Community survey

Report

March 2021

Prepared for Sydney Desalination Plant
By StollzNow Research and Primary Engage

Report

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Prepared for:

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The history of Sydney water supply

Water supply in Sydney from the time of the first white settlement has been complacency followed by urgent upgrades when water supply ran low. The original water supply from the Tank Stream became compromised and led to the construction of Busby's Bore in 1837 to gain water supply from Lachlan Swamps (now Centennial Park). This is followed by a series of dams and water projects culminating in Warragamba Dam in 1960, and finally the Sydney Desalination Plant operational in 2010.

The rainfall pattern on the east coast of Australia we now know is part of the El Niño weather pattern that delivers long droughts followed by long wet periods, usually lasting around ten years for each. This means that when drought becomes a major problem for water supply it is quickly followed by a long wet period that removes the urgency from any thoughts of an upgrade.

Construction time for any increase in Sydney water supply takes longer than any wet or dry period, showing the need for accompanying communications so that both Government, regulators and the residents of Sydney consider the long-term plans rather than shorter term weather conditions.

This provides context for any change in operation by Sydney Desalination Plant (SDP). Communications must allow for a 'conversation' with all stakeholders that is consistent and resourced over a long period of time. This is particularly relevant as we have entered a typical 'wet period' where dams are full, and rainfall is high. In this time it is easy for stakeholders to defer any change until we enter another crisis with water supply.

This research project

This is the second part of the research carried out for SDP. Prior to the quantitative stage there was an extensive qualitative program with a full report. In this summary relevant insights from the qualitative research have been incorporated to give a deeper understanding of the findings.

Qualitative findings are shown in a blue coloured box.

The quantitative research has a sample size of n=1,004 giving a confidence level of ± 3.1% at the 95% confidence level. Only homeowners were included in the research and weighting was applied to age, based on Australian Bureau of Statistics data on home ownership. A quota was also set for gender so that half of the sample are male and half female.

The research findings can be projected to all Sydney residents who own homes.

Executive summary

Water and environmental concerns

Water is seen as important, but the data suggests that it is rarely 'top of mind' unless there are limits on water use. Experience with other water utilities supports this notion, while water comes out of the tap supply is rarely considered.

Concern with the environment is extremely high, with thirty-six percent (36%) 'very concerned' and forty-seven percent (47%) 'concerned' (Top 2 Box of 83% concerned). In almost all questions asked, those who are concerned with the environment support increased use of desalinated water, expansion of services, and are more willing to pay for this service.

Awareness, understanding and support for SDP

Awareness of SDP is high, with eighty percent (80%) aware of the plant. Of this group fifty-nine percent (59%) are aware that SDP operates when dam levels fall below a certain level. Only around half (54%) of those in the SDP supply zone are aware they are consuming water from the plant.

Ownership and operation are mostly thought to be held by the NSW Government, but many are unsure who operates the plant.

The percentage of Sydney water supply from SDP is not well understood. Forty percent (40%) simply selected 'don't know' for the supply level, while most other research participants appeared to guess the amount of supply.

When informed that SDP supplies 15% of water supply, forty-eight percent (48%) feel this is 'too little' and when informed that other Australian cities have desalination capacity of around 30%, this increases to sixty percent (60%) who feel SDP output is 'too little'.

Seventy percent (70%) would support output of 30% of water supply, though this question was asked without any details on costs or impact on water bills.

Recommendation

While most are aware of SDP the details about the plant are less understood.

There is strong support for an increase in SDP output.

When given details about how SDP operates in the water supply of Sydney seventy-seven percent (77%) see benefits in the plant.

The main benefits seen are:

Executive summary

- Provides a back-up when the water levels in dams are low
- Protects Sydney water supply from drought
- Helps Sydney provide water for a growing population
- Protects Sydney from reduced rainfall (less water)
- Means there will always be water
- Reduces reliance on dams

There is much benefit from protecting Sydney from climate change; SDP are using renewable energy.

Asked whether residents had concerns about SDP just under one-third (32%) had a concern.

All research participants where asked if they shared concerns. The main concerns are:

- Expensive to run
- Takes too long to start
- Uses a lot of energy
- Has rarely been used

There are two obvious issues with these concerns. Taking too long to start is a concern that is addressed by 'high availability' operation. The second is that the plant has been in operation recently and in 2010 to 2012.

Recommendation

There is a positive story missed by Sydney residents in the current contribution of SDP to Sydney water supply.

Additional detail from the previous qualitative report

Support for SDP:

- Most appear to support the SDP; it is insurance against future water issues. Despite being costly to build and maintain, this water source is important, particularly if a water crisis should occur again in Sydney.
- The SDP has many supporters in the community. Across the eight groups there was a range of opinions about the SDP; from those who thought it was pointless (minimal numbers) to those who feel relief it was built because it will provide a backup to the water supply of Sydney.

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High availability and continuous operation modes

The findings show that there is strong support for 'high availability' mode. One of the concerns that residents have about SDP is the time it takes to commence output and this mode addresses these concerns.

Changing current operation from 'standby mode' to 'high availability mode' is an obvious solution for residents.

'Continuous operation' is harder to justify. There are issues with energy use, costs of production, and what benefits there are to Sydney residents in having SDP in continuous production. This is particularly pertinent in the current situation where dams are all at capacity and consistent rainfall is keeping them at this level.

Recommendation

Moving to 'continuous operation' is more difficult to justify to Sydney residents than 'high availability' which has far greater support.

Additional detail from the previous qualitative report

Strong support for 'high availability mode':

- It makes the SDP immediately usable. Waiting eight months for it to be operational is not the best utilisation of this asset
- Ten dollars ($10) makes no impact on their finances. On learning they are already contributing ninety dollars ($90) the SDP, an additional $10 is of no consequence
- It is powered by renewable energy so it should not be costly to run

Mixed response to fully operational mode:

- Those that support fully operational, support it because they feel due to either population management or climate changes, more water and/or better water management will be needed in the future

Those who reject this mode reject it because:

- There is no pressing need given Sydney has always recovered from droughts
- How would the excess water be managed?
- Some are not convinced Sydney will expand at its current rate forever

Executive summary

Willingness to pay (WTP)

In the original proposal we included a range of high-end pricing techniques that we planned to use to analyse this data. However, once the fieldwork was completed it is apparent that the price increase for both 'high availability' and 'continuous operation' is so low that it is inconsequential for households.

The additional cost of $2.50 per quarter for 'high availability' had no rejection from any of the analysed groups while the increase of $7.50 per quarter had slightly lower support from those in households with incomes of less than $40,000 per year.

Recommendation

For both output options the WTP is a much smaller issue than the justification of the mode of operation.

Additional detail from the previous qualitative report

Water bills and why we asked 'per quarter'

- Qualitative research shows water bills are a regular quarterly bill. They are not thought of in annual terms. Most participants find these bills the simplest and less volatile bills due to the consistency.

Renewable energy

The current use of renewable energy is a positive story for SDP. Only just over one-quarter (26%) are currently aware of SDP using renewable energy but seventy percent (70%) rate this as important (Top 2 Box 'extremely' plus 'very' important).

Sixty-one percent (61%) believe SDP should buy renewable energy from providers using the latest technology.

Recommendation

SDP use of renewable energy is important to Sydney residents and they should be aware of this fact. It addresses the concerns that the plant 'uses a lot of energy' and is 'expensive to run'.

All residents should be aware of SDP use of renewable energy.

Executive summary

Additional detail from the previous qualitative report

Most qualitative research participants support the concept of the SDP being powered by 100% renewable energy. A smaller proportion of participants in the focus groups did not believe in 100% renewable energy as a concept; their rationale is that it would be impossible due to poor weather conditions for this to occur 100% of the time.

Choices for SDP

Currently SDP has a **'low profile' strategy**. This works well if the objective is to continue to operate in the current mode and leave any changes to Government.

If SDP wishes to **change operation** to 'high availability' or increase capacity a communications strategy **needs to engage with the community** so that change can take place. This is not a short-term program and StollzNow Research is aware of the legislative environment that SDP operates in. This should be seen as a ten-year commitment that needs to start in 2021.

2 Objectives

2.1 Overall objectives

The objectives of the research fall into four broad areas:

- Awareness of SDP operations
- Inputs into Greater Sydney Water Plan
- WTP for regular SDP service in the current management model
  - WTP for 'standby' service

2.2 Goals

- Baseline feedback on customer awareness of SDP, attitudes towards water and attitudes towards SDP.
- Gather customer views on the role SDP should play in Sydney's water supply going forward and customer willingness to pay for additional service (e.g. higher availability, emergency response).

The views should seek to inform SDP's discussions with NSW Government (DPIE) on SDP's future operating rules and directions to IPART. The views should also seek to provide some input to the IPART RP3 determination process (e.g. willingness to pay, desirability for specific service levels to be achieved).

2.3 Information areas

In the briefing, a range of information areas were covered. We will refine these in further discussions and have them defined (customer viewpoint and language) using a qualitative research methodology.

- Understanding of SDP
- Role of SDP currently
- Role SDP should play in the future
- Perceived advantages and disadvantages of SDP
- Importance of aspects of water supply
  - Clean drinking water
  - Cheap water
  - Reliable water supply

Objectives

  - Uninterrupted water supply/water security
  - No water restrictions ever
  - Renewable energy
- Do customers believe desalination plants should play a role in supporting water security
- Solutions for water security
  - water conservation
  - recycling
  - desalination
  - dams
- Understanding of customer concepts of investment priority
- Do customers believe it is valuable to support water security using non-rainfall-dependent water supply
- SDP and its role in addressing challenges from climate change
- Comparison to other States in non-rainwater dependence
- Reaction to expansion of SDP plant in future
- Reaction to standby mode rather than current 'mothball mode'
  - Include option of continuous production
- With climate change and greater likelihood of extreme weather events, does this impact on customer view on the role SDP should play going forward?
- WTP for different modes of operation
  - Current
  - Standby
  - Continuous
  - Renewable energy

3 Approach & methodology

3.1 Methodology

The quantitative stage consisted of an online self-completion survey with respondents sourced from a permission-based access panel. StollzNow Research used Dynata, an ISO Certified company specialising in access panel management.

3.2 Sample

The sample size is *n*=1,004 homeowner and bill paying residents who live in the Sydney Water supply area. This sample size gives a confidence level of ± 3.1% at the 95% confidence interval.

Quotas set for:

- Gender
- Age

Australian Bureau of Statistics (ABS) data was used to set the quotas.

3.3 Data weighting

This is a statistical process where samples can be altered to make up a different contribution to the total sample. It is used to address known issues in data that may affect the way people answer a survey.

In this research data is weighted by home ownership by age from Australian Bureau of Statistics data.

3.4 Data checking

Data has been checked for length of survey, consistency of answers, IP address in Australia, and quality of comments. In this process forty-two (42) responses were discarded and refilled.

3.5 Completion time

The survey took an average of 7.5 minutes to complete.

3.6 Fieldwork period

The survey commenced on 22/12/20 and concluded on 1/01/21.

3.7 ISO compliance

This report complies with ISO 20252 and The Research Society Code of Professional Behaviour.

3.8 Analysis

Data is analysed by:

Table 1: Data analysis cross-tabulations

		%	n
	NET	100	1004
Q6 Age group	18 to 29 years	10	36
	30 to 49 years	38	344
	50 to 69 years	38	425
	70 years +	14	199
Q5 Gender	Male	49	501
	Female	51	503
Q7 Service area	SDP service area	62	586
	Not in SDP service area	38	418
Q15 Aware of SDP	Previously aware of SDP	80	830
	Not previously aware	17	142
	Don't know	4	32
Q48 Environmental concern	Very concerned	36	358
	Concerned	47	467
	Unsure	9	91
	Unconcerned	5	60
	Not concerned at all	3	28
Q44 HH income	Under $40,000	15	178
	$40,001 to $80,000k	22	241
	$80,001 tto $125,000	26	252
	$125,001 to $175,000	21	196
	$175,001+	14	137
Q42 People in home	1 person	19	202
	2 people	34	374
	3 people	19	183
	4 people	19	184
	5 or more people	8	61

		%	n
Q41 Dwelling type	House with a large garden	27	273
	House with a small garden	45	471
	Apartment with a garden	11	107
	Apartment without a garden	15	143
	Other	1	10

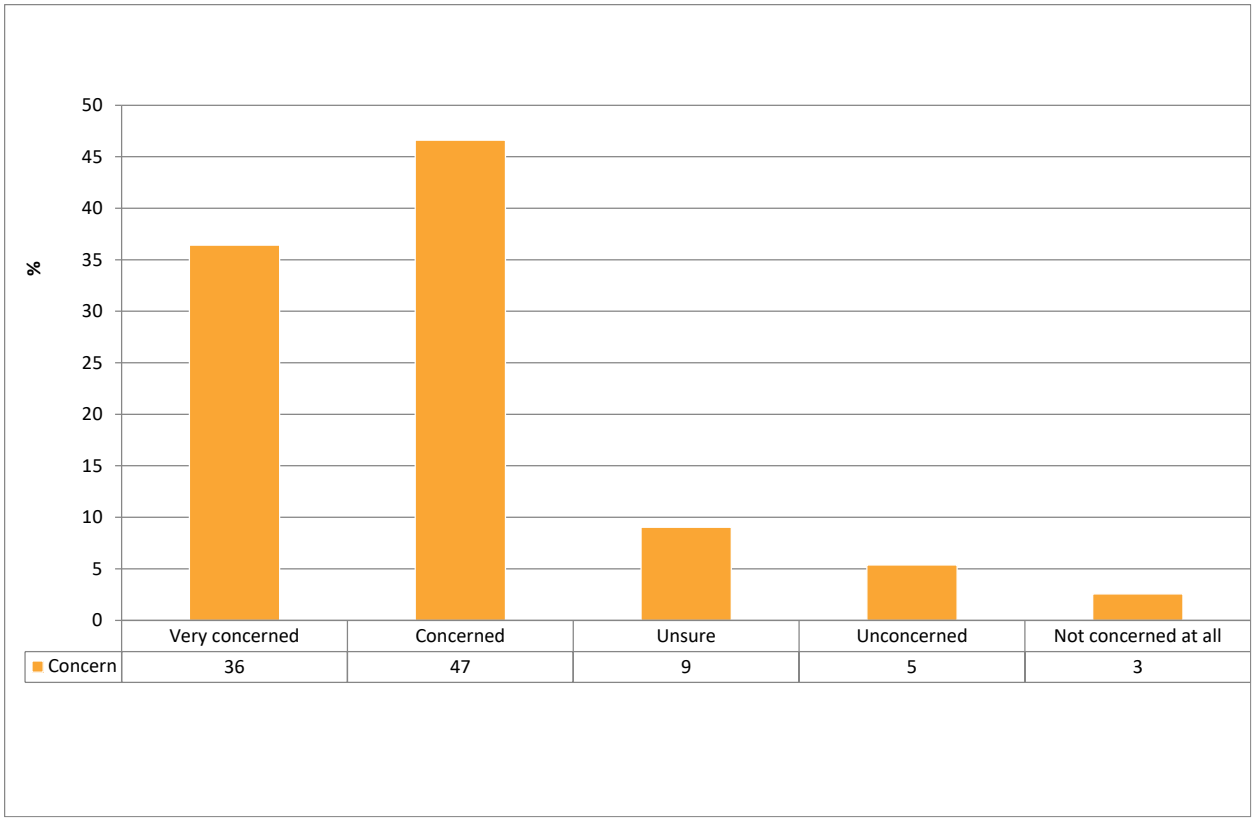
3.9 Willingness to pay (WTP)

In the research proposal we included a range of statistical models for analysis of WTP. These are not used in analysis. The very marginal increase for either 'high availability' ($2.50 per quarter) or 'continuous operation' ($7.50 per quarter) means that complex analytics are not required. Few reject either of these options on WTP.

