought Eco Design was awesome*," "*we found the information supplied invaluable*," "*great service from Council - THANKS!*"), a number stating that "*all local authorities should do this*." Others believed that, while they had used the service, it should be better promoted (e.g. "*greater publicity of the service offered*," "*any kind of promotion I think would help*," "*could be more widely promoted*"), and offered suggestions for what this promotion might look like, for example, "*setting up or having pamphlets at the Home Ideas Centre in Christchurch*," "*ads in Grey Power magazine, posters in doctor's waiting rooms*" or "*holding a monthly information evening in community centres*." Some participants wanted to see the objectives of the service broadened beyond home improvement and building advice, such as having "*house and plans audited for earthquake and fire emergency preparedness*," while others hoped the advisors could provide information about ecological practices more generally, touching on topics such as public transport, waste reduction, soil contamination and vegetable gardening, among others. Finally, a few participants felt that the service did not offer them any information they could not obtain themselves (e.g. "*most of what was suggested was common sense*," "*not just eco advice you can find yourself from other general sources*," "*It just needs to be better advise [sic]. The advise [sic] is too simple (just bats as insulation and double glassed Windows*"). Again, the polarising nature of these comments suggests that the service delivery is potentially heterogenous across service centres.

4.0 Discussion

The above analysis provides insight into the needs, motivations and experiences of customers using New Zealand's Eco Design Advisor service. The EDA service provides free-of-charge in-home and telephone consultation for people undertaking improvements and renovations to, or new builds of, properties they own and/or live in. These consultations are targeted at designers and architects, as well as individuals looking to improve the performance and health of their dwellings, offering advice across a range of topics including thermal, water and energy efficiency, moisture control and the reduction of running costs. The EDA service is available in eight service centres: Auckland, Hamilton, Palmerston North, Kapiti Coast, Lower Hutt[19], Nelson, Christchurch and Dunedin.

This current analysis follows similar survey deployments in 2013 and 2015 and includes response data from five of the eight service centres: Auckland, Palmerston North, Lower Hutt, Nelson and Christchurch – a new addition for the 2018 survey. The largest proportion of respondents came from Christchurch and Auckland, were aged between 45 and 65, identified as NZ European or Pākehā and live in a two-person household. Consultations were most commonly undertaken for standalone houses, the majority being single-storey. Properties were overwhelmingly defined as owner-occupied, and over half of the survey's respondents sought advice on home improvements or retrofitments. Interestingly, the majority of new-build consultations were undertaken in Christchurch.

Survey respondents were asked to choose and rank three motivations for booking an EDA consultation. Across all respondents and regions, the most common reasons cited were to create a warmer house, to create a more comfortable house and to reduce running costs. Other common motivations were to create a less damp house and to reduce the house's environmental impact. Thematically, these motivations can be grouped as thermal/moisture and input/outputs – it was typical for respondents to select motivations across both groupings (see Figure 11 and Figure 13). As such, the typical participant engaging with the EDA service in any one service centre is looking for advice in order to better control the warmth and moisture content of their home, and to reduce its costs both inward and outward. In recent years, there has been increased research and media attention focused upon the generally poor quality of New Zealand's housing stock (Bennett et al., 2016; White et al., 2015). In response, significant attention has been paid by government agencies towards improving the overall quality of the homes of New Zealanders through various initiatives, including

[19] As noted, Lower Hutt was called Hutt City (2013) and Hutt Valley (2015) in earlier surveys. The EDA website calls this service centre Hutt City.

the Ministry of Health's Healthy Homes Initiative (Ministry of Health, 2018), the Energy Efficiency and Conservation Authority's (EECA) Warmer Kiwi Homes (EECA, 2018) and the New Zealand Green Building Council's HomeFit (NZGBC, 2018) programmes. The current survey results mirror this increased commitment to creating warmer, healthier homes in New Zealand. Motivations pertaining to input and output costs find participants were interested in advice which will reduce both the costs (monetary/energy/water) of running their house and the effects their house has upon the environment. As above, this similarly reflects broader societal issues, including the rising costs of energy (Ministry of Business, Innovation and Employment, 2018a) and enhanced societal concerns for the environment, including issues of sustainability and climate change (Colmar Brunton, 2017; Milfont et al., 2017). However, it is important to note that the results of this survey do find that for participants for whom sustainable living and climate change action is their top priority, the EDA service may not be offering the type and specificity of advice they are interested in. It should also be noted that few respondents were interested in using the EDA service to learn about government subsidy programmes such as those initiated by the EECA, and those who were motived by these factors did not typically find the advice to be useful, suggesting that these participants may have found they were not eligible for a subsidy.

