



Pool Pumps: An Investigation of Swimming Pool Pumps in Australian and New Zealand

A research report prepared for the Department of the Environment and Energy

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1. Executive Summary

1.1 Background

The Equipment Energy Efficiency (E3) program aims to improve the energy efficiency of appliances and equipment sold in Australia and New Zealand, through the use of energy rating labelling, setting minimum energy performance standards (MEPS) and education and training.

The E3 Committee has asked the Commonwealth Department of the Environment and Energy (“the department”) to investigate the costs and benefits of introducing MEPS and mandatory labelling for swimming pool pumps. To support this investigation, the department commissioned Woolcott Research & Engagement to report on consumer behaviour and decision making around swimming pool pumps.

1.2 Objectives

The department sought an understanding of the decision making process of consumers, as well as the attitudes of pool installers, builders, retailers and suppliers and their influence on consumers within the decision making process.

Other objectives included finding out about the pool pump market in general, the replacement rates of pumps, the locational differences in pool pump use and consumer interest in energy efficiency.

1.3 Methodology

The project involved both quantitative and qualitative components:

Quantitative Fieldwork - Consumers

The survey involved n=1,752 online interviews amongst household pool owners from an online panel provider throughout Australia and New Zealand.

The questionnaire was approximately 15 minutes in length, and the fieldwork was carried out between 17 June and 5 July 2016.

Qualitative Fieldwork - Industry Representatives

A series of n=30 face-to-face in-depth interviews were carried out amongst installers/builders, and retailers/suppliers as follows:

- New South Wales n=5 retailers/suppliers, and n=6 installers/builders;
- Victoria n=4 retailers/suppliers, and n=4 installers/builders; and
- Queensland n=6 retailers/suppliers, and n=5 installers/builders.

1.4 Summary of Findings

Quantitative Findings - Consumers

Pool and Spa Details

- Almost nine in ten respondents had a household pool (87 per cent), while a third had a spa (33 per cent). One fifth (20 per cent) had both a pool and a spa.
- Spas were most commonly prefabricated fibreglass spas (72 per cent), most typically accommodating four people (37 per cent).
- Just under half of all pools were installed by the respondent (47 per cent) rather than being pre-existing.
- The majority of pools were in-ground concrete pools (59 per cent). Almost 3 in 10 were fibreglass (29 per cent), while around one in ten were above ground (12 per cent).
- Saltwater pools were the most common in Australia (60 per cent), while the majority of pools represented in the New Zealand sample were chlorine (73 per cent).
- Just over a half of all pool owners indicated that they had a sand filter (52 per cent).
- The single most common pool size was 8 x 4 m (or equivalent) (21 per cent).
 - 33 per cent of all pools represented were smaller than this.
- Just over half of all pools had at least one additional feature (52 per cent), with solar water heating being the most common individual feature (27 per cent).
- More than four fifths of all respondents indicated that they did their own pool maintenance (82 per cent).

Pool and Spa Pumps

- The majority of respondents only had one pump (59 per cent).
- Most pumps were single speed (54 per cent). However, 33 per cent of pumps were unaccounted for in terms of type – as respondents indicated that they did not know the type of pump they had.
- Many respondents did not know the size of the pump(s) they had (52 per cent of pumps were unknown in terms of size).
- More than three quarters of all pumps represented were said to be on a timer (77 per cent).

- Just over two fifths of all pumps were under five years old (42 per cent).
- As may be expected, the hours pumps were run were said to vary by season:
 - In Summer, nearly half of all respondents indicated that their pump(s) ran for 5-8 hours a day (45 per cent);
 - In Autumn, more than half ran for 1-4 hours a day (52 per cent); and
 - In Winter, almost two thirds ran for 1-4 hours a day (63 per cent).
- Noise did not appear to be a major issue, with only a quarter of respondents concerned about the noise made by the pump (25 per cent).
 - In addition, only 14 per cent were aware of local noise restrictions, and only a minority of respondents altered their pump system to minimise noise (12 per cent).

Experiences in Replacing a Pump

- Less than one in three respondents had experienced replacing a pump for a spa (27 per cent).
- Pool pumps were much more likely to have been replaced (50 per cent of respondents indicated that they had replaced a pool pump).
- Pumps that were replaced generally lasted for 5-10 years (39 per cent of spas, and 42 per cent of pools).
- At the time of pump replacement most owners at least considered an alternative pump (71 per cent for spas, and 69 per cent for pools). Of those who considered alternatives, 45 per cent of spa owners and 51 per cent of pool owners chose a different pump.
 - Price and recommendations were the most likely reasons for changing to a different pump;
 - Price was also a main factor amongst those deciding to select the same pool pump that they had previously.

Energy Use

- Two fifths of all respondents believed that their pool/spa pump(s) used 15 per cent or less of their household electricity. However, around one quarter (24 per cent) of the respondents did not know how much electricity their pump used.
- A similar proportion said they were on a general tariff rate and paid a single price for electricity (39 per cent), and 28 per cent did not know what tariff they were on.
- Interestingly though, almost six in ten claimed to be concerned with the electricity used by their pump(s) (59 per cent).

- Cleaning the filter and adjusting the length of time the pump is running were said to be the most common measures undertaken to increase pump efficiency (65 per cent and 64 per cent respectively).
- Most survey respondents indicated they did not know which pump type would be the most efficient or the most effective (60 per cent for each).

Pool Pump Purchase Decision Making

- Price and quality were seen to be the two most important factors when selecting a pump (indexed scores of 76 and 73 out of 100 respectively).
- Industry professionals (both pool maintenance and pool retail shops) were reportedly the most common sources of information (55 per cent and 47 per cent respectively). However, almost two fifths of the respondents also claimed to do online research (39 per cent).
- Even so, the majority claimed to make their own decision in relation to purchase (56 per cent).
- Most pumps were purchased at a specialist pool shop (58 per cent) or through a pool maintenance person (19 per cent) where there was an opportunity for staff to make recommendations. Only 10 per cent were purchased online, and 5 per cent at large retail stores (where they were unlikely to obtain specialist advice).

Qualitative Findings – Swimming Pool Industry (retailers, suppliers, installers and builders)

Pool Trends

- In some areas (particularly new developments with smaller block sizes) pools were said to be smaller now than they were previously.
- New pools were also said to be more likely to contain additional features (including general water features such as fountains and waterfalls/cascades, as well as swim jets, and automatic cleaners).
- A few participants indicated that swim spas¹ were a trend in some areas.

Pool Pump Trends

- Along with additional features, newer pools were said to be more likely to have multiple pumps than they did previously (in order to cater for the additional features).
- A single speed pump seemed to be the most commonly used pump type (for replacement installation and supplied as part of a new pool build).

¹ A swim spa is a machine that allows the user to swim continuously against a water current.

Pool Pump Purchase Decision Making

- Overall, the industry representatives suggested that the pool owner often has little involvement in selecting the pool pump type (single, dual, multiple or variable).
- The builders/installers indicated that they propose a pool package to potential customers (that includes a certain pump specification), but they did not feel that decisions were made based on that detailed level (i.e. they believed that customers were comparing the quote for the whole pool, not the individual components).
- The retailers/suppliers believed that customers were not particularly knowledgeable (or engaged in some instances), and so were likely to rely on their advice.
- While some customers may enter a retail outlet seeking a like-for-like pump replacement, the shop attendant may take the opportunity to recommend something else.
- It was said that specific pool brands were seldom sought.
- The main factor in the decision making process was thought to be the upfront price of the pump.
- Some other factors (such as noise or the extent of the warranty offered) were said to play a role in some circumstances (but not most).

The builders/suppliers were less likely to indicate that price was a main factor, as the pump was included in a total pool package (and was a minor price item). However, they did feel that it played some role at the lower end of the market.

Information and Education

- The retailers/suppliers felt that they were adequately informed, though there appeared to be a high reliance on manufacturers for information (from sales representatives, manufacturer websites, and through the supply of brochures etc.).
- Only a few participants mentioned undertaking a formal Certificate III TAFE course in pool maintenance.
- The industry participants did not feel that the customers were knowledgeable in relation to any aspect of their pool pump(s) – though they also tended to indicate that they did not feel they had a desire to be knowledgeable.
- There were suggestions that only a small proportion of customers do their own research online before making enquires in a pool shop.
- There was some mention of consumers attending pool and spa shows.

The Voluntary Labelling Program

- Overall, the industry representatives were suggesting that the program was having little impact on customer decision making.

- Those in Queensland indicated that rebates had had a big impact when they were in place, but they did not feel that the momentum towards efficient pumps had been maintained after the rebates ceased.
- Some retailers/suppliers felt that a mandatory system would assist them in educating customers, while others felt that it had no value, and would simply result in them needing to explain to customers why they would recommend against the high star rated pumps.

Variable Speed/Energy Efficient Pumps

- There were mixed reactions to the claims that variable speed pumps were more efficient and cost effective.
- Some participants were dismissive of these claims – with the main reason for this claim being the belief that a variable speed pump running at a low speed would have to run for longer in order to generate the required flow rate / water turnover.
- Some participants believed that there were some cost savings to be made, but felt that manufacturer claims were over-stated.
- Others were convinced that variable speed pumps should always be recommended.

Operational & Performance Measures

- Pump selection was generally seen to be based on a number of factors (such as filter type/specifications, pool size, plumbing configuration, purpose, and location).
- Variable speed pumps were not seen as suitable replacements for all situations. Aspects such as the housing footprint (the space available for the placement of the pump) and intended use (the type of features it would be used for) were seen to be limitations.
- Pumps were generally not seen to last as long as they used to. While some of this was attributed to cheaper manufacturing processes/componentry, owner maintenance was also seen to play a role.
- Participants indicated a preference for local manufacture (or assembly) for quality and service reasons.

Internet Sales

- The retailers/suppliers felt that internet sales were increasing.
- While this was understood to have a direct impact on their businesses, the participants also expressed concern over the quality of the products that were available online (suggesting that they were generally inferior, and unlikely to have any real longevity).
- Some felt that the internet was used as a way of establishing a benchmark price (for a certain pump type) prior to seeking in-person advice from pool shop workers.

Conclusions, Key Outtakes and Implications

1. Price appears to be the main driver in the purchasing decisions of consumers and this appears to be confirmed by industry professionals. Communication should highlight the potential cost savings to be gained from use over the life of a typical pump. However, it is important that such claims are realistic and not over-stated.
2. Many consumers do not know the types of pumps they have in their pool showing a lack of engagement with their pool and/or spa pump(s).
3. Consumers are seeking advice from pool professionals to help them in their purchasing decisions showing the importance of these professionals in influencing the decision making in relation to pool and spa pumps.
4. Retailers/builders/suppliers/installers have divided views on the energy efficiency claims of pumps and are providing mixed messages and in some cases misinformation. Therefore, there is a need to directly address some of these misconceptions in communication about variable speed pumps.
5. Some consumers are also turning to online sources for information and purchase highlighting the need for simple, accurate and easy to use information online.

2. Background and Objectives

The Equipment Energy Efficiency (E3) program is a cross jurisdictional program which aims to deliver a single, integrated program on energy efficiency standards and energy labelling for equipment and appliances across Australia and New Zealand.

One of the aims of the program is to improve the energy efficiency of appliances and equipment sold, through the inclusion of energy rating labelling, setting minimum energy performance standards (MEPS) and education and training.

The E3 Committee is currently considering introducing MEPS and mandatory labelling for swimming pool pumps, however to supplement this investigation, evidence was needed to understand consumer behaviour and decision making around swimming pool pumps.

Prior investigations had revealed that the selection of swimming pool pumps by consumers can be based on a number of factors such as the size and type of the pool, amount of information available, the influence of the retailer or pool professional, and the consumer's pool use. To assist in the current investigation, the Department of the Environment and Energy felt that insights were needed to:

- Understand swimming pool pump consumers decision making process, usage patterns and thoughts on the energy efficiency of their pool pump through the deployment of a quantitative survey; and
- Understand the attitudes of pool installers/builders and pool retailers/suppliers and their influence on consumers within the decision making process via qualitative research.

3. Methodology

In terms of research design, the study was comprised of an online survey approach amongst consumers, as well as a series of in-depth interviews with a range of installer/builders and retailers/suppliers. In total, the design involved the following phases:

- Questionnaire development/refinement and discussion guide development;
- Main fieldwork (both quantitative and qualitative);
- Analysis of results; and
- Presentation and reporting of results.

3.1 Quantitative Fieldwork - Consumers

Questionnaire Development and Pilot Testing

After an initial project planning/inception meeting between the DIIS and Woolcott teams, a draft questionnaire was supplied to the Department for review and comment. Once revisions were made (based on feedback received) the questionnaire was examined in detail by two industry representatives (one retailer/supplier, and one builder/installer). These industry representatives recommended several changes to optimise consumer comprehension of the question set and several additional questions. These changes were presented to the Department and approved prior to being adopted.

The finalised questionnaire was then set up in an online environment – with a test link provided to the Department for testing prior to being launched. Once approved, a ‘soft-launch’ was carried out. This involved the questionnaire being completed by n=30 respondents. Completed surveys were then analysed and carefully scrutinised to check for flow, skips and any potential routing issues. Once checked, the questionnaire was ready for a full-scale launch.

While the online questionnaire was scripted and hosted by Woolcott, a panel provider (TEG Rewards) was used to provide the necessary sample.

Main Quantitative Fieldwork

The survey involved n=1,752 online interviews amongst household pool owners throughout Australia and New Zealand.

The questionnaire was approximately 15 minutes in length. Fieldwork was carried out between 17 June and 5 July 2016.

In order to ensure that the results were as representative of pool owners as possible, target quotas were established on a state by state basis for the Australian component. These quotas were determined from the most up to date ABS pool ownership figures available – they are not based on the population of people, but rather the known population of pools. The target and achieved sample breakdown is presented below in Table 1.

Table 1: Details of the target quotas and end sample by location

Location	Target Quota	End Sample
New South Wales	536	543
Victoria	233	236
Queensland	410	416
South Australia	87	87
Western Australia	213	213
Tasmania	11	11
Northern Territory	31	15
Australian Capital Territory	10	10
NEW ZEALAND	219	221
TOTAL	1750	1752

Percentages and Averages

Percentages are rounded to whole numbers and so in some cases percentages may not add to 100 per cent due to rounding.

Mean scores have been calculated for scale questions and have been rounded to one decimal place.

Test of Statistical Significance

A test for statistical significance has been conducted to indicate those differences (from the total) in results that are considered to be significant at the 95 per cent confidence interval. This means that if a statistically significant result between the total and a sub-group emerges, we can be confident that this has not occurred by chance.

Where statistical differences occurs, they have been noted.

Small Sample Sizes

For some of the key questions, results have been shown by location. However, due to the small sample sizes involved the results for the Australian Capital Territory, Northern Territory, and Tasmania are not depicted.

Generally, where base sizes of less than n=40 have resulted, a warning has been included with the outcomes, and results can be considered to be 'indicative' at best.

3.2 Qualitative Fieldwork – Industry Representatives

Again, based on outcomes from the project planning/inception meeting, Woolcott Research provided the Department with draft Discussion Guides for application amongst the installers/builders, and retailers/suppliers.

Once approved, a series of n=30 face-to-face in-depth interviews were carried out as follows:

Table 2: Details of the qualitative in-depth interviews by location

Location	Retailers/Suppliers	Installers/Builders
New South Wales	5	6
Victoria	4	4
Queensland	6	5
TOTAL	15	15

Qualitative Recruitment

Recruitment for the qualitative interviews was conducted in-house by Woolcott Research's telephone interviewers using electronic Yellow Pages listings. Experienced interviewers invited the industry representatives to participate in the sessions according to a screener questionnaire and the participant's own schedule.

Confirmation emails or telephone calls were then sent/ made in the days leading up to the appointment.

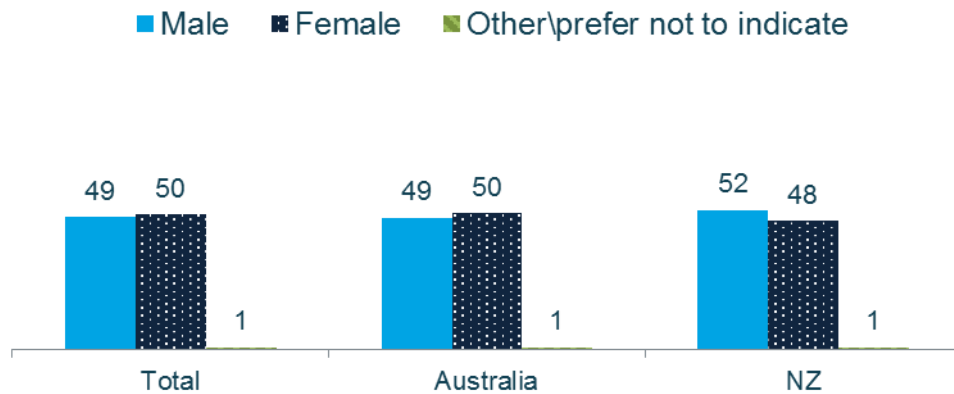
Participants were paid a cash incentive (of \$100) at the conclusion of the discussion session.

4. Respondent Profile

4.1 Age and Gender of Respondents

At the end of the quantitative surveys, respondents were asked to reveal their gender and age. Overall, the respondents were almost evenly split by gender, with 49 per cent indicating that they were male, and 50 per cent indicating that they were female.

Figure 1: Gender of Respondents

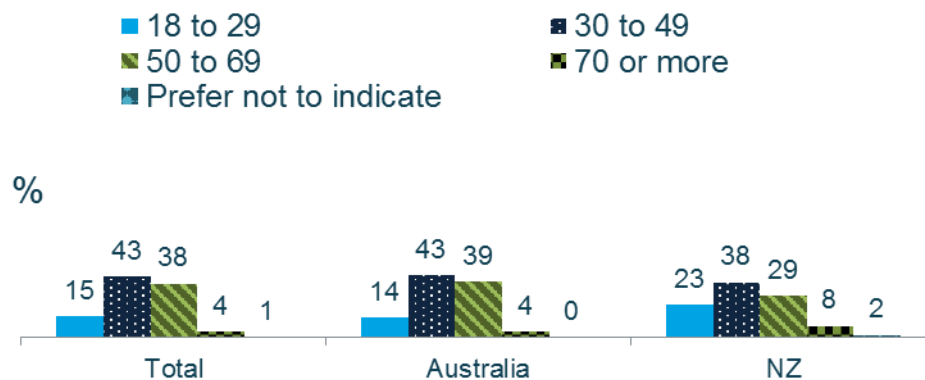


D3. Please indicate your gender

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

In terms of age, a relatively small proportion of respondents were aged under 30 (15 per cent), though the incidence of this was significantly higher amongst the New Zealand respondents (23 per cent). Around four in ten were aged 30 to 49 (43 per cent), and a similar proportion were aged 50 to 69 (38 per cent).

Figure 2: Age Range of Respondents



D4. Please indicate your age

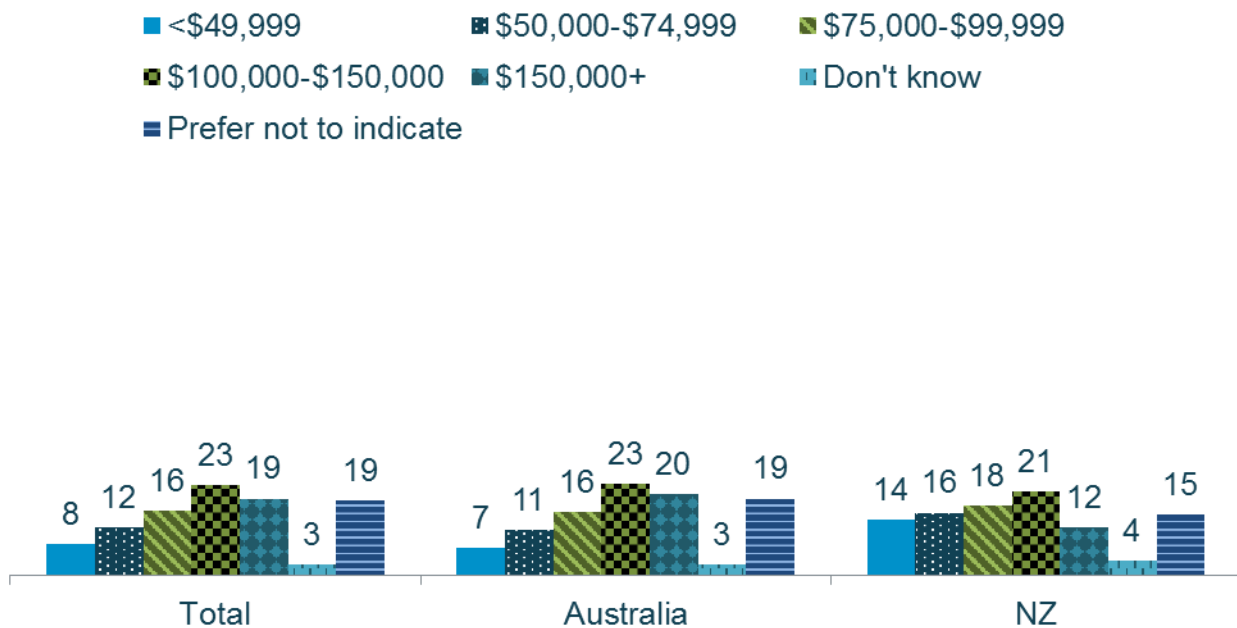
BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

4.2 Household Income

Respondents were also asked to reveal their household income (either in AUD or NZD). While almost one in five (19 per cent) chose not to indicate their household income, most respondents did. Overall, it can be seen that the dollar household income of Australian respondents was higher than that of the New Zealand respondents (43 per cent of Australian respondents had a household income of \$100,000 or more, compared with 33 per cent of New Zealand respondents).

Respondents from Western Australia were significantly more likely (than all respondents) to have a household income of \$150,000 or more (26 per cent, compared with 19 per cent for all respondents). In terms of the lower household income category, respondents in New Zealand were significantly more likely than all respondents to indicate a household income lower than \$50,000 per annum (14 per cent).

Figure 3: Household Income of Respondents



D5. What is your household income?

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

5. Pool and Spa Details

5.1 Incidence of Pool and Spa Ownership

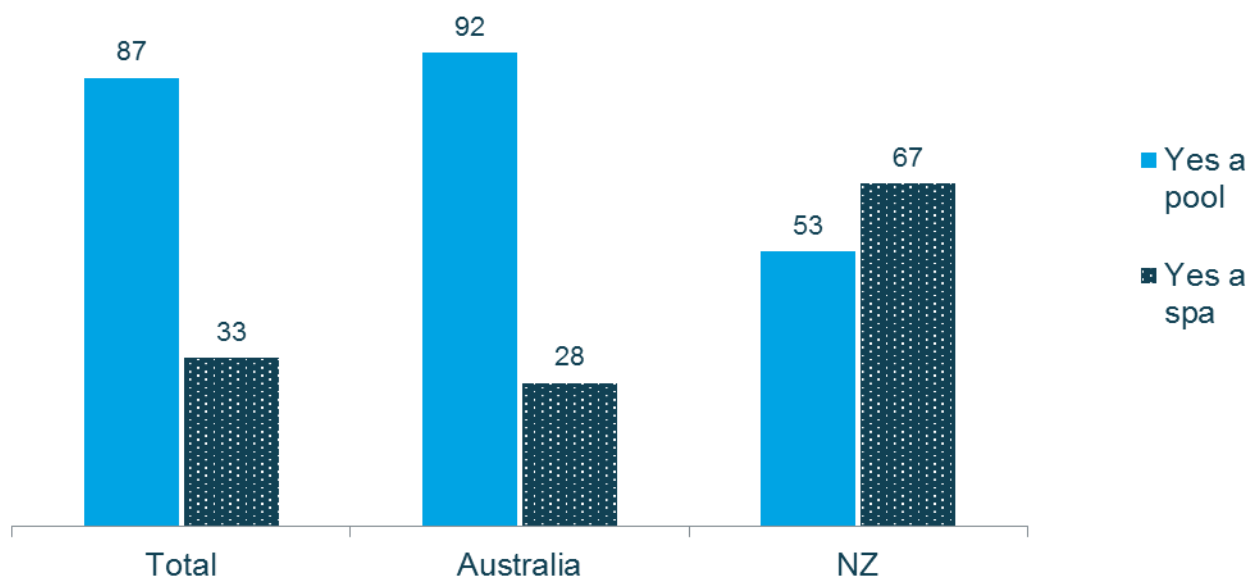
Respondents in the quantitative survey were screened to ensure that they were all home owners in Australia and New Zealand who were responsible for a pool and/or spa on their property. They were not required to reside within the property that contained the pool and/or spa.

Overall, the large majority of respondents were pool owners (87 per cent), with a third indicating that they owned a spa (33 per cent). The Australian respondents were significantly more likely (than the total respondent base) to have a pool (92 per cent), while the New Zealand respondents were significantly more likely to have a spa (67 per cent). Within both markets two in ten respondents (20 per cent) had both a pool and a spa.

Respondents in Queensland and New South Wales were also significantly more likely (when compared with total respondent base) to have a pool (95 per cent and 94 per cent respectively), as were those with a household income in excess of \$150,000 per annum (92 per cent).

Spa ownership was significantly higher in Victoria (43 per cent), as well as amongst those who had a household income of between \$75,000 and \$100,000 per annum (41 per cent).

Figure 4: Incidence of Having a Pool or Spa



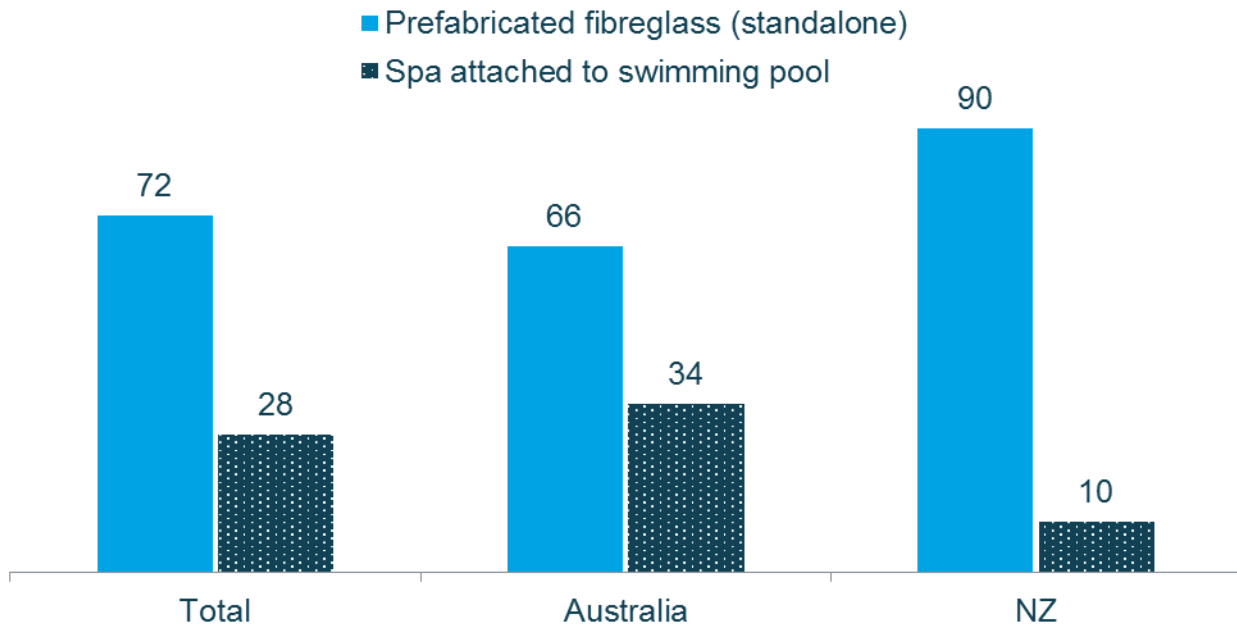
S1. Do you own a house with a pool or spa (even if you don't currently live there)?
BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

5.2 Spa Details

Amongst those who owned a spa, the majority indicated that they had a standalone prefabricated fibreglass spa (72 per cent). This was significantly higher amongst New Zealand respondents (90 per cent).

Just under three in ten spa owners indicated that their spa was attached to a pool (28 per cent). Incidence of having an attached spa was significantly higher amongst respondents in Victoria and New South Wales (38 per cent and 37 per cent respectively) as well as respondents with a household income of \$150,000 per annum or more (43 per cent).

Figure 5: Type of Spa Owned



Q1. Which type of spa do you currently have?

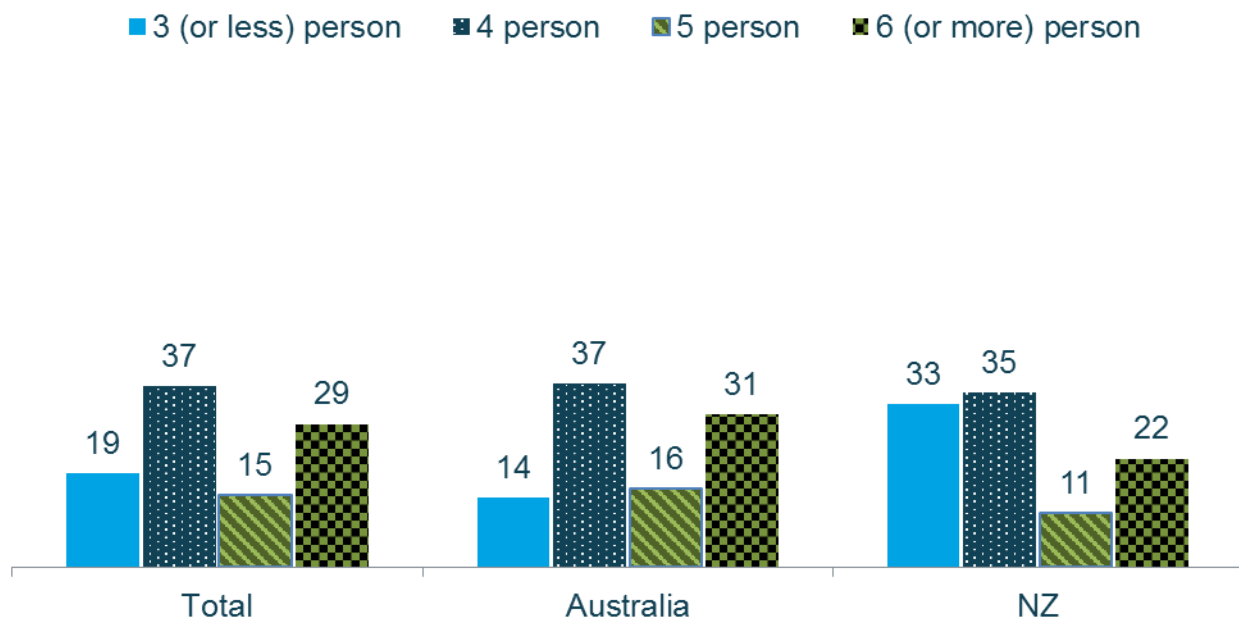
BASE: Respondents with a spa (Total n=574; Australia n=427; New Zealand n=147)

Those who owned a spa were also asked to reveal the size of the spa they owned. Just under two in ten respondents indicated that they had a spa that would fit three or less people (19 per cent). Incidence of having this smaller spa size was significantly higher amongst New Zealand respondents (33 per cent).