4 Water and life

4.1 Concern for the environment

Chart 1: Q48 Concern for the environment **Base: 1,004**



Base: all research participants

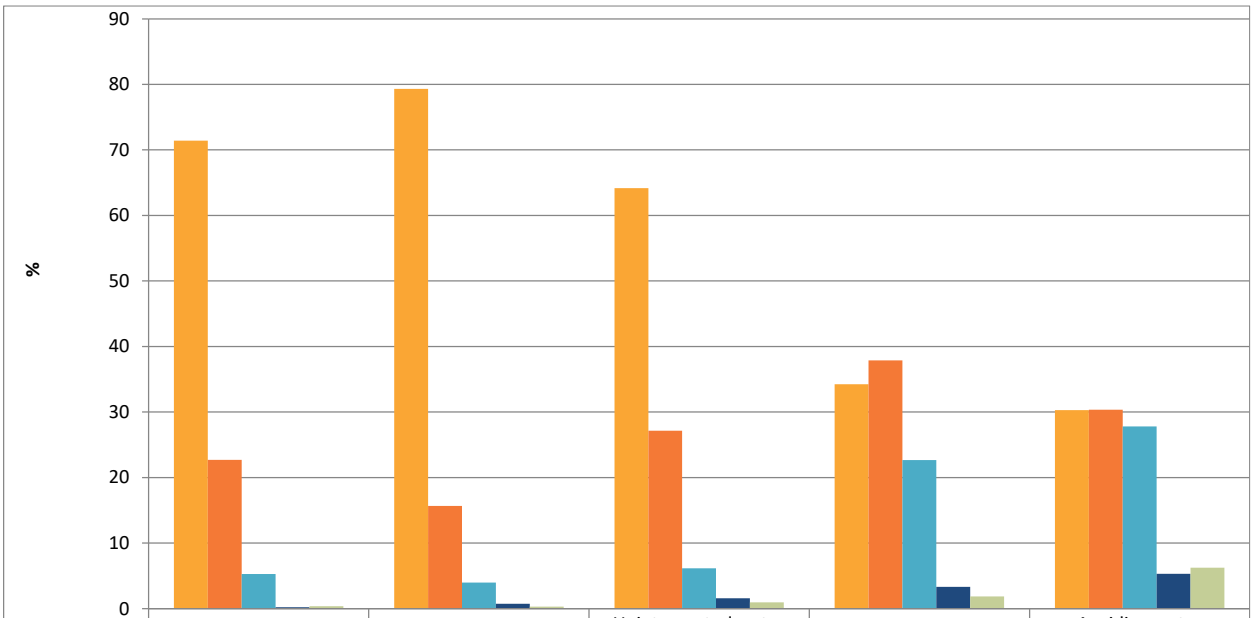
'How concerned are you about the environment?'

Thirty-six percent (36%) of Sydney residents are 'very concerned' and forty-seven percent (47%) 'concerned' about the environment. Combining these two percentages gives a Top 2 Box of eighty-three percent (83%).

Perhaps surprising is that there are no demographic differences in concern. All residents are equally concerned with the environment.

4.2 Importance of drinking water

Chart 2: Q8 Value of drinking water **Base: 1,004**



	Reliable water supply	Clean drinking water	Uninterrupted water supply	Cheap water	Avoiding water restrictions
Extremely	71	79	64	34	30
Very	23	16	27	38	30
Moderately	5	4	6	23	28
Slightly	0	1	2	3	5
Not at all	0	0	1	2	6

Base: all research participants

'Thinking of the Sydney drinking water supply, how important are each of these?'

Research participants were asked to rate the importance of aspects of drinking water on a Likert Scale.

The data shows that the key areas rated as 'extremely' important are:

- Reliable water supply
- Clean drinking water
- Uninterrupted water supply

The other areas of 'cheap water' and 'avoiding water restrictions' are less important.

Table 2: Q8 Value of drinking water (index) **Base: 1,004**

	Index
Clean drinking water	93
Reliable water supply	91
Uninterrupted water supply	88
Cheap water	75
Avoiding water restrictions	68

Base: all research participants

To allow comparison between groups this rating has been converted to an index (score of 0 to 100).

Table 3: Q8 Value of drinking water (index) by age **Base: 1,004**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Clean drinking water	85	91	96	97
Reliable water supply	81	89	94	96
Uninterrupted water supply	73	86	92	94
Cheap water	68	76	76	75
Avoiding water restrictions	71	73	62	70

Base: all research participants

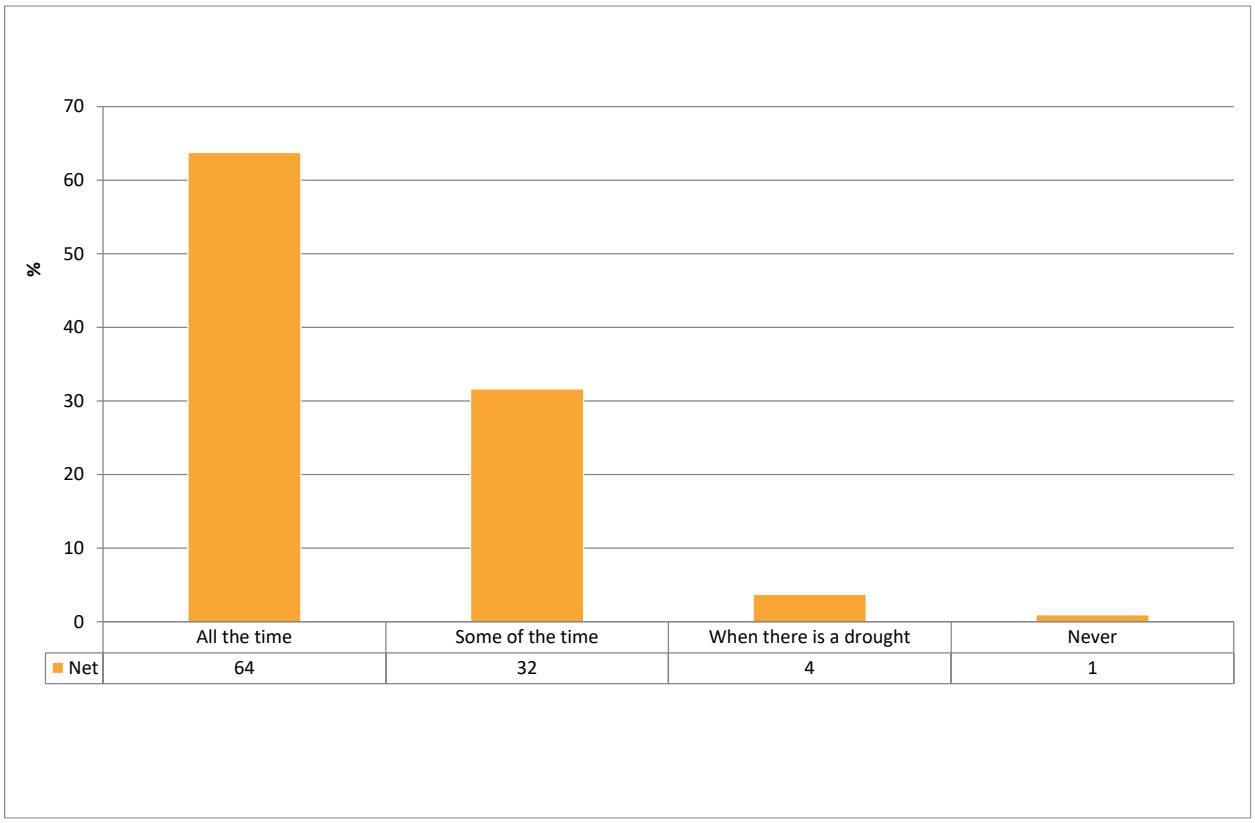
Analysed by age shows that those over 50 years of age are more concerned with:

- Clean drinking water
- Reliable water supply
- Uninterrupted water supply

Those aged 30 to 49 years of age are slightly more concerned with 'avoiding water restrictions'.

4.3 Conserving water

Chart 3: Q9 When do you conserve water **Base: 1,004**



Base: all research participants

'When do you try to conserve water?'

Almost two-thirds (64%) claim to conserve water 'all the time' and a further thirty-two percent (32%) 'some of the time'.

It must be emphasised that this survey measures what people 'think' they do rather than actual behaviour. There may be a different answer if actual water usage was measured; Sydney has one of the highest per-capita water consumption rates in the country.

Table 4: Q9 When do you conserve water by concern with the environment Base: 1,004

	Net	Very concerned	Concerned	Unsure	Unconcerned	Not concerned at all
All the time	64	79	56	50	53	55
Some of the time	32	20	38	47	36	14
When there is a drought	4	1	5	1	8	24
Never	1	0	1	2	3	7

Base: all research participants

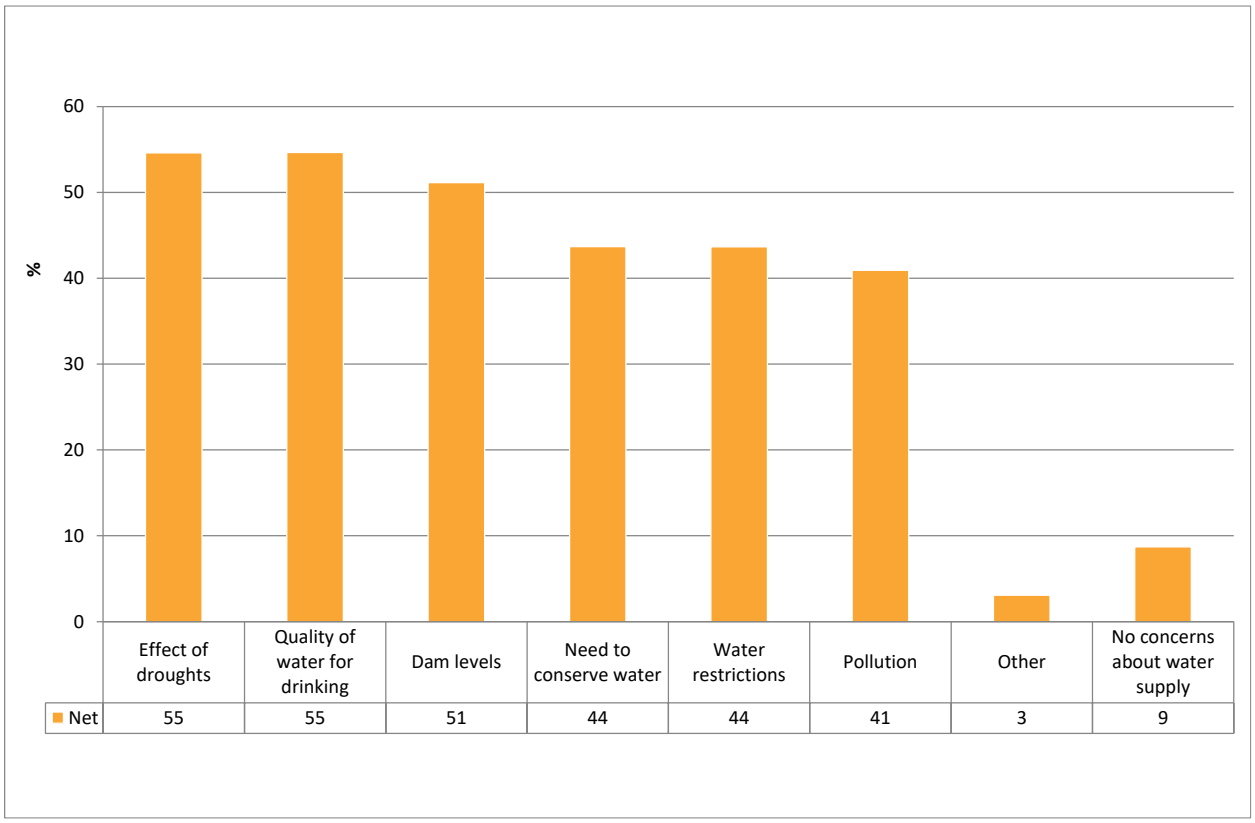
Those who are 'very concerned' with the environment are more likely to conserve water 'all the time' (79%). This drops to just over half (56%) of those who are 'concerned' with the environment.

There is a correlation between concern with the environment and perceived water conservation.

There are no significant differences by age and gender.

4.4 Concerns about Sydney's water supply

Chart 4: Q10 Concerns about Sydney's water supply (prompted) Base: 1,003



Base: all research participants

'Which of these are concerns you have about Sydney's water supply?'

The three top concerns with Sydney's water supply are:

- Effect of droughts (55%)
- Quality of water for drinking (55%)
- Dam levels (51%)

Only forty-four percent (44%) see the need to conserve water as an issue. The same percent (44%) see water restrictions as a concern.

Only nine percent (9%) have no concerns at all.

Table 5: Q10 Sydney water concerns by gender and environmental concern Base: 1,004

		Gender		Concern for the environment				
	Net	Male	Female	Very concerned	Concerned	Unsure	Unconcerned	Not concerned at all
Effect of droughts	55	50	59	64	55	35	32	30
Quality of water for drinking	55	53	56	65	51	46	43	29
Dam levels	51	48	54	58	50	43	37	28
Need to conserve water	44	39	48	56	40	31	26	13
Water restrictions	44	42	45	53	42	29	30	27
Pollution	41	36	46	58	35	23	22	16
Other	3	3	3	3	2	1	8	11
No concerns about water supply	9	10	7	2	9	22	23	31

Base: all research participants

Women are more likely to be concerned with droughts (59%) than men (50%).

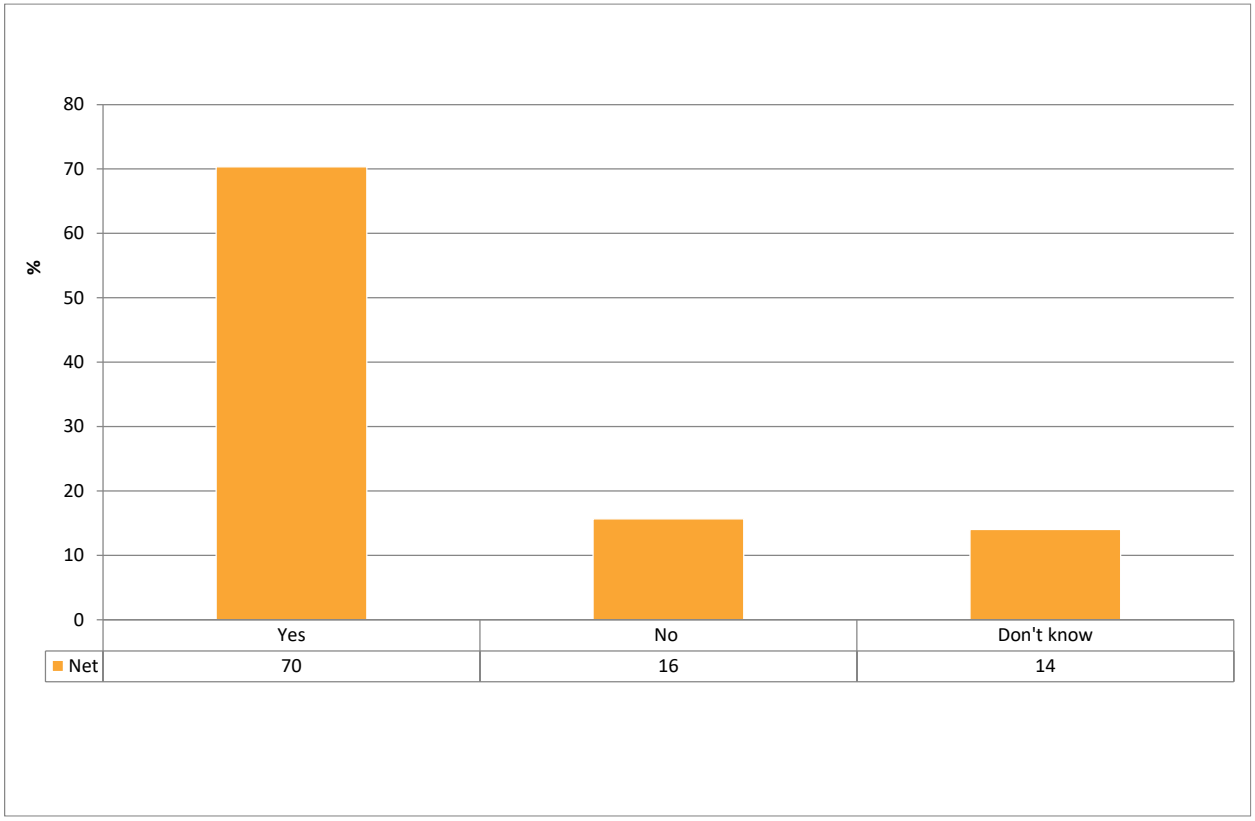
Those who are 'very concerned' with the environment have higher concern with all aspects of Sydney water supply.