Unfortunately, due to an oversight during the creation of the survey, the motivation *energy efficient house* was not included in the deployment of the 2018 survey, impacting on the ability to successfully compare consultation motivations with earlier surveys.

The results of this survey suggest that the motivation for undertaking an EDA consultation, and the changes made to properties post-consultation, could be influenced by the way that the EDA service is promoted and delivered in different service centres. This suggestion is supported by several geographical discrepancies between the service areas. For example, the high proportion of participants using the EDA service to help improve their health suggests that health benefits may be more forwardly promoted in Palmerston North, while in Christchurch the service appears to be more actively advertised toward people undertaking new builds. Promotional discrepancies may also account for differences between the motivations of participants in the North and South Islands. Specifically, *reduced environmental impact* was found to be a primary motivation for South Island respondents but not for those in the North Island. Conversely, the desire for a *less damp house* was a priority motivation for respondents in the North Island, but not for those in the South Island. While not explicitly addressed by this research, such a discrepancy could be explained by differences in climate between service centres. For example,

Christchurch, where the majority of South Island participants are located, offers a much dryer climate than the service centres in the North Island, receiving approximately 600-800mm of rainfall per year (Heiler, 2008). In contrast, Auckland receives between 1601mm and 2400mm annual rainfall (Heiler, 2008). Further, participants from all centres indicated they had or planned to make thermal changes to their properties, however, those in Auckland and Christchurch were more likely to undertake significant insulation-based improvements while respondents in Lower Hutt, Nelson and Palmerston North were inclined to undertake easier, less costly changes such as upgrading curtains or draught-proofing windows and doors. However, it should be noted that these differences may also be able to be accounted for by the type, age and condition of housing stock in each service area – further research should investigate this.

The suggestion that the service is not being equally delivered across the service centre areas is also supported by the discrepant nature of participants' comments, such as those in section 3.5 where comments on the usefulness of the service reveal that customers had a broad range of experiences with their consultants. These comments suggest different levels of detail and personalisation across the consultations, advice and materials received by EDA customers. And while most customers provided positive comments concerning their experience with the EDA service, a number did note that they found the "E" of EDA to be distinctly missing, as they hoped the service would provide them with cutting edge information regarding sustainable and ecological building practices. Further investigation into service promotion and delivery, including surveying advisors, would help to better understand these discrepancies. It is also useful to note that during the 2016-2018 period, Auckland's EDA service was being administered by a third-party contractor rather than the established Auckland Council employee, a factor which may have influenced service delivery, uptake and experience among Auckland-based participants.

Finally, results show that the rating of print material has dropped considerably since the 2015 survey, with evidence pointing towards many participants not receiving print material. These results cannot state the reason for this, but it would be worthwhile to investigate how print material is being created, handled and distributed across different service centres.

Whatever the case, the results of this survey do suggest that the EDA service is typically of high value across all service centres, with the majority of participants being motivated by the service's commitment to improving New Zealand's housing stock and rating the advice they received as relevant and useful. The following two sections provide some suggestions for the improvement of the EDA programme and future iterations of this survey.

5.0 Suggestions for improvement of the EDA programme

This section offers a number of suggestions for improving the EDA service based on the results of this current survey. A number of these suggestions mirror suggestions made in the 2015 survey.

Although minority populations, such as Pacifica (Butler et al., 2003), are more likely to be exposed to damp, cold and mouldy housing conditions, EDA consultations are disproportionately undertaken by older, NZ European or Pākehā customers. The EDA service should be better advertised to disadvantaged populations and within low-income areas in order to engage with those who would benefit most from its advice. This makes significant sense considering many of the interventions undertaken by participants in this survey were thermal-oriented and low-cost.