Under four in ten respondents with a spa indicated that they had a four person spa (37 per cent), while fewer (15 per cent) had a five person spa.

Just under three in ten respondents with a spa (29 per cent) indicated that they had a larger spa (with a capacity of six or more people). Those in Victoria were significantly more likely to have a larger spa (46 per cent), as were those with a household income of \$150,000 per annum or more (47 per cent).

Figure 6: Size of Spa Owned



Q2. What size is your spa?

BASE: Respondents with a spa (Total n=574; Australia n=427; New Zealand n=147)

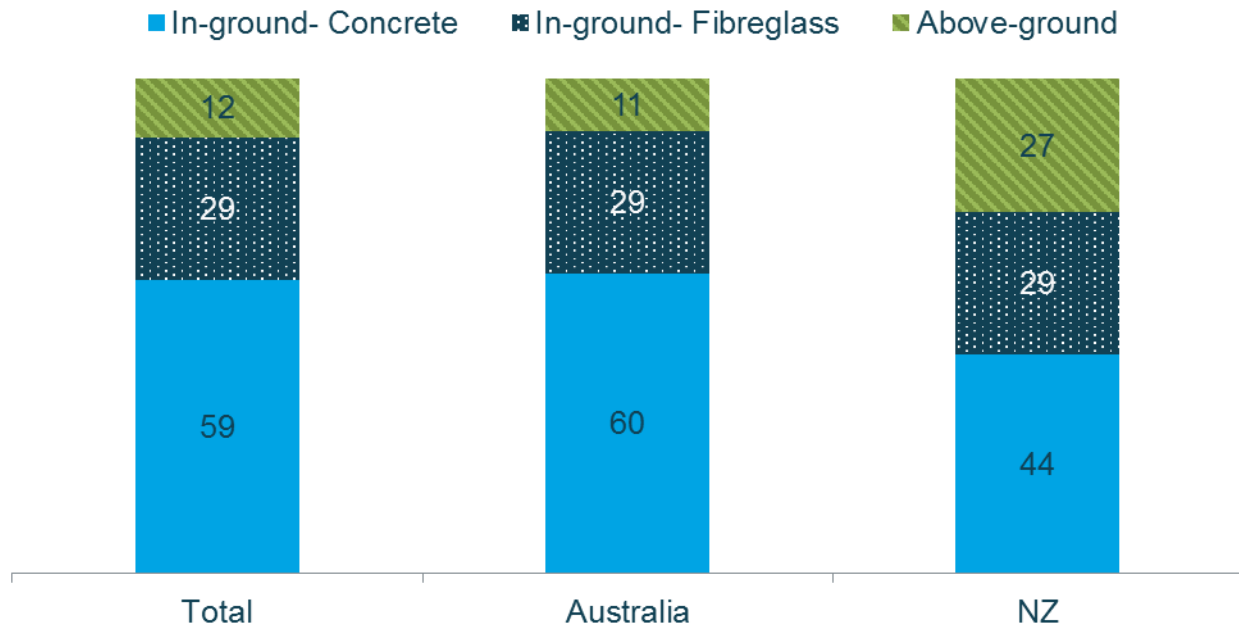
5.3 Pool Details

Overall, in-ground concrete pools were the most common type of pool, making up the majority of pools in Australia (60 per cent) and being the most common pool type in New Zealand (though significantly lower at 44 per cent). Within Australia, respondents from Queensland had a significantly higher ownership rate of in-ground concrete pools (70 per cent), while those from South Australia and Western Australia had significantly lower ownership rates for this pool type (48 per cent and 40 per cent respectively). Conversely, those who earned in excess of \$150,000 were significantly less likely to own an above-ground pool (7 per cent).

Around three in ten respondents indicated that they had an in-ground fibreglass pool (29 per cent), and the incidence of this was significantly higher amongst Western Australian respondents (56 per cent).

Just over one in ten respondents (12 per cent) indicated that they had an above-ground pool, though the incidence of this was significantly higher in New Zealand (27 per cent). Those whose annual household income was less than \$50,000 were also significantly more likely to have an above-ground pool (23 per cent).

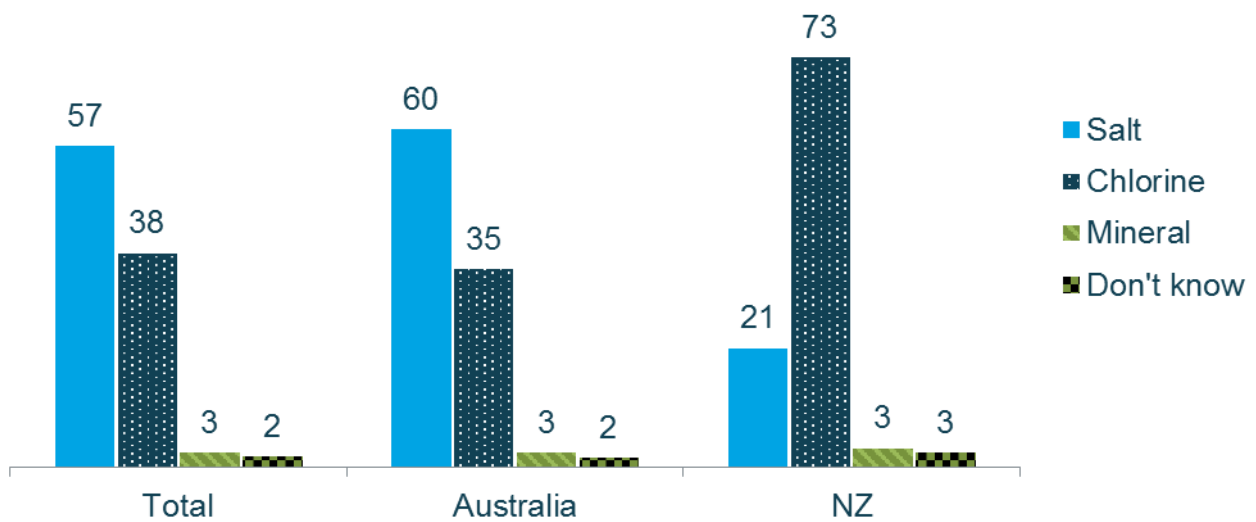
Figure 7: Type of Pool Owned



Q3. Which type of pool do you currently have?
BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Overall, the most common type of water used in Australian pools was salt water (60 per cent), which differs significantly from New Zealand, which had a higher incidence of chlorinated water (73 per cent). This trend varied from state to state, with pools in New South Wales being statistically more likely to have chlorinated water (44 per cent), while those in Queensland, Western Australia and South Australia being significantly more likely to use salt water (69 per cent, 69 per cent, and 67 per cent respectively).

Figure 8: Type of Pool Water



Q4. Is your pool a salt, chlorine or mineral pool?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Respondents were also asked to indicate the size of their pool. While the questionnaire contained seven potential sizes to select from, it also allowed for respondents to fill in their own pool size (which 6 per cent of respondents chose to do). A new category (of pools larger than 10m x 5m) was created from this, and the remaining 4 per cent were coded back into the pre-defined categories where the surface area was the same or very similar (e.g. a 6m x 6m pool was coded back into the 9m x 4m category). Three arbitrary categories ('smaller', 'mid' sized, and 'larger') were created from this.

Almost a third of all pools can be seen to fit into the 'smaller' pool category (32 per cent), though pools in New Zealand, and those with an above-ground pool were significantly more likely to be in this category (40 per cent and 53 per cent respectively).

Just under four in ten were in the 'mid' sized category (38 per cent), while just under three in ten were classified as 'larger' pools.

Table 3: Pool Size

Pool size	Total (n=1527) %	Australia (n=1409) %	NZ (n=118) %
Smaller			
5m x 3m	7	6	13
6m x 3m	10	10	11
7m x 3m	16	16	16
Mid			
8m x 4m	21	21	16
9m x 4m	17	18	13
Larger			
10m x 4m	15	15	13
10m x 5m	11	12	8
Larger than 10 x 5m	2	2	10
Don't know	1	1	-

Q6. How big is your pool?

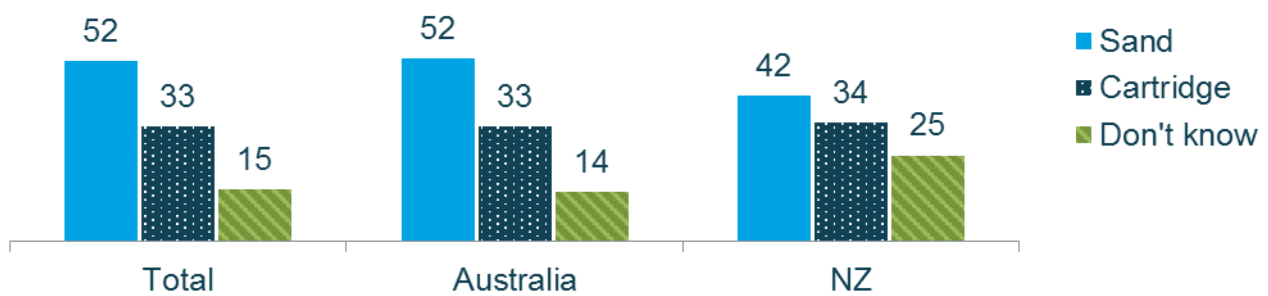
BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Sand filters were the most common type of filter used by respondents across both Australia and New Zealand (52 per cent and 42 per cent respectively). Sand filters were significantly more likely to be used with salt water pools and amongst those with 'larger' pools (60 per cent and 59 per cent respectively).

Cartridge filters accounted for roughly a third of pool filters (33 per cent in Australia and 34 per cent in New Zealand). This filter type was significantly more likely to be used with 'smaller' sized pools, and with in-ground fibreglass pools (40 per cent for each).

Respondents who were unaware of the pool filter type they had made up 15 per cent. This was significantly higher amongst the New Zealand respondents (25 per cent). Those who had built their own pool were significantly more likely to know their filter type (only 11 per cent did not know their filter type).

Figure 9: Type of Pool Filter



Q5. Have you got a sand or cartridge filter?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Table 4: Filter Type by Location

Filter Type	New South Wales (n=508) %	Victoria (n=204) %	South Australia (n=82) %	Western Australia (n=193) %	Queensland (n=394) %	Total Australia (n=1409) %	New Zealand (n=118) %
Sand	50	56	48	56	53	52	42
Cartridge	34	28	39	29	34	33	34
Don't Know	15	14	13	15	13	14	25

Q5. Have you got a sand or cartridge filter?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Just over half of respondents with a pool indicated that they had an additional feature installed (52 per cent). The most common type of feature was solar water heating (27 per cent), which was significantly more common amongst Victorian and South Australian respondents with a pool (57 per cent and 48 per cent respectively).

Spa jets were also relatively common (as indicated by 24 per cent of those with a pool). Respondents with a pool in Victoria were significantly more likely to have this feature (30 per cent).

Generic water features (with no further description) were also indicated by 15 per cent of pool owners.

It follows that just under half of all pool owners indicated that their pool did not have an additional feature (48 per cent), and the incidence of this was significantly higher amongst respondents from New South Wales and those who had an above-ground pool (54 per cent and 70 per cent respectively).

Table 5: Additional Pool Features

Additional pool features	Total (n=1527) %	Australia (n=1409) %	NZ (n=118) %
Solar water heating	27	27	17
Spa jets	24	24	19
Water feature	15	15	14
Water fountain	9	8	15
Waterslide	4	3	8

Additional pool features	Total (n=1527) %	Australia (n=1409) %	NZ (n=118) %
Lighting	1	1	-
Heat pump	0	0	1
Swim jets	0	0	1
Water auto heat	0	-	1
None	48	47	55

Q7. What additional features does your pool have?

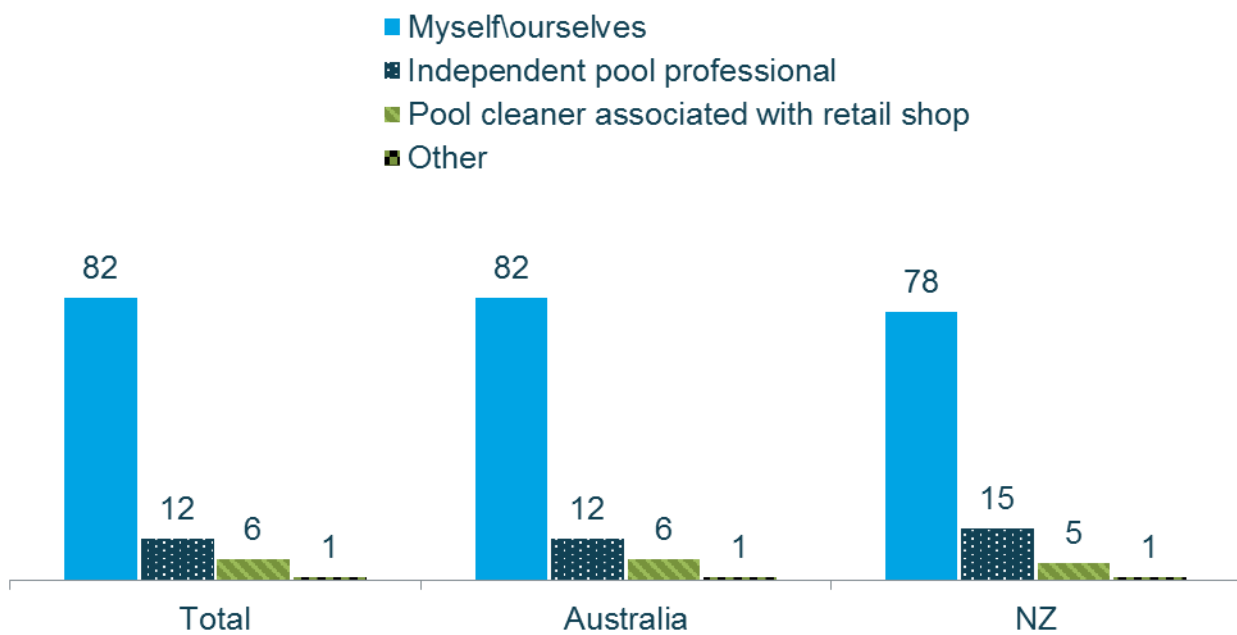
BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

The majority of respondents with a pool indicated that they were responsible for their own pool maintenance (82 per cent). Those with an above-ground pool were significantly more likely to carry out their own maintenance (96 per cent), as were those who had responsibility for the building/installation of the pool on their property (88 per cent).

Independent pool professionals were used by 12 per cent of respondents with a pool, and this was significantly higher amongst those with 2 or 3+ pool pumps (19 per cent and 23 per cent respectively). Of those in the highest income bracket, only 13 per cent use an independent pool professional for maintenance.

Pool cleaners associated with retail shops were said to be used by 6 per cent of those with pools.

Figure 9: Pool Maintenance



Q38. Who does the pool maintenance?
BASE: Respondents with a pool ONLY (Total n=1178; Australia n=1104; NZ n=74)

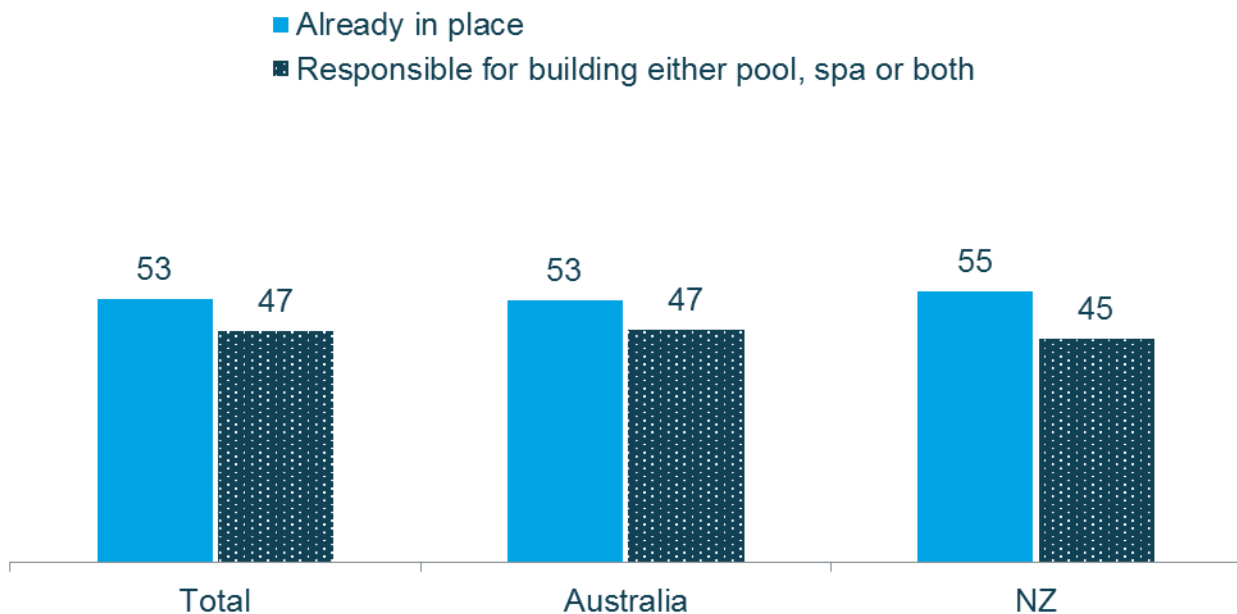
5.4 Pool and Spa Responsibility

All respondents (with a pool or spa) were also asked to indicate if their pool or spa (and accompanying equipment) were existing when they purchased the property, or if they were responsible for building/installing it.

Just under half of respondents had been responsible for building either a pool, spa or both (47 per cent), and the incidence of this was significantly higher amongst those with an in-ground fibreglass pool, and an above-ground pool (58 per cent and 64 per cent respectively were built by their owners).

The majority of those who owned in-ground concrete pools had purchased the property with the pool already built (62 per cent). Those under the age of 30 predominantly come to own a pool by buying properties with pre-existing pools (60 per cent), while those over 50 are significantly more likely to have built their own (54 per cent).

Figure 10: Responsibility for Pool and/or Spa



Q8. Was your pool or spa and accompanying equipment (pump, filter, pump housing unit) existing when you bought the property or were you responsible for the building of the pool or spa?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

6. Pool and Spa Pumps

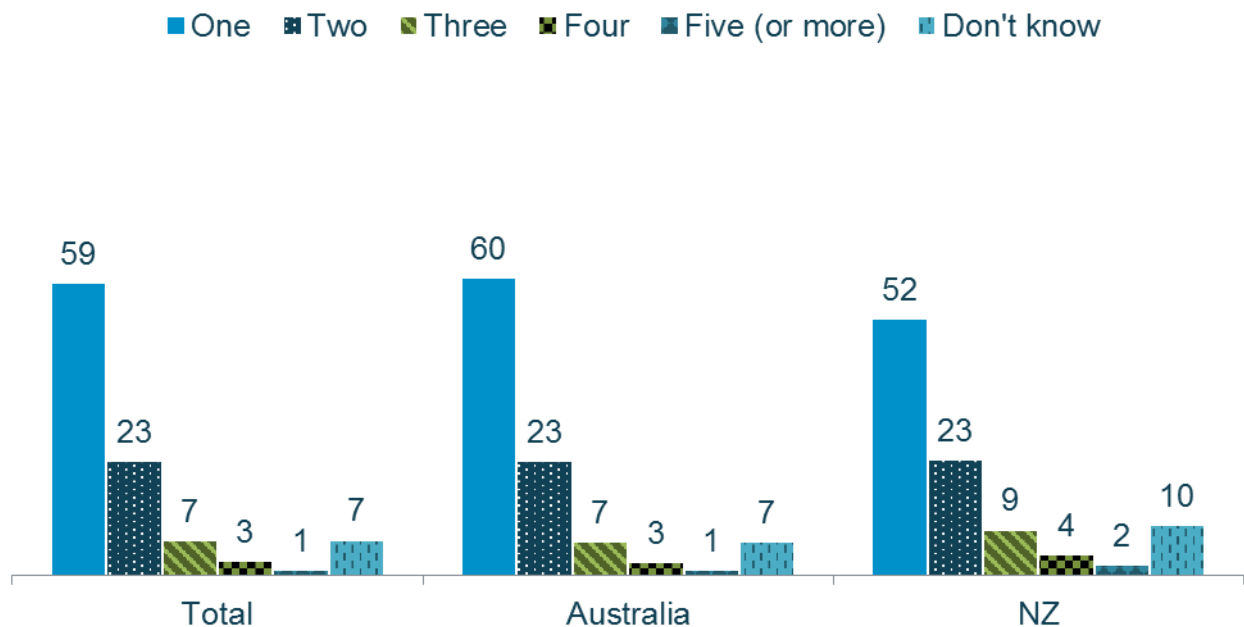
6.1 Pump Details

All respondents were asked to indicate how many different pumps they had associated with their pool and/or spa.

The majority of respondents indicated that they only had one pump associated with their pool and/or spa (59 per cent). The incidence of having only one pump was significantly higher amongst respondents in Queensland (71 per cent), those with an above-ground pool (70 per cent), as well as those with 'smaller' pools, and those with salt water pools (65 per cent each).

Just over one in ten respondents indicated that they had three or more pumps associated with their pool and/or spa (11 per cent), and the incidence of this was significantly higher amongst those with both a pool and a spa (32 per cent). There was no difference in pump numbers between income levels.

Figure 11: Number of Pumps



Q9. Altogether, how many pumps do you have running for your pool and/or spa (including for additional features such as a water feature, water slide etc.)?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

As respondents were permitted to provide the detail of up to seven different pumps (if they had that many, as depicted at Figure 14 above), the results for the following five questions are on a ‘total number of pumps’ basis. That is, each individual pump is accounted for, and the results are not on a respondent basis, but are instead based on all pumps represented in the study (n=2,671).

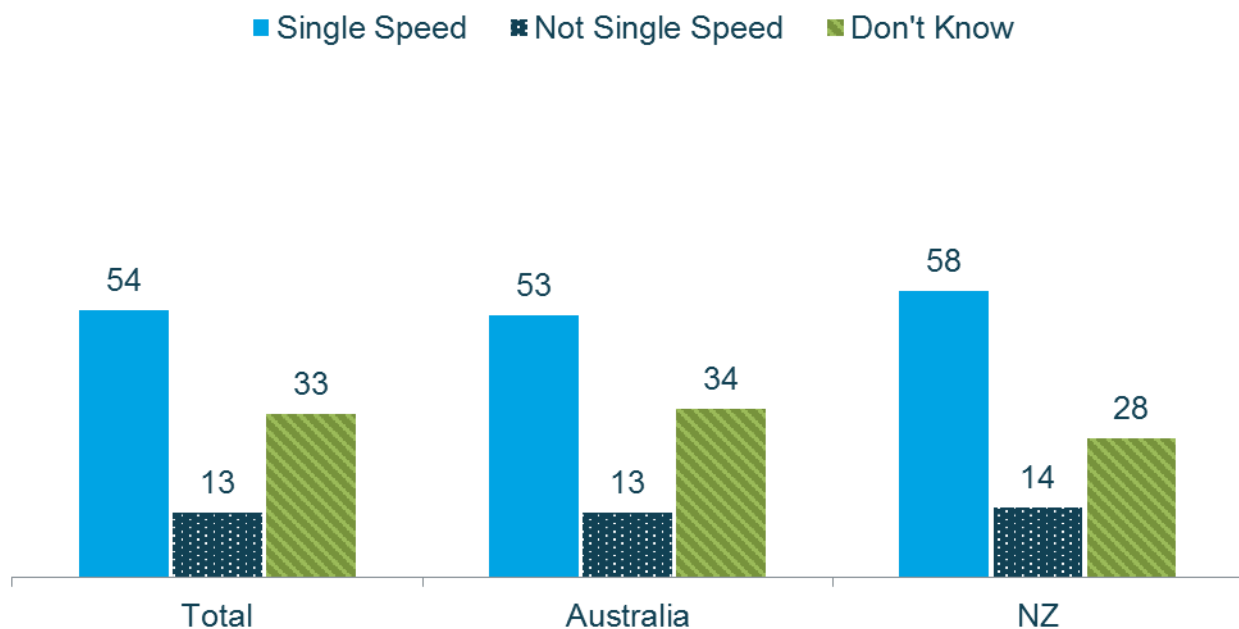
Single speed pumps comprised just over a half of all pumps represented in the study (54 per cent).

Only 13 per cent of all pumps were said to be other than single speed (i.e. another pump type), and incidence of this was significantly higher amongst those who owned three or more pumps (24 per cent).

The research highlights the lack of knowledge regarding pump type. One third of all pumps mentioned were unaccounted for in terms of type, as their owners were unable to state if they were single speed or otherwise (33 per cent). Incidence of not knowing the pump type was significantly higher amongst those with only one pump (44 per cent), respondents aged under 30 (44 per cent), and those with ‘smaller’ pools (40 per cent).

There were no real differences by income group.

Figure 12: Type of Pump



Q10. What type of pump do you have on your pool and/or spa?
BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Table 5: Type of Pump by Location

Pump Type	New South Wales (n=838) %	Victoria (n=419) %	South Australia (n=145) %	Western Australia (n=308) %	Queensland (n=543) %	Total Australia (n=2307) %	New Zealand (n=364) %
Single Speed	51	57	53	58	50	53	58
Non-Single Speed	16	6	18	11	14	13	14
Don't Know	34	37	29	30	36	34	28

Q10. What type of pump do you have on your pool and/or spa?
BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Table 6: Type of Pump by Income

Income Group	Pool Pumps Single Speed (n=1209) %	Pool Pumps Not Single Speed (n=301) %	Don't Know (n=648) %
<\$50,000	52	16	32
\$50,000-\$75,000	55	14	31
\$75,000-\$100,000	60	14	26
\$100,000-\$150,000	58	13	29
\$150,000+	52	15	33

Q10. What type of pump do you have on your pool and/or spa?
BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Table 7: Type of Pump by Pool Type

Pump Type	In-Ground Concrete (n=1384) %	In-Ground Fibreglass (n=682) %	Above-Ground (n=250) %
Single Speed	53	54	52
Not Single Speed	11	17	7
Don't Know	36	28	41

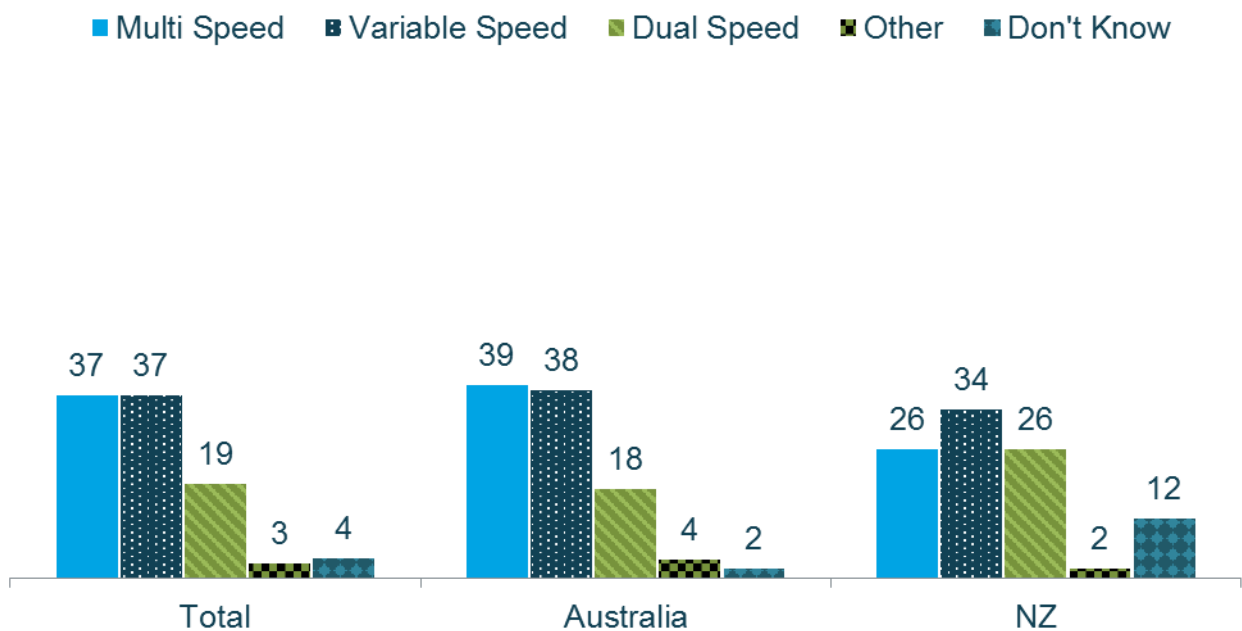
Q10. What type of pump do you have on your pool and/or spa?
BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Of all the non-single speed pumps that were owned by respondents (n=346), nearly one in four were either a multiple speed or a variable speed pump (37 per cent for each), while nearly two in ten were dual speed pumps (19 per cent).