5 Climate change

5.1 Droughts

5.1.1 Climate change and droughts

Chart 5: Q11 Belief that climate is changing, and droughts will increase Base: 1,004



Base: all research participants

'Do you believe that the climate is changing and droughts will increase?'

Over two-thirds (70%) believe that climate is changing and droughts will increase. Only sixteen percent (16%) answered 'no' to this question and a further fourteen percent (14%) 'don't know'. This means nearly a third of participants have reservations about climate change.

The data shows that Sydney residents believe that changing climate will cause more droughts in the future.

Table 6: Q11 Climate change and droughts by age **Base: 1,004**

	NET	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Yes	70	89	77	63	58
No	16	11	11	19	24
Don't know	14	0	12	18	19

Base: all research participants

While the majority of people of all ages believe that the climate is changing and this will cause droughts in the future, those under 50 years of age are more likely to agree with this statement.

Eighty-nine percent (89%) of those aged 18 to 29 years and seventy-seven percent (77%) of those aged 30 to 29 years agree with this statement.

Non-belief that the climate is changing and will cause droughts in future increases from just elven percent (11%) of those aged 18 to 29 years to twenty-four percent (24%) of those aged 70 years and over.

Table 7: Q11 Climate change and droughts by environmental concern **Base: 1,004**

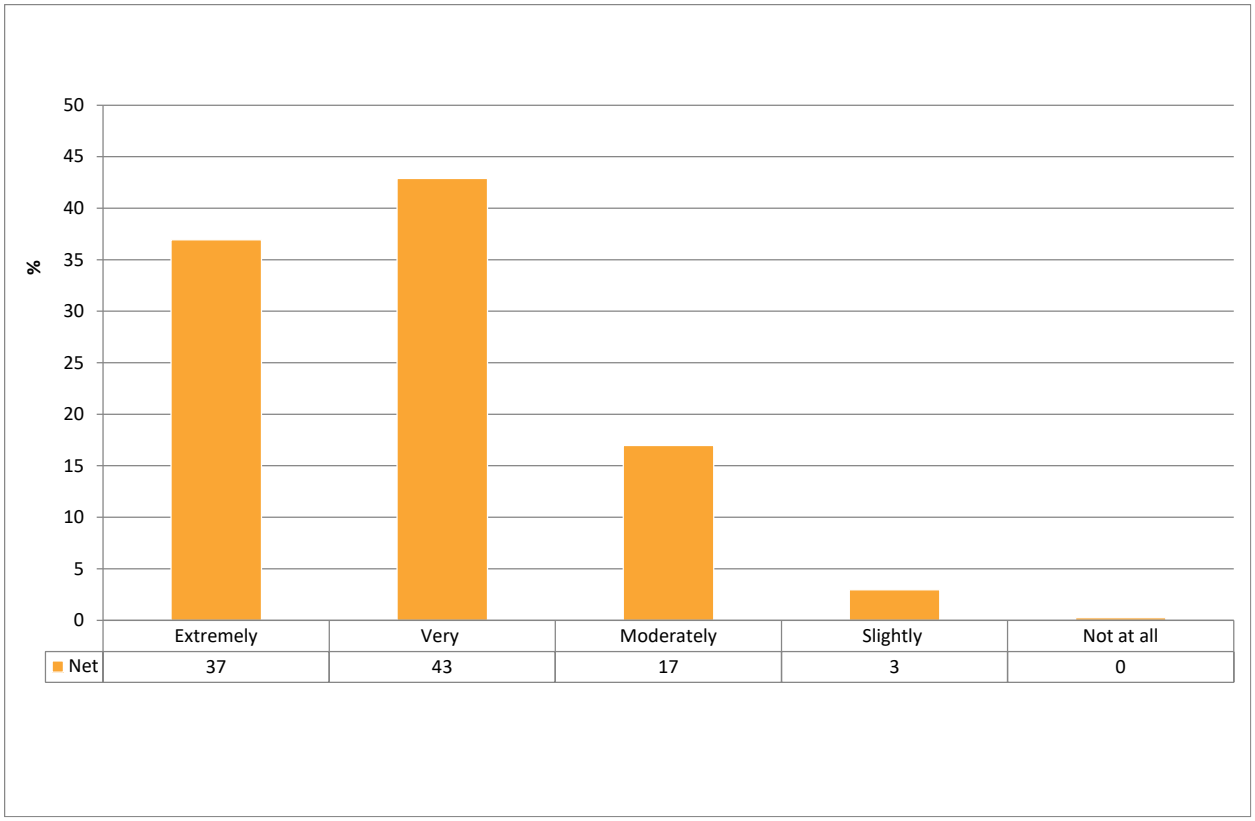
	NET	Very concerned	Concerned	Unsure	Unconcerned
Yes	70	92	70	32	14
No	16	2	11	37	75
Don't know	14	6	18	31	11

Base: all research participants

Almost all (92%) who are 'very concerned' with the environment believe that the climate is changing and droughts will increase.

5.1.2 Droughts in your lifetime

Chart 6: Q11 Climate change causing droughts in your lifetime **Base: 681**



Base: those who believe climate is changing and will cause droughts

'How likely is it that climate change will make drought more frequent in your lifetime?'

Those who answered 'yes' to the question that climate is changing and will cause droughts in the future (70%), were then asked 'How likely is it that climate change will make drought more frequent in your lifetime?'

The rationale for this question is that droughts may increase from climate change, but this could be many years in the future.

Over one-third (37%) thought droughts increasing in their lifetime was 'extremely' likely and forty-three percent (43%) 'very' likely. Added together gives a Top 2 Box of eighty percent (80%).

The findings show that if a Sydney resident believes climate change will cause droughts in the future their expectation is that this will occur in their lifetime.

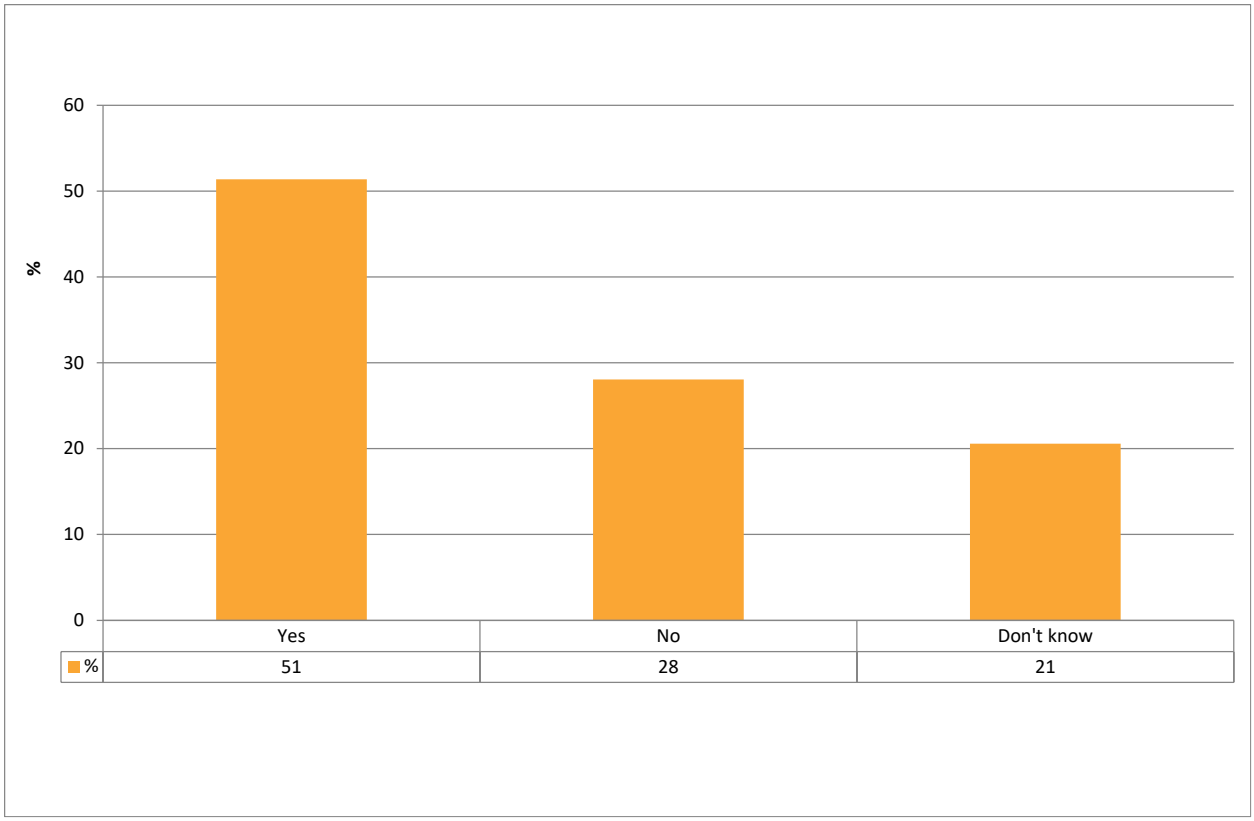
Age

The only age group that is less likely to feel they will experience climate change in their lifetime are those aged 70 years and over (64%).

6 Sydney water supply

6.1 Possibility of Sydney running out of water in severe drought

Chart 7: Q13 Is it possible that Sydney could run out of water **Base: 1,004**



Base: all research participants

'Do you think Sydney could run out of drinking water in a severe drought?'

Just over half (51%) of Sydney residents feel that it is possible that Sydney could run out of water in a severe drought.

Just over one-quarter (28%) do not believe that a drought could cause Sydney to run out of water and twenty-one percent (21%) 'don't know'.

If we remove the 'don't' know' research participants from this analysis sixty-five percent (65%) believe that it is possible the city could run out of water in an extreme drought.

In each form of analysis the majority of residents believe that running out of water in an extreme drought is possible.

Table 8: Q11 Out of water in severe drought by gender and service area Base: 1,004

	Male	Female	SDP service area	Not in SDP service area
Yes	52	51	55	46
No	32	24	28	29
Don't know	16	25	18	25

Base: all research participants

Equal numbers of men (52%) and women (51%) believe that Sydney could run out of water in a severe drought. Men are more likely to believe that Sydney could not run out of water in an extreme drought (32%) compared to women (24%). One quarter of women (25%) 'don't know' if this is possible.

Those living in the SDP service area are more likely to believe that Sydney could run out of water in an extreme drought (55%) than those who live outside the service area (46%).

6.2 Ways of protecting Sydney water supply from drought

Table 9: Q14 Ways of protecting Sydney water supply from drought **Base: 1,004**

	%
Conserving water	71
Recycling water	68
Using desalinated water	58
Building more dams	54
Increasing the size of existing dams	52
Sydney's water supply does not need to be increased	3

Base: all research participants

"Which of these are ways that Sydney's water supply could be protected from future droughts?"

Only three percent (3%) of Sydney residents do not believe that Sydney's water supply needs to be increased by some method.

All suggested methods of increasing water supply are viable for over half the population. This includes using desalinated water (58%).

More people believe in conserving water (71%) and recycling water (68%) than desalination.

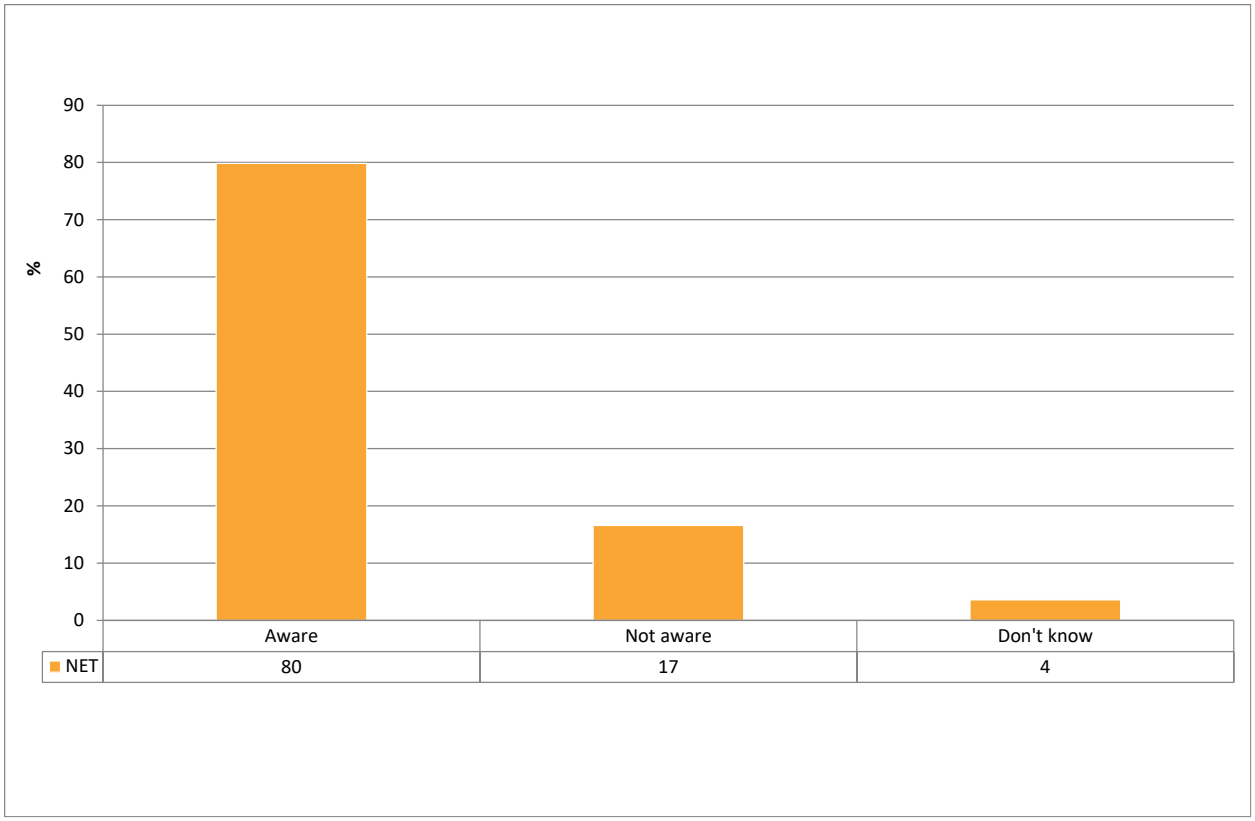
Participants in the focus groups discussed recycled water but their interpretation of 'recycling' was household waste water, but water captured from tanks and other water saving approaches.

Analysis by cross-tabulations shows little meaningful difference in any group.

7 Sydney desalination plant (SDP)

7.1 SDP awareness

Chart 8: Q15 Aware of SDP **Base: 1,004**



Base: all research participants

"Are you aware of the Sydney Desalination Plant?"

Awareness of SDP is high, with eighty percent (80%) of Sydney residents aware of the Sydney Desalination Plant.

This is a high level of awareness regardless of how well the operation of the plant is understood.

Table 10: Q15 Aware of SDP by age **Base: 1,004**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Aware	56	76	85	94
Not aware	36	22	11	4
Don't know	8	3	4	2

Base: all research participants

There is a correlation between age and awareness of SDP. Just over half (56%) of those 18 to 29 years of age are aware, compared to ninety-four percent (94%) of those aged 70 years and over.