While it is well understood that rental housing in New Zealand is often of poor quality (Bennett et al., 2016; Howden-Chapman et al., 2012), the respondents in the current survey were overwhelmingly owner-occupiers. Both renters and landlords constituted only a small minority of respondents. The EDA service needs to be better advertised to renters in order to educate them about small, low-cost changes they could make to improve their living environments. However, it is important to note that one vocal renter in this survey found that although they undertook a consultation, their landlord was non-compliant with many of their requests. The EDA service also needs to be better marketed to landlords in order to help them ensure their properties are warm and healthy environments. This is particularly important in consideration of the current regulations requiring landlords to install ceiling and underfloor insulation in rental properties by July 2019 (Ministry of Business, Innovation and Employment, 2018b). EDA consultations will ensure that landlords are undertaking best practice improvements that remain cost-effective.

As noted, a significant number of participants requested that the EDA service provide advice pertaining to accessible design. While such advice is not necessarily eco-specific, New Zealand has an aging population and, as such, it is becoming increasingly important that home spaces are designed to ensure the lasting independence, health and well-being of those living within them.

While the EDA service appears to be well advertised via word of mouth, this suggests that it could be better advertised across a number of mediums. In 2015 the survey's author suggested increased use of social media to promote the programme. However, as noted above, very few participants learned about the EDA service via any form of social media, while information from council sources remains high. Further, while the number of participants who learned about the EDA programme

from trade or lifestyle shows or presentations is low, comments suggest that increased presence at these events might be a useful promotional avenue.

As requested by a number of participants, online access to specific print materials would be welcomed. A commitment to this would help to ensure that all customers were able to access necessary material.

Finally, as noted a number of times throughout this report, the results suggest that the ways that the EDA service is promoted and delivered across the service centres is inconsistent. It would be of worth to determine the processes and actions undertaken by EDA consultants in each centre to understand where these discrepancies lie. For example, employ an impartial person to shadow the consultant in order to audit their delivery of the service.

6.0 Recommendations for future research

The following are recommendations for future research of the EDA programme.

The EDA Customer Survey should continue to be deployed across the eight service centres. However, while the survey should continue to ask questions of motivation, implementation and usefulness in order to make meaningful comparisons with previous surveys, some specific changes should be included.

Consultation with another researcher as well as an EDA official will allow for constructive, recursive feedback, and ensure methodological triangulation. It will also:

- Ensure that the survey is well proofed to avoid issues such as the accidental omission of the *energy efficient house* option as a participant motivation.
- Allow the survey to remain relevant within the contemporary construction and renovation climate, and be modified to include new, or omit now irrelevant response options.

To better understand how the EDA service is being deployed in and across regional service centres, an instrument to survey EDA consultants about their experiences should be produced. Ideally, consultant data will be collected via semi-structured interviews to allow for insight into regional and other nuances. Similarly, investigation should detail how the EDA service is promoted across the seven regional centres. This will help the EDA to better understand some of the regional differences in motivations and implementations, as well as beliefs about the usefulness of the EDA programme. It will also help to provide insight into the over-representation of certain demographic groups as EDA customers, especially considering those who are under-represented (ethnic minorities, large families, renters, low-income people) are likely to obtain greater benefits from the programme. This should also include assessment of the informational material provided to customers in each service area.

Future researchers should also review the survey methodology to determine the feasibility of deploying a two-part data collection strategy. The first would survey customers directly after their EDA consultation to determine motivations, topics covered, changes planned and consultation experiences. The follow up survey will be deployed after a determined amount of time (to ensure enough time has passed for customers to undertake work and/or gain permits and consents) and collect information about changes made and the usefulness of the service. This will help to ensure the accuracy of collected data. It would also be useful to investigate automating the survey deployment to ensure the timely collection of data.

Evaluating the current survey (see Appendix C for a full copy of the 2018 survey), some tweaks are suggested:

- The next iteration of this survey should re-establish the *energy efficient house* selection for question 1B.
- A *relationship to property* question would be useful in future surveys. Currently, it is not possible to know if the respondent is the home-owner, the designer or the builder.
- Expanding data collection on the dwelling typology would be worthwhile. For instance, collecting information on the age of the dwelling and its construction style (i.e. brick, weatherboard, etc) would help to better understand how the service is being used.
- As suggested in the 2015 report, the survey should include a question on household income. This will help researchers to better understand the demographic profile of those using the EDA service and assist in determining how best to promote the service to low-income populations.
- Question 1A: It would be of worth to include a text box qualification for the *word of mouth* option when asking about how participants found out about the EDA programme. *Word of mouth* was the most common way participants found out about the service (after council sources) and it would be useful to know from whom the recommendation came.
- When Likert scales are used to evaluate respondent attitudes and/or opinions, such as in questions 2E, 2G or 3A, it is important to label all points on the scale as it helps to standardise responses and reduce confusion in defining the middle point.
- Question 2G: An option to state that the participant did not receive any print material should be added to this question.
- The 2015 survey included a question about the behaviour change of participants following their EDA consultation. Results of the 2015 and 2013 surveys reveal interesting trends in behavioural changes. For unknown reasons this question was not included in the 2018 survey but should be reintroduced in future research.

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8.0 Appendices

Appendix A Email invitation analytics

The initial survey invitation email was sent on 24 October 2018 to the 636 EDA customer email addresses provided by five EDA centres in New Zealand. Of these invitations, 569 were delivered while 67 bounced. Of those delivered, 214 were not read. The remaining 355 were read with 138 people clicking on the survey link As a result of this initial invitation, 94 surveys were completed.

The reminder survey invitation was sent on 2 November 2018 to the 535 EDA customers who had not responded to the initial invitation. Of the reminder invitations, 477 were delivered while 58 bounced. Of those delivered, 238 were not read, while the remaining 239 were read with 81 people clicking the survey link. Following the reminder email, 50 further surveys were completed.

9 surveys were only partially completed; these responses have not been included in the current analysis.

Table 12: Breakdown of survey invitation email mailout

	Initial invitation	Reminder invitation
Send date	24 October 2018	2 November 2018
Total messages	636	535
Undelivered	67	58
Delivered	569	447
Unread	214	58
Read	355	239
Clinked link	138	238
Surveys completed	94	50

Controlling for the proportion of undelivered emails, the response rate rises to 27.7 per cent. This offers a minor but not significant adjustment to the survey's margin of error which falls from 7.2 per cent to 7.08 per cent. The confidence level remains at 95 per cent.

Appendix B Usefulness of advice, by topic

Table 13: Usefulness of advice received, by topic

Topic	1- Not at all useful	2	3	4	5- Extremely useful
Solar orientation	4%	4%	10%	39%	43%
Design/layout	2%	2%	15%	29%	52%
Choosing materials	3%	3%	19%	36%	39%
Waste reduction	0%	11%	22%	22%	44%
Landscape design	0%	0%	20%	20%	60%
Curtains and blinds	1%	5%	8%	29%	56%
Ventilation/causes of mould/moisture	3%	2%	12%	36%	47%
Home heating	2%	2%	10%	32%	54%
Water heating	2%	4%	23%	32%	40%
Renewable energy	2%	2%	16%	33%	47%
Energy/water efficiency	0%	3%	15%	35%	47%
Energy efficient lighting	2%	2%	9%	45%	42%
Rainwater/greywater reuse	5%	10%	29%	14%	43%
Wall insulation	4%	5%	7%	36%	48%
Ceiling and/or underfloor insulation	3%	2%	13%	28%	54%
Avoiding/replacing downlights	0%	0%	17%	33%	50%
Draught proofing doors and windows	3%	2%	12%	31%	52%
Double/secondary glazing	0%	3%	18%	26%	53%
Government subsidy	11%	6%	6%	28%	50%
Council incentive scheme	22%	11%	33%	0%	33%
Health related	0%	11%	16%	21%	53%
Home rating	8%	0%	0%	8%	83%

Appendix C 2018 Eco Design Advisor Customer Survey

Eco Design Advisor Service Feedback Survey

At some stage in the last two years, you received free and independent advice from the Eco Design Advisors at your local council. We are really interested to know how useful the advice you received and how effective the advice was in helping you to make changes to your home.

We are conducting this survey to get your feedback, in order to improve the service. The survey should only take 10 minutes to complete.

All surveys completed by **November 5th 2018** will go in the draw to win one of two gift-vouchers worth $150 from a local home improvement store.

This survey is being conducted by the Research and Evaluation Unit (RIMU) of Auckland Council on behalf of your local council. The results of this survey will be confidential and will be reported in summary only, and your individual responses will not be shared with the Eco Design Advisor Service.