Variable speed pumps were significantly more common in Queensland, where they represented half of all the non-single speed pumps in that region (50 per cent). In Victoria, respondents were significantly less likely to own variable speed pumps (15 per cent).

The incidence of having a dual speed pump was significantly higher in South Australia (38 per cent).

Figure 13: Details of Non Single Speed Pumps

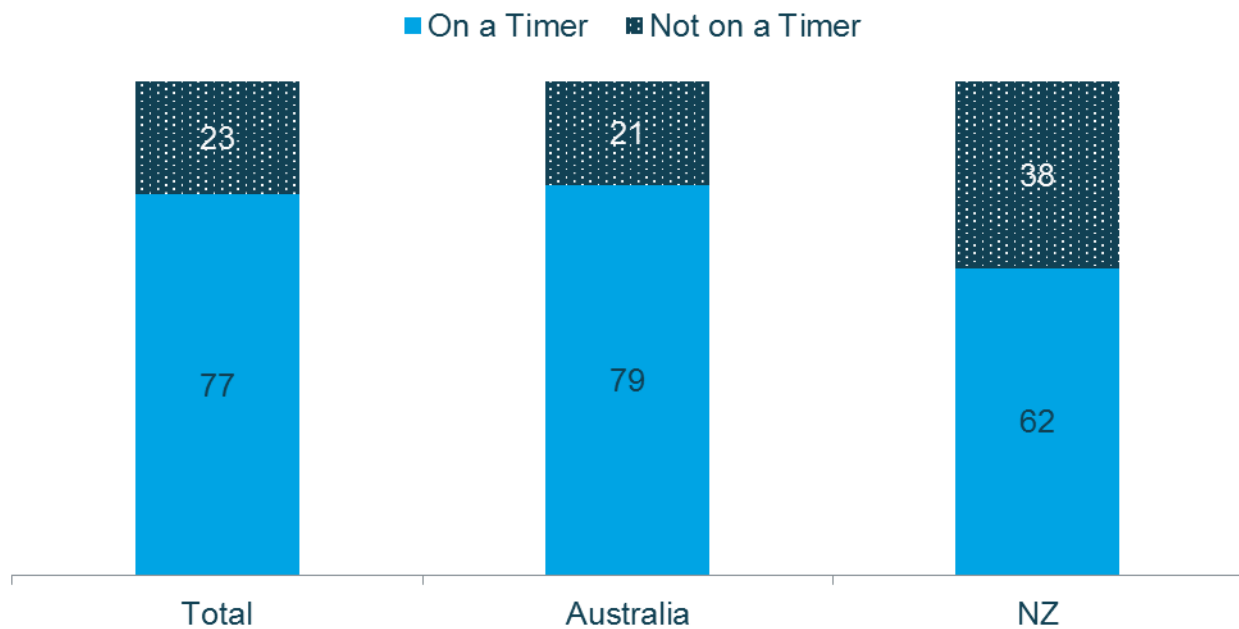


Q11. If the pump is not single speed, what type of pump do you have?
BASE: Pumps that are not single speed (Total n=346; Australia n=296; NZ n=50)

The majority of all pumps owned by respondents were kept on a timer (77 per cent), however this was significantly lower in New Zealand where only six in ten pumps were kept on a timer (62 per cent), as well as in Victoria (68 per cent). Pumps associated with above-ground pools were also significantly less likely to have timers (59 per cent).

Pumps associated with in-ground concrete and in-ground fibreglass pools were more likely to be on a timer (85 per cent and 89 per cent respectively), as were those associated with mid-sized and 'larger' sized pools (86 per cent and 85 per cent respectively). Pumps owned by respondents who had a household income of more than \$150,000 per annum were also significantly more likely to be on a timer (86 per cent).

Figure 14: Incidence of Pumps Being Controlled by a Timer



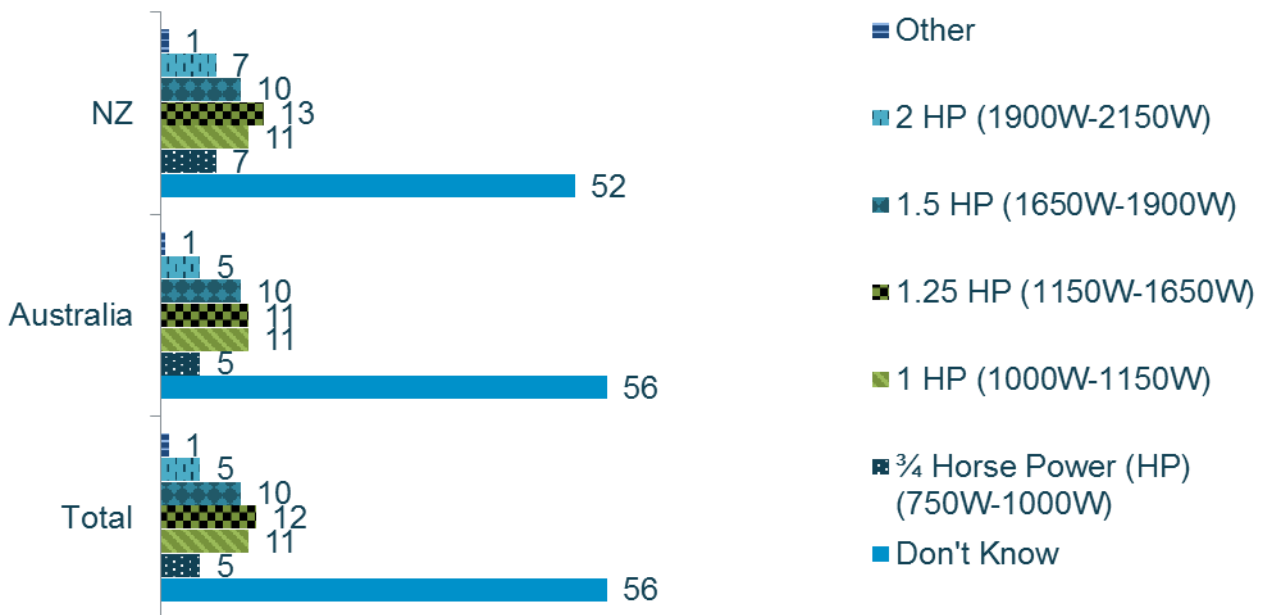
Q11. Which of these pumps is controlled by a timer?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

In terms of the size of the pumps represented in the study, Figure 18 shows that this is an area where there is a clear lack of knowledge, with more than half of all pumps unaccounted for (56 per cent of pumps were listed as 'don't know' in terms of size). Incidence of not knowing was significantly higher in Queensland (63 per cent), as well as amongst those with only one pump (70 per cent).

The most common pump size indicated was a 1.25 HP pump (12 per cent), though similar proportions were also recorded for both 1.0 HP and 1.5 HP pumps (11 per cent and 10 per cent respectively).

Figure 15: Size of Circulation Pump



Q12. What size circulation pump do you use?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

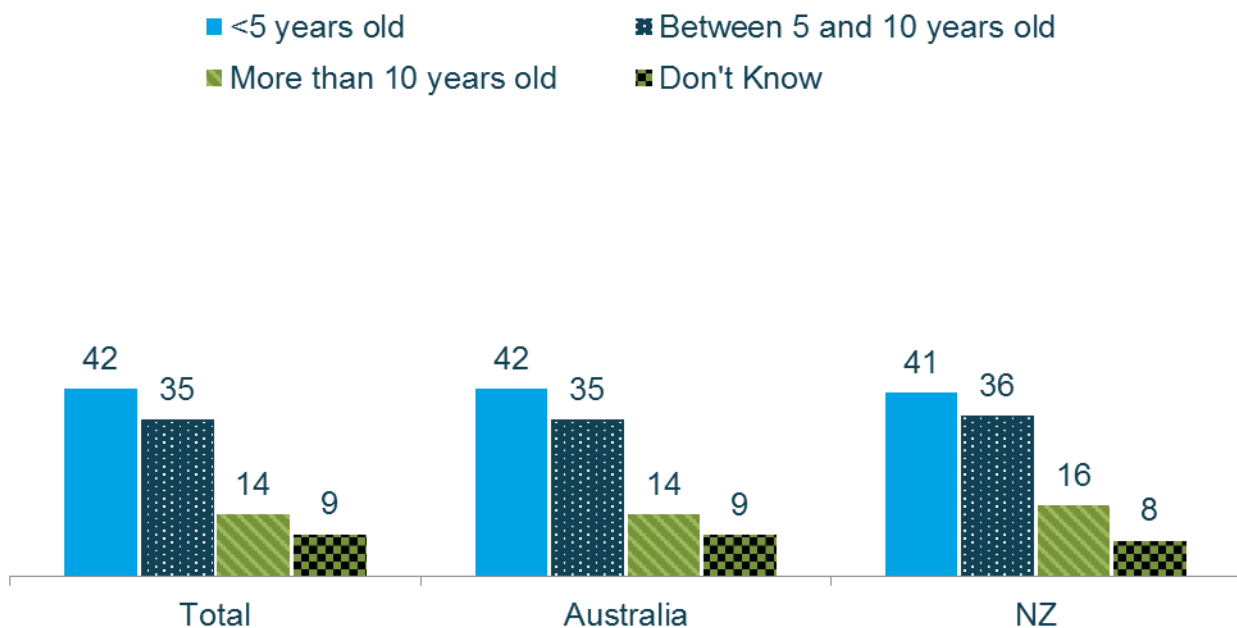
Respondents were asked to indicate the age of the pump(s) they owned, and again these results are presented based on all pumps represented in the study.

More than four in ten pumps were said to be under five years old (42 per cent), with the incidence of this being significantly higher amongst Queensland respondents (49 per cent), as well as those who were responsible for the building/installation of their own pool/spa, and those whose household income was in excess of \$150,000 per annum (47 per cent and 49 per cent respectively).

Interestingly, for around a third of the pumps that were under five years old respondents still did not know what type they were (32%).

More than a third of all pumps were between five and ten years old (35 per cent), while less than one in five were more than ten years old (14 per cent).

Figure 16: Age of Pump



Q13. How old is your pump?

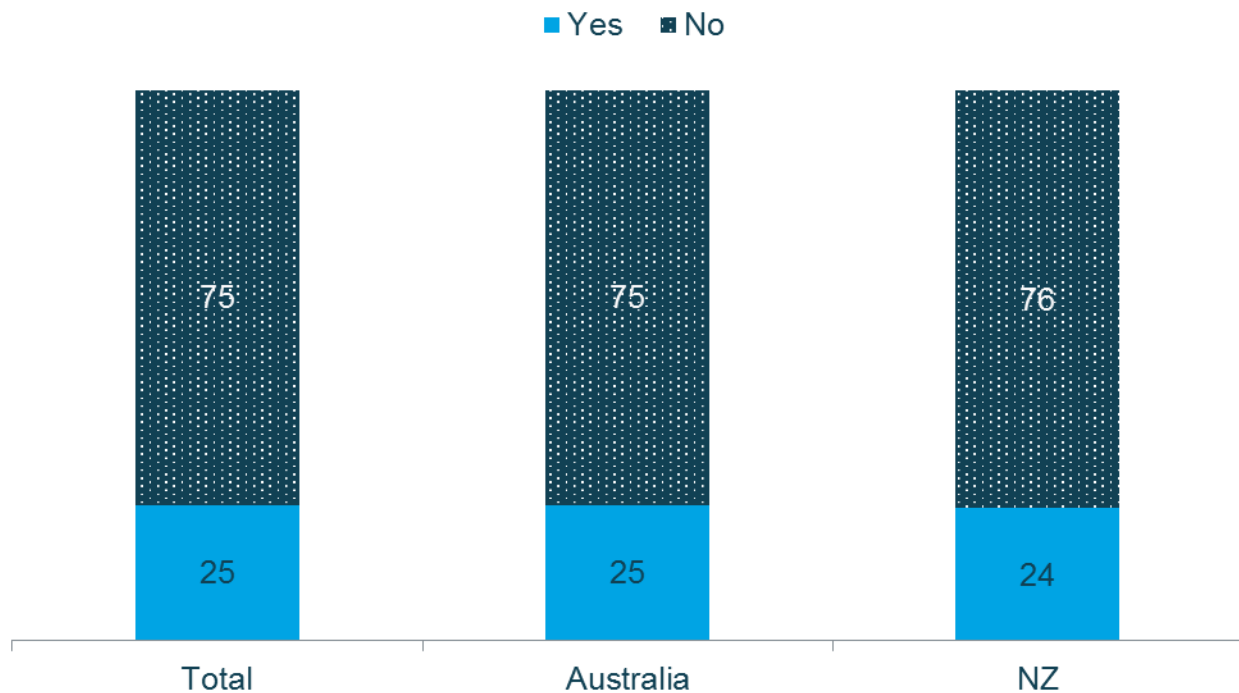
BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

6.2 Noise of Pool or Spa Pumps

All respondents were asked to reveal if they were concerned about the noise that their pool or spa pump makes.

Overall, a quarter of all respondents (25 per cent) indicated that they were concerned about noise. Those who held concerns about the amount of electricity that pool pumps use were significantly more likely to be concerned with the noise that their pump(s) made, as were those who had three or more pumps (33 per cent for each). Those who had previous experience in replacing a pool pump were also significantly more likely to be concerned about noise (29 per cent).

Figure 17: Concern in Relation to Pool and Spa Pump Noise

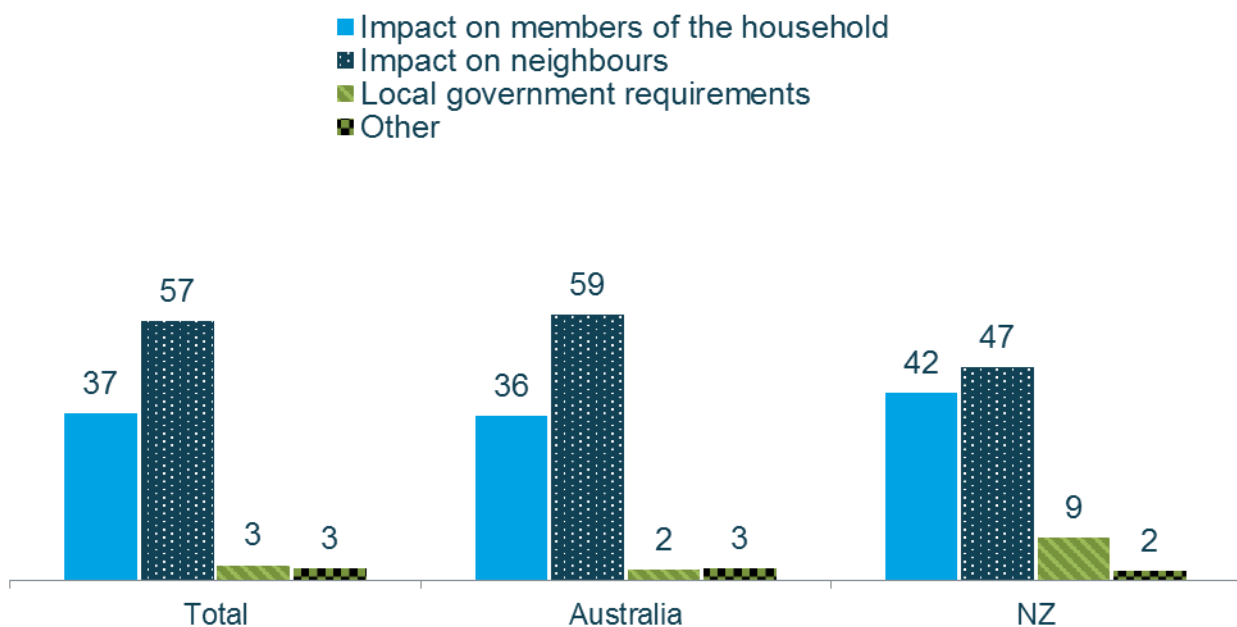


Q31. Are you concerned with the noise your pool or spa pump makes?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Those who indicated that they were concerned about pump noise (25 per cent of all respondents) were then asked to indicate why they were concerned, and the main reason indicated by these respondents was the impact that it had on neighbours (57 per cent). Incidence of being concerned because of the impact on neighbours was significantly higher amongst those aged 50 or more (67 per cent), and those with a household income of between \$100,000 and \$150,000 (68 per cent).

Just under four in ten of those concerned, were concerned about the impact on members of their own household (37 per cent), while only three per cent were concerned because of local government requirements.

Figure 18: Reasons for Concern Relating to Pump Noise



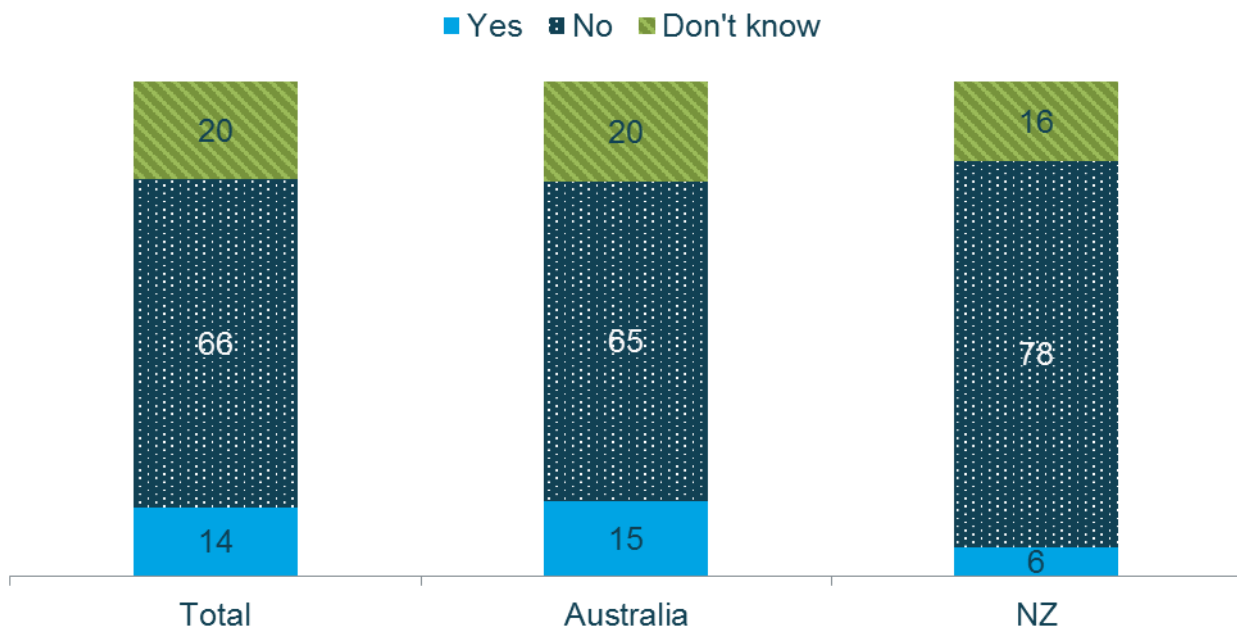
Q32. Why concerned about the noise?

BASE: Respondents who expressed concern in relation to pump noise (Total n=430; Australia n=377; NZ n=53)

All respondents were also asked to indicate if they were aware of any local noise restrictions, and only fourteen per cent were aware. This relatively low awareness level was significantly lower amongst the New Zealand respondents (6 per cent).

Awareness of local noise restrictions was significantly higher amongst those who had previous experience in replacing a pump, respondents in New South Wales, and amongst those aged 50 or more (19 per cent, 18 per cent, and 17 per cent respectively).

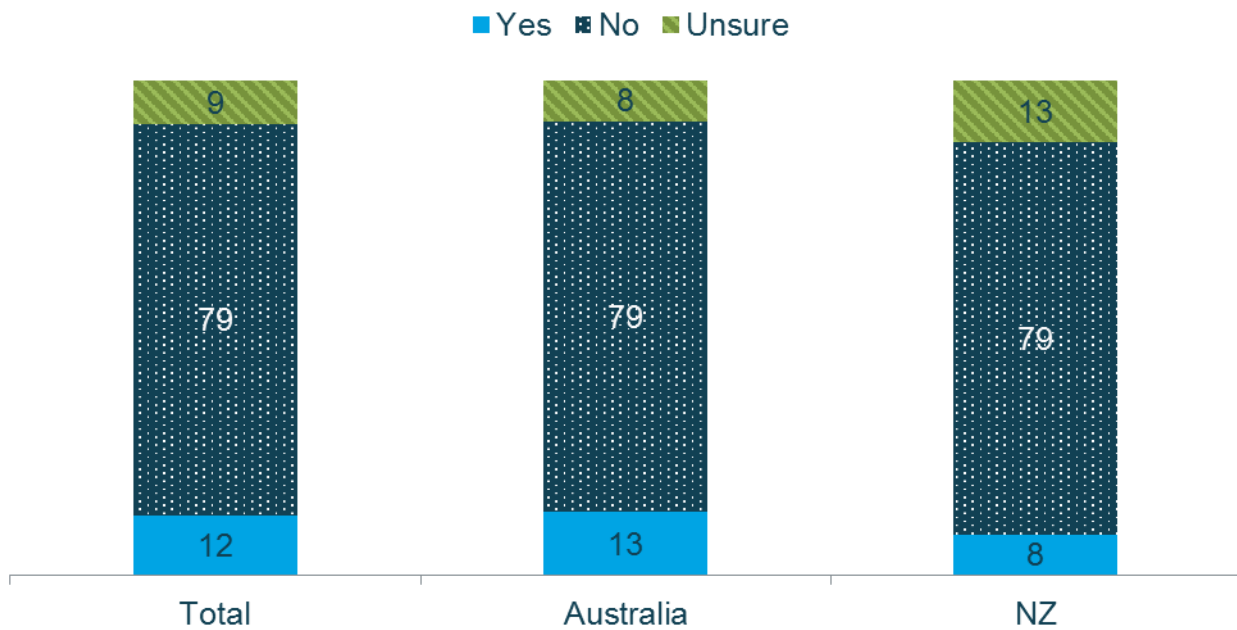
Figure 19: Awareness of Local Noise Restrictions



Q33. Are you aware of noise restrictions for pool and spa pumps in your local area?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Further to this, respondents were asked if they had altered their pump system to minimise noise. The practice of altering or modifying a pump system in order to reduce the amount of noise that it produces was uncommon, but was found to occur at a higher rate in Australia than in New Zealand (13 per cent and 8 per cent respectively). Incidence of this was significantly higher amongst those who had three or more pumps (22 per cent).

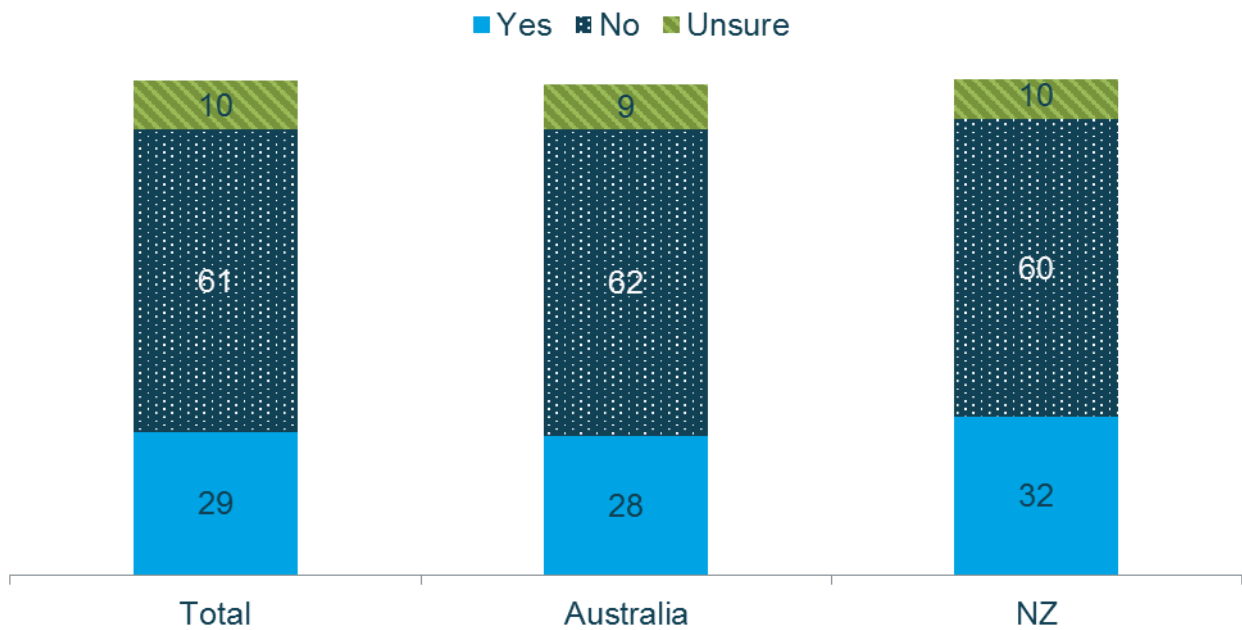
Figure 20: Alteration of Pump Systems to Minimise Noise



Q34. Have you altered your pump system to minimise noise complaints/impacts?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Respondents were also asked if their equipment was kept in a sound proof enclosure. Overall, under three in ten respondents (29 per cent) kept their equipment in a sound proof enclosure. However, there was a significantly higher incidence of this occurring amongst those who owned only a spa (35 per cent), and there was a significantly lower incidence of this occurring amongst those with an above-ground pool (15 per cent).

Figure 21: Incidence of Equipment Being in a Sound Proof Enclosure



Q35. Is your equipment in a sound proof enclosure?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

6.3 Pool Heating

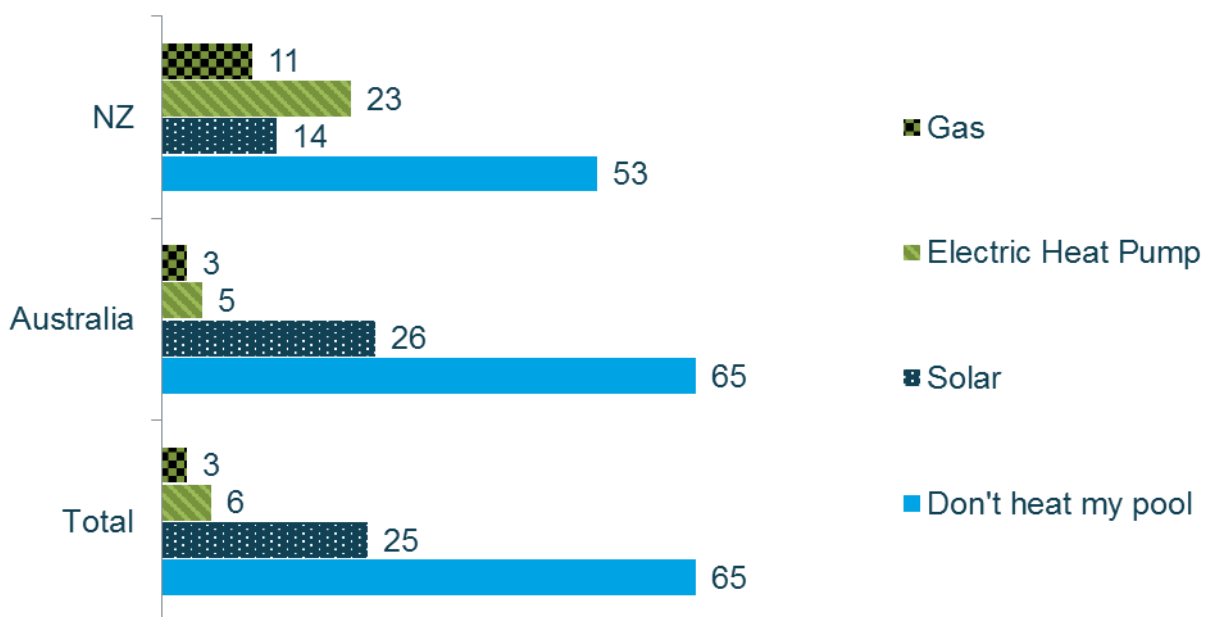
Respondents were asked what type of heating they had and the results below are shown for those with pools only (as spas are almost always heated). Overall, the majority of those who had a pool only indicated that they did not heat their pool (65 per cent). Incidence of not heating pools was significantly higher amongst Queensland respondents (78 per cent), those with an above ground pool and those with only one pool pump (77 per cent for each).

Of the 35 per cent who did heat their pool, the most common form of pool heating type used was solar heating (25 per cent of respondents with a pool only). Incidence of having solar pool heating was significantly higher in Victoria and South Australia (57 per cent and 48 per cent respectively), and amongst those with a household income in excess of \$150,000 (32 per cent).

The incidence of having solar heating for a pool was significantly lower amongst New Zealand respondents (14 per cent), those with an above ground pool (14 per cent), and those in Queensland (15 per cent).

Less than one in ten pool (only) owners indicated that their pool had an electric heat pump (6 per cent), though the incidence of this was significantly higher amongst those in New Zealand (23 per cent).

Figure 22: Type of Heating used for Pools



Q36. What type of heating do you currently use?