Table 11: Q15 Aware of SDP by gender **Base: 1,004**

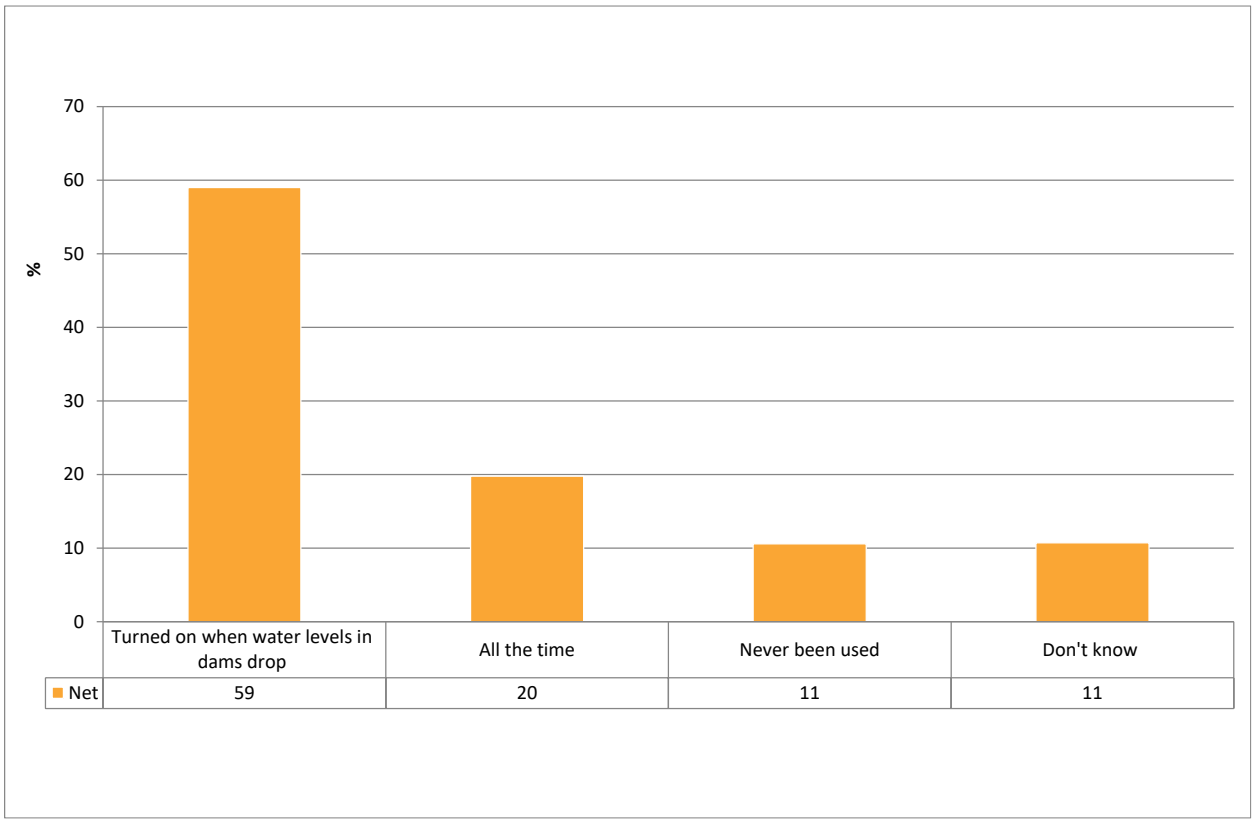
	Male	Female
Aware	85	75
Not aware	12	21
Don't know	3	4

Base: all research participants

Men (85%) are more likely to be aware of SDP than women (75%).

7.2 SDP operation

Chart 9: SDP operation **Base: 830**



Base: all aware of SDP

"When do you think the Sydney Desalination Plant operates?"

Over half (59%) of those aware of SDP are correct in that the plant operates when dam levels drop.

One fifth (20%) believe the plant operates all the time, while eleven percent (11%) believe it has never been used. A further eleven percent (11%) 'don't know' the operational status of SDP.

Overall the results are positive but the data also shows that of those aware of SDP just under half do not know the correct operational parameters of the plant.

Table 12: Q15 SDP operation by age **Base: 830**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Turned on when water levels in dams drop	50	41	70	76
All the time	40	33	8	12
Never been used	0	12	12	8
Don't know	10	13	11	5

Base: those aware of SDP

As with awareness of SDP, understanding of when the plant operates increases with age.

Seventy-six percent (76%) of those aged 70 years and over know that the plant operates when dam levels drop. Only forty-one percent (41%) of those aged 30 to 49 years know this is the case.

Table 13: Q15 SDP operation by gender **Base: 830**

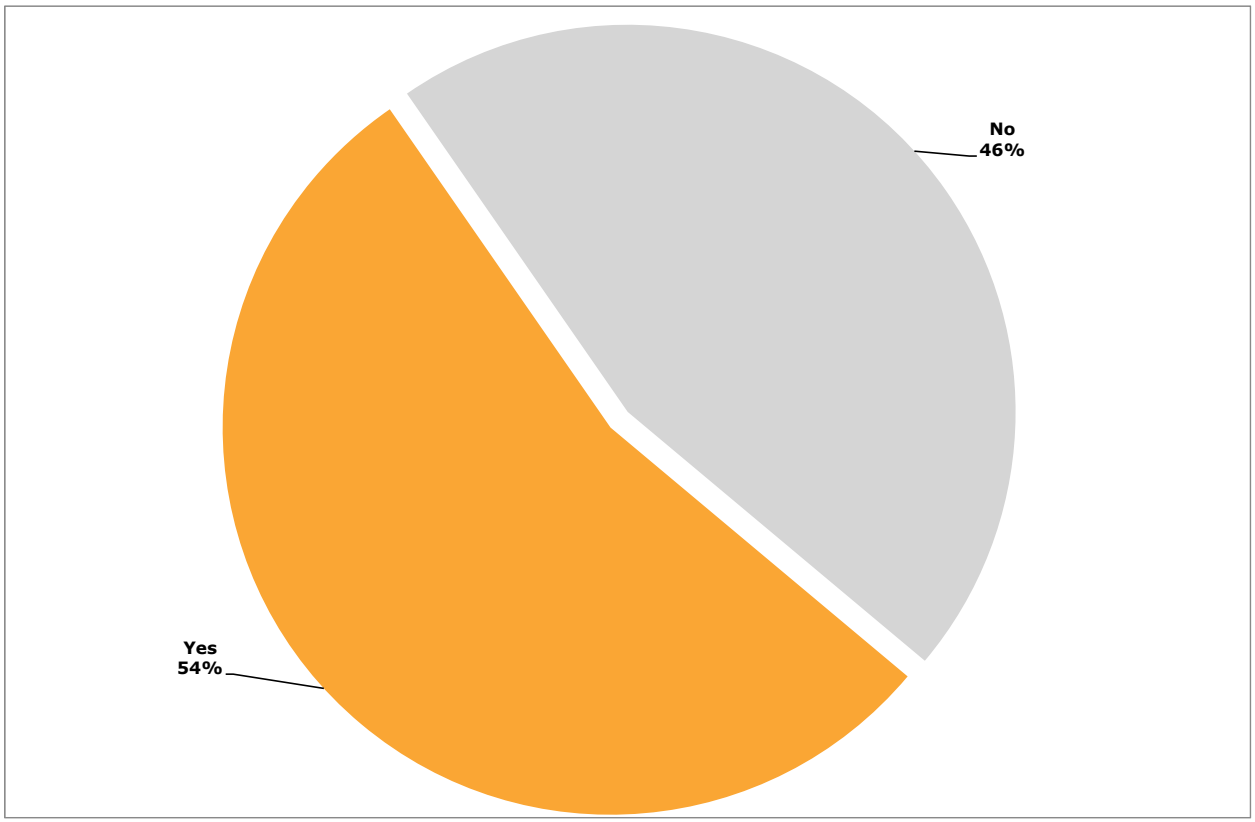
	Male	Female
Turned on when water levels in dams drop	61	56
All the time	24	15
Never been used	10	11
Don't know	4	18

Base: those aware of SDP

Men (24%) are more likely than women (15%) to believe that SDP operates 'all the time'.

7.3 Awareness of using SDP output

Chart 10: Q17 Aware of using SDP output by those in supply zone **Base: 471**



Base: those living in the SDP supply zone

"Before now, did you know that when the Sydney Desalination Plant is running your home is receiving water supplied by the Plant?"

Those living in the SDP supply zone were asked this question. Just over half (54%) of those in the supply zone were aware they are consuming SDP output.

Table 14: Q17 Aware of using SDP output in supply zone by gender **Base: 417**

	Male	Female
Yes	65	41
No	35	59

Base: those living in SDP supply zone

Men (65%) are more likely than women (41%) to understand they are using SDP output.

7.4 Ownership and operation of SDP

Table 15: Q18/Q19 Ownership and operation of SDP **Base: 830**

	Ownership (%)	Operation (%)
NSW Government	58	44
Private company	22	33
Other	1	1
Don't know	20	23

Base: those aware of SDP

"Who owns the Sydney Desalination Plant?"

"Who runs the Sydney Desalination Plant?"

The majority of those aware of SDP believe it is owned by NSW Government (58%). Fewer (44%) think it is also operated by NSW Government.

One-third (33%) believe it is operated by a private company.

Ownership and operation are generally thought to be NSW Government, but there is less understanding of these aspects compared to the conditions of when the plant operates.

Analysis by cross-tabulations shows little meaningful difference in understanding ownership and operation of SDP.

7.5 SDP benefits

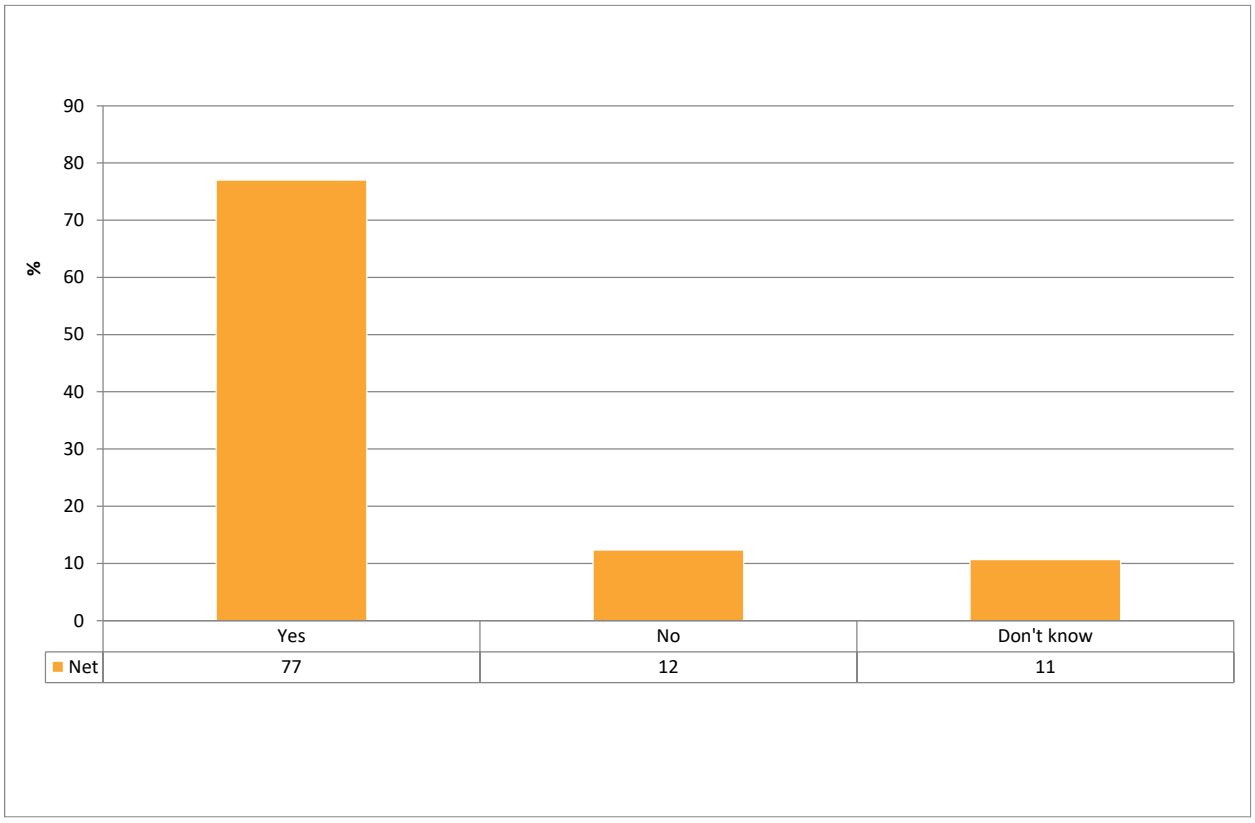
All research participants whether aware or not aware of SDP were given this introduction to the following questions.

"Desalination is a process that removes salts and minerals from saltwater to produce water suitable for human consumption.

The Sydney Desalination Plant is a water desalination plant that forms part of the water supply system of Greater Metropolitan Sydney. The plant is located at Kurnell, in Sutherland Shire. It converts salt water to drinking water.

The Sydney Desalination Plant commences operation when the combined Sydney metropolitan dam levels are below 60%. From being shut down to delivering drinking water can take up to 8 months for water production to commence."

Chart 11: Q20 See benefits in SDP **Base: 1,004**



Base: all research participants

"Do you see any benefits in the Sydney Desalination Plant?"

Over three-quarters of residents (77%) see benefits in SDP while only twelve percent (12%) do not see benefits.

Table 16: Q20 See benefits in SDP by service area **Base: 1,004**

	SDP service area	Not in SDP service area
Yes	82	70
No	11	15
Don't know	8	16

Base: all research participants

While most Sydney residents see benefits in SDP, those in the service area are more likely to see benefits (82%) than those not in the service area (70%).

Table 17: Q20 See benefits in SDP by previously aware **Base: 1,004**

	Previously aware of SDP	Not previously aware
Yes	80	66
No	11	17
Don't know	8	17

Base: all research participants

Those who were previously aware of SDP are more likely to see benefits (80%) than those who were not previously aware (66%).

There is a correlation between awareness and being more likely to see benefits in SDP.

Table 18: Q20 Prompted SDP benefits **Base: 1,004**

	%
Provides a back-up when the water levels in dams are low	65
Protects Sydney water supply from drought	57
Helps Sydney provide water for a growing population	49
Protects Sydney from reduced rainfall (less water)	46
Means there will always be water	44
Reduces reliance on dams	43
Dam levels can stay higher for longer	33
Protects Sydney from the impact of climate change	34
Uses renewable energy	25
Means new dams are not required	22
Other	1
None of these	5

Base: all research participants

"Which of these are benefits of the Sydney Desalination Plant?"

There are two benefits that over half of all Sydney residents agree with:

- Provides a back-up when the water levels in dams are low
- Protects Sydney water supply from drought

There is also above average agreement with:

- Protects Sydney from reduced rainfall (less water)
- Means there will always be water
- Reduces reliance on dams

Despite overwhelming concern with drought coming from climate change, only thirty-four percent (34%) make the connection between SDP and protecting Sydney's water supply from the impact of climate change. This is an opportunity for messaging to improve the perception of SDP.

A second benefit that is not selected is using renewable energy (25%). Later in the survey this is explored and becomes an important feature of the operation of SDP.