About the Eco Design Advisor Service

The first sets of questions are designed to collect information regarding the advice you received on your project from the Eco Design Advisor Service.

1A How did you find out about the Eco Design Advisor service?
Please select as many as apply

☐ Council staff
☐ Council publication
☐ Media article
☐ Word of mouth
☐ Advertisement (newspaper or magazine)
☐ Library/display
☐ Show/presentation
☐ Council website
☐ Eco Design Advisor website
☐ Facebook/social media
☐ Other website
☐ Other (please specify)

☐ Don't know

1B What were the main things you wanted to achieve from the advice?
Please rank the reasons form highest priority to lowest

Warmer house	Drop items on the placeholders below to rank them
More comfortable house	**1**
Sprite	**2**
Improve my/my family's health	**3**
Less damp house	
Less mould in house	
Greater resale value	
Easier to sell house	
More attractive house	
Reduce running costs	
Reduce environmental impact	
Better use of space	

1C Did you have any other motivations to use the Eco Design Advisor Service?

Page 2

2A Where was the property located that you receive advice about?
Select one

- ○ Auckland
- ○ Christchurch
- ○ Nelson
- ○ Lower Hutt
- ○ Palmerston North
- ○ Other (please state)

2B What type of property did you receive advice about?
Select one

- ○ Standalone house - one storey
- ○ Standalone house with two or more storeys
- ○ Town house attached horizontally
- ○ Apartment
- ○ Other (please state)

2C Which best describes the project you wanted advice about?
Select as many as apply

- ☐ New house build
- ☐ Extension of an existing home
- ☐ Renovation of an existing home
- ☐ Home improvement/retrofit (e.g. insulation, heating, solar water heating, water tank)
- ☐ Other (please specify)
- ○ Don't know

2D Which best describes the property about which you received project advice on?
Select one

- ○ Your own home
- ○ A rental or investment property you own
- ○ A property that you rent
- ○ Other (please state)

2E Thinking about the project you received advice on, how useful do you think the service was?

1 - Not at all useful	2	3	4	5 - Extremely useful	Don't know
○	○	○	○	○	○

2F Do you have any other comments about the advice you received?

2G How useful did you find the information materials (fact sheets, brochures etc.) given to you by the Eco Design Advisor Service?

1 - Not at all useful	2	3	4	5 - Extremely useful	Don't know	Not applicable
○	○	○	○	○	○	○

2H Do you have any other comments about the advice you received?

2I Which topics did you discuss with the advisor?
Select as many as apply

- ☐ Solar orientation
- ☐ Choosing materials
- ☐ Landscape design
- ☐ Ventilation/causes of mould/moisture
- ☐ Water heating
- ☐ Energy/water efficiency
- ☐ Rainwater/greywater reuse
- ☐ Ceiling and/or underfloor insulation
- ☐ Draught proofing doors and windows
- ☐ Government subsidy
- ☐ Health related
- ☐ Other (please specify)
- ☐ Design/layout
- ☐ Waste reduction
- ☐ Curtains and blinds
- ☐ Home heating
- ☐ Renewable energy
- ☐ Energy efficient lighting
- ☐ Wall insulation
- ☐ Avoiding/replacing downlights
- ☐ Double/secondary glazing
- ☐ Council incentive scheme
- ☐ Home rating
- ○ Don't know

If your answer to question 2I includes "Don't know" or your answer to question 2I includes "Other (please state)" or you didn't answer question 2I then move to page 4

Otherwise move to page 3

Page 3

3A For the topics you discussed with the advisor, how useful did you find the advice?

	1 - Not at all useful	3	3	4	5 - Extremely useful
Solar orientation	○	○	○	○	○
Design/layout	○	○	○	○	○
Choosing materials	○	○	○	○	○
Waste reduction	○	○	○	○	○
Landscape design	○	○	○	○	○
Curtains and blinds	○	○	○	○	○
Ventilation/causes of mould/moisture	○	○	○	○	○
Home heating	○	○	○	○	○
Water heating	○	○	○	○	○
Renewable energy	○	○	○	○	○
Energy/water efficiency	○	○	○	○	○
Energy efficient lighting	○	○	○	○	○
Rainwater/greywater reuse	○	○	○	○	○
Wall insulation	○	○	○	○	○
Ceiling and/or underfloor insulation	○	○	○	○	○
Avoiding/replacing downlights	○	○	○	○	○
Draught proofing doors and windows	○	○	○	○	○
Double/secondary glazing	○	○	○	○	○
Government subsidy	○	○	○	○	○
Council incentive scheme	○	○	○	○	○
Health related	○	○	○	○	○
Home rating	○	○	○	○	○