BASE: Respondents with a pool ONLY (Total n=1178; Australia n=1104; NZ n=74)

6.4 Running Hours of Pumps

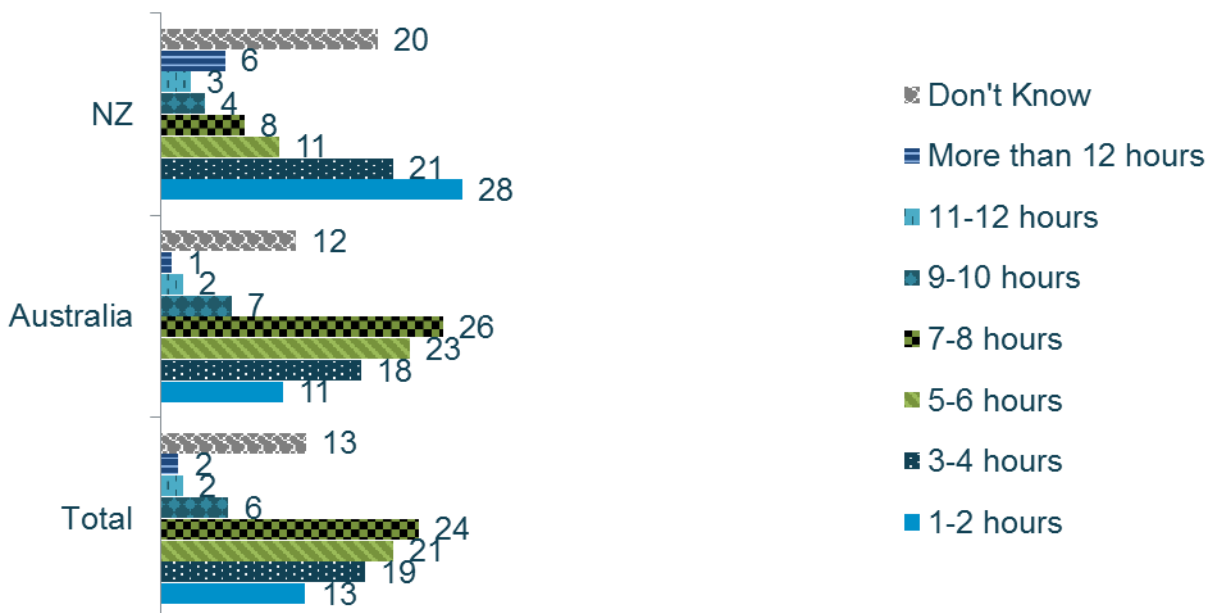
All respondents were asked to reveal how many hours (on average) they ran their pumps during Summer. Overall, including both spa and pool pumps, pumps were most commonly run for seven to eight hours a day during Summer (24 per cent), however the mean time period was 5.6 hours a day.

Approximately one in three respondents ran their pump(s) for one to four hours, or ran them for seven or more hours (32 per cent and 34 per cent respectively). Those who ran their pump for one to four hours were significantly more likely to be from New Zealand (49 per cent), own a spa (41 per cent), have an above-ground pool (40 per cent) or a chlorinated pool (37 per cent).

Those who ran their pump(s) for seven or more hours in a day were significantly more likely to have a water feature (43 per cent), own a 'larger' sized pool (42 per cent), or a salt water pool (46 per cent). Respondents with a household income greater than \$150,000 were also significantly more likely to run their pump(s) for seven or more hours a day (40 per cent).

Those who only had a pool ran their pumps(s) for an average of 5.8 hours a day, while those with only a spa indicated an average of 3.6 hours a day (this was the same amongst New Zealand spa only respondents).

Figure 23: Hours Pumps were Run in Summer



Q39. How many hours a day does the pump run? - Summer
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

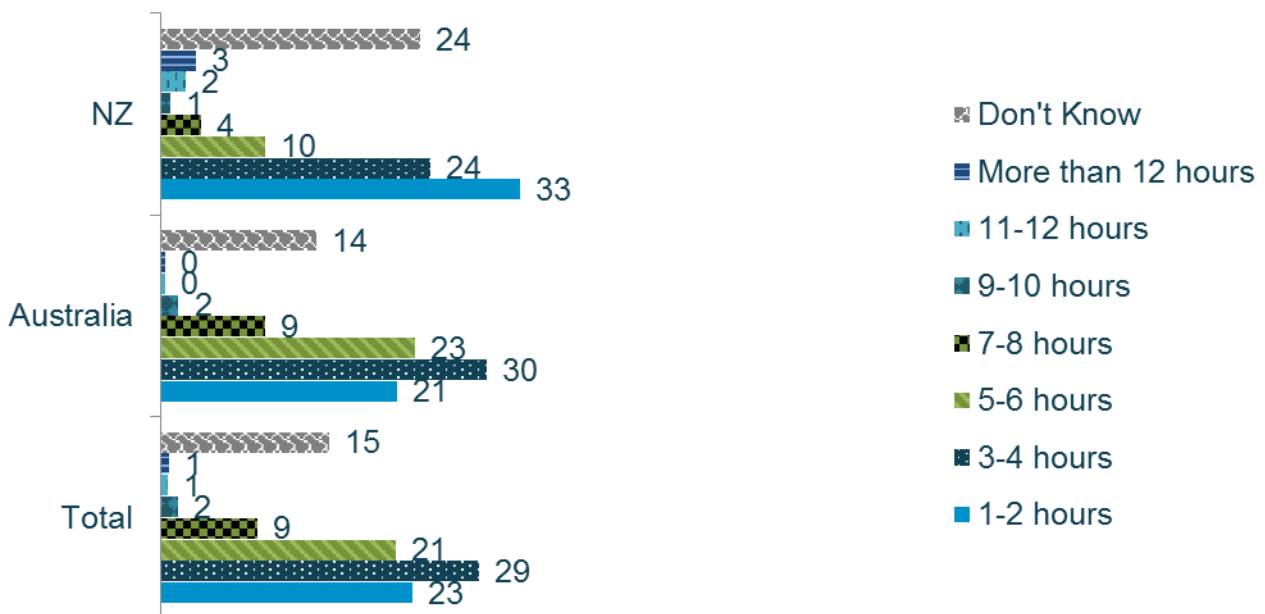
Respondents were also asked to reveal how many hours (on average) they ran their pumps during Autumn. As may be expected, pool and spa pumps tended to be run for a shorter period of time in Autumn (in comparison to Summer running times).

Overall, pumps were most commonly run for three to four hours a day during Autumn (29 per cent), with the mean time period being 4.1 hours a day. Only around one in eight respondents ran their pump(s) for seven or more hours during Autumn (12 per cent).

Those who only had a pool ran their pumps(s) for an average of 4.2 hours a day, while those with only a spa indicated an average of 3.3 hours a day.

As was the case during Summer, more than one in ten did not know how long their pump(s) ran (15 per cent overall).

Figure 24: Hours Pumps were Run in Autumn



Q39. How many hours a day does the pump run? - Autumn
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

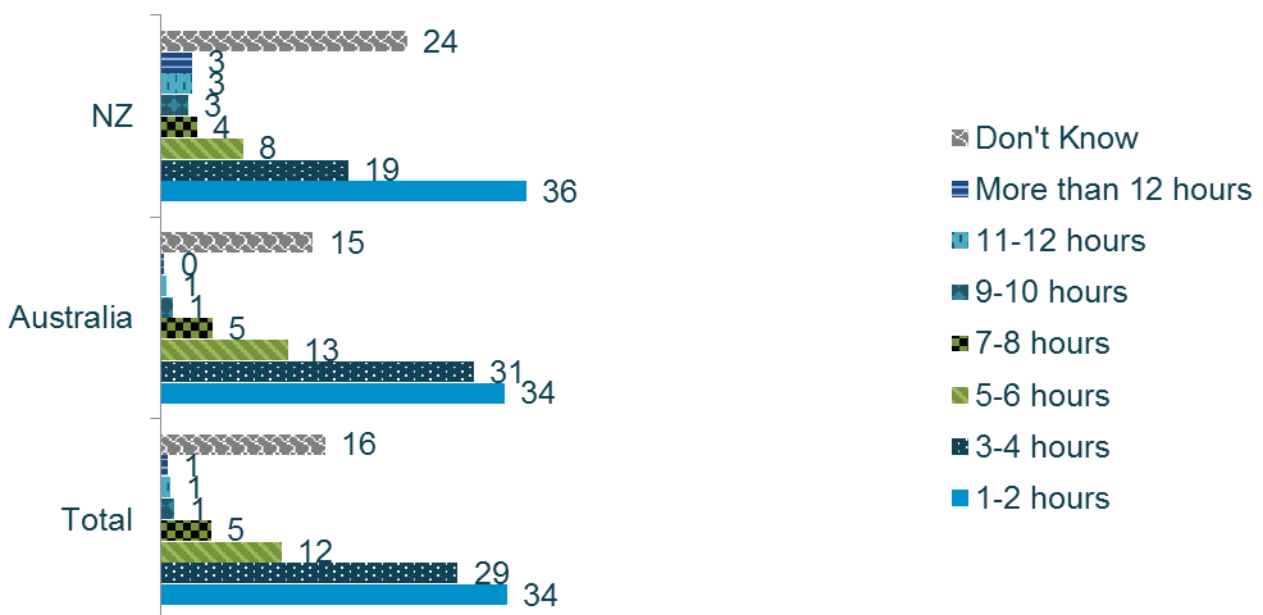
Respondents were also asked to reveal how many hours (on average) they ran their pumps during Winter. Again, as may be expected, the pool and spa pumps tended to be run for a shorter period of time in Winter (in comparison to both Autumn and Summer running times).

Overall, pumps were most commonly run for one to two hours a day during Winter (34 per cent), with the mean time period being 3.5 hours a day. Those that only had a pool ran their pump(s) for an average of 3.3 hours a day, while those with only a spa indicated an average of 3.7 hours a day (those with both a pool and spa run pumps for an average of 3.9 hours a day).

Those who had above-ground pool or chlorinated pool were significantly more likely to only run their pump(s) for one to two hours (52 per cent and 42 per cent respectively), as were respondents from South Australia and Victoria (48 per cent and 42 per cent respectively).

One in five respondents ran their pumps for five or more hours during winter (20 per cent), and these respondents were significantly more likely to have three or more pumps (37 per cent).

Figure 25: Hours Pumps were Run in Winter



Q39. How many hours a day does the pump run? - Winter
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

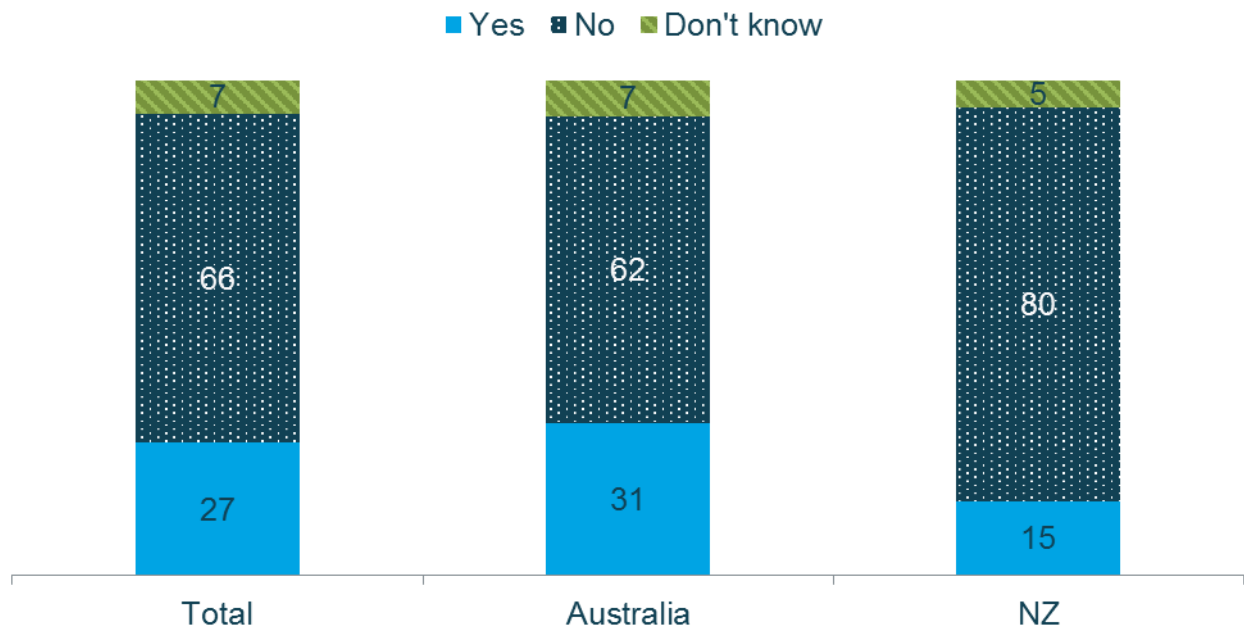
7. The Replacement of Pool and Spa Pumps

7.1 Incidence of Replacing a Pump

Respondents with a spa were asked to indicate if they had ever replaced a pump for their spa. Just under three in ten spa owners indicated that they had replaced a pump (27 per cent).

Incidence of replacing a pump for a spa was significantly lower amongst respondents in South Australia and in New Zealand (8 per cent and 15 per cent respectively).

Figure 26: Incidence of Replacing a Pump for a Spa



Q14. Have you ever had to replace a pump for your spa?

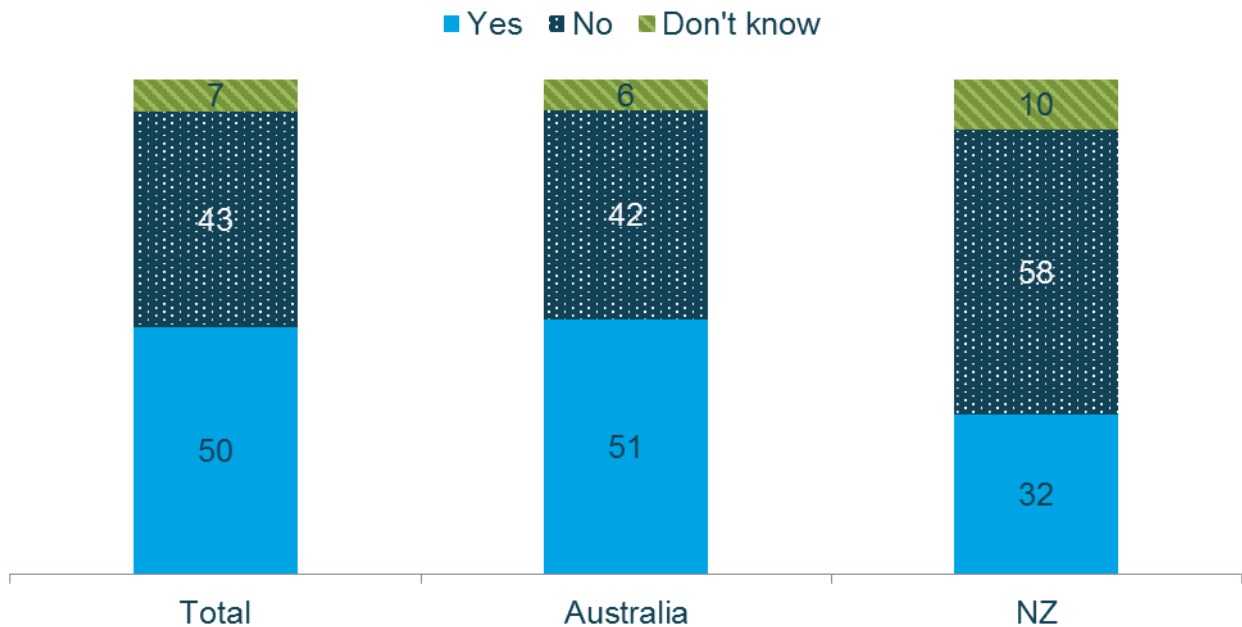
BASE: Respondents with a spa (Total n=574; Australia n=427; NZ n=147)

Respondents with a pool were also asked to indicate if they had ever replaced a pump for their pool, and one half of all pool owners indicated that they had (50 per cent).

Incidence of replacing a pump for a pool was significantly higher amongst those aged 50 or more (64 per cent), as well as those with 'larger' pools and those with a household income in excess of \$150,000 (56 per cent for each).

Incidence of replacing pool pumps was significantly lower amongst those who owned an above-ground pool, with just over four in ten respondents indicating that they had replaced their pump (41 per cent).

Figure 27: Incidence of Replacing a Pump for a Pool



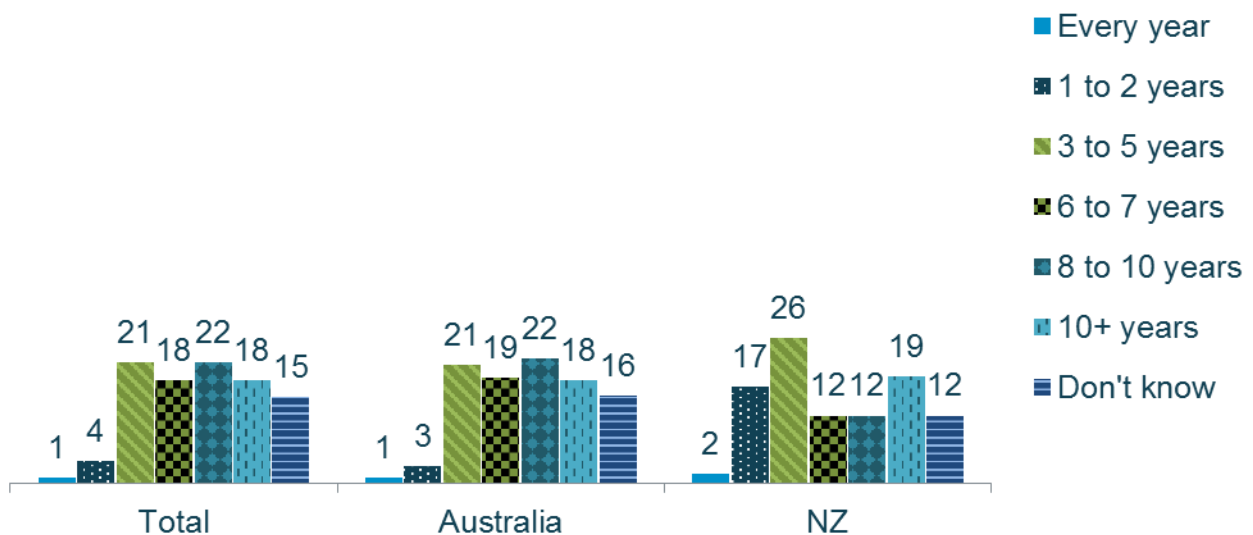
Q14. Have you ever had to replace a pump for your pool?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Respondents who had replaced a pump for a spa or a pool were asked to indicate how often they generally have to do so. Overall, one in four respondents indicated that they replaced their pump at least every five years (26 per cent), four in ten replaced it between every six and ten years (40 per cent) and just under two in ten indicated that their pumps had to be replaced every ten years or more (18 per cent).

A total of 15 per cent indicated that they did not know how frequently they had to replace their pumps, and this was statistically more likely to occur in the under 30 age group and less likely to occur in the over fifty group (27 per cent and 11 per cent respectively).

Figure 28: Frequency of Replacing a Pump for a Pool or Spa



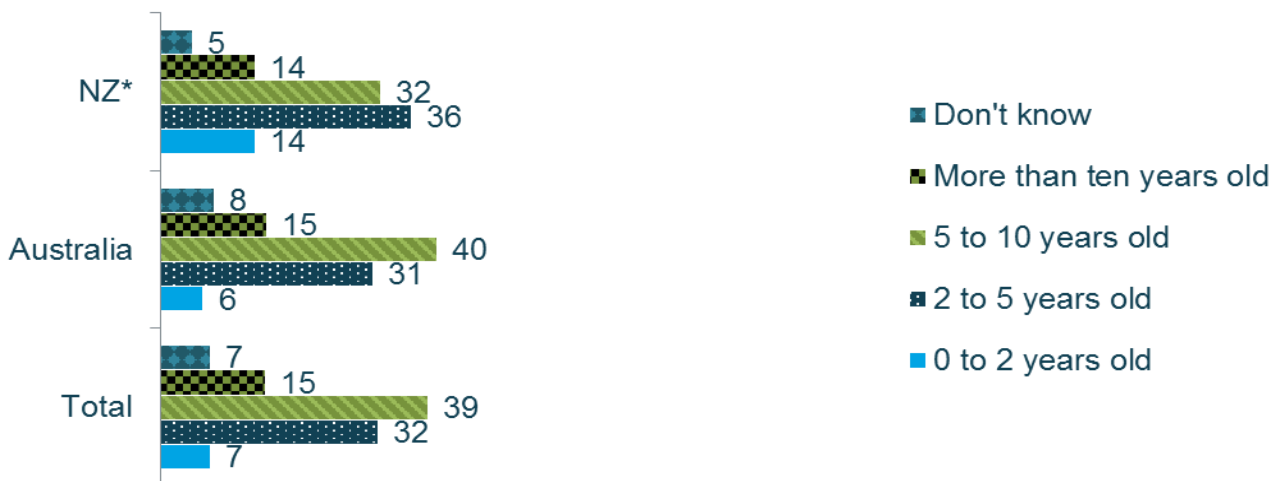
Q14. On average, how often do you replace your swimming pool or spa pump(s)?
BASE: Respondents who had replaced a pump (Total n=820; Australia n=762; NZ n=58)

7.2 Details of Spa Pump Replacement

Those who had indicated that they had replaced a spa pump were asked to identify how old the pump had been at the time they replaced it, and most commonly these pumps were said to need replacing when they were five to ten years old (39 per cent).

In addition, almost four in ten respondents indicated that the spa pump they replaced was up to five years old (7 per cent from 0 to 2 years, and 32 per cent from 2 to 5 years). Only 15 per cent indicated that their spa pump was over ten years old when replaced, while the remaining 7 per cent did not know the age of their pump.

Figure 29: Age of Spa Pump Replaced



Q16. How old was the spa pump you replaced?

BASE: Respondents with a spa that had replaced a pump (Total n=153; Australia n=131; NZ n=22*)

*CAUTION: Small base size

Table 8: Age of Spa Pump Replaced by Location

Age that pumps were replaced	New South Wales (n=52) %	Victoria (n=28)* %	Western Australia (n=22)* %	Queensland (n=23)* %	New Zealand (n=22)* %	Total Australia (n=131) %
0 to 2 years old	8	0	14	4	14	6
2 to 5 years old	37	32	23	17	36	31
5 to 10 years old	33	36	50	57	32	40
More than ten years old	13	18	9	22	14	15
Don't know	10	14	5	0	5	8

Q16. How old was the spa pump you replaced?

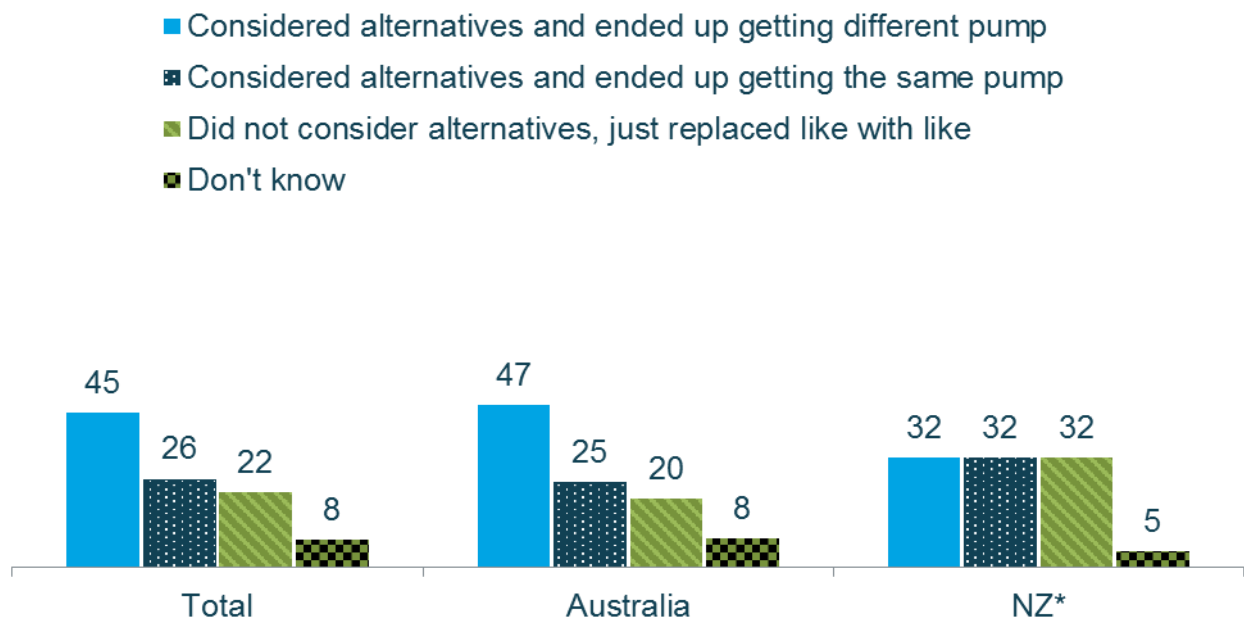
BASE: Respondents with a spa that had replaced a pump (Total n=153; Australia n=131; NZ n=22*)

*CAUTION: Small base size

Those who had replaced a spa pump were asked if they considered an alternative pump when they purchased a new one, and more than seven in ten had at least considered this. This consideration process did not lead to the purchase of an alternative pump in all cases – but it did for most of them (45 per cent considered and purchased an alternative pump, while 26 per cent considered an alternative but purchased the same pump as before).

A further one in five respondents who had replaced a spa pump indicated that they too ended up getting the same pump as before, but they had not considered an alternative in the first place (22 per cent).

Figure 30: Incidence of Considering Alternatives for Spa Pump Replacement



Q17. Did you just replace the spa pump with the same model, or did you consider alternatives
BASE: Respondents with a spa that had replaced a pump (Total n=153; Australia n=131; NZ n=22*)

*CAUTION: Small base size

Those who considered an alternative spa pump and ended up purchasing the alternative were asked to indicate why they had done this. The most common reason provided was that the product was recommended to them (19 per cent). Price and quality were also relatively important factors in this decision making process (16 per cent and 15 per cent respectively).

Overall, less than one in ten indicated that saving electricity was the reason for choosing an alternative pump (7 per cent).

Table 9: Reasons for Getting a Different Spa Pump

Reasons for getting a different spa pump	Total (n=68) %	Australia (n=61) %	NZ (n=7)* %
It was recommended to us	19	20	14
Price	16	16	14
Better quality	15	16	-
I got an Eco pump, saving electricity	7	8	-
A more advanced pump	7	8	-
It was the best option for the spa\ for the size of the spa	6	7	-
The old one failed	4	3	14
The one I had was no longer available \ not being made	4	5	-
It was what was available	3	2	14
Good brand	3	3	-
Better warranty	1	2	-
I got a new spa	1	2	-
Don't know	29	26	57

Q17b. Why did you get a different spa pump?

BASE: Respondents who replaced a spa pump with an alternative (Total n=68; Australia n=61; NZ n=7*)

*CAUTION: Small base size

Those who considered an alternative spa pump but still ended up purchasing the same pump that they had previously were asked to indicate their reasons for this. While based on a small sample size, the most common reason provided was that these respondents had confidence in the suitability of the product that they had used previously, seeing as it was replacing the same model (23 per cent).

The second most important factor was that they had been satisfied with the performance of the previous pump (18 per cent), and third was the issue of price (18 per cent).

Table 10: Reasons for Getting the Same Spa Pump

Reasons for getting the same spa pump	Total (n=39)* %	Australia (n=32)* %	NZ (n=7)* %
Knew it would work well with the spa that we have	23	22	29
Happy with the previous one \ worked well	18	19	14
Price	18	19	14
That's what was recommended	8	6	14
It's the only brand I know	5	6	-
Has a better warranty	3	3	-
Well known	3	3	-
Convenient (no further detail)	3	3	-
Don't know	26	25	29

Q17c. Why did you get the same spa pump?

BASE: Respondents who replaced a spa pump with the same pump (Total n=39; Australia n=32; NZ n=7*)

*CAUTION: Small base size

Those who did not consider an alternative spa pump, but instead simply replaced like for like were asked to reveal their reasons for this. Again, while based on a small sample size, the most common reason was that the change was made on the advice of the installer or pool shop (67 per cent).

Secondly, the size of the pump or availability of space within its housing was a reason for selecting like for like for some of these respondents (33 per cent).

Table 11: Reasons for Replacing the Spa Pump with Like for Like

Reasons for replacing spa pump with like for like	Total (n=33)* %	Australia (n=26)* %	NZ (n=7)* %
Installer or pool shop advice	67	65	71
Size\space	33	35	29
Piping	21	23	14
Warranty	3	4	-
Other	3	-	14

Q17d. Why did you replace with 'like for like'?

BASE: Respondents who replaced a spa pump with like for like (Total n=33; Australia n=26; NZ n=7*)

*CAUTION: Small base size

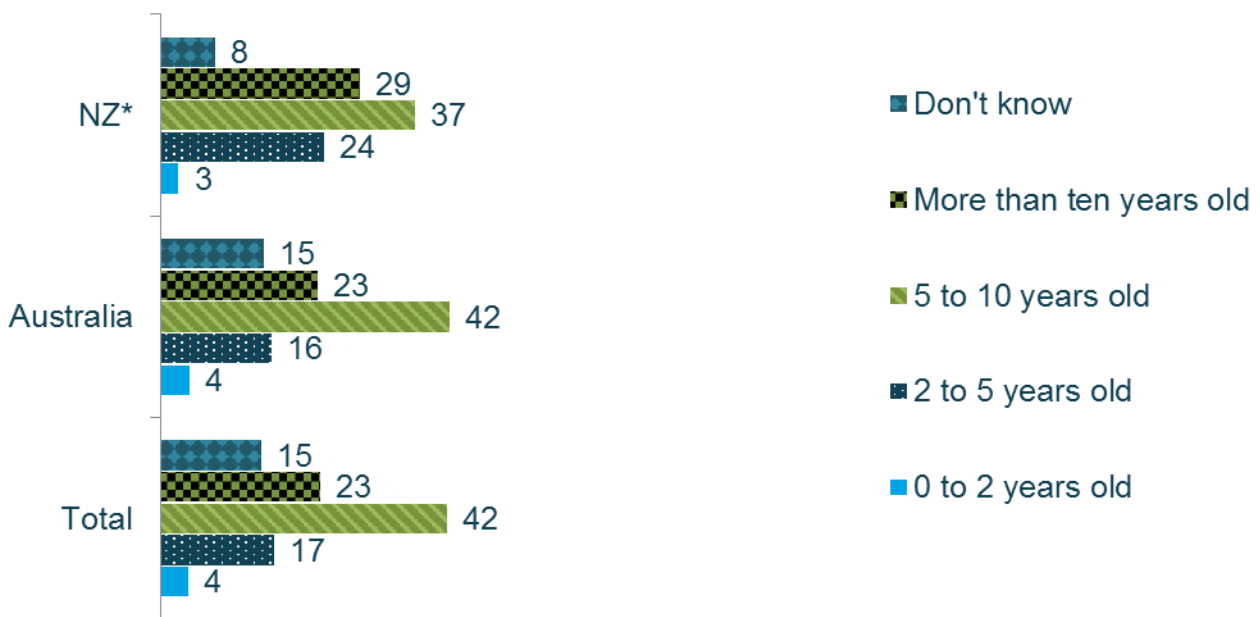
7.3 Details of Pool Pump Replacement

As occurred in relation to spas, those who had indicated that they had replaced a pool pump were asked to identify how old the pump had been at the time they replaced it, and most commonly these pumps were said to need replacing when they were five to ten years old (42 per cent). Those from Queensland were significantly more likely to have a pump that lasted between five and ten years (50 per cent).