Table 19: Q20 Prompted SDP benefits by Q19 'see benefits' **Base: 1,004**

	See benefits	Do not see benefits	Don't know
Provides a back-up when the water levels in dams are low	71	39	54
Protects Sydney water supply from drought	65	22	40
Helps Sydney provide water for a growing population	57	21	25
Protects Sydney from reduced rainfall (less water)	54	13	30
Means there will always be water	50	15	39
Reduces reliance on dams	49	14	35
Dam levels can stay higher for longer	37	15	23
Protects Sydney from the impact of climate change	39	12	21
Uses renewable energy	28	15	19
Means new dams are not required	25	12	18
Other	1	1	1
None of these	1	28	9

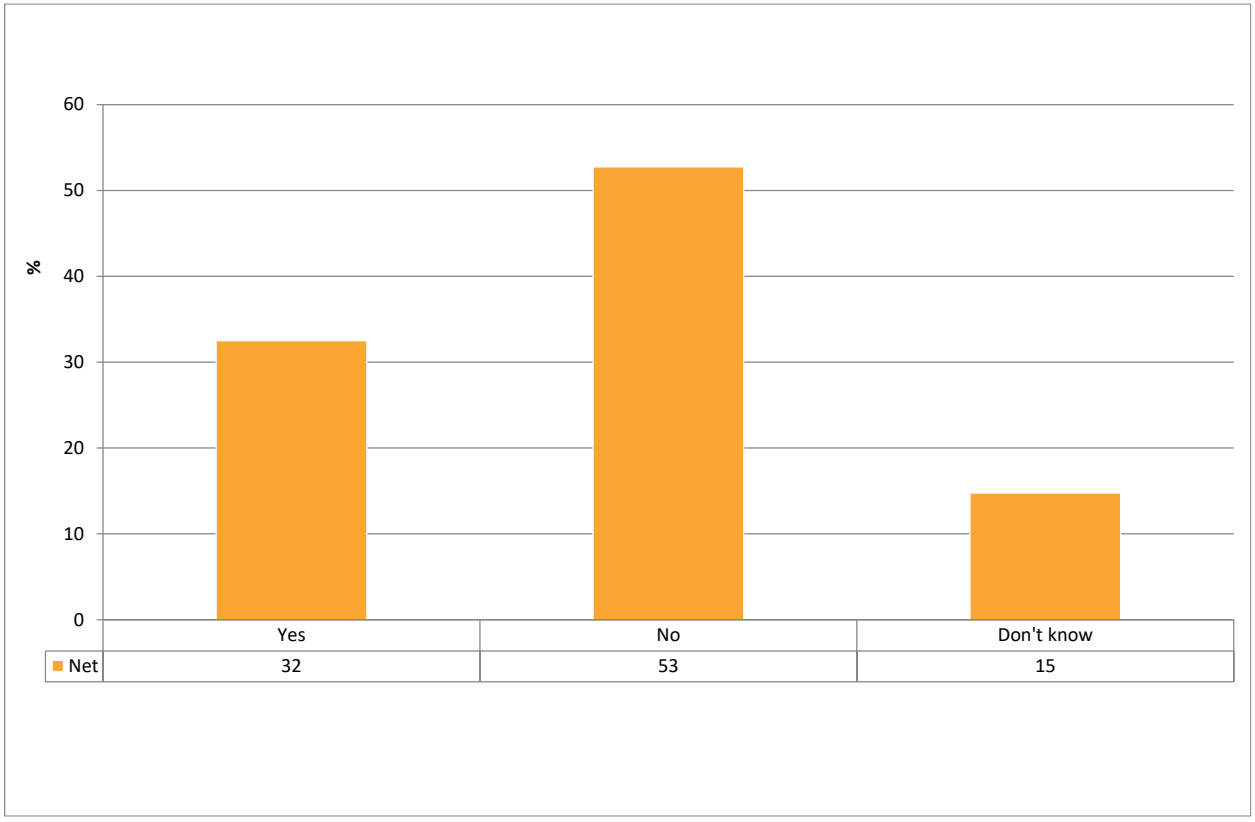
Base: all research participants

Not surprisingly those who said there were benefits in Q29 are more likely to see many benefits from SDP. However only around one-quarter (28%) of those who did not see benefits in Q19 selected 'none of these'.

The data shows that when presented with a range of benefits, most people agree that there are benefits from SDP.

7.6 SDP concerns

Chart 12: Q21 Concerns with SDP **Base: 1,004**



Base: all research participants

"Do you have any concerns about the Sydney Desalination Plant?"

Thirty-two percent (32%) have some concerns about SDP.

Table 20: Q21 Concerns with SDP **Base: 1,004**

	Male	Female	SDP service area	Not in SDP service area	Previously aware of SDP	Not previously aware	Don't know
Concerns	40	25	34	31	37	14	19
No concerns	51	55	53	52	51	64	37
Don't know	9	20	13	17	12	22	44

Base: all research participants

Those more likely to have concerns are:

- Men 40%
- Those previously aware of SDP 37%

Women are much more likely to say they 'don't know' if they have concerns (20%) than men (9%).

Table 21: Q23 Concerns with SDP (prompted) **Base: 1,004**

	%
Expensive to run	47
Takes too long to start	41
Uses a lot of energy	31
Has rarely been used	26
Only runs some of the time	24
Does not supply enough water to Sydney	19
It does not protect Sydney from a drought	17
Bad for the environment	12
Not needed for Sydney	7
Other	1
I have no concerns about Sydney Desalination Plant	23

Base: all research participants

"Do you share any of these concerns about the Sydney Desalination Plant?"

Regardless of whether research participants had concerns all were asked this question.

The biggest concern is that the plant is 'expensive to run' (47%).

However, not all concerns are an issue for SDP as the second biggest concerns is that it 'takes too long to start' (41%) and that it 'only runs some of the time' (24%). Both these support either 'high availability' or 'constant operation' modes.

There is also a hint of support for expansion of the plant, with nineteen percent (19%) who say it does not deliver enough water to Sydney and seventeen percent (17%) who say it does not protect Sydney from a drought.

The other consistent issue is the use of energy. As we show later in the report, the use of renewable energy can mitigate these concerns. Energy use is seen in the results for:

- Expensive to run
- Uses a lot of energy
- Bad for the environment

Table 22: Q23 Concerns with SDP by Q22 have concerns **Base: 1,004**

	Have concerns	No concerns	Don't know
Expensive to run	65	35	46
Takes too long to start	55	34	33
Uses a lot of energy	50	20	29
Has rarely been used	37	19	23
Only runs some of the time	34	18	23
Does not supply enough water to Sydney	32	12	16
It does not protect Sydney from a drought	30	9	16
Bad for the environment	27	4	10
Not needed for Sydney	15	2	3
Other	4	0	0
I have no concerns about Sydney Desalination Plant	1	35	27

Base: all research participants

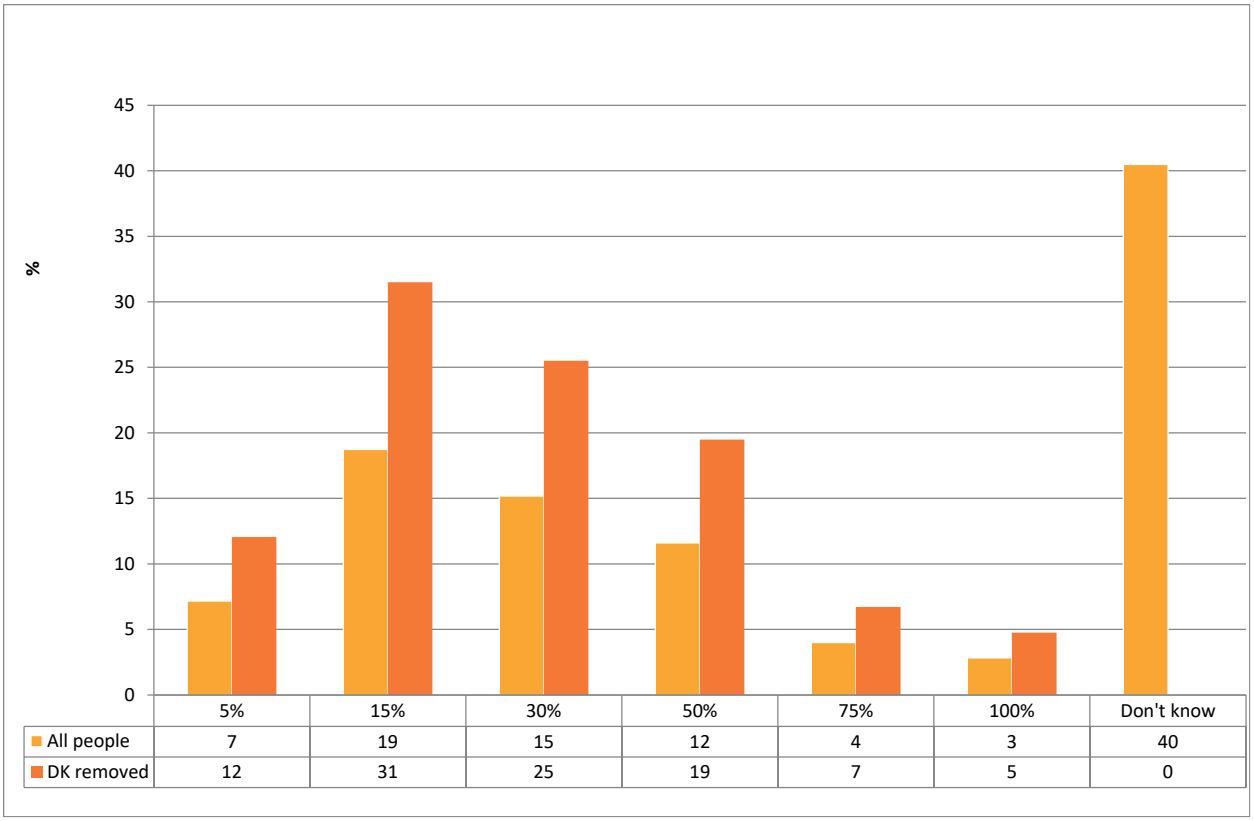
For those that have concerns the pattern is the same, with concerns about energy use, taking too long to start, only running some of the time and lack of supply of enough water to Sydney or to protect from a drought.

For those with no concerns (Q22) thirty-five percent (35%) still had no concerns when given this list.

8 SDP water supply to Sydney

8.1 Percent of Sydney water supplied by SDP

Chart 13: Q24 Percent of Sydney water supply from SDP **Base: 1,004**



	5%	15%	30%	50%	75%	100%	Don't know
All people	7	19	15	12	4	3	40
DK removed	12	31	25	19	7	5	0

Base: all research participants

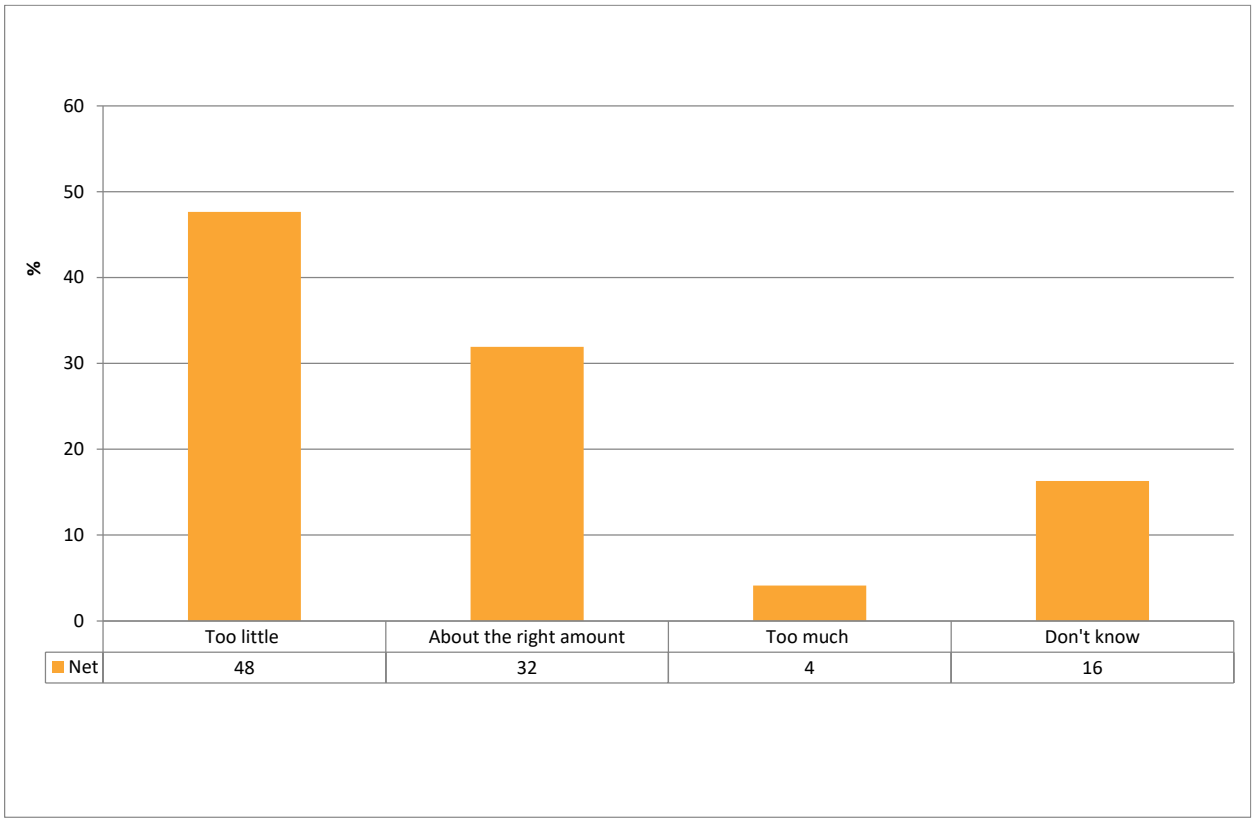
"When the Sydney Desalination Plant is operating what percentage of Sydney's water is produced?"

The data shows that Sydney residents have little idea of how much water is produced by SDP. Forty percent (40%) selected 'don't know'

With this group removed, thirty-one percent (31%) selected 15% of supply, but twenty-five percent (25%) selected 30%, and nineteen percent (19%) selected 50% of water supply.

In any conversation with the public the current level of supply needs to be stated.

Chart 14: Q25 Is 15% the right amount of supply **Base: 1,004**



Base: all research participants

"When running the Sydney Desalination Plant produces about 15% of Sydney's water supply. Do you think this is..."

All research participants were informed that current SDP supply when operational is 15%.

Almost half (48%) feel that this is 'too little' while thirty-two percent (32%) feel this is 'about the right amount'.

Table 23: Q25 Is 15% the right amount by age **Base: 1,004**

	NET	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Too little	60	31	52	69	76
About the right amount	26	53	32	17	16
Too much	5	8	8	2	1
Don't know	9	8	8	12	7

Base: all research participants

This is a correlation between age and feeling that the amount of water supplied is 'too little'. The older the person the more likely they are to feel that 15% is 'too little'. Only thirty-one percent (31%) of those aged 18 to 29 years feel 15% is 'too little' compared to seventy-six percent (76%) of those aged 70 years and over.