Page 4

4A Did you make, or do you intend to make, any changes to the property as a result of the advice you received?
Please select as many as apply

☐ Yes

☐ No

☐ Don't Know

☐ Not Applicable

If your answer to question 4A is "Yes" then move to page 5

Otherwise move to page 9

Page 5

If your answer to question 4A is "Yes" then stay on this page

Otherwise move to page 6

5A What changes have you <u>already</u> made to the property as a result of advice you received?

Thermal Efficiency/ Passive Design

☐ Installed more/higher level of ceiling insulation

☐ Installed more/higher level of underfloor insulation

☐ Installed more/higher level of wall insulation

☐ Draught proofed doors and windows

☐ Installed lined curtains/drapes/roman blinds

☐ Installed double/secondary/higher level of glazing

☐ Changed plans for new house/extension to collect more sunlight

☐ Changed design/layout of new house/renovation for better thermal efficiency

Moisture reduction/ventilation

☐ Installed underfloor vapour barrier/polythene groundsheet

☐ Vented dryer to the outside/purchased condenser dryer

☐ Provided a covered clothesline

☐ Installed bathroom extractor/vented outside

☐ Installed rangehood/vented outside

☐ Installed other ventilation improvement (e.g. burglary-stays on windows)

Efficient low emission heating

☐ Installed low emission woodburner/pellet burner

☐ Installed heat pump

☐ Installed flued gas burner

☐ Reduced use of/replaced unflued gas heater

☐ Installed other efficient heating system (e.g. central heating)

Efficient hot water/renewable energy

☐ Installed new hot water cylinder/cylinder wrap/pipe lagging

☐ Installed solar hot water system

☐ Installed heat pump hot water system

☐ Installed other efficient hot water system (e.g. instant gas, wetback)

☐ Installed renewable energy system (e.g. PV)

Energy and water efficient appliances and fittings

☐ Installed energy efficient lighting/replaced downlights

☐ Purchased energy efficient appliances

☐ Purchased water efficient toilet/shower head/flow restrictor

☐ Installed rainwater tank

☐ Installed greywater system

Materials/waste/landscaping

☐ Chose low-VOC/more renewable materials

☐ Reduced construction waste

☐ Maximised permeable surfaces on landscaping/ stormwater management feature

Other improvements

☐ Other improvement(s) (please specify)

5B Have you applied for funding assistance, if so what type?

☐ A government subsidy

☐ A council incentive scheme (please specify)

If your answer to question 2D is not "A rental or investment property you own" then answer this question

5C Thinking about the changes you have made as a result of the advice, have you noticed any changes of the following?
Select as many as apply

☐ Warmer house

☐ House feels more comfortable to live in

☐ Less mould/moisture in house

☐ Improved health/lower medical bills

☐ Lower water/energy use/bills

☐ I have not noticed any effects

☐ Other (please specify)

○ Don't know

Page 6

If your answer to question 4A is "Yes" then stay on this page

Otherwise move to page 7

6A What changes are you <u>intending</u> to make to the property as a result of advice you received?

Thermal Efficiency/ Passive Design

☐ Install more/higher level of ceiling insulation

☐ Install more/higher level of underfloor insulation

☐ Install more/higher level of wall insulation

☐ Draught proof doors and windows

☐ Install lined curtains/drapes/roman blinds

☐ Install double/secondary/higher level of glazing

☐ Chang plans for new house/extension to collect more sunlight

☐ Chang design/layout of new house/renovation for better thermal efficiency

Moisture reduction/ventilation

☐ Install underfloor vapour barrier/polythene groundsheet

☐ Vent dryer to the outside/purchased condenser dryer

☐ Provide a covered clothesline

☐ Install bathroom extractor/vented outside

☐ Install rangehood/vented outside

☐ Install other ventilation improvement (e.g. burglary-stays on windows)