In addition, one in five had to replace their pool pump when it was up to five years old (21 per cent), while nearly a quarter had pumps that lasted over ten years (23 per cent).

A smaller subgroup, roughly one in six respondents, was unable to accurately identify the age of the replaced pump (15 per cent).

Figure 31: Age of Pool Pump Replaced



Q16. How old was the pool pump you replaced?

BASE: Respondents with a pool that replaced a pump (Total n=759; Australia n=721; NZ n=38*)

*CAUTION: Small base size

Table 12: Age of Pool Pump Replaced by Location

Age that pumps were replaced	New South Wales (n=270) %	Victoria (n=101) %	South Australia (n=36)* %	Western Australia (n=109) %	Queensland (n=194) %	Total Australia (n=721) %	New Zealand (n=38) %
0 to 2 years old	4	4	3	6	3	4	3
2 to 5 years old	15	14	23	21	14	16	24
5 to 10 years old	41	35	41	37	50	42	37
More than ten years old	23	31	19	21	21	23	29
Don't know	17	17	15	15	11	15	8

Q16. How old was the pool pump you replaced?

BASE: Respondents with a pool that replaced a pump (Total n=759; Australia n=721; NZ n=38*)

*CAUTION: Small base size

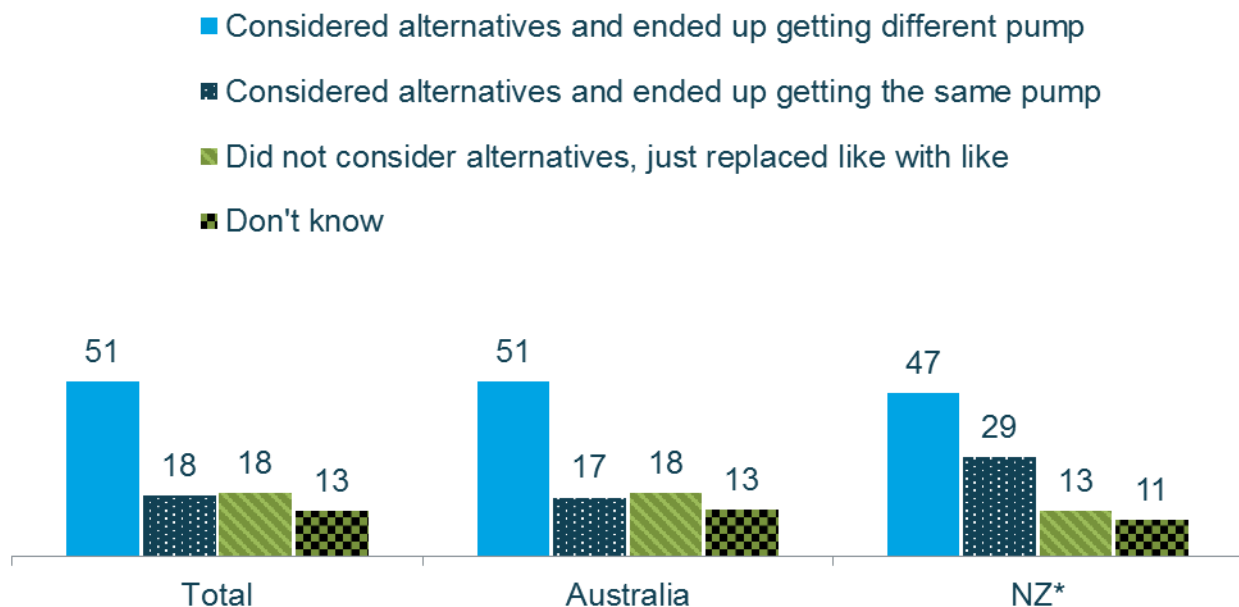
Those who had replaced a pool pump were asked if they considered an alternative pump when they purchased a new one, and just under seven in ten had at least considered this (69 per cent). As was the case with spa pump replacement, this consideration process did not lead to the purchase of an alternative pump in all cases – but it did for most of them (51 per cent considered and purchased an alternative pump, while only 18 per cent considered an alternative but purchased the same pump as before).

Respondents from Queensland were significantly more likely to buy a different type of pump, with over six in ten ultimately doing this (61 per cent).

Those with in-ground fibreglass pools, and those with chlorinated pools were statistically more likely to consider alternatives but settle on the same model (25 per cent for each).

Less than one in five simply went for a like for like pump (18 per cent).

Figure 32: Incidence of Considering Alternatives for Pool Pump Replacement



Q17. Did you just replace the pool pump with the same model, or did you consider alternatives

BASE: Respondents with a pool that had replaced a pump (Total n=759; Australia n=721; NZ n=38*) *CAUTION: Small base size

Those who considered an alternative pool pump and proceeded to purchase the alternative were asked to indicate their reasons for this. The most common reasons provided were the price of the pump and the model they settled on was recommended to them by a pool professional (23 per cent for each).

Electricity consumption and pump quality were also relatively important factors in this decision making process (16 per cent and 11 per cent respectively).

Table 13: Reasons for Getting a Different Pool Pump

Reasons for getting a different pool pump	Total (n=384) per cent	Australia (n=366) per cent	NZ (n=18)* per cent
Better price	23	23	22
It was recommended by the pump guy \ service technician \ pool shop	23	23	22
Electricity consumption \ more efficient to run	16	16	17
Better quality (no further detail)	11	11	11
Bigger capacity	9	10	6
The same one isn't being made anymore	8	8	6
It was available \ for immediate installation	5	5	6
Better specs	4	5	-
Newer technology	4	4	-
Quieter	4	4	-
Variable speed	3	3	6
We got the best option for our needs	2	2	-
Good brand \ good reputation	1	1	-
Other	5	6	-
Don't know	6	5	22

Q17b. Why did you get a different pool pump?

B BASE: Respondents who replaced a pool pump with an alternative (Total n=384; Australia n=366; NZ n=18*)

*CAUTION: Small base size

Those who considered an alternative pool pump but still purchased the same pump they had previously were asked to indicate their reasons for this. The most common reason provided was that they had felt their pump was the best price/value (27 per cent).

Another common factor was the confidence they held in the pumps ability to connect to pre-existing plumbing and fit within an enclosure (21 per cent).

In addition, recommendations from pool shops, or satisfaction with the reliability of the previous pump were other main factors mentioned (19 per cent for each).

Table 14: Reasons for Getting the Same Pool Pump

Reasons for getting the same pool pump	Total (n=134) %	Australia (n=123) %	NZ (n=11)* %
It was the best value \ price	27	28	9
It made the plumbing \ fitting easier	21	21	18
It was recommended \ by pool centre	19	20	18
It was very reliable \ was happy with it	19	20	18
It was the best one for the job	7	7	-
I was familiar with it \ knew how it worked	6	5	18
It was a good brand	2	2	-
Other	6	7	-
Don't know	10	9	27

Q17c. Why did you get the same pool pump?

BASE: Respondents who replaced a pool pump with the same pump (Total n=134; Australia n=123; NZ n=11*)

*CAUTION: Small base size

Those who did not consider an alternative pool pump, but instead simply replaced like for like were asked to reveal their reasons for this. The most common reason was that it was done based on advice from the installer or pool shop (62 per cent).

The size of the pump or availability of space within its housing were reasons for selecting like for like for some of these respondents, as was the compatibility with the pre-existing plumbing (31 per cent and 22 per cent respectively).

Table 15: Reasons for Replacing the Pool Pump with Like for Like

Reasons for replacing pool pump with like for like	Total (n=138) %	Australia (n=133) %	NZ (n=5)* %
Installer or pool shop advice	62	62	60
Size\space	31	32	20
Piping	22	22	40
Warranty	7	7	20
Just seemed easiest	3	3	-
Happy with the current brand we use	2	2	-
Other	1	2	-
Don't know	1	1	-

Q17d. Why did you replace with 'like for like'?

BASE: Respondents who replaced a pool pump with like for like (Total n=138; Australia n=133; NZ n=5*)

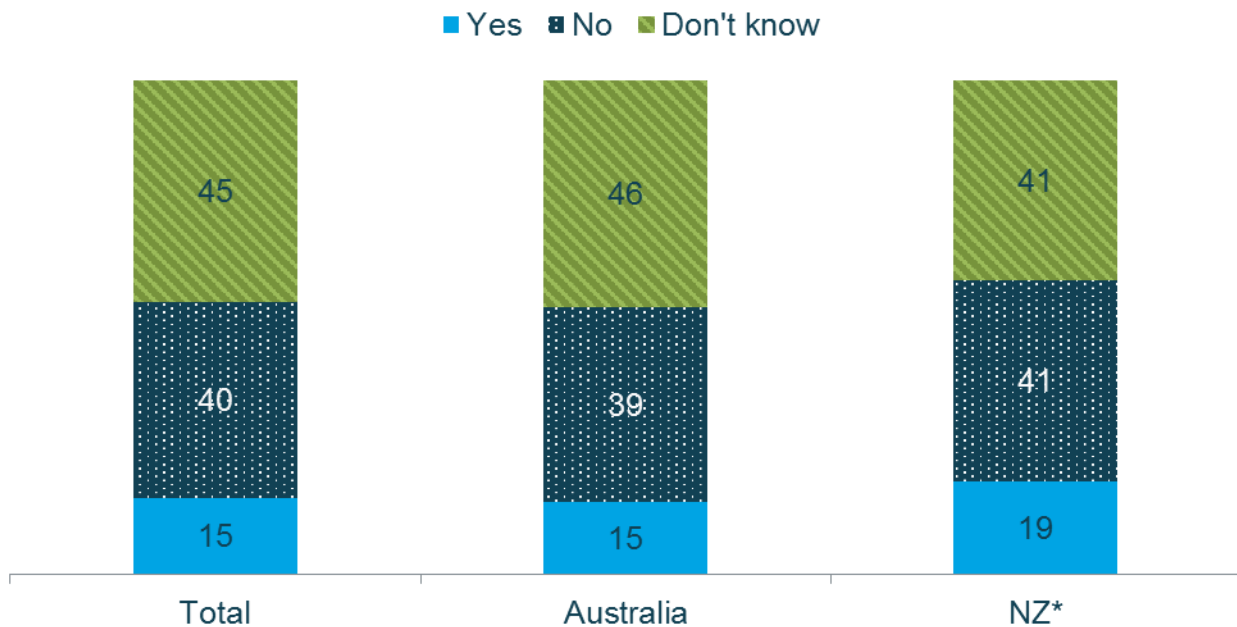
*CAUTION: Small base size

7.4 Pump Limitation for Above-Ground Pools

Respondents who indicated that they owned an above-ground pool were asked whether they believed that they needed to use a particular type of pump with their above-ground pool.

Under one in six respondents with an above-ground pool indicated that they did have to use a particular pump (15 per cent), while four in ten indicated they did not have to use a particular pump (40 per cent). The remaining respondents were unsure as to whether they did or did not have to use a particular kind of pump (45 per cent).

Figure 33: Perceived Need for Particular Pumps for Above Ground Pools



Q18. Did you need to use a particular kind of pump with your above-ground pool?

BASE: Respondents with an above-ground pool (Total n=182; Australia n=150; NZ n=32*)

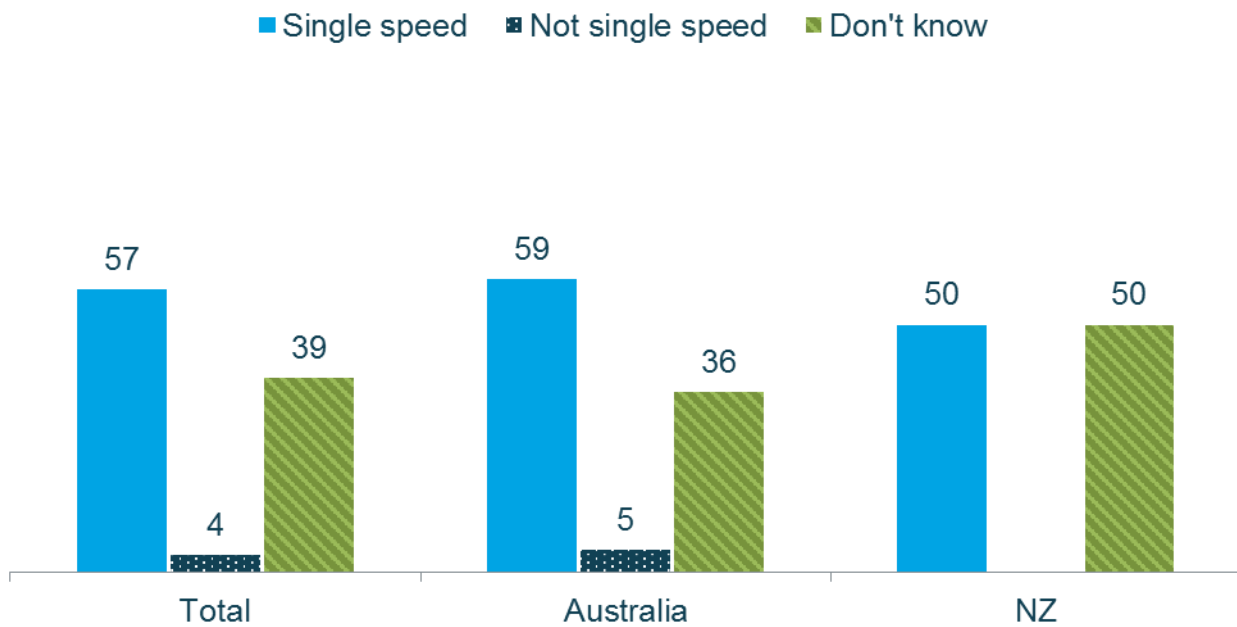
*CAUTION: Small base size

Those respondents who indicated that above-ground pools did need to use a specific type of pump were asked to reveal what type of pump they believed that their pool needed.

In total, over half of those who felt a particular pump type was required went on to indicate that it had to be a single speed pump (57 per cent). Relatively few felt that it specifically should not be a single speed pump (4 per cent).

In addition though, despite indicating that they needed to use a particular kind of pump, almost four in ten were unsure of the type of pump they should have for their above-ground pool (39 per cent).

Figure 34: Type of Pumps Required for Above Ground Pools



Q19. What type of pump did you require?

BASE: Respondents who felt that their above ground pool required a specific pump (Total n=28*; Australia n=22*; NZ n=6*)
Small base size

*CAUTION:

8. Energy Use

8.1 Electricity Used by Pool and/or Spa Pumps

Respondents were asked to identify what percentage of their household electricity use they thought their pool and/or spa pump(s) used, with the majority believing that their pump(s) used somewhere between 0 per cent-20 per cent (55 per cent).

Around one in five believed that their pump(s) used less than 10 per cent of their household electricity use (19 per cent), with the incidence of this being significantly higher amongst those who had only a spa (30 per cent) and those with above-ground pools (29 per cent). In comparison, only 9 per cent of those who had both a pool and a spa believed that they used less than 10 per cent of their power.

Nearly one in four respondents indicated that they did not know how much electricity was being consumed (24 per cent).

Table 16: Estimated Percentage of Household Electricity Used by Pump(s)

	Total	Australia	NZ
Less than 10%	19	18	24
10-15%	22	22	21
15-20%	14	13	14
20-25%	9	9	9
25-30%	5	5	3
30-35%	3	3	1
35-40%	2	2	2
40-45%	1	1	1
45-50%	1	1	1
More than 50%	1	1	1
Don't know	24	24	22

Q20. When considering all your total household electricity use, what percentage do you think your pool and/or spa pump(s) use(s)?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

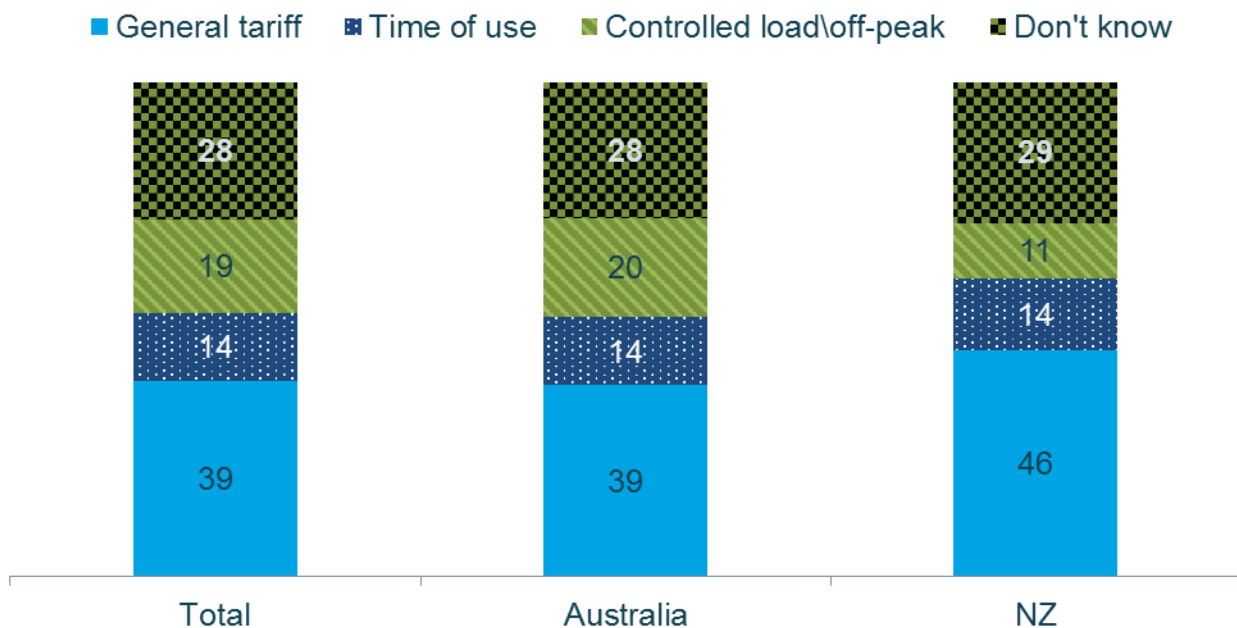
All respondents were asked to reveal what tariff their pump(s) were on², and the most common answer was that they operated on a general tariff (39 per cent). Respondents from Western Australia were significantly more likely to be on the general tariff (52 per cent), as were those aged over 50 (47 per cent).

Controlled load/off-peak tariffs were said to be used by almost one fifth of respondents (19 per cent). Incidence of this was significantly higher in Queensland (30 per cent).

Time of use tariffs were only indicated by 14 per cent of respondents, though this was significantly higher in New South Wales (19 per cent), as well as amongst those with two pumps, or three or more pumps (20 per cent and 22 per cent respectively).

However, just under three in ten respondents indicated that they 'don't know' (28 per cent).

Figure 35: Electricity Tariff used for Pump(s)



Q30. What electricity tariff is your pool or spa on?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

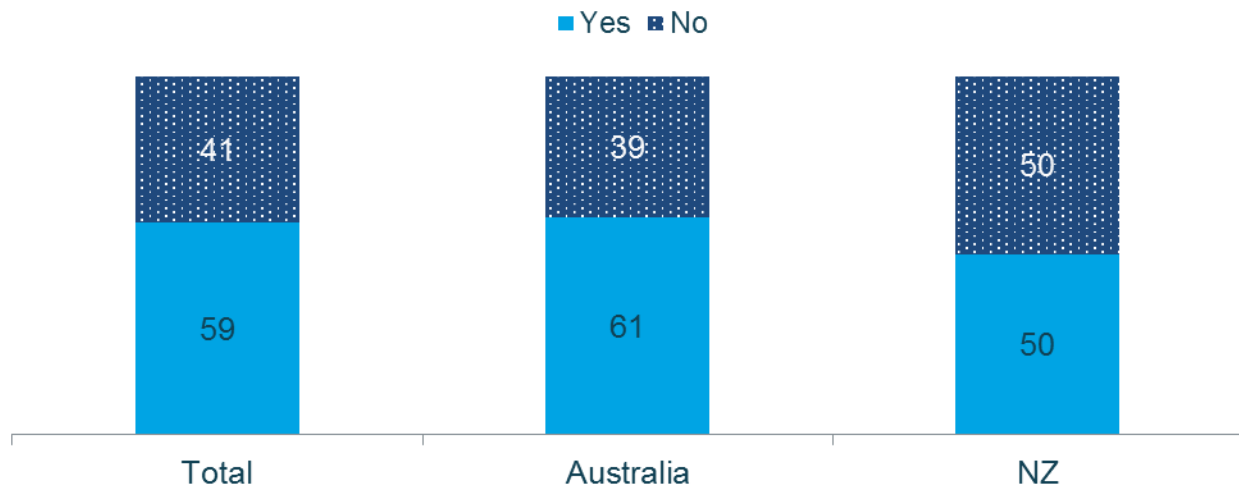
² Customers who are on a time of use tariff pay a different price for their electricity during three different periods – Peak, Shoulder and Off Peak. General tariff is the same price all the time with no peak or off peak periods. Controlled load is when the retailer charges a rate just for an appliance and the energy it uses. Often that appliance has its own meter and is run in off peak times.

8.2 Concern with Pump Electricity Use

All respondents were asked to indicate if they were concerned (or not) with the amount of electricity that their pool or spa pump uses. The majority of respondents indicated that they were concerned with the amount of electricity that their pump(s) were consuming (59 per cent).

Those with salt water pools were significantly more likely to be concerned (64 per cent), while those with chlorine pools were significantly less likely to be concerned (54 per cent), as were those under the age of 30 (47 per cent) and New Zealand respondents (50 per cent).

Figure 36: Concerned over Pump Electricity Use



Q29. Are you concerned with the amount of electricity your pool or spa pump uses?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Table 17: Concerned over Pump Electricity Use by Location

Pump Type	New South Wales (n=543) %	Victoria (n=236) %	South Australia (n=87) %	Western Australia (n=213) %	Queensland (n=416) %	Total Australia (n=1531) %	New Zealand (n=221) %
Concerned about energy efficiency	61	55	66	62	63	61	50
Identified an energy efficient pump as a way of reducing energy use	25	25	34	28	32	27	27

Q16. How old was the pool pump you replaced?

BASE: Respondents with a pool that replaced a pump (Total n=759; Australia n=721; NZ n=38*)

*CAUTION: Small base size

8.3 Measures Taken to Increase Efficiency

Respondents were asked to identify the measures they have taken to increase the efficiency of their pool pumps (from a supplied list). As any individual could be undertaking multiple actions, the outcomes add to more than 100 per cent, and on average respondents mentioned two different actions each.

The two most common measures that were undertaken by the majority of respondents were cleaning the filter, and minimizing the amount of time the pump is running (65 per cent and 64 per cent respectively). Those with in-ground fibreglass pools were significantly more likely to regularly clean the filter than those who had other pool types (72 per cent), as were those over the age of 50 (71 per cent).

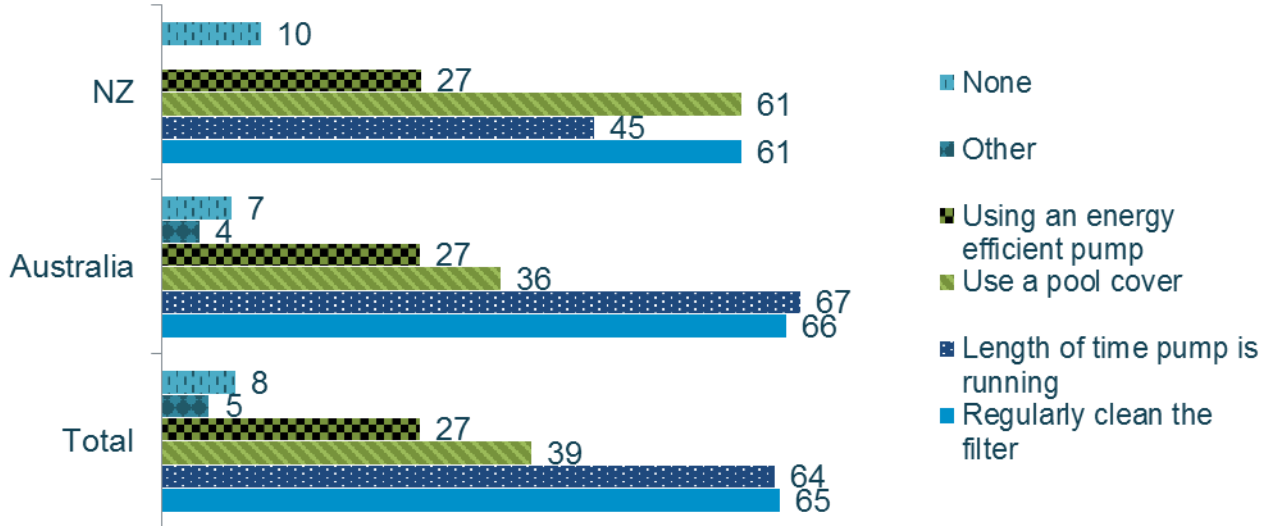
Those in Queensland were significantly more likely to minimize the amount of time the pump was running (73 per cent), as were those with in-ground fibreglass pools (71 per cent), and those over the age of 50 (76 per cent).

Those in New South Wales and Queensland were unlikely to use a pool cover (24 per cent respectively), while those in Victoria, South Australia and Western Australia were likely to use these (53 per cent, 62 per cent and 57 per cent respectively).

Overall, 27 per cent of respondents indicated that they used an energy efficient pump. However, only 20 per cent of these respondents actually specified that they had a variable or multi speed pump (from Q10).

Queensland was the only state that reported a significantly higher level of energy efficient pumps, with almost one in three reporting that they owned one (32 per cent), and those with a larger sized pool were also more likely to use an energy efficient pump (33 per cent).

Figure 37: Measures Undertaken to Increase Efficiency



Q21. What measures do you take to make your pool and/or spa efficient?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

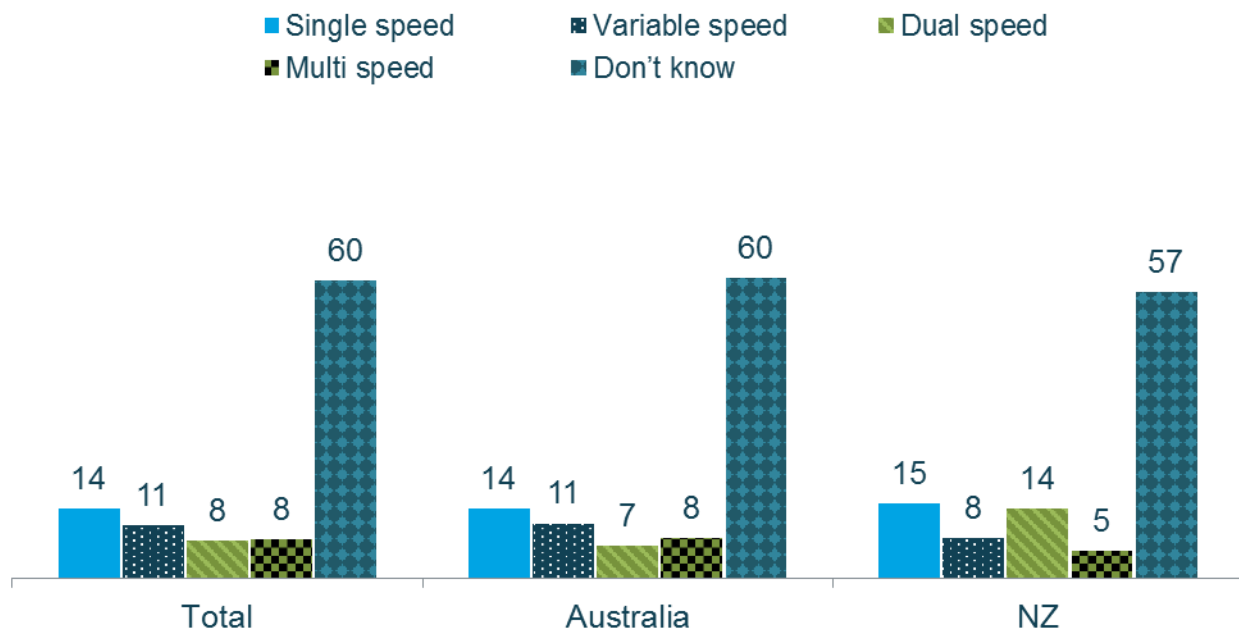
8.4 Awareness of Effective & Efficient Pumps

Respondents were asked to identify which type of pump they felt was the most effective, and the majority of respondents were unsure which pump type this would be (60 per cent of all respondents).

While only indicated by a relatively small proportion of respondents, the most commonly identified type of pump was a single speed pump (14 per cent).

Variable speed pumps were nominated as the most effective by 11 per cent of respondents. Incidence of this was significantly higher amongst those with a household income in excess of \$150,000 per annum (17 per cent).