Table 24: Q25 Is 15% the right amount by SDP awareness **Base: 1,004**

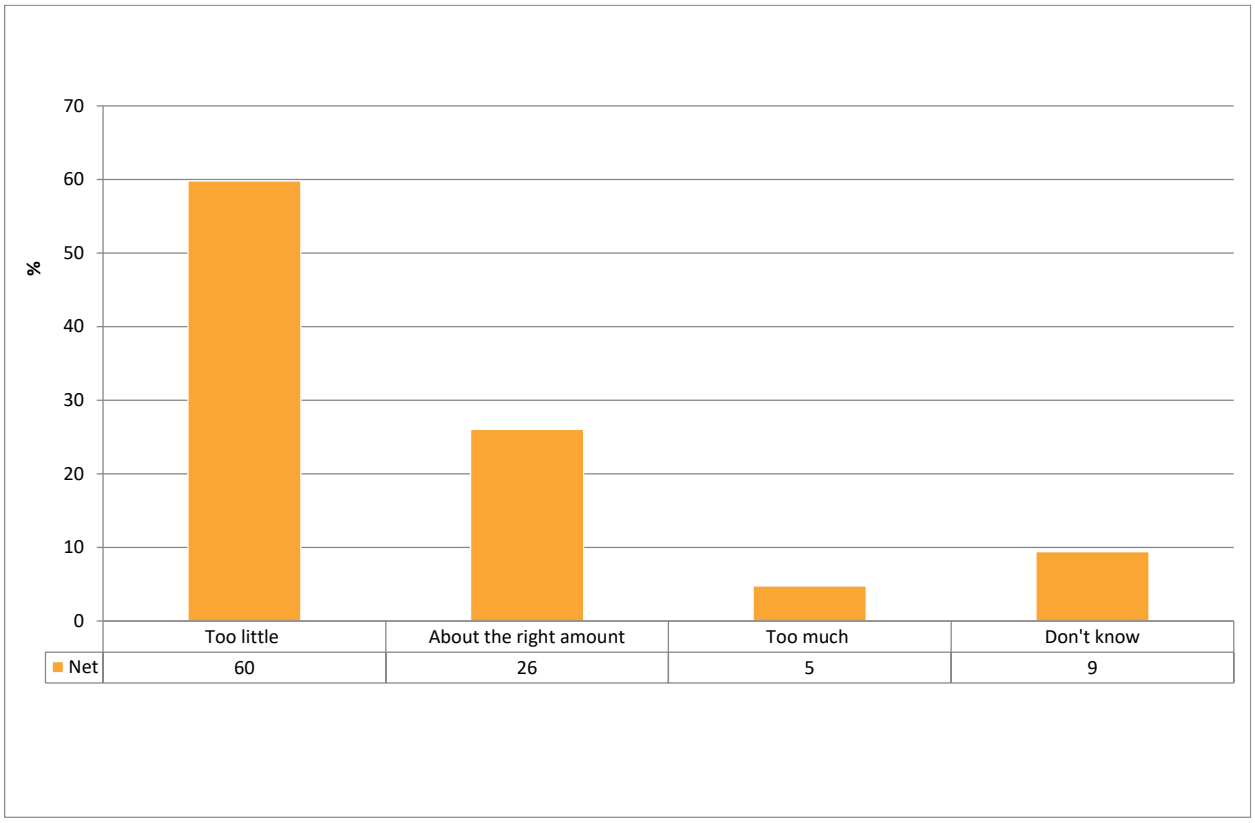
	Previously aware of SDP	Not previously aware	Don't know
Too little	62	48	58
About the right amount	24	38	23
Too much	5	5	0
Don't know	9	10	19

Base: all research participants

Those that were previously aware of SDP are more likely to feel that 15% is 'too little' (62%) compared to those who were not previously aware of SDP (48%).

There is a role that age plays in both these results, with higher awareness of SDP in older age groups.

Chart 15: Q26 IS 15% the right amount when other cities are considered **Base: 1,004**



Base: all research participants

"Most other capital cities in Australia have desalination plants that can produce around 30% of their water needs. With this information do you think the 15% that the Sydney Desalination Plant produces is…"

This question could be criticised for being somewhat misleading. Another issue is that desalination in other States varies in supply level, up to half in Perth. Nevertheless, it is used as an 'anchor' for respondent understanding.

With this information sixty percent (60%) feel that 15% of Sydney water supply is 'too little'. This is a twelve percent (12%) increase in 'too little' compared to the previous question with no reference point (48% 'too little').

Table 25: Q26 Is 15% the right amount considering other cities by age **Base: 1,004**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Too little	31	52	69	76
About the right amount	53	32	17	16
Too much	8	8	2	1
Don't know	8	8	12	7

Base: all research participants

Those over 50 years of age and older are more likely than those under 50 years of age to believe that 15% is 'too little' for the water supply of Sydney.

Table 26: Q25 v 26 No information on supply v compared to other cities **Base: 1,004**

	The right amount'	Compared to other cities	Difference
Too little	48	60	12
About the right amount	32	26	-6
Too much	4	5	1
Don't know	16	9	-7

Base: all research participants

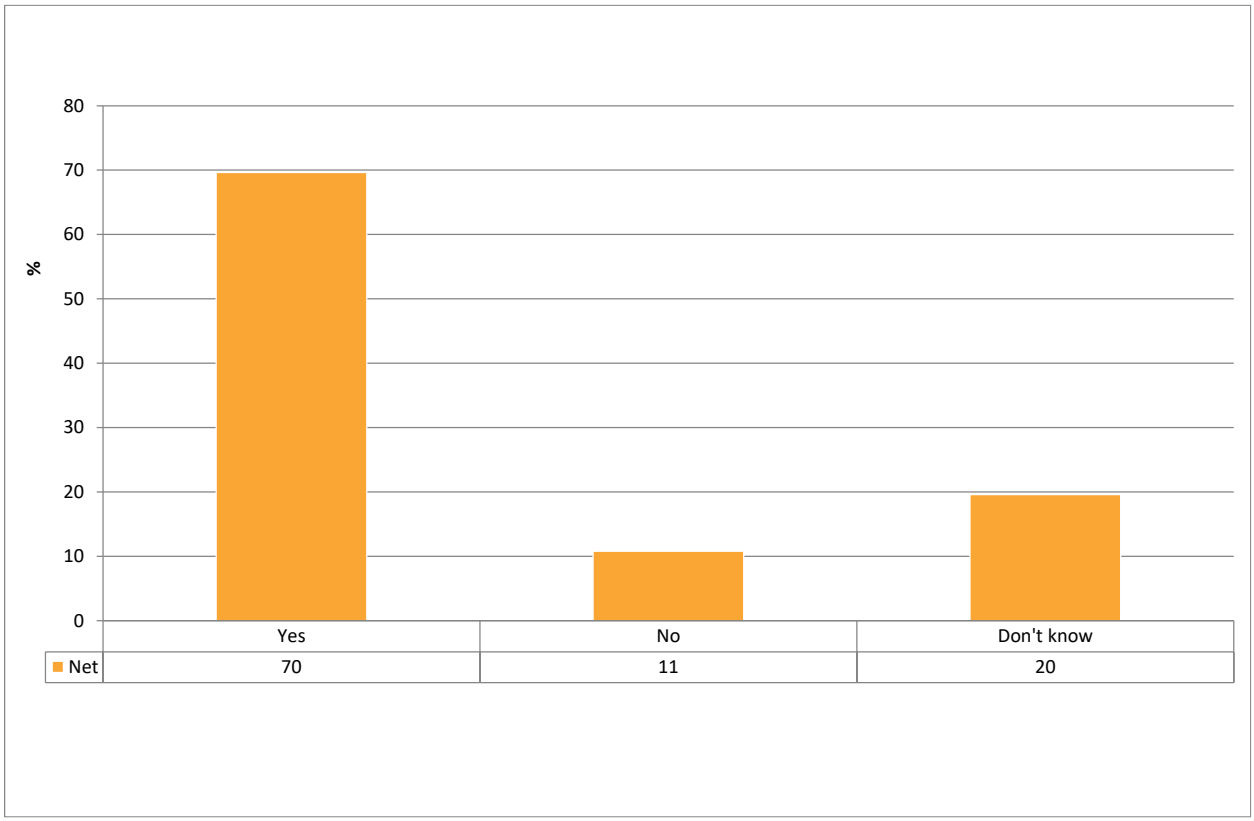
The table above compares those who answered 'is 15% the right amount' and the answer when told that most other Australian cities have 30% of their water supplied by desalination.

This shows the change between the answer without any reference and with an 'anchor point' comparing to other States.

There is a twelve percent (12%) increase in 'too little', a six percent decrease (-6%) in 'about the right amount' and a seven percent decrease (-7%) in 'don't know'.

This shows the importance of a reference point when communicating with the public the need to increase the contribution of SDP to the water supply of Sydney.

Chart 16: Q28 Should SDP output be increased to 30% **Base: 1,004**



Base: all research participants

'Do you think the Sydney Desalination Plant output should be increased to about 30% of Sydney's water supply?'

This question was asked following the information that other States have 30% of their water supply provided by desalination and did not include any information on potential costs or the reasons why these states need more desalinated water than Sydney.

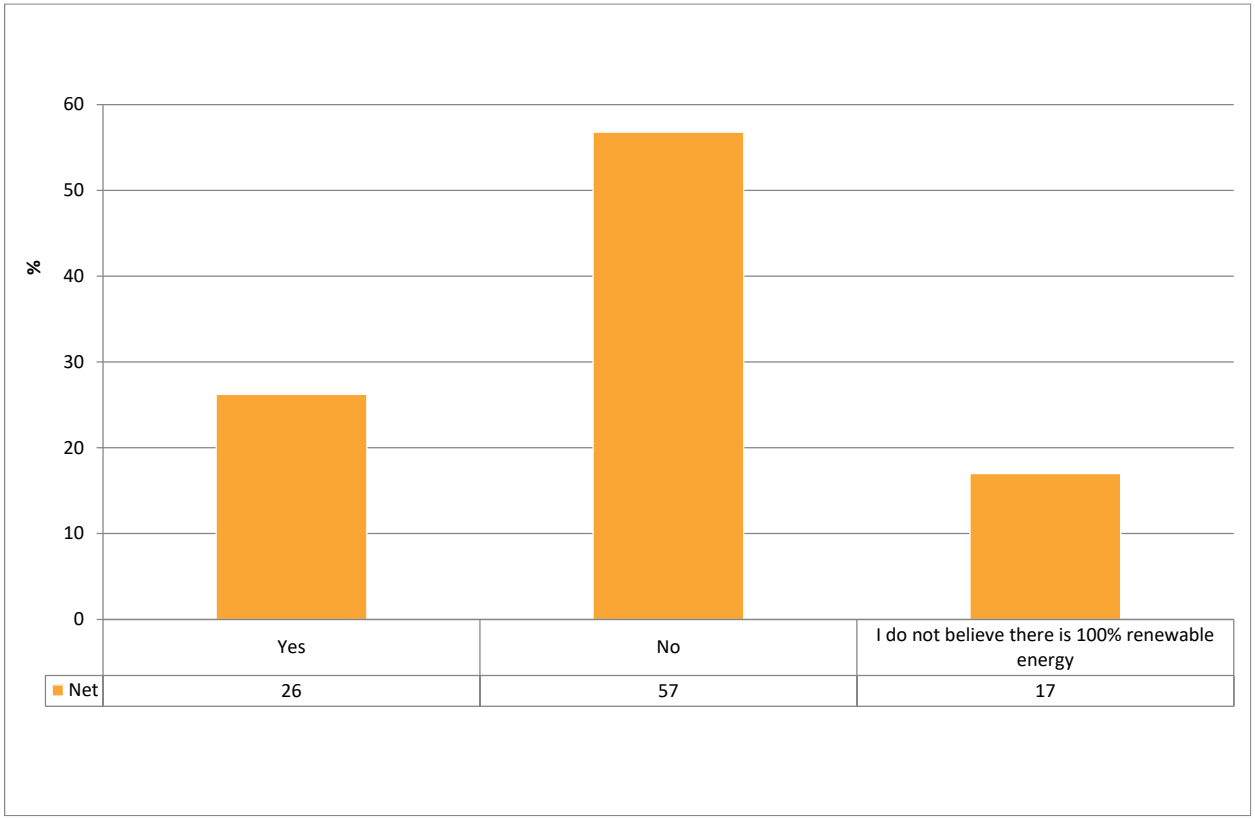
With those limitations in mind, seventy percent (70%) agree that SDP should supply 30% of the water supply of Sydney.

There are no meaningful differences by any of the analysed variables.

9 Renewable energy

Energy use and expense were both concerns about SDP while use of renewable energy was only a benefit for twenty five percent (25%) of Sydney residents. In the following questions we show that renewable energy use is important for Sydney residents.

Chart 17: Q28 Aware SDP uses 100% renewable energy **Base: 1,004**



Base: all research participants

'Did you know the Sydney Desalination Plant operates using 100% renewable energy?'

Only twenty-six percent (26%) of Sydney residents are aware that SDP uses renewable energy. Seventeen percent (17%) do not believe that 100% renewable energy exists.

The last finding shows that there is a level of cynicism amongst a small but significant group of residents about 100% renewable energy.

Renewable energy

Table 27: Q28 Aware SDP uses 100% renewable energy by age **Base: 1,004**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Yes	44	36	14	19
No	47	49	66	60
I do not believe there is 100% renewable energy	8	15	20	21

Base: all research participants

Awareness of SDP using renewable energy decreases with age. Forty-four percent (44%) of those aged 18 to 29 years are aware of renewable energy use and this decreases to only nineteen percent (19%) of those aged 70 years or older.

Those least likely to be aware of renewable energy are aged 50 to 69 years (66%).

There is no statistically significant difference in age for those who do not believe in 100% renewable energy. However there appears to be a pattern that as age increases so to does the percentage who do not believe in 100% renewable energy.

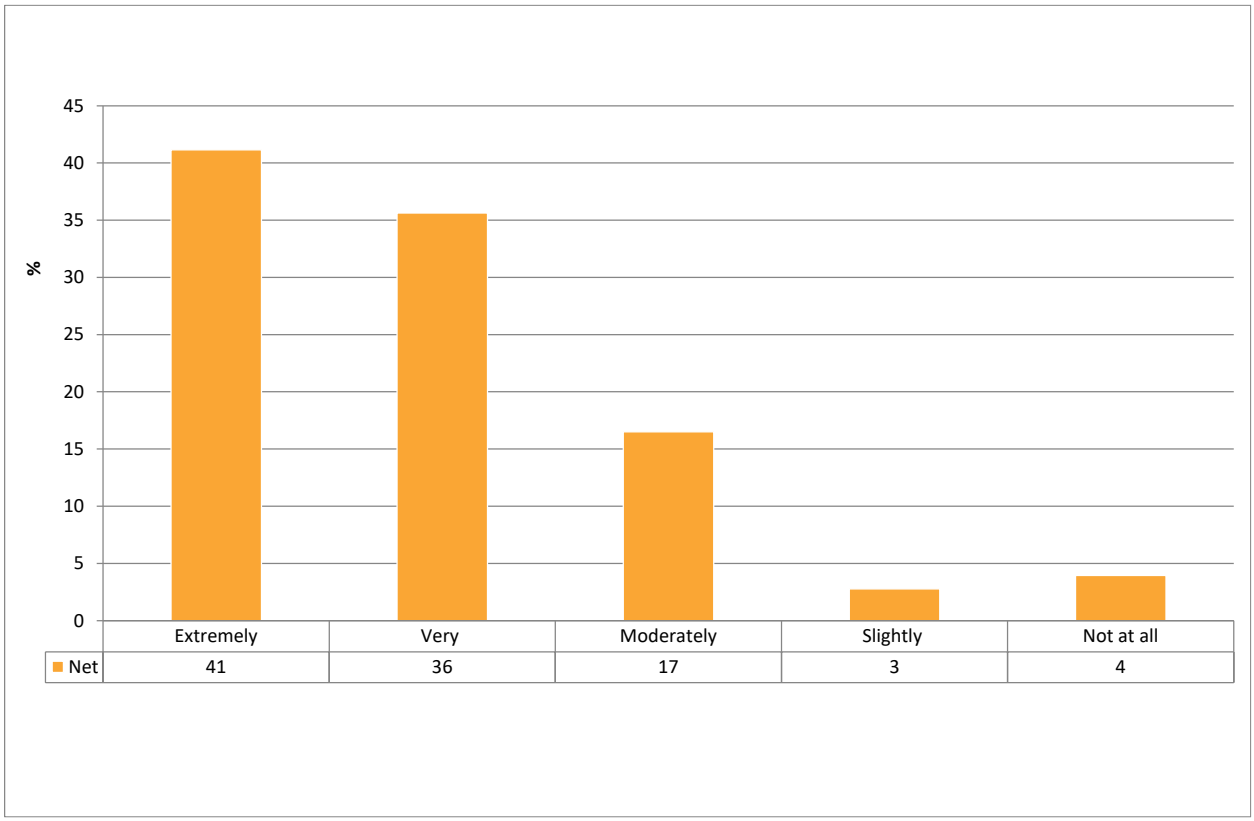
Table 28: Q28 Aware SDP uses 100% renewable energy by gender **Base: 1,004**

	Male	Female
Yes	32	20
No	51	63
I do not believe there is 100% renewable energy	17	17

Base: all research participants

Men (32%) are more likely than women (20%) to be aware SDP uses 100% renewable energy.