Efficient low emission heating

☐ Install low emission woodburner/pellet burner

☐ Install heat pump

☐ Install flued gas burner

☐ Reduce use of/replaced unflued gas heater

☐ Install other efficient heating system (e.g. central heating)

Efficient hot water/renewable energy

☐ Install new hot water cylinder/cylinder wrap/pipe lagging

☐ Install solar hot water system

☐ Install heat pump hot water system

☐ Install other efficient hot water system (e.g. instant gas, wetback)

☐ Install renewable energy system (e.g. PV)

Energy and water efficient appliances and fittings

☐ Install energy efficient lighting/replaced downlights

☐ Purchase energy efficient appliances

☐ Purchase water efficient toilet/shower head/flow restrictor

☐ Install rainwater tank

☐ Install greywater system

Materials/waste/landscaping

☐ Choose low-VOC/more renewable materials

☐ Reduce construction waste

☐ Maximise permeable surfaces on landscaping/ stormwater management feature

Other improvements

☐ Other improvement(s) (please specify)

6B Do you intend to apply for funding assistance, if so what type?

☐ A government subsidy

☐ A council incentive scheme (please specify)

Page 7

If your answer to question 4A is "Yes" then answer this question

7A As a result of the advice you received from the Eco Design Advisor Service, did you decide <u>NOT TO</u> proceed with anything you had planned beforehand?

○ Yes

○ No

○ Don't know

○ Not applicable

If your answer to question 7A is "Yes" then answer this question

7B Do you have any other comments about the advice you received?

Page 8

If your answer to question 2D is "A rental or investment property you own" then stay on this page

Otherwise move to page 9

Earlier in the survey you indicated that you had used the Eco Design Advisor Service to get adivce about a rental or investment property you own.

These questions relate to any tenants of the property.

8A What are your tenants doing differently as a result of the advice?
Select as many as apply

☐ Close curtains prior to sunset
☐ Dry clothes outside
☐ Clothes washing: full loads, cold wash
☐ Turn off appliances at the wall
☐ Turn off lights when leaving a room
☐ Turn off extra freezer or fridge
☐ Use windows/doors to vent rooms
☐ Limit shower time
☐ Use extractor fans
☐ Use timer on bathroom fan/towel rail
☐ Move bed away from under window
☐ Don’t heat unused rooms
☐ Recycle and compost food waste
☐ Other (please specify)

○ Don't know
○ Not doing anything differently

Page 9

9A **Do you think there are other topic areas that the Eco Design Advisor Service should also provide advice on?**

Select as many as apply

☐ Transport or public transport

☐ Accessibility/universal design

☐ Civil Defence

☐ Community resilience

☐ Occupant health

☐ Other (please specify)

○ Don't know

9B **Do you have any other comments, or suggestions for how we could improve or better promote the Eco Design Advisor Service to others?**

Page 10

About you and the property

This set of questions is designed to collect information about the types of people who use our services and to assist us with promoting this service to others.

10A **How many live in your current household?**

Select one

○ One person

○ Two people

○ Three people

○ Four people

○ Five or more people

○ Don’t know

10B **What best describes your current household arrangements?**

Select one

○ One-person household

○ Couple only

○ Couple with child(ren)

○ One parent with child(ren)

○ Two or three family household

○ Household of unrelated people

○ Other (please specify)

○ Don't know

10C What age group are you in?
Select one

○ Under 18

○ 18-24

○ 25-39

○ 40-64

○ 65 or older

○ Prefer not to answer

10D Which ethnic group(s) do you identify with?
Select the choice or choices which apply to you

☐ New Zealand European/Pakeha

☐ Maori

☐ Samoan

☐ Cook Island Maori

☐ Tongan

☐ Niuean

☐ Chinese

☐ Indian

☐ Other (please state)

Page 11

11A Thank you for your time and for using the Eco Design Advisor service.

If you would like to go into the draw for one of two gift-vouchers worth $150 for a home improvement store, please indicate below.

○ Yes - I would like to go in the draw

○ No - I don't want to enter

Thank you!

We would love to hear from you if you have any other questions. You can contact us through your council or you can find our individual contact details on the website.

http://www.ecodesignadvisor.org.nz/contact-us/

Find out more: phone 09 301 0101, email rimu@aucklandcouncil.govt.nz or visit aucklandcouncil.govt.nz **and knowledgeauckland.org.nz**

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