Figure 38: Perceptions of which Pump Type is Most Effective



Q27. In your opinion, which is the most effective type of pump (which pump does the best job)?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Table 18: Perceptions of which Pump Type is Most Effective by Location

Which is the most effective type of pump?	Total (n=1752) %	Total Australia (n=1531) %	NZ (n=221) %	NSW (n=543) %	VIC (n=236) %	QLD (n=416) %	SA (n=87) %	WA (n=213) %
Single speed	14	14	15	16	14	10	15	16
Dual speed	8	7	14	8	8	4	7	6
Multi speed	8	8	5	9	6	9	5	8
Variable speed	11	11	8	10	9	13	10	13
Don't know	60	60	57	56	63	65	63	57

Q27. In your opinion, which is the most effective type of pump (which pump does the best job)?

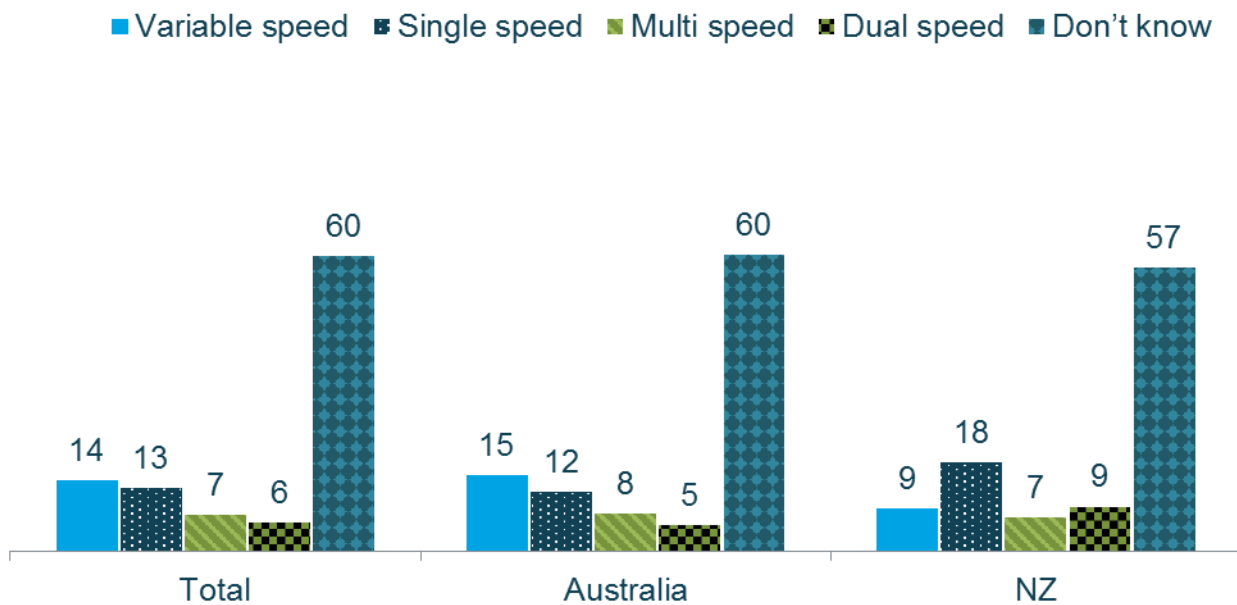
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

All respondents were asked to identify which type of pump they believed to be the most efficient, and again the majority of respondents were unaware of which pump it would be (60 per cent indicated 'don't know'). Incidence of this was significantly higher amongst those with only one pump (68 per cent).

The most commonly identified type of pump was a variable speed pump (though only by 14 per cent of respondents).

Single speed pumps were seen as most efficient by 13 per cent (18 per cent for respondents from New Zealand).

Figure 39: Perceptions of which Pump Type is Most Efficient



Q28. In your opinion, which is the most efficient type of pump?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Table 19: Perceptions of which Pump Type is Most Efficient by Location

Which is the most efficient type of pump?	Total (n=1752) %	Australia (n=1531) %	NZ (n=221) %	NSW (n=543) %	VIC (n=236) %	QLD (n=416) %	SA (n=87) %	WA (n=213) %
Single speed	13	12	18	14	11	9	17	13
Dual speed	6	5	9	7	6	3	5	5
Multi speed	7	8	7	8	9	6	3	10
Variable speed	14	15	9	15	14	18	13	15
Don't know	60	60	57	57	60	64	62	57

Q28. In your opinion, which is the most efficient type of pump?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

9. The Decision Making Process

9.1 Perceived Importance of Different Pump Features

Those respondents who had replaced a pool and/or spa pump along with those who were responsible for the building/installation of their own pool or spa were asked to rank six pump features in terms of how important they were to them in the purchase process.

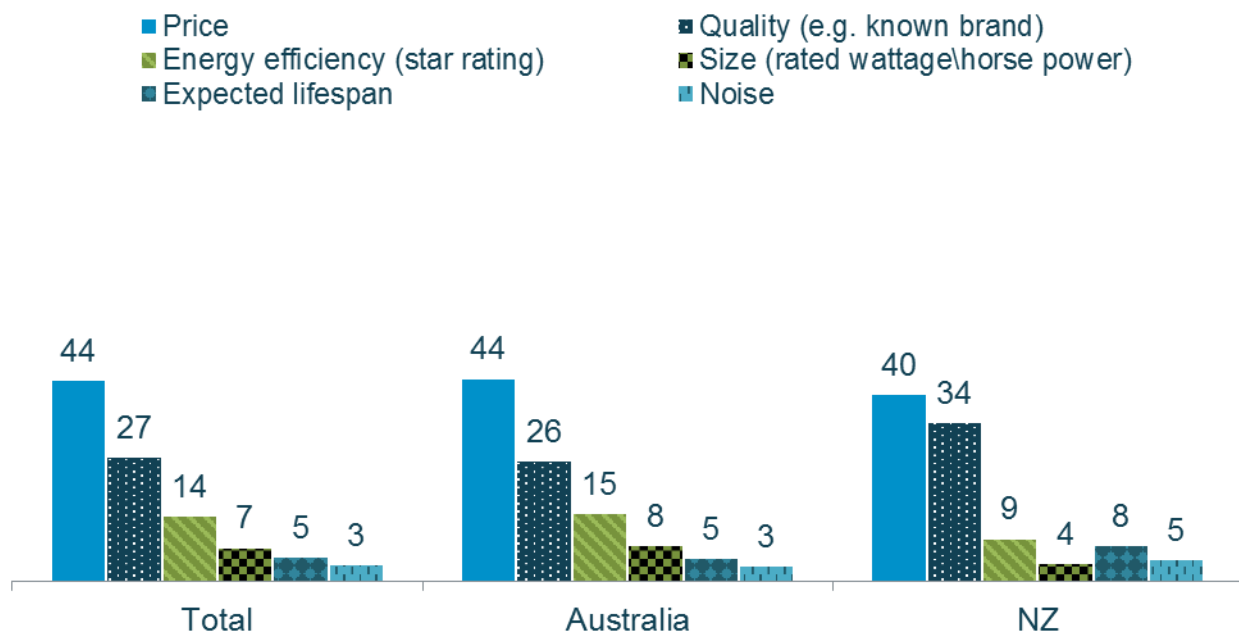
In examining the first selection only (i.e. the factor considered to be the most important out of the six), pump price can be seen to be ranked first the most often (44 per cent), followed by quality (27 per cent).

Those under the age of 30 were significantly more likely to be concerned with price (57 per cent), as were those with 'smaller' pools (50 per cent).

Energy efficiency was only mentioned first by 14 per cent of respondents, though this was significantly more likely in Queensland (19 per cent).

Less than one in ten ranked the other factors (size, lifespan or noise) first in their decision making process.

Figure 40: Importance of Pump Features – Most Important



Q22. When you bought a new or replacement pool or spa pump, how important were the following to you? (RANK FROM 1 TO 6)
BASE: Respondents who were responsible for their own pool/spa and/or had replaced a pump (Total n=1262; Australia n=1131; NZ n=131)

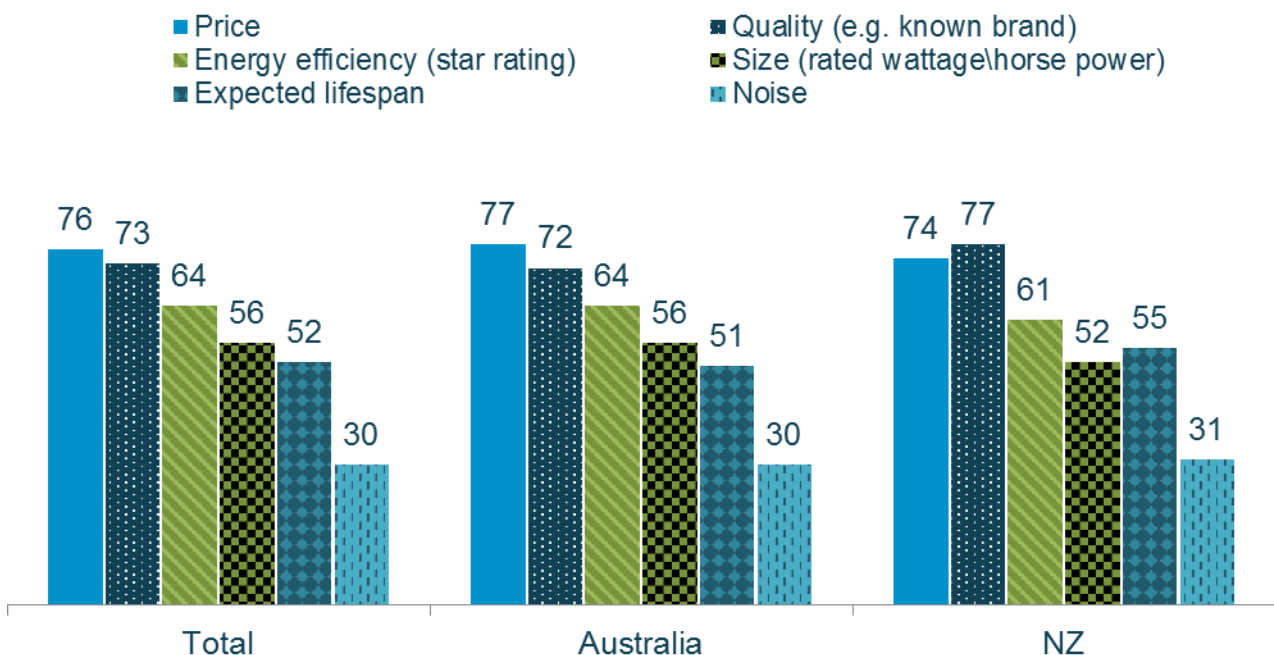
The importance rankings have also been analysed by producing an indexed score that incorporates each ranking (not just the first mentioned). This process involves the factor selected first being multiplied by six, the second factor being multiplied by five, the third factor being multiplied by four, the fourth factor being multiplied by three, the fifth factor being multiplied by two, and the sixth factor being multiplied by one. The result is then divided by six to produce an indexed score (not a percentage) out of 100.

Again, the factor with the highest indexed score can be seen to be price (76). Those aged under 30, those with a 'smaller' pool, and those with above-ground pools all had higher scores for this factor (scores of 83, 80 and 80 respectively).

Quality had an indexed score of 73, with this being higher amongst those aged under 30, and respondents from New Zealand (scores for 77 for each).

Energy efficiency had a score of 64, while size and lifespan were scored similarly (at 56 and 52 respectively). Noise had an indexed score of only 30 out of 100.

Figure 41: Importance of Pump Features – All Factors (Indexed)



Q22. When you bought a new or replacement pool or spa pump, how important were the following to you? (RANK FROM 1 TO 6)
BASE: Respondents who were responsible for their own pool/spa and/or had replaced a pump (Total n=1262; Australia n=1131; NZ n=131)

In addition to the factors that were posed to respondents (as described above), respondents were asked if there were other factors that they considered to be important when choosing a pool pump.

Half of all respondents indicated that there were no other factors, or that they were unable to nominate one (50 per cent).

The factors mentioned with the greatest frequency were the ease of installation/re-installation and compatibility with current plumbing and industry recommendations (though only at 8 per cent and 7 per cent respectively).

Table 20: Perceptions Other Aspects Considered Important

Other aspects considered important	Total (n=1069) %	Australia (n=959) %	NZ (n=110) %
Ease of installation \ re-installation \ compatibility with pipework etc.	8	8	5
Builders \ pool shop \ installer recommendation	7	8	4
Reliability \ quality	5	5	8
Size \ the right size for the pool	4	4	5
Ease of maintenance \ operation	4	4	6
Availability \ quick \ immediate availability	4	4	3
Brand name	4	4	2
Aesthetics	3	2	10
Availability of service if needed	3	3	5
Cost	2	2	3
Product reviews \ user reviews	2	2	-
Warranty	2	2	-
Other	11	11	9
Don't know	17	17	19
Nothing \ no others	33	34	25

Q23. What other aspects (besides price, quality, energy efficiency, size, expected lifespan, and noise) were important to you when deciding on which pool or spa pump to purchase?

BASE: Respondents who were responsible for their own pool/spa (Total n=1069; Australia n=959; NZ n=110)

9.2 Information Sources

Respondents were asked to identify all the sources of information they had used when gathering information during the pool/spa pump purchasing process.

The most common information sources were pool maintenance professionals (55 per cent) and retail pool shops (47 per cent), followed by online research (39 per cent). Queensland respondents were significantly more likely to source their information from pool maintenance professionals (62 per cent), as were those who purchased a property with a pre-existing pool (64 per cent).

Overall, 15 per cent used word-of-mouth as a source, though this was significantly higher amongst respondents from New Zealand and those under the age of 30 (26 per cent and 24 per cent respectively).

Those who had two or more extra features associated with their pool or spa sourced their information from a variety of sources, and were significantly more likely (than all respondents for this question) to indicate the use of pool maintenance professionals (63 per cent), online research (47 per cent), speaking with friends (21 per cent), using chat or review sites (16 per cent), and also the energyrating.gov.au website (8 per cent).

Table 21: Information Sources

Information sources	Total (n=1262) %	Australia (n=1131) %	NZ (n=131) %
Spoke with a pool maintenance professional	55	57	44
Went to a retail pool shop	47	47	47
Online research	39	39	38
Spoke with friends	15	14	26
Chat or review websites	8	8	10
Used the energyrating.gov.au website to compare star ratings of swimming pool pumps	5	5	6
From the pool installer	1	1	-
Don't know	1	1	2
Did not source any information to make the decision	9	9	8

Q24. When you bought a pool or spa pump, how did you source information to make the decision?

BASE: Respondents who were responsible for their own pool/spa (Total n=1262; Australia n=1131; NZ n=131)

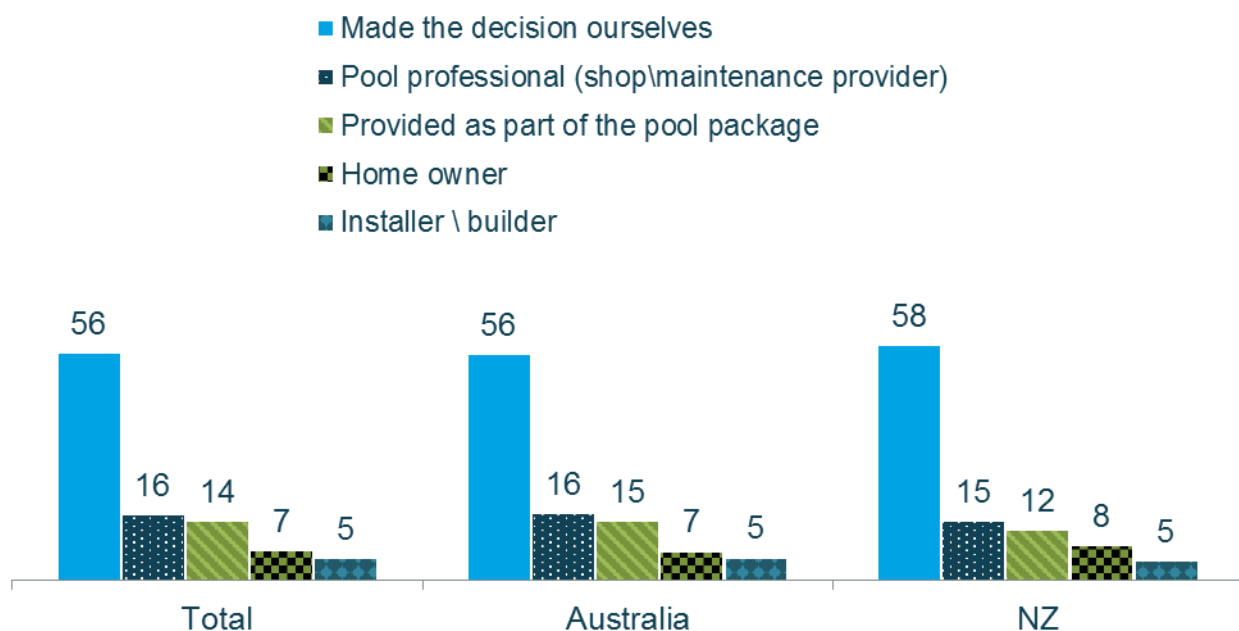
9.3 The Final Decision Maker

Respondents were asked to indicate who had made the final decision on which pool pump to have installed. Just under half the respondents did not make the decision themselves (44 per cent). Either the pool professional, installer/builder, the home owner (if a renter) was the key decision maker in these situations. On the other hand, 56 per cent indicated they made the decision themselves, however, they were likely to have obtained information from industry representatives prior to purchase.

The incidence of a pool professional making the decision (16 per cent) was significantly higher amongst those who purchased a property with a pre-existing pool, and those with a household income in excess of \$150,000 (24 per cent and 22 per cent respectively).

A similar proportion overall indicated that the decision was made as part of a pool package (14 per cent). Incidences of this were significantly higher amongst those with an in-ground fibreglass pool, respondents from Western Australia, and those who built their own pool or spa (21 per cent, 20 per cent, and 20 per cent respectively).

Figure 42: Ultimate Decision Maker in Pump Purchase



Q25. Who made the final decision on which pool pump to install?

BASE: Respondents who were responsible for their own pool/spa (Total n=1262; Australia n=1131; NZ n=131)

9.4 Where Pump was Purchased

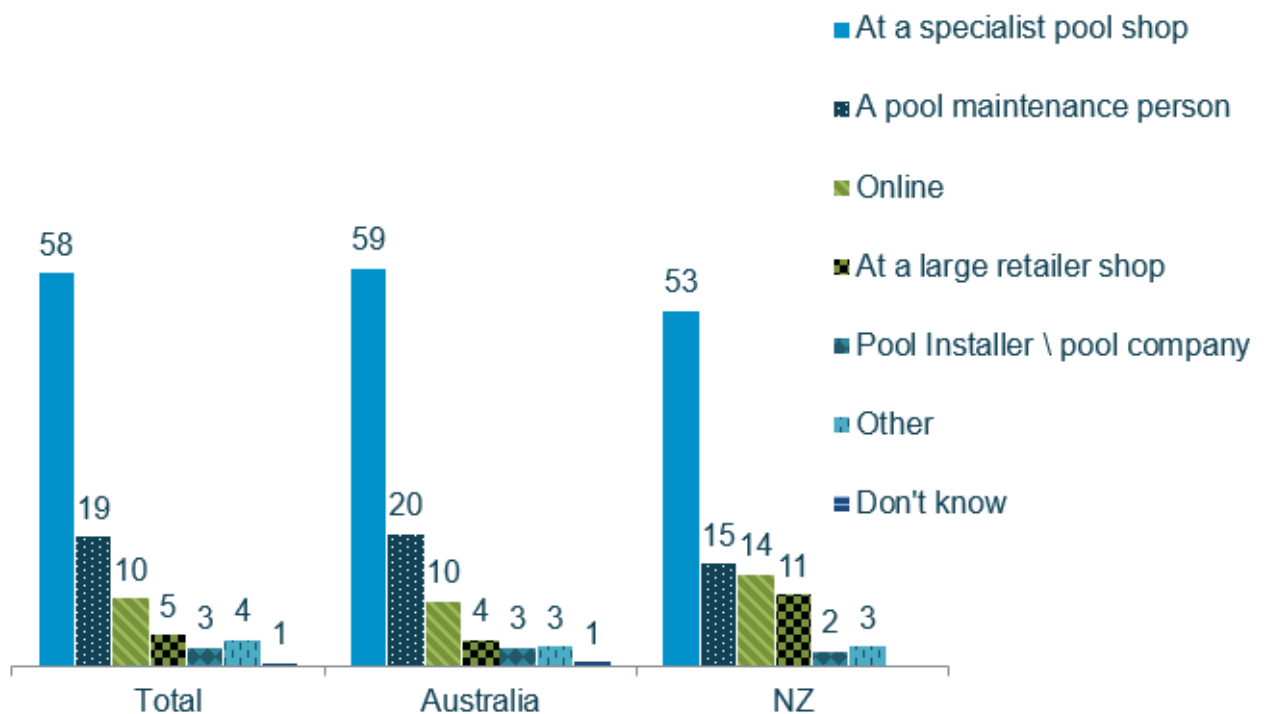
Respondents who had replaced a pump and/or who were responsible for their own pool were asked to indicate from whom they bought the pump itself. The majority of such purchases were indicated to have been made from a specialist pool shop (58 per cent). Incidence of this was significantly higher amongst those aged under 30 (68 per cent).

Almost one fifth of respondents indicated that they made their purchase through a pool maintenance person (19 per cent). Those with an in-ground concrete pool were significantly more likely to indicate this (24 per cent).

One in ten also used the internet to purchase their pump (10 per cent). Those who only owned a spa were significantly more likely to use the internet to purchase a pump (17 per cent).

Relatively few indicated that they purchased from a large retailer (5 per cent), though the incidence of this was significantly higher in New Zealand (11 per cent). It was also higher amongst those who had an above-ground pool (13 per cent).

Figure 46: Where the Pump was Purchased



Q26. Where did you buy your pump?

BASE: Respondents who were responsible for their own pool/spa (Total n=1262; Australia n=1131; NZ n=131)

10. Industry Feedback (Qualitative)

10.1 Notes on the Qualitative Participants

As has been outlined within the Methodology section of this report, we conducted interviews with representatives from two different stakeholder groups: retailers/suppliers, and builders/installers. Within each of these two groupings we sought the participation of stakeholders from a broad section of the pool market – i.e. we deliberately recruited a variety of companies/people who worked on lower budget pools (including above ground pools), mid-market pools, and higher end pools. This recruitment practice was maintained for each of the three Australian states from which the qualitative participants were drawn. It follows that we had a relatively broad range of participants within each location.

There were no issues in the recruitment process. The stakeholders were generally quite keen to provide input. In fact, many industry representatives appeared to be very keen to talk to us, and often continued to discuss the matter (pool pumps) well beyond the original allotted appointment time – giving the impression that they were very interested in having their opinions heard.

One overall finding that emerged was in relation to the industry at large. Education and training was an area of discussion, and exploring this territory sometimes resulted in those in the retail/supply industry to reference the fact that their industry is not regulated. They pointed out that there were no standard education or training requirements for those who provided advice to customers in relation to pool pumps. They generally felt that most operators would be well informed – but also suggested that some would not be, and may be unintentionally spreading misinformation as a result.

Qualitative participants were told that we were doing the research on behalf of the Department of the Environment and Energy – and therefore assumed there was an ‘issue’ that needed rectifying that had prompted the need for the research project to be undertaken. While we had not introduced our discussions in this manner, many participants made their own assumptions as to what this may be, and some felt the need to express their concern with other bodies within the general pool industry. For example, a few of the builders/installers felt that they were ‘doing the right thing’ in relation to the pool pumps that they installed, but felt that some pool shops were to ‘blame’ for the replacement of quality pumps with cheap and inefficient pumps.

“We install quality, and they replace them with cheap and nasty so that they can replace them again in a few years’ time.” BUILDER

However, some pool retailers/suppliers were providing the opposite perspective – suggesting that they often came across situations where new build pools had inefficient set-ups, and so were effectively pointing their finger at the builders/installers for this.

“They’re just glorified concreters. They have no real idea about how to make a pool run efficiently.” RETAILER

10.2 Trends in Relation to Pools

Pool size

One of the areas of exploration was to enquire as to any changes within the pool market – as observed by both builders/installers and the retailers/suppliers. While several participants from both stakeholder groups indicated that there were no major changes within the market, others suggested that the average size of a backyard swimming pool had changed over recent years. They indicated that in some areas (within each city) block sizes for new developments were getting smaller, and as a result the average pool sizes were decreasing.

There were suggestions that while pools may have been up at the 50,000L-60,000L range previously, they were more likely to be around 40,000L now.

“There’s just not the same amount of room to be dealing with these days.” BUILDER

Pool features

Within each location there were also reports that pools were more likely to have additional features now. Whereas a backyard pool may have just been placed in a backyard and treated as a standalone attraction, newer pools were more likely to be incorporated into backyard landscaping, and water features of various types are likely to be used to accomplish this. The most commonly referenced water feature types were:

- Water features to improve the aesthetic of the pool (fountains, cascading water etc.);
- Swim jets used to swim against;
- Spas (attached to pools);
- Heat pumps (to enable the heating of water for year round usage).

Whilst not necessarily a feature, there was also discussion of greater use of the newer types of pressure and robotic cleaners, that require less direct involvement with pool cleaning.

Pool types

A few of the builders/installers in both Sydney and Melbourne indicated that stand-alone swim spas were also trending at the moment. These swim spas were said to be larger than 'normal' spas, but smaller than typical pools. They were often of a prefabricated fibreglass construction and consisted of two main sections – the 'normal' sit down spa area, and an adjoined open section that incorporated swim jets to allow swimmers to swim against it without effectively moving (as per a treadmill). These swim spas were seen to be suitable for smaller block sizes, and involved fewer complications for installation. There was reference made that they can be installed over sewer easement lines. Swim spas also tend to have in-built circulation pumps – so there is unlikely to be any real decision making made in relation to the pumps that these swim spas have.

10.3 Trends in Relation to Pool Pumps

The participants were asked about any trends that they had noticed in relation to pool pumps. Overall, as indicated by both builders/installers and retailers/suppliers, there was a feeling that current pool set-ups were more likely to involve multiple pumps. They suggested that whereas most pools may previously have had only one single (potentially larger sized) pump, they were now more likely to have multiple (potentially smaller) pumps – primarily to accommodate for additional features and new cleaner types (e.g. pressure cleaners).

As an illustration of this, a pool builder/installer indicated that a new pool may have previously had a single 1.5 hp pump, but may now have a several lower hp pumps. As an example they discussed details of a pool they were currently constructing that involved water jets – which he was installing with two single speed 1 hp pumps.

The retailers/suppliers were also questioned in relation to the potential need for larger hp pumps, and indicated that certain situations did require larger pumps. The sort of situations believed to require a larger pump included:

- Pool set-ups where the pump was a significant distance from the pool;
- Situations where the plumbing pipe size was too small to produce the required flow rate;
- Where there were numerous bends/elbows in the plumbing work (each of which was said to decrease the potential efficiency of the pump); and
- Elevation (to achieve the required pump head if pump was situated below the pool surface level).

While there was a great deal of variation in the pumps sold by retailers/suppliers (in terms of different brands), indications were that single speed pumps were the most common pump types dealt with overall.

The retailers/suppliers generally (though not always) stocked other pump types – including variable speed pumps which some tended to recommend. There was little mention made of dual or multiple speed pumps.

The retailers/suppliers were also asked if they believed that separate pumps were needed for hot water heating and filtration. While most believed that this was the case, a few indicated that one pump could be used for both.

10.4 Decision Making

Retailers/Suppliers

The retailers/suppliers almost exclusively only dealt with the installation of a pool pump in a replacement situation. For replacement pumps, they indicated that many customers are initially simply seeking 'like-for-like', so may specifically seek this when then ask for assistance. The pool shop representatives indicated that this situation does allow them the opportunity of recommending something else.

"A customer may come in here and tell me what pump they currently have, and ask if I can replace it. They probably just expect me to order in the same thing, but I prefer to discuss their set up, and see it in person if I can, before confirming what they actually need." RETAILER

Brands were said to be rarely specifically requested – but this may happen in situations where the customer has had a positive experience with their previous pump, and just wants it to be replaced with the same thing.

"Someone might come in here and say 'my Davey has finally packed it in, can you get me a new one?'" RETAILER

In overall terms though, the pool owner was said to have little involvement in the decision making process in relation to their pool pump.

In the retail environment the customer was more focused on the pump itself, but there was still said to be a high reliance on the industry experts to guide customers in this regard.

"They trust us, and we're not going to let them down because we want them to keep using us." SUPPLIER

"At least 80 per cent of customers will come in here and seek our advice, 10 per cent may have done a bit of Googling beforehand, and the remaining 10 per cent simply want the cheapest regardless of what it is." RETAILER

The retailers/suppliers indicated that they provide advice to customers based on the total pool set up. While this may involve a verbal description, several of the participants indicated that they preferred to develop a relationship with the customers, and that they could make a better assessment if they did an on-site visit.

After assessment, the retailers/suppliers tended to limit their recommendation to the main brand(s) that they stocked - though would order in other pumps if they were specifically requested by a customer (however, they indicated that this rarely happened).

From a retailer/supplier perspective, customers were seen to base their ultimate decision on the purchase price of the pump (this is also consistent with the quantitative results). While they may have described other benefits, they felt that the end decision was mostly based on the price of the pump. Occasionally aspects such as the length of the warranty or the noise level of the pump were also said to play a role.

Noise was only said to play a role if there was a neighbour complaint, if the pump was situated near their own bedroom window, or if they only ran their pump in off-peak hours (when the noise was more noticeable).

Builders/Installers

With new pool construction, builders/installers indicated that owners generally compared quotes (generally at least two) that detailed the whole pool – but none of the builders really thought that the customer was making comparisons at the level of the pump included/recommended. Instead, they were likely to only compare the overall cost, and major componentry.

“We tell them what the quote includes, but we don’t get customers coming back telling us ‘we like your quote, but want a different pump included’.” BUILDER

From a construction/installation perspective, there were mentions of suitability (physical size, flow rate, positioning/elevation), and reliability as the main factors in the decision making process. They, however, were generally referring to their own decision making – not that of the customer.