Chart 18: Q29 Importance of SDP renewable energy **Base: 1,004**



Base: all research participants

'How important is it that the Sydney Desalination Plant operates using renewable energy?'

Use of renewable energy is important to Sydney residents with a Top 2 Box of seventy-seven percent (77%) believing this is either 'extremely important' (41%) or 'very important' (36%).

Table 29: Q29 by Q28 Importance of renewable energy by current awareness Base: 1,004

	Know SDP uses renewable energy	Do not know SDP uses renewable energy	I do not believe there is 100% renewable energy
Extremely	52	41	24
Very	36	37	29
Moderately	10	16	28
Slightly	0	3	7
Not at all	1	3	11

Base: all research participants

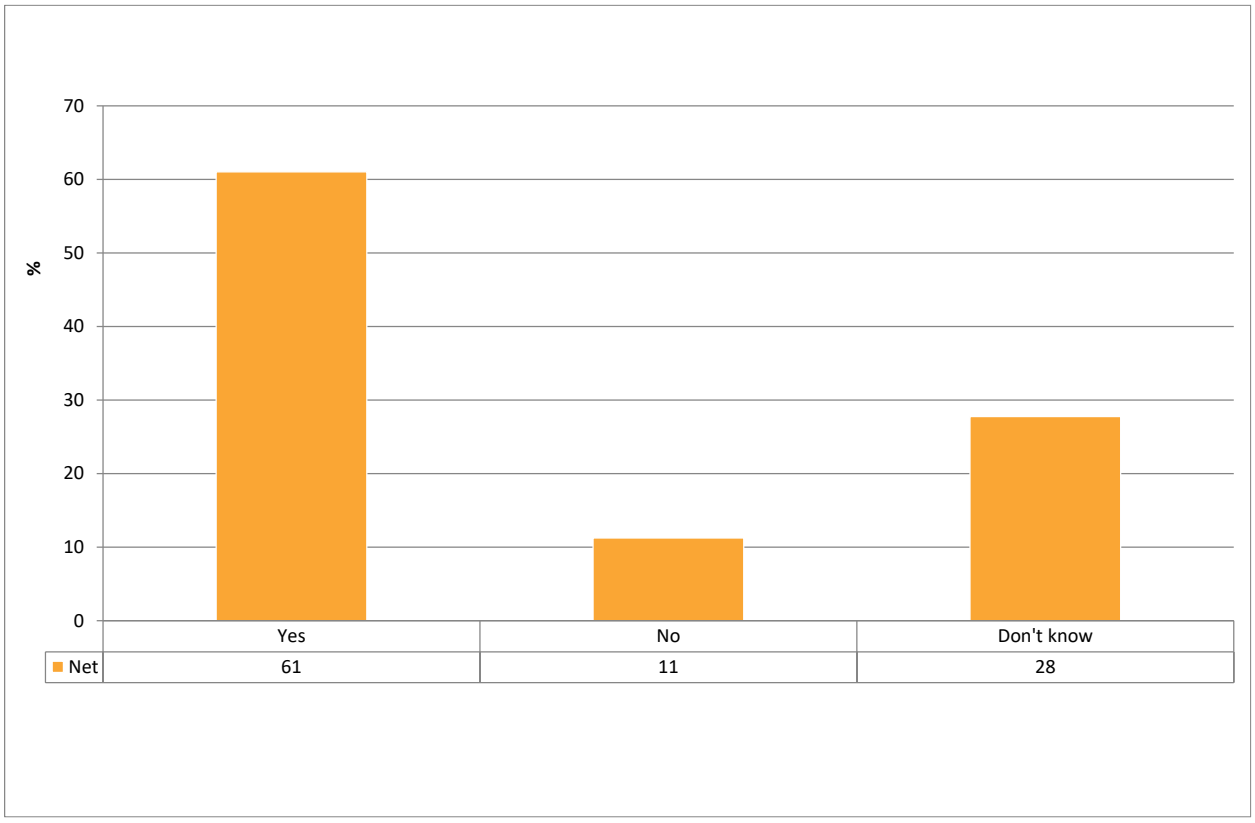
'How important is it that the Sydney Desalination Plant operates using renewable energy?'

Those who are already aware SDP uses renewable energy are more likely to believe it is important, with a Top 2 Box of eighty-eight percent (88%). Those who do not know SDP uses renewable energy have a Top 2 Box of seventy-eight percent (78%) and those who do not believe there is such a thing as 100% renewable energy have a Top 2 Box of fifty-four percent (54%).

This means that over half of those those with doubts about 100% renewable energy still support SDP using renewable energy.

Renewable energy use by SDP is important for Sydney residents.

Chart 19: Q30 Should SDP use the latest renewable energy technology **Base: 1,004**



Base: all research participants

'Should the Sydney Desalination Plant seek to support renewables by buying energy directly from new generators that use the latest renewable energy technology?'

This question is a relatively complex proposition for research participants in a quantitative survey. With that acknowledgement, sixty-one percent (61%) support the use of the latest technology for SDP in purchasing renewable energy.

Over one-quarter (28%) 'don't know' the answer to this question. This shows that this conversation with the public needs context and more information for all Sydney residents to understand the choices.

There are no meaningful differences by analysed variables in the answers to this question.

10 High availability, continuous operation and WTP

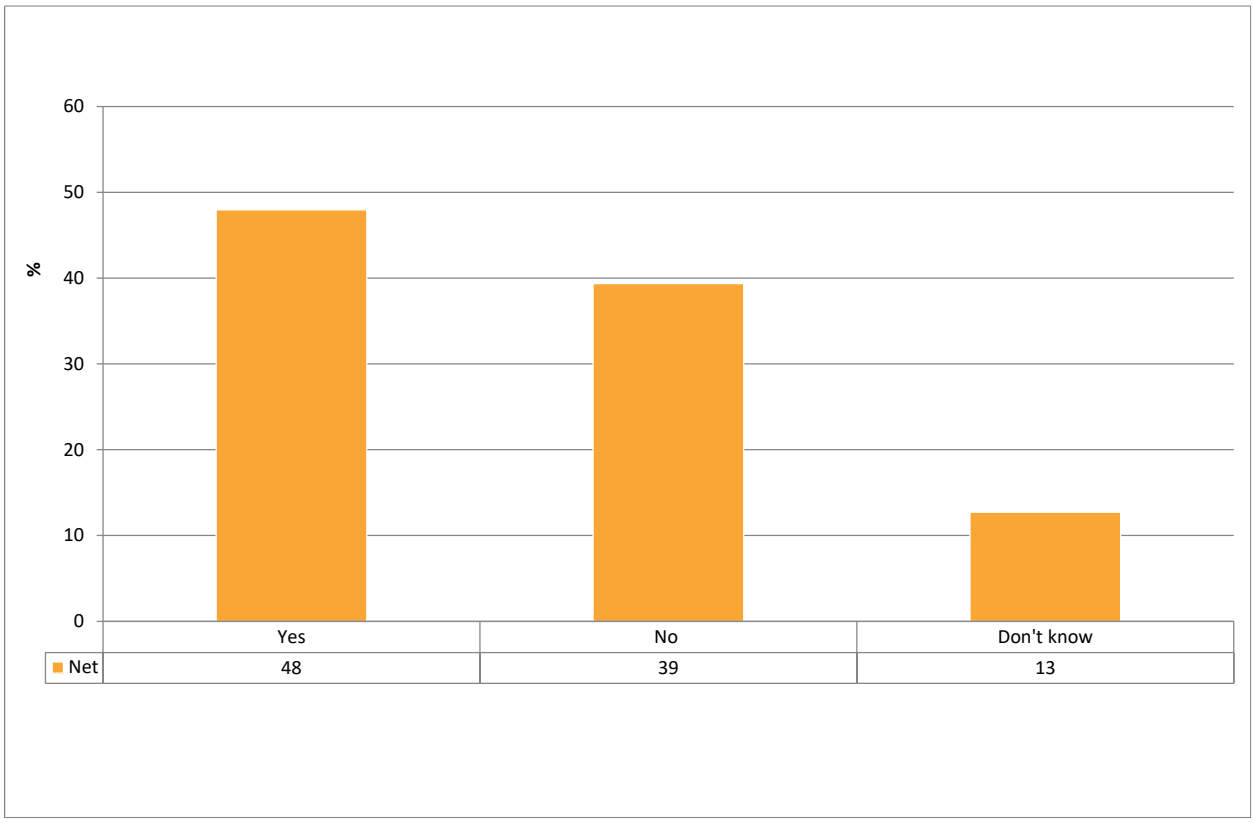
Research participants were taken through two alternative pathways for pricing research using a ‘split sample’. This means that each pathway is balanced in sample size and demographics.

The two alternatives are ‘high availability’ where SDP always produces a small amount of output which can be quickly increased to full capacity and ‘continuous operation’ where the plant runs at full production regardless of the capacity of dams.

Unlike the question on increasing output to 30%, each of these options has a series of pricing questions to determine acceptance of costs.

10.1 High availability operation

Chart 20: Q32 Is it fair to pay for high availability **Base: 504**



Base: all research participants asked about high availability

'Currently the Sydney Desalination Plant is shut down when not needed. The Plant could be run on 'high availability mode' where it will be available to ramp up production quickly and always produce a small volume of water.'

Benefits of high availability mode are:

- *Able to deliver water immediately when needed*
- *Could make water restrictions less likely to be needed*
- *Can respond to an emergency within the Sydney Water network by providing water quickly*
- *Delay the need for additional water supply infrastructure investment*

Do you think it is fair or reasonable to ask bill payers to pay a little bit more for these benefits?'

Just under half (48%) feel that it is fair to pay more for high availability.

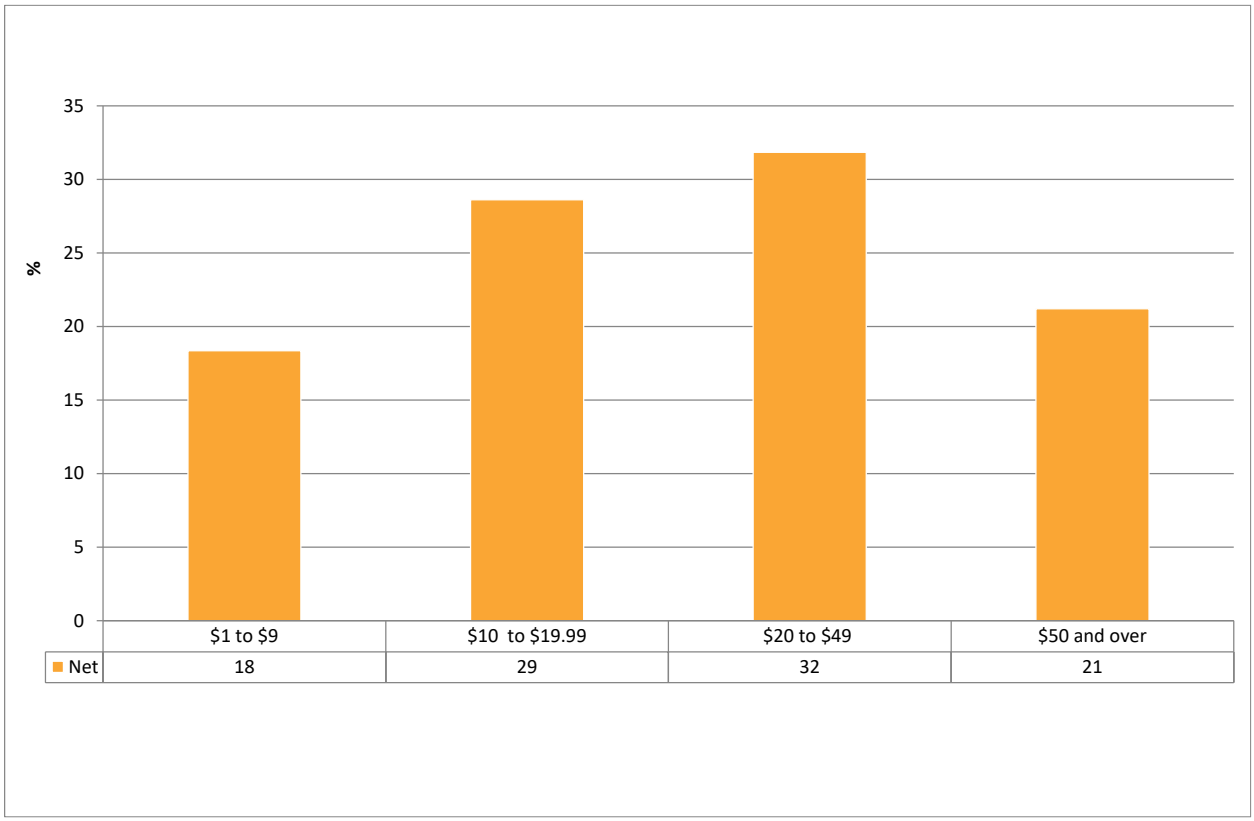
Analysis of the data shows that household income, age, household makeup and other variables make no difference in the answer to this question. The only variable that makes a difference is attitude to the environment.

Table 30: Q32 Fair to pay for high availability by concern for the environment Base: 504

	Very concerned	Concerned	Unsure	Unconcerned
Yes	66	45	31	6
No	27	38	49	88
Don't know	7	17	20	6

Base: all research participants asked about high availability

Chart 21: Q33 Amount that is fair to pay for high availability **Base: 233**



Base: those who feel it is fair to pay more for high availability

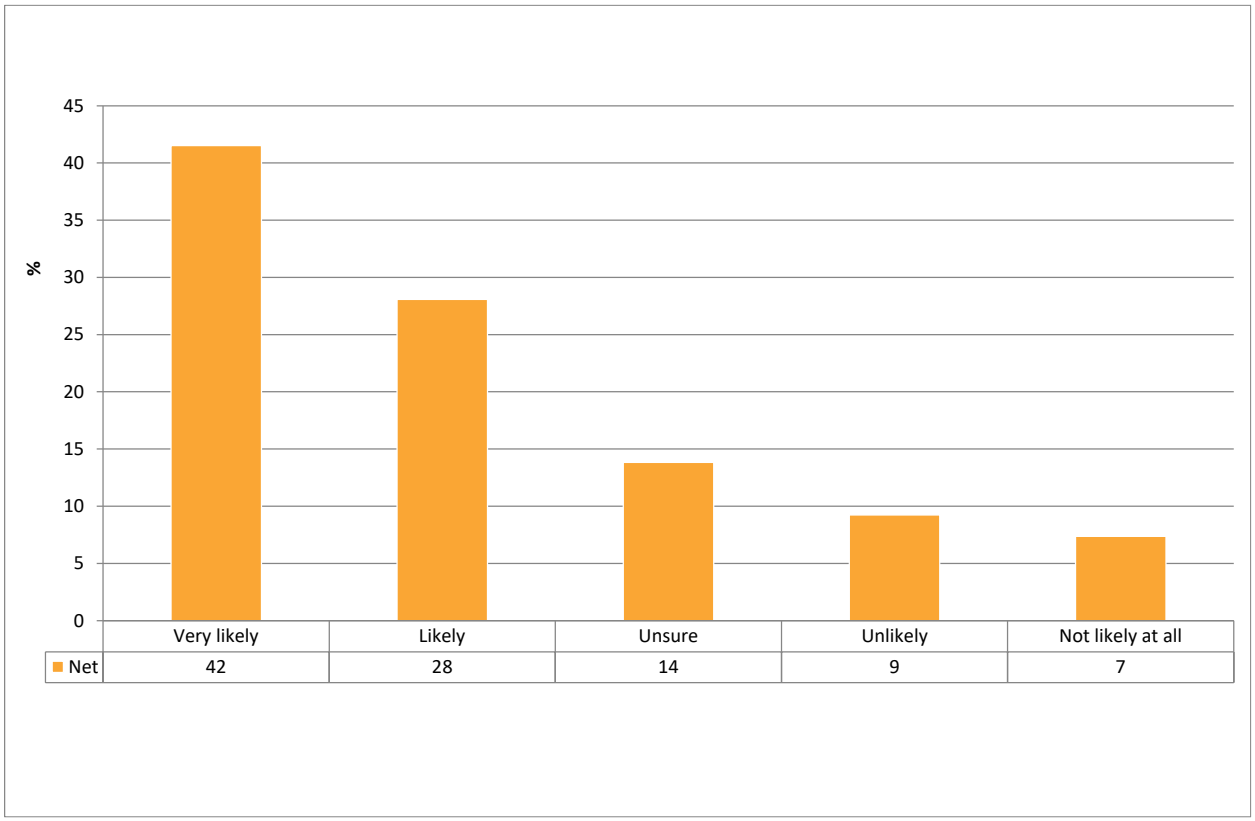
'How much per quarter would you be prepared to pay for these benefits?'