Many of the construction/installation participants indicated that they had a set package/fit-out designed to fit most of their pools – and they were happy to provide information to the customers as to why they were selecting a certain pump type. As such, only a few of the construction/installation participants indicated that the pump used was selected on a pool by pool basis.

From a builder/installer perspective, the purchase price of a pump was not seen to be as important a factor (in comparison to the purchase price of a replacement pump from a retailer) - particularly for the mid to high end level pools.

“Some customers just want the best of everything, the cost doesn’t matter.” BUILDER

“If you’re spending \$80,000 on a pool you’re not going to be concerned with the difference between an \$800 pump and a \$1,400 pump.” BUILDER

However, the builders/installers indicated that the pump purchase price did play more of a role at the lower end of the market. A couple of the builders/installers who operated at the lower end of the market indicated that they may offer both single and variable speed pumps to potential clients – but they would itemise them as option, and leave it to the customer to decide what they wanted (usually the cheaper option).

Even so, overall the purchase price of the pump was seen to be a small proportion of the overall pool cost even at the lower end of the market (approx. 1.5 per cent to 2 per cent). A cheaper pump was seen to be a way to make the overall pool cost seem more attractive to potential customers, but they did not feel that the difference was overly significant, and none explicitly said that they deal with ‘cheap’ pumps in order to attract business. Instead, they were more likely to indicate that the small amount of difference it would make did not make this worthwhile for them.

However, many of the builders/installers indicated that they are likely to have set arrangements with manufacturers which can involve volume deals and incentive packages. A few also indicated that they were likely to install pumps with a larger capacity than may actually be required (in their terms ‘over-engineering’ it) – simply to ensure that it would result in a smooth running pool for their customers.

10.5 Information and Education

The retailers/suppliers included in the research project were generally quite experienced – tending to be the owner operator of the retail outlet in question. As such they were likely to have worked in the industry for many years, and so felt that they were adequately informed and knowledgeable in relation to pool pumps. On further exploration of this however, most of their knowledge was based on their own experiences over time, and on the information provided to them by the pool pump manufacturers.

The manufacturers were said to provide numerous resources including:

- Fact sheets and brochures detailing the specific benefits of individual pumps;
- A representative visiting retail outlets to discuss and demonstrate any new equipment;

- Representation at trade shows;
- Information on their websites (where the retailers/suppliers would turn to find out any additional information about a product that they needed).

In terms of formal training – there were not many references to acquiring any particular qualification. A few of the Queensland retailers/suppliers indicated that they had undertaken a relevant Certificate III Level TAFE course. In addition, those from the larger retail franchises indicated that their staff attended training courses that were company-run.

A couple of the manufacturers were also said to run what they described as ‘online academies’ for the staff of valued suppliers that may involve video tutorials with online testing.

Apart from the formal sources, owner/operators of smaller retail outlets indicated that they trained their own staff (and therefore passed on their own knowledge to junior workers). The Swimming Pool and Spa Association (SPASA) was also referenced as a source of information by some retailers/suppliers.

The retailers/suppliers were also asked about whether or not they felt that information quality and availability had changed in recent times. Overall, there was a feeling that the information had not necessarily changed much at all in recent times (i.e. in the last five years). They did feel, however, that it had improved over a longer period time (i.e. in the last ten years).

10.6 Customer Information

In addition to discussing their own knowledge levels, the research participants also generally commented on how knowledgeable they felt their customers were. In general, both retailers/suppliers and builders/installers tended to suggest that the bulk of their customers were not informed / knowledgeable in relation to pool pumps. They certainly felt that ‘some’ customers were well informed – but this tended to be in the minority of cases.

“Maybe 10 per cent are informed, but most don’t know very much at all.” RETAILER

Of course, it must be mentioned that the retailers do not come into contact with all pool pump purchasers. Those who do their own online research and also purchase online (or from other sources other than retail pool supply shops) will not come into contact with the sort of stakeholders we spoke with on this occasion.

From the retailer/supplier perspective though, they suggested that relatively few of their customers appeared to have sought information before speaking with them. In particular, they suggested that customers with high-end pools were extremely unlikely to be knowledgeable in relation to their pool pump, and were quite removed from the process.

There were, however, suggestions that some customers did attempt to arm themselves with knowledge before seeking out the best pump for themselves. The retailers/suppliers felt that these customers were most likely to look for information online. Based on the resultant discussions that they had with such customers, they suggested that a lot of the information available to the customer was quite technical in nature – and they suggested that some customers may not fully understand what they had read, or may simply have misinterpreted it.

Some of the builders/installers indicated that before they started seeking formal quotes, a small proportion of their customers attended ‘pool and spa shows’ to gain information about pools generally, as well as water and filtration types. The information presented tended to be from manufacturers (with some information from suppliers and builders), and they felt that these customers were less likely to be seeking specific information in relation to pool pumps.

10.7 The Voluntary Labelling Program

When asked about the voluntary labelling program, most retailers/suppliers in New South Wales and Victoria said that the program had had little impact on consumer decision making, and had not impacted the stock they currently kept in store.

However, in Queensland it was said to have an impact - specifically while the rebate schemes were in place in that state. These retailers/suppliers indicated that during that period they had customers coming to them requesting pumps with the star rating required to obtain the rebate. The retailers/suppliers did not feel that the trend toward purchasing an energy efficient pump had been maintained beyond the period in which the rebate was available.

“There was a real push for energy efficient pumps when the rebate scheme was in place, but not now.” RETAILER

“Now that some of those energy efficient pumps are failing they are being replaced with single speed pumps because they’re half the price.” SUPPLIER

Interestingly though, in questioning some of the pool shop retailers in their stores, we found several of them checking some of their stock while we were on site to see if the labels were on the boxes of the pumps that they stocked (i.e. they were not sure that they were there, and so clearly were not using them). They justified this by stating that the labels were not on the pumps that they sold most often (the single speed pumps).

While this situation was not posed as part of the discussion, some retailers/suppliers indicated that if the program was mandatory then they may be able to use the labels to assist them in comparing

pumps in situations where they were making a recommendation to a customer (amongst those who believed that the labels accurately conveyed the energy efficiency of the pumps).

Even in situations where this was believed to be the case, the retailers still believed that purchase price would be the main driver in the overall decision making process.

Other retailers were not convinced of the value of the labels as they were not 'sold' on the energy efficiency of the pumps. As such, they suggested that if the labels were mandatory they would have to spend time explaining to customers why they were not personally recommending the higher rated pumps (i.e. why they were making recommendations for pumps that did not have the best efficiency ratings/labels).

The builders/installers indicated that the labels were less important from their perspective. They suggested that they were more interested in installing what they considered to be a 'reliable' pump – as opposed to an energy efficient pump (i.e. they were selecting a pump themselves, and not necessarily basing their decision on the labels, as the customer was unlikely to even see the label).

10.8 Perceptions of Variable Speed Pumps

Discussion in relation to the voluntary labels also included a broader question on the perceived believability of the energy efficiency messages portrayed on the labels, and of the variable speed pumps – which were the only pump types likely to currently have the labels. In terms of believability, as has already been hinted - there were mixed reactions which tended to fit into three main categories:

- Those dismissive of the claims in relation to variable speed pumps;
- Those who believed that there were benefits, but not to the extent claimed; and
- Those who were sure that variable pumps offered significant cost savings (and potentially other benefits).

Those dismissive of energy efficiency claims

As indicated, some of the research participants (both builders/installers and retailers/suppliers) were dismissive of the claims that the variable pumps were energy efficient. They did not like them being referred to as 'energy efficient pumps', and did not feel that these pumps produced any real cost savings to the customer.

These participants tended to suggest that if the pump was running at a low speed the customer would need to run the pump for a longer period of time in order to achieve the same flow (turnover) rate (as a single speed pump running at a higher speed). If this was the case they could not see how

a customer could save money, as the pump would need to run for longer and therefore (as far as they were concerned) required more electricity to do so.

They also tended to suggest that if the pump was running at a higher speed then there was unlikely to be any real difference in its performance compared with that of the single speed pump. Continuing on from this they indicated that when the variable speed pumps were used for more than one purpose they needed to be run at higher speeds – which then made the potential energy savings redundant in their opinions.

“Low energy use is misleading. It just means that the pump will have to work harder or longer to get the required water turnover.” SUPPLIER

There were also a few retailers/suppliers who did not use or stock variable pumps for other reasons. These were individuals who had specific reasons for believing that variable speed pumps were not suitable for their businesses.

“A single speed pump has a capacitor on top – it gives the initial ‘oomph’ to start the pump. Variable speed pumps don’t have that, and the starter can’t stand up to the use required. That’s why most only have a two year warranty.” SUPPLIER

“Electricity costs aren’t as important to customers as they used to be – energy saving is not really a big concern, so if the demand isn’t there I won’t stock it.” RETAILER

“They’re just not suitable for saltwater pools, and most of my customers have saltwater pools. A saltwater pool needs to generate its own chlorine, and a variable speed pump on a low speed simply doesn’t generate enough chlorine.” SUPPLIER

Those who felt the claims were over-stated

Some builders/installers and retailers/suppliers believed that there were some cost savings to be made from variable speed pumps, and spoke positively about variable speed pumps. However, they felt that their benefits were generally exaggerated.

Some of the retailers/suppliers in this category indicated that they were reluctant to ‘over-promise’ to customers (i.e. to re-state manufacturer claims), as they were wary of customers coming back to them at a later date complaining that their energy bills had not decreased to the extent that it was promised.

They tended to believe that the manufacturers only showed the energy efficiency ratings relevant to when the pump would be running at a very low speed, and that this rating was not relevant to other scenarios.

"They put in the best case scenario figures, and that's not how the pump runs all the time."

POOL MAINTENANCE WORKER

"Some brochures say they save up to 80/90 per cent, but they're not that good."

POOL SUPPLIES
RETAILER

"You can probably save around \$100 a year at most."

POOL SUPPLIES RETAILER

Supporters of variable speed pumps

Those in the third category (the builders/installers and retailers/suppliers who believed that there were significant cost savings to be made) were likely to always recommend variable speed pumps, and may also have seen other benefits in them. For example, some simply felt that this more modern pump type was more reliable, and some brands produced great quality versions. As such, they felt that these pumps would offer greater longevity, and conveyed a sense of quality that they wanted to be associated with their own business.

"We only use the best, so I always use variable speed pumps in our pools."

BUILDER

Feedback from customers

Regardless of the perception held, it seemed as though relatively few of these research participants were basing their views on feedback from their customers. The builder/installers were unlikely to have any sort of ongoing relationship with their customers, so did not really hear about customer experiences with the pumps that they used (unless there was a major issue). Some of the retail/supplier customers were also said to be 'uninvolved' with the running of their pool, and so were unlikely to know themselves what impact different pumps have made once installed.

Some retailers/suppliers indicated that they did occasionally receive feedback from their customers. Again, this feedback appears to be mixed.

There was a small degree of feedback from retail customers suggesting that they had achieved savings by installing a variable speed pump. There were also a few occasions where customers had come back to retailers/suppliers disappointed that they had not saved as much as they expected.

"I had a customer come back to me recently to complain that he hadn't saved as much as he thought he would. However, he'd forgotten that I didn't recommend the variable pump to him. He insisted on it so I ordered it in for him, but I never promised it would deliver what they promise."

RETAILER

10.9 Operational and Performance Measures

Pool sizing

The retailers/suppliers were asked to reveal how they went about sizing a pool pump for a backyard pool. Invariably they suggested that they sized a pump based on a range of factors specific to the pool set-up (which many liked to see for themselves from an on-site visit). The factors commonly mentioned by these participants were:

- The filter type (sand or cartridge)/set-up;
- The pool capacity (volume) and flow rate required;
- Plumbing (size of pipe and configuration);
- Pump purpose (single vs. multiple uses);
- Location of pump (distance from pool, and elevation).

“We assess a pump on flow rate, not horsepower. Filter specifications require a certain flow rate, so that’s what we work to.” RETAILER

The builders/installers tended to list very similar factors when asked the same question. They tended to indicate that they sized a pump according to:

- The filter specifications (flow rate requirements);
- Pool capacity (volume);
- Purpose (single vs. multiple uses);
- Location of pump (distance from pool, and elevation).

“I have a book [company created] that has all the requirements in it – flow rate for the size of pool, the pump and chlorinator details, it’s all specified.” BUILDER

Perceived suitability of variable speed pumps for replacement of single speed pumps

The retailers/suppliers were also asked if they believed that variable speed pumps were suitable (for replacement of a single speed pump) in all circumstances. Ultimately, they did not feel that this could always be done. Situations where it was not seen as possible included:

- Where the footprint/location of the pump did not allow for the variable pump to be installed (which tended to be physically longer than single speed pumps);
- Where the pump was for a certain feature (e.g. pressure cleaner) that in itself was not seen to be ideal/suitable for variable speed pumps; and

- Where the timing device on the variable pump was not compatible with the timing devices on other features (e.g. water features etc.), though this was only mentioned by two participants.

Life span of pumps

The retailers/suppliers were also asked about the typical life span for a pool pump and whether or not this had changed over the years. Most of them indicated that pool pumps did not last as long as they used to. Previously it was not unusual for pumps to last for up to 20 years, but this outcome was thought to be highly unlikely with modern pumps.

There were suggestions that the longevity of pumps had decreased as manufacturers attempted to lower manufacturing costs, and in doing so had compromised some of the design aspects of the pump. Others were more skeptical and suggested that the modern pumps were specifically designed to outlive the warranty period – and nothing more.

“After all, they need to sell more pumps, so they don’t want customers going away for 20 years before they need a new one.” RETAILER

As such, many suggested that now it was not unusual for a pool pump to cease functioning after the warranty ran out (three years). More typically though, these retailers/suppliers indicated that new pumps would last for around three to five years.

The life of a pool pump was also seen to be dependent on how well customers maintained them (and their pool). There were suggestions that many customers did not maintain the pumps to their optimum (by having the correct chemical levels, servicing the pump itself, clearing the skimmer box etc.).

As a side issue, there were also indications (particularly from the retailers who did not undertake pool pump repairs in-house) that there was a lower likelihood of a non-functioning pump being repaired. Replacement of a pump was indicated as much more common.

“If it’s out of warranty, we just replace them.... They’re not worth repairing.” RETAILER

Place of manufacture of pumps used

The retailers/suppliers were also asked about where they sourced their stock from, and it was apparent that overall a range of different suppliers were used (collectively, as most only dealt with one or two suppliers individually), and that the pumps were made in a range of different locations. Many of the retailers expressed a preference for Australian manufacture (or assembly), as they felt

that this implied a sense of quality/reliability, but potentially more importantly, it provided a local presence for them to deal with when problems arose.

Interestingly, while not all knew the actual location of manufacture of their products, there was a general expression of disdain for what they termed 'cheap pumps' made in places like China.

"Some of those big retailers like Aldi sell very cheap pumps. They're all made in China, and they just don't last. But people buy them." RETAILER

Pump plumbing

Another small area of exploration amongst the qualitative participants was that of plumbing. Overall, most considered this to be an important part in the overall set-up of a pump (and therefore pool system).

Some of the builders/installers said that they had licenced plumbers on staff that dealt with the plumbing issues, while some simply sub-contracted this component when required. Either way, the builder themselves was unlikely to have a lot to do with the plumbing work.

The pool retailers/suppliers (who had no involvement with the original pool set-up) often indicated that they would come across a plumbing situation so complicated or unsuitable that it prevented the pool pump from being able to run efficiently.

Retail margin

Another aspect discussed in this section of the discussion guide related to the retail margin that the retailers placed on the pool pumps that they sold. This was another area with considerable variation. A few of them suggested that their margins were as low as 30 per cent. More commonly, the retailers suggested that the margin was likely to be in the 50 per cent to 80 per cent range. There were also a few who indicated that they were generally seeking higher margins (aiming for 100 per cent), but that they may not always be able to achieve this.

10.10 Internet Sales

The retailers/suppliers were also asked about the impact internet sales had on the market. All seemed to suggest that internet sales had been increasing, and therefore impacting them to a greater degree (by cutting into their market). They also felt that this trend was likely to impact pool owners – as they were of the belief that the sort of pumps purchased online were of lower quality, and were unlikely to last for very long.

These retailers/suppliers were aware that some customers looked around at the price of pool pumps online, and while they may not know the ‘going rate’ for the exact brand that the retailer stocked, they come to the shop armed with generic knowledge of the price of a certain capacity pump.

“They will look around on the net for the price of a one horsepower pump or something like that, and then come in here and expect me to beat it. I generally can’t, so I have to spell out what they get with one of my pumps versus what they will get with one of them.” RETAILER

Several pool pump retailers/suppliers (who also undertook regular maintenance of customer pools) also tended to indicate that they were reluctant to service a ‘cheap pumps’ that had been purchased online.

“I don’t want anything to do with them. I tell my customers that if they buy cheap rubbish I won’t service it for them.” POOL MAINTENANCE WORKER

Some of the retailers did not have much of an internet presence (a few of the independent operators), while others tended to list the type of stock they carried, but did not have prices listed online. When asked about this, the reasoning was invariably that they wanted to develop a personal relationship with the customer, and needed to know their individual pool circumstances so that they could assist them in pump selection (as opposed to having the customer choose one themselves from an online listing).

Several of the retailers also specifically stated that they did not stock brands of pumps that they knew were readily available online – as they did not like online price comparisons being made in relation to their stock.

11. Conclusions, Key Outtakes & Implications

While industry perceptions of consumer knowledge may be slightly underestimated, the quantitative results seem to align with (at least to a degree) the perceptions held by industry experts that consumers are not particularly knowledgeable in relation to pool pumps.

We can conclude that pool owners were lacking knowledge in various areas, highlighted through the following findings:

- 60 per cent of respondents did not know what the most effective pump type would be;
- 60 per cent did not know what the most efficient pump type would be;
- For over a half of all pumps mentioned in the study respondents did not know what size they were (52 per cent);
- For a third of all pumps mentioned in the research respondents did not know what the type of pump was (33 per cent);
- 28 per cent were unaware of the electricity tariff that their own pumps ran on;
- 24 per cent were unable to nominate the proportion of their household electricity bill that is taken up by their pool and/or spa pump(s).

These outcomes (along with others) suggest that some pool and spa owners are not particularly engaged or involved with their pool and/or spa pump(s) at a level that may be required for informed decisions to be made by them directly.

It follows that many consumers are turning to industry 'experts' in situations where their pump(s) fail and need replacement. This outcome was suggested by the industry representatives, and seems to be confirmed in the quantitative results, in that:

- Pool maintenance and pool retail shops were the most common sources of information in relation to pool/spa pumps (55 per cent and 47 per cent respectively);
- Most pumps were purchased at specialist pool shops (58 per cent), or through a pool maintenance person (19 per cent);
- At the time of pump replacement, many were at least open to considering the purchase of an alternative pump to the one they were replacing (71 per cent for spas, and 69 per cent for pools);

- Apart from purchase price, recommendations from a pool professional were a major determinant amongst those who selected an alternative pump.

This tends to confirm industry claims that there is a high reliance on them for advice in this area - at least amongst those who they come in contact with (as some are undertaking their own research and purchasing online, and some are going to large retail outlets that may not offer professional advice).

When it comes to providing this advice however, the qualitative exploration revealed wide ranging views (amongst both the retailers/suppliers and builders/installers in the industry) in relation to 'energy efficient pumps'. As a result, there does not appear to be a consistent message emerging from the industry in relation to pool and spa pumps.

- Some in the industry clearly understood and believed the benefits of energy efficient pumps and always recommended/used them;
- Some believed that these pumps did offer benefits, but they felt that that manufacturers over-claim the extent of these benefits (and they would not completely back the manufacturer claims for their customers);
- Some were adamant energy efficient pumps were not actually energy efficient (or suitable for all situations) and therefore did not deal with them.

The qualitative findings also detail some of the perceptions held by individual industry representatives that may be leading to confusion regarding the accuracy of information distributed on variable speed pumps within the industry. There may be a need to directly address some of these misconceptions in communication about variable speed pumps.

In addition to the reliance on industry experts, some consumers were turning to online sources for information and to purchase pool pumps.

- Around two fifths of respondents indicated that they used the internet as a source of information in relation to pool/spa pumps (39 per cent);
- One in ten also indicated that they purchased their pump(s) online (10 per cent).
 - A further 5 per cent purchased at large retail outlets (where they are unlikely to obtain specialist advice, and are likely to have to make their own decisions).

- The qualitative exploration revealed that some customers who undertake online research find the information complicated and can sometimes misinterpret it.

This highlights the need for simple, and easy to follow information to be available to those doing their own online research. Some of these consumers will still come into contact with industry experts, so the information should ideally attempt to dispel some of the more common misconceptions held within the industry, e.g. in relation to the benefits of variable speed pumps, sizing of pumps etc.

Purchase price appears to be the main factor in the decision making process in relation to pool/spa pumps(s). This was suggested by the industry representatives, and confirmed though the quantitative findings show:

- Price and quality were the two most important factors when selecting a pump (indexed scores of 76 and 73 respectively).
- The qualitative exploration suggested that the rebate that was in place in the Queensland market made a significant impact on consumer decision making at the time.
 - Qualitative respondents in Queensland, however, did not feel that this was maintained after the rebate was removed.
- In addition, noise did not appear to be a main factor in the decision making process.
 - Only a quarter of respondents (25 per cent) considered noise with a smaller percentage altering their pump system to minimise noise (12 per cent).

Communication should highlight the potential cost savings to be gained from use over the life of a typical pump. It is important, however, that such claims are realistic and not over-stated.

Other potential benefits (such as quieter operation) should only be treated as secondary priorities in communication.

APPENDICES

Appendix A. Questionnaire

Thank you for taking part in this research. This survey is being conducted by Woolcott Research on behalf of the Department of Industry.

The survey should take no longer than 15 minutes. Please read the instructions for each question carefully, and be as open and honest as you can. We abide by all Australian Market and Social Research Society guidelines and as such your responses are completely confidential and anonymous.

If you have any problems completing the questionnaire, please click on the 'support' link, below.

SCREENER

S1. Do you currently own a house with a pool or spa (even if you don't currently live there)? *Please choose all that apply.*

Yes a spa	1 CONTINUE
Yes a pool	2 CONTINUE
No	3 TERMINATE

S2. IF AUSTRALIAN SAMPLE: Which state/territory is your house with a pool/spa in? CHECK QUOTAS

ACT	1
NSW	2
VIC	3
TAS	4
QLD	5
SA	6
WA	7
NT	8

S3. What is the postcode?

EXISTING POOL OR SPA PUMP(S)

1. (If answered 'yes a spa' to S1) Which type of spa do you currently have?

Prefabricated fibreglass (standalone)	1
Spa attached to swimming pool	2

2. What size is your spa?

3 person	1
4 person	2

- | | |
|------------------------|---|
| 3 person | 1 |
| 5 person | 3 |
| 6 person | 4 |
| Other (please specify) | 5 |
3. (If answered 'yes a pool' to S1) Which type of pool do you currently have?
- | | |
|------------------------|---|
| In-ground- Concrete | 1 |
| In-ground – Fibreglass | 2 |
| Above Ground | 3 |
4. Is your pool a salt, chlorine or mineral pool?
- | | |
|------------------------|---|
| Salt | 1 |
| Chlorine | 2 |
| Mineral | 3 |
| Other (Please Specify) | 4 |
| Don't Know | 5 |
5. Have you got a sand or cartridge filter?
- | | |
|------------------------|---|
| Sand | 1 |
| Cartridge | 2 |
| Other (please specify) | 3 |
| Don't know | 4 |
6. (If answered 'yes a pool' to S1) How big is your pool? *If unsure please estimate the closest size*
- | | |
|------------------------|---|
| 5m x 3m | 1 |
| 6m x 3m | 2 |
| 7m x 3m | 3 |
| 8m x 4m | 4 |
| 9m x 4m | 5 |
| 10m x 4m | 6 |
| 10m x 5m | 7 |
| Other (please specify) | 8 |
7. (If answered 'yes a pool' to S1) What additional features does your pool have?
- | | |
|------------------------|---|
| Water Feature | 1 |
| Water Fountain | 2 |
| Spa Jets | 3 |
| Solar Water Heating | 4 |
| Waterslide | 5 |
| Other (please specify) | 6 |
| None | 7 |
8. Was the pool or spa and accompanying equipment (pump, filter, pump housing unit) existing when you bought the property or were you responsible for the building of the pool or spa?

- Already in place 1
- Responsible for building either spa, pool or bath 2

9. Altogether, how many pumps do you have running for your pool and/or spa (including those for additional features such as a water feature, water slide etc.)?

- One 1
- Two 2
- Three 3
- Four 4
- Five 5
- Six 6
- Seven or more 7
- Don't know 8

10. What type of pump do you have on your pool and/or spa? FOR EACH AT Q9 (ASSUME ONLY ONE PUMP IF CODE 8 AT Q9)

	Pump 1	Pump 2	Pump 3	Pump 4	Pump 5	Pump 6	Pump 7
Single Speed	1	1	1	1	1	1	1
Not Single Speed	2	2	2	2	2	2	2
Don't know	3	3	3	3	3	3	3

10b. (If Code 2 (not single speed) at Q10) If the pump is not single speed, what type of pump do you have? FOR EACH AT Q9 (ASSUME ONLY ONE PUMP IF CODE 8 AT Q9)

	Pump 1	Pump 2	Pump 3	Pump 4	Pump 5	Pump 6	Pump 7
Dual Speed	1	1	1	1	1	1	1
Multi Speed (3 or more fixed pre-set speeds)	2	2	2	2	2	2	2
Variable Speed (3 or more programmable speeds)	3	3	3	3	3	3	3
Other (please specify)	4	4	4	4	4	4	4
Don't know	5	5	5	5	5	5	5

11. Which of these pumps are controlled by a timer (controlled automatically)? FOR EACH AT Q9 (ASSUME ONLY ONE PUMP IF CODE 8 AT Q9)

	Pump 1	Pump 2	Pump 3	Pump 4	Pump 5	Pump 6	Pump 7
On a timer	1	1	1	1	1	1	1
Not on a timer	2	2	2	2	2	2	2

12. What size circulation pump do you use? FOR EACH AT Q9 (ASSUME ONLY ONE PUMP IF CODE 8 AT Q9)

	Pump 1	Pump 2	Pump 3	Pump 4	Pump 5	Pump 6	Pump 7
¼ Horse Power (HP) (750W-1000W)	1	1	1	1	1	1	1
1 HP (1000W-1150W)	2	2	2	2	2	2	2
1.25 HP (1150W-1650W)	3	3	3	3	3	3	3
1.5 HP (1650W-1900W)	4	4	4	4	4	4	4
2 HP (1900W-2150W)	5	5	5	5	5	5	5
Other (please specify)	6	6	6	6	6	6	6
Don't know	7	7	7	7	7	7	7

13. How old is your pump? FOR EACH AT Q9 (ASSUME ONLY ONE PUMP IF CODE 8 AT Q9)

	Pump 1	Pump 2	Pump 3	Pump 4	Pump 5	Pump 6	Pump 7
Less than 5 years old	1	1	1	1	1	1	1
Between 5-10 years old	2	2	2	2	2	2	2
More than ten years old	3	3	3	3	3	3	3
Don't know	4	4	4	4	4	4	4

REPLACING POOL OR SPA PUMP(S)

14. Have you ever had to replace a pump for your pool or spa?

Yes for my spa	1	CONTINUE
Yes for my pool	2	CONTINUE
No	3	GO TO Q22
Don't know	4	GO TO Q22

15. On average, how often do you replace your swimming pool or spa pump/s?

Every year	1
1 to 2 years	2
3 to 5 years	3
6 to 7 years	4
8 to 10 years	5
10+ years	6
Don't know	7

16. (FOR EACH ANSWERED AT Q14) How old was the [insert spa or pool] pump you replaced?

0 to 2 years old	1
2 to 5 years old	2
5 to 10 years old	3
More than 10 years old	4
Don't know	5

17. Did you just replace the [insert spa or pool] pump with the same model or did you consider alternatives?

Considered alternatives and ended up getting different pump	1
Considered alternatives and ended up getting the same pump	2
Did not consider alternatives, just replaced like with like	3
Don't know	4 – Go to Q18

17b. If code 1 at Q17, why did you end up getting a different pump?

OPEN TEXT

17c. If code 2 at Q17, why did you end up getting the same pump?

OPEN TEXT

17d. If code 3 at Q17, why did you replace 'like with like'?

Warranty	1
Piping	2
Size/Space	3
Installer or pool shop advice	4
Other (please specify)	5

18. IF CODE 3 AT Q3: Did you need to use a particular kind of pump with your above-ground pool?

Yes	1	CONTINUE
No	2	GO TO Q20
Don't Know	3	GO TO Q20

19. What type of pump did you require?

Single Speed	1
Not single speed	2
Don't know	3

19b. If code 2 at Q19, If the pump was not single speed, what type of pump did you require?

Dual Speed	1
Multi Speed (3 or more pre-set speeds)	2
Variable Speed	3
Other (please specify)	4
Don't know	5

ENERGY USE AND PERCEPTION ISSUES

20. When considering all your total household electricity use what percentage do you think your pool and/or spa pump(s) use(s)?

Less than 10%	1
10-15%	2
15-20%	3
20-25%	4
25-30%	5
30-35%	6
35-40%	7
40-45%	8
50% or more	9
Don't know	10

21. What measures do you take to make your pool and/or spa efficient?

Using an energy efficient pump	1
Regularly clean the filter	2
Use a pool pump	3
Length of time pump is running	4
Other (please specify)	5
None	6

22. **IF CODE 2 AT Q8 OR CODE 1 or 2 AT Q14:** When you bought a new or replacement pool or spa pump how important were the following to you? (Rank most important as 1 to least important as 6)

Price	1
Quality (e.g. Known brand)	2
Energy efficiency (star rating)	3
Size (rated wattage/horse power)	4
Expected lifespan	5
Noise	6

23. **IF CODE 2 AT Q8 OR CODE 1 or 2 AT Q14:** What other aspects (besides price, quality, energy efficiency, size, expected lifespan and noise) were important to you when deciding on which pool or spa pump to purchase?

Open Text

24. **IF CODE 2 AT Q8 OR CODE 1 or 2 AT Q14:** When you bought a pool or spa pump, how did you source information to make the decision? **PLEASE CHOOSE ALL THAT APPLY**

Spoke with a pool maintenance professional	1
Went to a retail pool shop	2
Spoke with friends	3
Online research	4
Chat or review websites	5
Used the eneryrating.gov.au website to compare star ratings of swimming pool pumps	6
Did not source any information to make the decision	7
Other (please specify)	8

25. **IF CODE 2 AT Q8 OR CODE 1 or 2 AT Q14:** Who made the final decision about which pool pump to install on your pool or spa?

Made the decision myself/ourselves	1
Provided as part of the pool package	2
Pool professional (shop/maintenance provider)	3
Installer / builder	4
Home owner	5
Other (please specify)	6

26. **IF CODE 2 AT Q8 OR CODE 1 or 2 AT Q14:** Where did you buy your pump?

Online	1
At a specialist pool shop e.g. local pool specialist, Poolwerx, Swimmart etc.	2
Through a pool maintenance person	3
At a larger retailer shop e.g. Bunnings, Aldi, Masters	4
Other (please specify)	5

27. In your opinion which is the most effective type of pump (which pump does the best job)?

Single Speed	1
Dual Speed	2
Multi Speed	3
Variable Speed	4
Don't know	5

28. And in your opinion which is the most energy efficient type of pump?

Single Speed	1
Dual Speed	2
Multi Speed	3
Variable Speed	4
Don't know	5

29. Are you concerned with the amount of electricity your pool or spa pump uses?

Yes	1
No	2
30. What electricity tariff is your pool or spa on?	
General Tariff	1
Time of use	2
Controlled load/off-peak	3
Don't know	4
31. Are you concerned with the <u>noise</u> your pool or spa pump makes?	
Yes	1
No	2
32. Why are you concerned about the noise being made?	
Impact on members of the household	1
Impact on neighbours	2
Local government requirements	3
Other (please specify)	4
33. Are you aware of any noise restrictions for pool or spa pumps in your local council area?	
Yes	1
No	2
Don't Know	3
34. Have you altered the operations of your pump system to minimise noise complaints/impacts?	
Yes	1
No	2
Unsure	3
35. Is your equipment in a sound proof enclosure?	
Yes	1
No	2
Unsure	3
36. What type of heating do you currently use?	
Solar	1
Electric Heat Pump	2
Gas	3
Other (please specify)	4
Don't heat my pool (skip to Q38)	5
None	6

37. IF CODE 1, 2, 3 or 4 AT Q36: Does your pool heating system (gas, heat pump, solar, other) have a pump?

Yes	1
No	2
Don't Know	3

38. Who does the pool maintenance?

Myself/ourselves	1
Independent pool professional	2
Pool cleaner associated with retail shop	3
Other (please specify)	4

39. How many hours in the day, on average, do you run your main pool or spa pump in Summer, Winter and Autumn/Spring?

	Summer	Winter	Autumn/Spring
1-2 hours	1	1	1
3-4 hours	2	2	2
5-6 hours	3	3	3
7-8 hours	4	4	4
9-10 hours	5	5	5
11-12 hours	6	6	6
More than 12 hours	7	7	7
Don't know	8	8	8

DEMOGRAPHIC QUESTIONS

D1. IF NEW ZEALAND SAMPLE: Which region do you live in?

Northland	1
Auckland	2
Waikato	3
Bay of Plenty	4
Gisborne	5
Hawke's Bay	6
Taranaki	7
Manawatu-Wanganui	8
Wellington	9
Tasman	10
Nelson	11
Marlborough	12
West Coast	13
Canterbury	14
Otago	15
Southland	16

D3. Please indicate your gender:

Male	1
Female	2
Other/prefer not to indicate	3

D4. Which age group do you fit into?

18 to 29	1
30 to 49	2
50 to 69	3
70 or more	4
Prefer not to indicate	5

D5. What is your household income?

<\$49,999	1
\$50,000 - \$74,999	2
\$75,000 - \$99,999	3
\$100,000 - \$150,000	4
\$150,000+	5
Don't know	6
Prefer not to indicate	7

Appendix B. Discussion Guides

POOL PUMPS TOPIC GUIDE FOR RETAILERS/SUPPLIERS

INTRODUCTION/WARM UP

Introduce yourself; explain that this is a study being done to help understand decision making and purchasing behaviour in relation to pool pumps.

Reassure them that is an open discussion, all comments are welcome, no right or wrong answers, and that we are independent and don't have a view one way or another. Their individual comments or identities will not be revealed.

POOL PUMP TECHNOLOGY TRENDS

- What are the most commonly sold pump sizes (in watts)?
- What are the most commonly sold pump types (single, dual, multiple, variable speed)? Prompt for different markets e.g. in ground, above ground, concrete, fibreglass.
- What situations require larger pumps?
- Are you selling/supplying bigger or smaller pumps compared with five years ago?
- Do you think the market (pumps available and customer expectations) has changed in the last five years? If so, how?
- What proportion of sales are for new installations and replacement pumps? (answer may well be determined by business they are in e.g. maintenance, supply/retailer)
- Are single pumps being used for both hot water heating and filtration or do separate pumps need to be fitted?

DECISION MAKING

- We'd like to talk about the decision making process when deciding on a pool pump. Firstly, **who is involved** in the decision on which pump is installed when building a new pool/replacing a pump?
- In general do consumers rely on supplier/retailer advice or do they largely know what they need/want?
 - Has there been a change in customer/consumer knowledge about pumps and how they buy them?

- In general what are the important factors in the decision on which pumps to buy/supply? *Unprompted*
- Which of these factors are important for you/for customers : brand/quality/warranty origin; size flow rate; noise in operation; purchase price of pump; cost of running the pump; ease of fitting; availability
- Are secondary functions of a pump a consideration when advising on pump selection?
- To you, how important is noise in the selection of a pump?
 - Is noise an issue that customers focus on
 - Have you ever had to replace a pump simply because it was too noisy for the location (leaving aside noise as a sign of faulty running)
- Pumps with larger or higher wattage/horsepower traditionally cost more, and were often promoted to customers over smaller pool pumps
 - Is this the situation now, in your experience?
 - Do customers show a preference for larger pumps?
 - Do manufacturers/large suppliers preference larger pumps?

VOLUNTARY LABELLING PROGRAM

- How has the voluntary labelling program affected pump suppliers/manufacturers?
- Have suppliers/manufacturers changed their stock in any way to improve overall efficiency of the pumps they sell?
- What impact has the voluntary labelling program had on your business?
- What impact has the voluntary labelling program had on the sales of your pumps?
- Does the labelling have an impact on customer decision making?
- Do energy efficient pumps deliver the benefits to pool owners as promoted? If not what are the factors limiting their performance and benefits to customers?
- In your experience are customers generally happy with the performance of energy efficient pumps?

INFORMATION

- How do you rate the availability and reliability of performance information in relation to pool pumps?
- Where do you get your technical information to provide advice to clients?
- Has the quality and availability of technical performance information improved/changed over the last 5 years?
 - Are customers more informed and knowledgeable?
 - Where do they get their information from?
 - Has the voluntary energy rating labelling scheme contributed to the knowledge base of the consumer?
- Do most pool owners rely on suppliers/pool shops for advice and services in replacing pumps?
- Have you ever attended any training or education courses about pool maintenance? If so, which courses?

REPLACEMENT

- For replacement pumps what are the main factors helping to determine which pump is chosen by a customer/installer
 - Warranty requirements (eg like for like)
 - Ease of fitting
 - Function requirements
 - Cost/price
 - Sale margin on pumps
 - Energy requirements
 - Manufacturer tie-ins
- How important is purchase price in the final decision on replacement pumps relative to other factors
- How important is running costs over the life of pump in the final decision on replacement pumps relative to other factors

- Has there been a change in the reasons for or rate of replacement pumps over the last five years? Has there been a shift in the quality of pumps impacting need for replacements?
- Are more pool owners replacing pumps themselves? If so, what are the factors behind this change?

OPERATIONAL AND PERFORMANCE

- How do you size a pump for a pool?
- Can you replace a single speed pump with a multiple or variable speed pump in all circumstances?
- What is a reasonable average life of a pool pump in your experience? Has this changed over the last 5 years?
- Where do you source your pumps e.g. Australian manufacturer/NZ manufacturer/imports?
- How many pumps do you import per year? And where are you importing them from?
 - What are your views on imports e.g. sales and purchases by consumers, product types, impact on their business, quality?
 - Do you import components and assemble in Australia?
- What is the most important feature of the pump?
- Are you concerned with profit margins? On average what is the retail mark up for pool pumps relative to manufactured cost?
- Generally, how important is pool plumbing is to the energy use of the pool? What is the effect of plumbing on energy use? Does bad plumbing increase energy use? Does good plumbing reduce energy consumption?
 - Is this improving?
 - How often does pool set-up plumbing limit the use of energy efficient pumps?

INTERNET SALES

- Are internet sales an increasing feature of the market?
- If so, is this generating problems for customers and suppliers/pool shops and what problems are caused?
- What is the reason behind the non-display of prices on internet sites for buying a pool pump online? Unprompted first then prompt with:

- Is it to encourage direct contact with customers to support further sales opportunities?
- Is it to hide the price to tailor the price to the consumer?
- Is it because you actually want to talk to the consumer about whether that pump is suitable for their pool?

CONCLUDE

- Any other comments?

Thank and close: provide incentive.

POOL PUMPS TOPIC GUIDE - INSTALLERS/BUILDERS

INTRODUCTION/WARM UP

Introduce yourself; explain that this is a study being done to help understand decision making and purchasing behaviour in relation to pool pumps.

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POOL PUMP TECHNOLOGY TRENDS

- What are the most commonly sold pump sizes (in watts)?
- What are the most commonly sold pump types (single, dual, multiple, variable speed)?
- Which situations require larger pumps?
- Are you installing/buying bigger or smaller pumps compared with five years ago?
- Are pools bigger/smaller over the last five years - do you have a sense of the current average or trends?
- Are pools being built with more features (e.g. jets, fountains, spas) and is this increasing the number of pumps needed or the power requirements for pool pumps?
- Do you think the market (pumps available and customer expectations) has changed in the last five years? If so, how has the following impacted?
 - Internet sales
 - Imports from overseas and non-traditional sales
 - Other

DECISION MAKING

- We'd like to talk about the decision making process when deciding on a pool pump. Firstly, **who is involved** in the decision on which pump is installed when building a new pool/replacing a pump? Unprompted first, then prompt with:
 - Is the consumer interested/involved in this decision? To what extent? Are they only involved at the end i.e. when given a selection to choose from?
 - Role of builder/installer?

- What is the role of the manufacturer/supplier in the choice of pumps being supplied for installation?
- Who is the **main decision maker**?
- To what extent do you advise customers on the type and brand of pump?
- What do you consider when advising on the installation of a pump? Unprompted first then prompt with cost, size (hp or watts), noise level, efficiency, functions of the pump?
- When installing a new pool, does the price of the pump have any significance in the total cost? i.e. How significant is the cost of the pool pump as a component of the total cost?
 - What is the proportion of pump costs relative to overall costs of installing a pool (physical building, installation of plumbing, set up, specific pump installation)?
 - Does installing a cheaper pump improve your profit margin?
 - Do you have incentives/tie-ins with pool pump manufacturers to install particular pumps? If so, are they willing to reveal what they are? (*Moderators note: Want to get a sense of whether builders are installing cheap or big pumps on a preferential basis regardless of other factors.*)
- What other factors are important in the decision on pump choice, e.g.
 - the secondary functions of the pump other than filtration
 - technologies supported by the filter pumps operation
 - supplier/manufacturer relationships
 - energy efficiency
 - noise
 - size
 - type (single, dual, multi, variable)
 - programmable function of the pump
 - plumbing of the pool.
- In the past, the size of the pump was a selling point for the consumer– is this still the case – do you recommend based on size of the pump?
- Are secondary functions of a pump a consideration when advising on pump selection?
- Are you required to recommend a particular type or size of pump? If so, explain.

- Are you tied in to selling pumps of a certain brand? Do you have a contract with a manufacturer which you receive payments or other benefits (business or personal) from the sale of their pumps?
- How important is noise in the selection of a pump? Is this a factor raised by customers/suppliers?

INFORMATION

- In general, how knowledgeable do you think consumers are about pool pumps?
- What do they know about/not know about? i.e. where are the knowledge gaps?
- What kinds of questions do they ask you?
- What kinds of concerns do they have?
- What level of information is available to consumers regarding information on:
 - Pumps?
 - Pool system energy efficiency performance?
- How reliable/believable is this information?
- Have you ever attended any training or education courses about pool building and maintenance? If so, which courses?

VOLUNTARY LABELLING PROGRAM

- How has the voluntary labelling program affected your advice/consumers' decisions on what is installed?
 - Are you aware of the scheme?
 - Is it relevant to you in building/installing pools?
 - Do you consider the labels in making your decisions/giving advice?
 - Does the supplier consider it?
 - Does the consumer consider it?
 - Does the scheme provide useful information?
 - Is the information reliable and believable?
- Have suppliers/manufacturers changed their stock in any way to improve overall efficiency of the pumps they sell?

- Are manufacturers/suppliers concerned with energy efficiency of their pumps? What scope do manufacturers have for improving the efficiency of their pumps?
- What do you think contributes most to the energy efficiency of a pool/pool pump?

OPERATIONAL

- What pumps do you think work best in pools?
- What is the difference between single speed and variable speed in the operational outcome (their effectiveness in cycling the water through the pool)?
 - Is this is a factor in your installation decisions?
- How do you size a pump for a pool?
- Can you replace a single speed pump with a multiple or variable speed pump in all circumstances?

CONCLUDE

- Any other comments?

Thank and close: provide incentive.

Accessibility Tables

Accessibility Table 1: Gender of Respondents

Gender	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Male	53	58	53
Female	13	14	18
Other/Prefer not to indicate	34	28	29

D3. Please indicate your gender

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

Accessibility Table 2: Age Range of Respondents

Age	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
18 to 29 years old	15	14	23
30 to 49 years old	43	43	38
50 to 69 years old	38	39	29
70 or older	4	4	8
Prefer to indicate	1	-	2

D4. Please indicate your age

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

Accessibility Table 3: Household Income of Respondents

Household Income	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Under \$49,999	8	7	14
\$50,000-\$74,999	12	11	16
\$75,000 - \$99,999	16	16	18
\$100,000 - \$150,000	23	23	21
\$150,000 +	19	20	12
Don't know	3	3	4
Prefer not to indicate	19	19	15

D5. What is your household income?

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

Accessibility Table 4: Incidence of having a Pool or Spa

Incidence of having a Pool or Spa	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes a Pool	87	92	53
Yes a Spa	33	28	67

S1. Do you own a house with a pool or spa (even if you don't currently live there)?

BASE: All respondents (Total n=1752; Australia n=1531; New Zealand n=221)

Accessibility Table 5: Type of Spa Owned

Type of Spa owned	Total (n=574) %	Australia (n=427) %	New Zealand (n=147) %
Prefabricated fibreglass (standalone)	72	66	90
Spa attached to swimming pool	28	34	10

Q1. Which type of spa do you currently have?

BASE: Respondents with a spa (Total n=574; Australia n=427; New Zealand n=147)

Accessibility Table 6: Size of Spa Owned

Size of Spa owned	Total (n=574) %	Australia (n=427) %	New Zealand (n=147) %
3 (or less) person	19	14	33
4 person	37	37	35
5 person	15	16	11
6 (or more) person	29	31	22

Q2. What size is your spa?

BASE: Respondents with a spa (Total n=574; Australia n=427; New Zealand n=147)

Accessibility Table 7: Type of Pool Owned

Type of Pool Owned	Total (n=1527) %	Australia (n=1409) %	New Zealand (n=118) %
In-Ground Pool	59	60	44
In-Ground Fibreglass	29	29	29
Above-Ground	12	11	27

Q3. Which type of pool do you currently have?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Accessibility Table 8: Type of Pool Water

Type of Pool Water	Total (n=1527) %	Australia (n=1409) %	New Zealand (n=118) %
Salt	57	60	21
Chlorine	38	35	73
Mineral	3	3	3
Don't know	2	2	3

Q4. Is your pool a salt, chlorine or mineral pool?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Accessibility Table 9: Type of Pool Filter

Type of Pool Filter	Total (n=1527) %	Australia (n=1409) %	New Zealand (n=118) %
Sand	52	52	42
Cartridge	33	33	34
Don't Know	15	14	25

Q5. Have you got a sand or cartridge filter?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Accessibility Table 10: Pool Maintenance

Pool Maintenance	Total (n=1178) %	Australia (n=1104) %	New Zealand (n=74) %
Myself/Ourselves	82	82	78
Independent Pool Professional	12	12	15
Pool Cleaner associated with retail shop	6	6	5
Other	1	1	1

Q38. Who does the pool maintenance?

BASE: Respondents with a pool ONLY (Total n=1178; Australia n=1104; NZ n=74)

Accessibility Table 11: Responsibility for Pool and/or Spa

Responsibility for Pool and/or Spa	Total (n=574) %	Australia (n=427) %	New Zealand (n=147) %
Already in place	53	53	55
Responsible for building either pool, spa or both	47	47	45

Q8. Was your pool or spa and accompanying equipment (pump, filter, pump housing unit) existing when you bought the property or were you responsible for the building of the pool or spa?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 12: Number of Pumps

Number of Pumps	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
One	59	60	52
Two	23	23	23
Three	7	7	9
Four	3	3	4
Five (or more)	1	1	2
Don't know	7	7	10

Q9. Altogether, how many pumps do you have running for your pool and/or spa (including for additional features such as a water feature, water slide etc.)?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 13: Type of Pump

Type of Pump	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
Single Speed	54	53	58
Not Single Speed	13	13	14
Don't Know	33	34	28

Q10. What type of pump do you have on your pool and/or spa?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Accessibility Table 14: Details of Non Single Speed Pumps

Details of Non Single Speed Pumps	Total (n=346) %	Australia (n=296) %	New Zealand (n=50) %
Multi Speed	37	39	26
Variable Speed	37	38	34
Dual Speed	19	18	26
Other	3	4	2
Don't Know	4	2	12

Q11. If the pump is not single speed, what type of pump do you have?

BASE: Pumps that are not single speed (Total n=346; Australia n=296; NZ n=50)

Accessibility Table 15: Incidence of Pumps Being Controlled by a Timer

Incidence of Pumps	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
On a Timer	77	79	62
Not on a Timer	23	21	38

Q11. Which of these pumps is controlled by a timer?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Accessibility Table 16: Size of Circulation Pump

Circulation Pump	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
Other	1	1	1
2 HP (1900W-2150W)	5	5	7
1.5 HP (1650W-1900W)	10	10	10
1.25 HP (1150W- 1650W)	12	11	13
1HP (1000W-1150W)	11	11	11
¾ HP (750W-1000W)	5	5	7
Don't Know	56	56	52

Q12. What size circulation pump do you use?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Accessibility Table 17: Age of Pump

Age of Pump	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
<5 years old	42	42	41
Between 5 and 10 years old	35	35	36
More than 10 years old	14	14	16
Don't Know	9	9	8

Q13. How old is your pump?

BASE: All PUMPS (Total n=2671; Australia n=2307; NZ n=364)

Accessibility Table 18: Concern in Relation to Pool and Spa Pump Noise

Concern in Relation to Pool and Spa Pump noise	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
Yes	25	25	24
No	75	75	76

Q31. Are you concerned with the noise your pool or spa pump makes?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 19: Reasons for Concern Relating to Pump Noise

Reason for Concern Relating to Pump Noise	Total (n=430) %	Australia (n=377) %	New Zealand (n=53) %
Impact on members of the household	37	36	42
Impact on neighbours	57	59	47
Local government requirements	3	2	9
Other	3	3	2

Q32. Why concerned about the noise?

BASE: Respondents who expressed concern in relation to pump noise (Total n=430; Australia n=377; NZ n=53)

Accessibility Table 20: Awareness of Local Noise Restrictions

Awareness of Local Noise Restrictions	Total (n=2671) %	Australia (n=2307) %	New Zealand (n=364) %
Yes	14	15	6
No	66	56	78
Don't Know	20	20	16

Q33. Are you aware of noise restrictions for pool and spa pumps in your local area?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 21: Alteration of Pump Systems to Minimise Noise

Alteration of Pump Systems to Minimise Noise	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes	12	13	8
No	79	79	79
Don't Know	9	8	13

Q34. Have you altered your pump system to minimise noise complaints/impacts?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 22: Incidence of Equipment Being in a Sound Proof Enclosure

Incidence of Equipment Being in a Sound Proof Enclosure	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes	29	28	32
No	61	62	60
Don't Know	10	9	10

Q35. Is your equipment in a sound proof enclosure?
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 23: Type of Heating used for Pools

Type of Heating used for Pools	Total (n=1178) %	Australia (n=1104) %	New Zealand (n=74) %
Gas	3	3	11
Electric Heat Pump	6	5	23
Solar	25	26	14
Don't Heat my Pool	65	65	53

Q36. What type of heating do you currently use?
BASE: Respondents with a pool ONLY (Total n=1178; Australia n=1104; NZ n=74)

Accessibility Table 24: Hours Pumps were Run in Summer

Hours Pumps were Run in Summer	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
1-2 Hours	13	11	28
3-4 Hours	19	18	21
5-6 Hours	21	23	11
7-8 Hours	24	26	8
9-10 Hours	6	7	4
11-12 Hours	2	2	3
More than 12 Hours	2	1	6
Don't Know	13	12	20

Q39. How many hours a day does the pump run? - Summer
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 25: Hours Pumps were Run in Autumn

Hours Pumps were Run in Autumn	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
1-2 Hours	23	21	33
3-4 Hours	29	30	24
5-6 Hours	21	23	10
7-8 Hours	9	9	4
9-10 Hours	2	2	1
11-12 Hours	1	-	2
More than 12 Hours	1	-	3
Don't Know	15	14	24

Q39. How many hours a day does the pump run? - Autumn
BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 26: Hours Pumps were Run in Winter

Hours Pumps were Run in Winter	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
1-2 Hours	34	34	36
3-4 Hours	29	31	19
5-6 Hours	12	13	8
7-8 Hours	5	5	4
9-10 Hours	1	1	3
11-12 Hours	1	1	3
More than 12 Hours	1	-	3
Don't Know	16	15	24

Q39. How many hours a day does the pump run? - Winter

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 27: Incidence of Replacing a Pump for a Spa

Incidence of Replacing a Pump for a Spa	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes	27	31	15
No	66	62	80
Don't Know	7	7	5

Q14. Have you ever had to replace a pump for your spa?

BASE: Respondents with a spa (Total n=574; Australia n=427; NZ n=147)

Accessibility Table 28: Incidence of Replacing a Pump for a Pool

Incidence of Replacing a Pump for a Spa	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes	50	51	32
No	43	42	58
Don't Know	7	6	10

Q14. Have you ever had to replace a pump for your pool?

BASE: Respondents with a pool (Total n=1527; Australia n=1409; NZ n=118)

Accessibility Table 29: Frequency of Replacing a Pump for a Pool or Spa

Frequency of Replacing a Pump for a Pool or Spa	Total (n=820) %	Australia (n=762) %	New Zealand (n=58) %
Every Year	1	1	2
1 to 2 Years	4	3	17
3 to 5 Years	21	21	26
6 to 7 Years	18	19	12
8 to 10 Years	22	22	12
10+ Years	18	18	19
Don't Know	15	16	12

Q14. On average, how often do you replace your swimming pool or spa pump(s)?

BASE: Respondents who had replaced a pump (Total n=820; Australia n=762; NZ n=58)

Accessibility Table 30: Age of Spa Pump Replaced

Age of Spa Pump Replaced	Total (n=820) %	Australia (n=762) %	New Zealand (n=58) %
0 to 2 Years Old	7	6	14
2 to 5 Years Old	32	31	36
5 to 10 Years Old	39	40	32
More than 10 Years Old	15	15	14
Don't Know	7	8	5

Q16. How old was the spa pump you replaced?

BASE: Respondents with a spa that had replaced a pump (Total n=153; Australia n=131; NZ n=22*)

*CAUTION: Small base size

Accessibility Table 31: Incidence of Considering Alternatives for Spa Pump Replacement

Incidence of Considering Alternatives for Spa Pump Replacement	Total (n=430) %	Australia (n=377) %	New Zealand (n=53) %
Considered Alternatives and Ended up getting a different Pump	45	47	32
Considered Alternatives and ended up getting the same pump	26	25	32
Did not consider alternatives, just replaced like with the	22	20	32
Don't Know	8	8	5

Q17. Did you just replace the spa pump with the same model, or did you consider alternatives

BASE: Respondents with a spa that had replaced a pump (Total n=153; Australia n=131; NZ n=22*)

*CAUTION: Small base size

Accessibility Table 32: Perceived Need for Particular Pumps for Above Ground Pools

Perceived Need for Particular Pumps for Above Ground Pools	Total (n=182) %	Australia (n=150) %	New Zealand (n=32) %
Yes	15	15	19
No	40	39	41
Don't Know	45	46	41

Q18. Did you need to use a particular kind of pump with your above-ground pool?

BASE: Respondents with an above-ground pool (Total n=182; Australia n=150; NZ n=32*)

*CAUTION: Small base size

Accessibility Table 33: Type of Pumps Required for Above Ground Pools

Type of Pumps Required for Above Ground Pools	Total (n=28*) %	Australia (n=22*) %	New Zealand (n=6*) %
Single Speed	57	59	50
Not Single Speed	4	5	-
Don't Know	39	36	50

Q19. What type of pump did you require?

BASE: Respondents who felt that their above ground pool required a specific pump (Total n=28*; Australia n=22*; NZ n=6*)
Small base size

*CAUTION:

Accessibility Table 34: Electricity Tariff used for Pump(s)

Electricity Tariff used for Pump(s)	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
General Tariff	39	39	46
Time of Use	14	14	14
Controlled Load/ Off-Peak	19	20	11
Don't Know	28	28	29

Q30. What electricity tariff is your pool or spa on?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 35: Concerned over Pump Electricity Use

Concerned over Pump Electricity Use	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Yes	59	61	50
No	41	39	50

Q29. Are you concerned with the amount of electricity your pool or spa pump uses?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 36: Measures Undertaken to Increase Efficiency

Measures Undertaken to Increase Efficiency	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Regularly Clean the Filter	65	66	61
Length of time pump is running	64	67	45
Use a pool cover	39	36	61
Using an energy efficient pump	27	27	27
Other	5	4	-
None	8	7	10

Q21. What measures do you take to make your pool and/or spa efficient?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 37: Perceptions of which Pump Type is Most Effective

Perceptions of which pump type is most effective	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Single Speed	14	14	15
Variable Speed	11	11	8
Dual Speed	8	7	14
Multi Speed	8	8	5
Don't Know	60	60	57

Q27. In your opinion, which is the most effective type of pump (which pump does the best job)?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 38: Perceptions of which Pump Type is Most Efficient

Perceptions of which pump type is most efficient	Total (n=1752) %	Australia (n=1531) %	New Zealand (n=221) %
Variable Speed	14	15	9
Single Speed	13	12	18
Multi Speed	7	8	7
Dual Speed	6	5	9
Don't Know	60	60	57

Q28. In your opinion, which is the most efficient type of pump?

BASE: All respondents (Total n=1752; Australia n=1531; NZ n=221)

Accessibility Table 39: Importance of Pump Features – Most Important

Importance of Pump features – Most Important	Total (n=1262) %	Australia (n=1131) %	New Zealand (n=131) %
Price	44	44	40
Quality	27	26	34
Energy Efficiency (star Rating)	14	15	9
Size (rated wattage/horse power)	7	8	4
Expected lifespan	5	5	8
Noise	3	3	5

Q22. When you bought a new or replacement pool or spa pump, how important were the following to you? (RANK FROM 1 TO 6)

BASE: Respondents who were responsible for their own pool/spa and/or had replaced a pump (Total n=1262; Australia n=1131; NZ n=131)

Accessibility Table 40: Importance of Pump Features – All Factors (Indexed)

Importance of Pump features – All Features	Total (n=1262) %	Australia (n=1131) %	New Zealand (n=131) %
Price	76	77	74
Quality	73	72	77
Energy Efficiency (star Rating)	64	64	61
Size (rated wattage/horse power)	56	56	52
Expected lifespan	52	51	55
Noise	30	30	31

Q22. When you bought a new or replacement pool or spa pump, how important were the following to you? (RANK FROM 1 TO 6)
BASE: Respondents who were responsible for their own pool/spa and/or had replaced a pump (Total n=1262; Australia n=1131; NZ n=131)

Accessibility Table 41: Ultimate Decision Maker in Pump Purchase

Ultimate Decision Maker in Pump Purchase	Total (n=1262) %	Australia (n=1131) %	New Zealand (n=131) %
Made the decision ourselves	56	56	58
Pool professional (shop/maintenance provider)	16	16	15
Provided as part of the pool package	14	15	12
Home Owner	7	7	8
Installer/ Builder	5	5	2

Q25. Who made the final decision on which pool pump to install?
BASE: Respondents who were responsible for their own pool/spa (Total n=1262; Australia n=1131; NZ n=131)

Accessibility Table 42: Where the Pump was Purchased

Where the pump was purchased	Total (n=1262) %	Australia (n=1131) %	New Zealand (n=131) %
At a specialist Pool Shop	58	59	53
A Pool Maintenance Person	19	20	15
Online	10	10	14
At a large retailer shop	5	4	11
Pool Installer/ Pool Company	3	3	2
Other	4	3	3
Don't Know	1	1	-

Q26. Where did you buy your pump?

BASE: Respondents who were responsible for their own pool/spa (Total n=1262; Australia n=1131; NZ n=131)