The data shows that when asked what was 'fair to pay' per quarter the forty-eight percent (48%) of residents who would pay more came up with amounts that are far higher than any expectation. Eighteen percent (18%) are prepared to pay $1 to $9, but more (29%) are prepared to pay $10 to $19.99, thirty-two percent are prepared to pay $20 to $49 and twenty-one percent (21%) will pay $50 and over.

The average amount residents are prepared to pay is $31.13.

There is surprisingly little difference in any of the groups analysed including household income.

Chart 22: Q34 Willingness to pay $2.50 per quarter for high availability **Base: 504**



Base: all research participants asked about high availability

'A possibility is to charge about $2.50 per quarter for this service. How likely are you to pay for this amount?'

When all who are asked about willingness to pay for high availability at $2.50 per quarter forty-two (42%) percent are 'very likely' and twenty-eight percent (28%) 'likely'. This is a Top 2 Box of seventy percent (70%) for willingness to pay $2.50 per quarter.

Table 31: Q34 Pay $2.50 for high availability by environment concern **Base: 503**

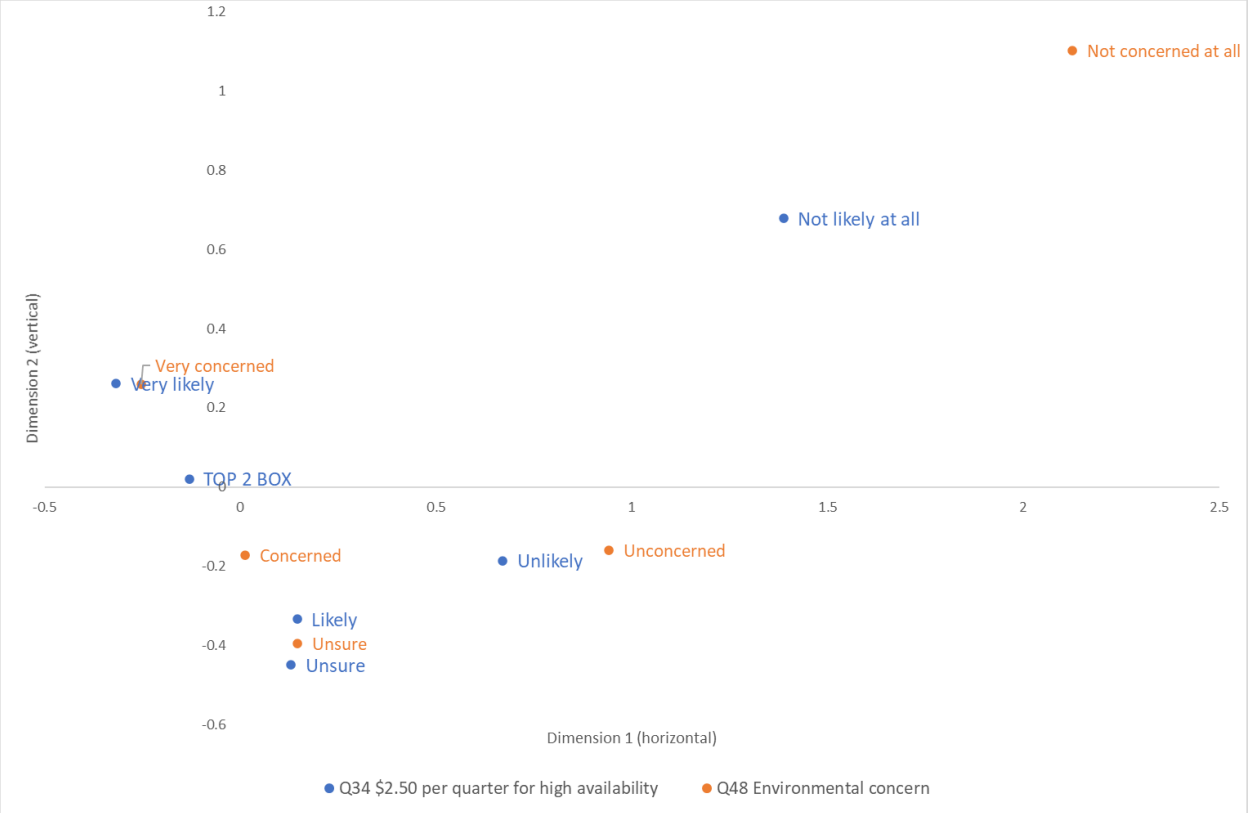
	Very concerned	Concerned	Unsure	Unconcerned	Not concerned at all
Very likely	66	33	20	5	6
Likely	17	35	39	32	11
Unsure	6	19	24	10	6
Unlikely	6	8	14	34	15
Not likely at all	5	5	4	20	62

Base: all research participants asked about high availability

The only analysed variable that plays any role in willingness to pay $2.50 for high availability is concern with the environment.

Those who are 'very concerned' about the environment have a Top 2 Box of eighty-three percent (83%).

Chart 23: Q34 Pay $2.50 for high availability by environment concern **Base: 503**



Base: all research participants asked about high availability

The perceptual map above shows the association of environmental concern (red text) with wiliness to pay $2.50 (blue text). There is a complete correlation between those 'very concerned' with the environment and those 'very likely' to pay $2.50.

Table 32: Reasons for not paying $2.50 per quarter for high availability **Base: 156**

	%
Could be expensive for some people	44
Not needed	29
Uses too much energy	21
May encourage people to waste water	20
We don¡¯t need extra water	15
8 months to start running is fine	6
Other reason (please tell us)	10
Don't know	11

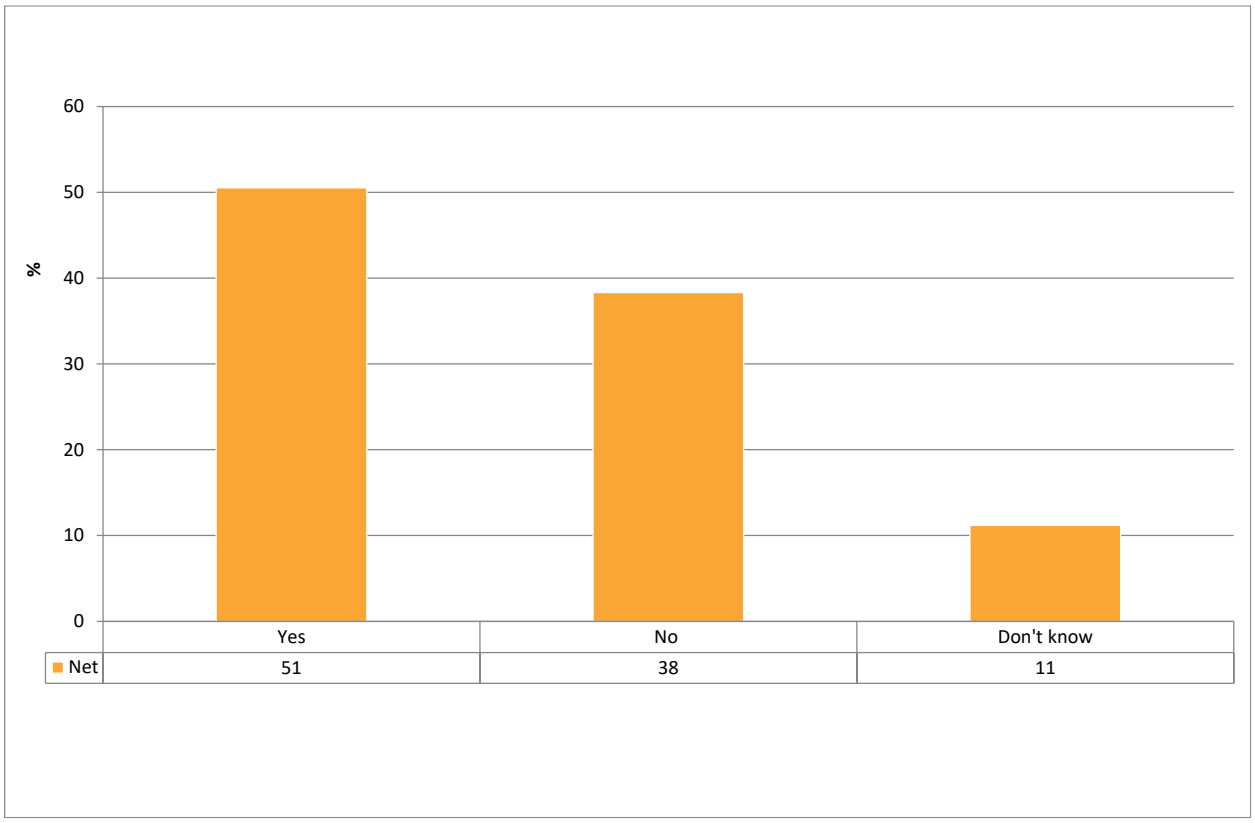
Base: those ‘unlikely’ or ‘not likely at all’ to pay $2.50 per quarter

‘Which of these are reasons you are unlikely to pay for this service at about $2.50 per quarter?’

Of the seventeen percent (17%) who are ‘unlikely’ or ‘not likely at all’ to pay $2.50 per quarter for high availability the main reason is that it ‘could be expensive for some people’ (44%). Twenty-nine percent (29%) felt that high availability was not needed.

10.2 Continuous operation

Chart 24: Q37 Is it fair to pay more for continuous operation **Base: 500**



Base: all research participants asked about continuous operation

'Currently the Sydney Desalination Plant is shut down when not needed. The Plant could be run all the time regardless of dam levels and deliver water to the Sydney area constantly.'

Benefits of full production of water are:

- *Able to deliver water immediately when needed*
- *Could make water restrictions less likely to be needed*
- *Delay the need for additional water supply infrastructure investment*
- *Reduces everyday reliance on dams*
- *Future-proofs Sydney for growing population*
- *Water available before there is a water crisis*
- *Can respond to an emergency within the Sydney Water network by providing water quickly*
- *Delay the need for additional drinking water infrastructure investment*

Do you think it is fair or reasonable to ask bill payers to pay a little bit more for these benefits?'

Just over half (51%) of research participants felt was fair to pay more for continuous operation.

However the concept of continuous operation and paying more has demographic differences which are not found in high availability mode. At this stage in the survey there is no mention of cost for continuous operation.

Table 33: Q37 Fair to pay more for continuous operation by age **Base: 500**

	18 to 29 years	30 to 49 years	50 to 69 years	70 years +
Yes	58	55	43	53
No	33	31	47	38
Don't know	8	14	10	9

Base: all research participants asked about continuous operation

Unlike high availability there are demographic differences. Those aged 50 to 69 years are less likely to pay for continuous operation (43%).

Table 34: Q37 Fair to pay more for continuous operation by gender **Base: 500**

	Male	Female
Yes	57	44
No	36	41
Don't know0	8	15

Base: all research participants asked about continuous operation

Men (57%) are more likely to pay for continuous operation than women (44%).

Table 35: Q37 Fair to pay more for continuous operation by household income Base: 500

	Under $40,000	$40,001 to $80,000	$80,001 to $125,000	$125,001 to $175,000	$175,001+
Yes	36	53	42	63	60
No	55	35	43	27	34
Don't know	9	13	15	10	5

Base: all research participants asked about continuous operation

Households with incomes under $40,000 are less likely to be willing to pay for continuous operation (36%). High income households with an income of between $125,001 and $175,000 are more willing to pay (63%).

Table 36: Q37 Fair to pay more for continuous operation by dwelling type Base: 500

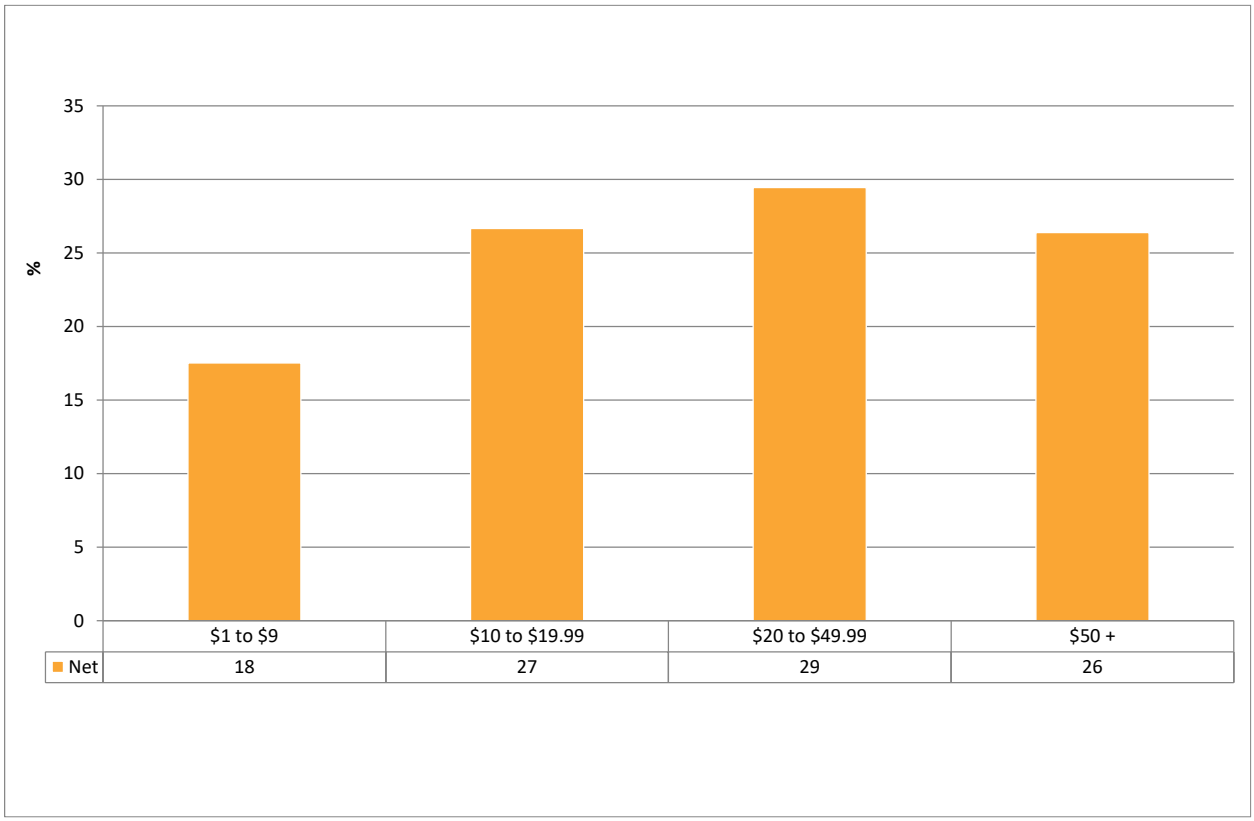
	House with a large garden	House with a small garden	Apartment with a garden	Apartment without a garden	Other
Yes	56	44	76	47	14
No	34	44	18	43	40
Don't know	11	12	6	11	45

Base: all research participants asked about continuous operation

Dwelling type has shown no difference in any previous question, but there are differences when asked it is fair to pay more for continuous operation.

Those living in a house with a small garden are less willing to pay more (44%) while those living in an apartment with a garden are more willing to pay more (76%).

Chart 25: Q38 Amount prepared to pay for continuous operation **Base: 244**

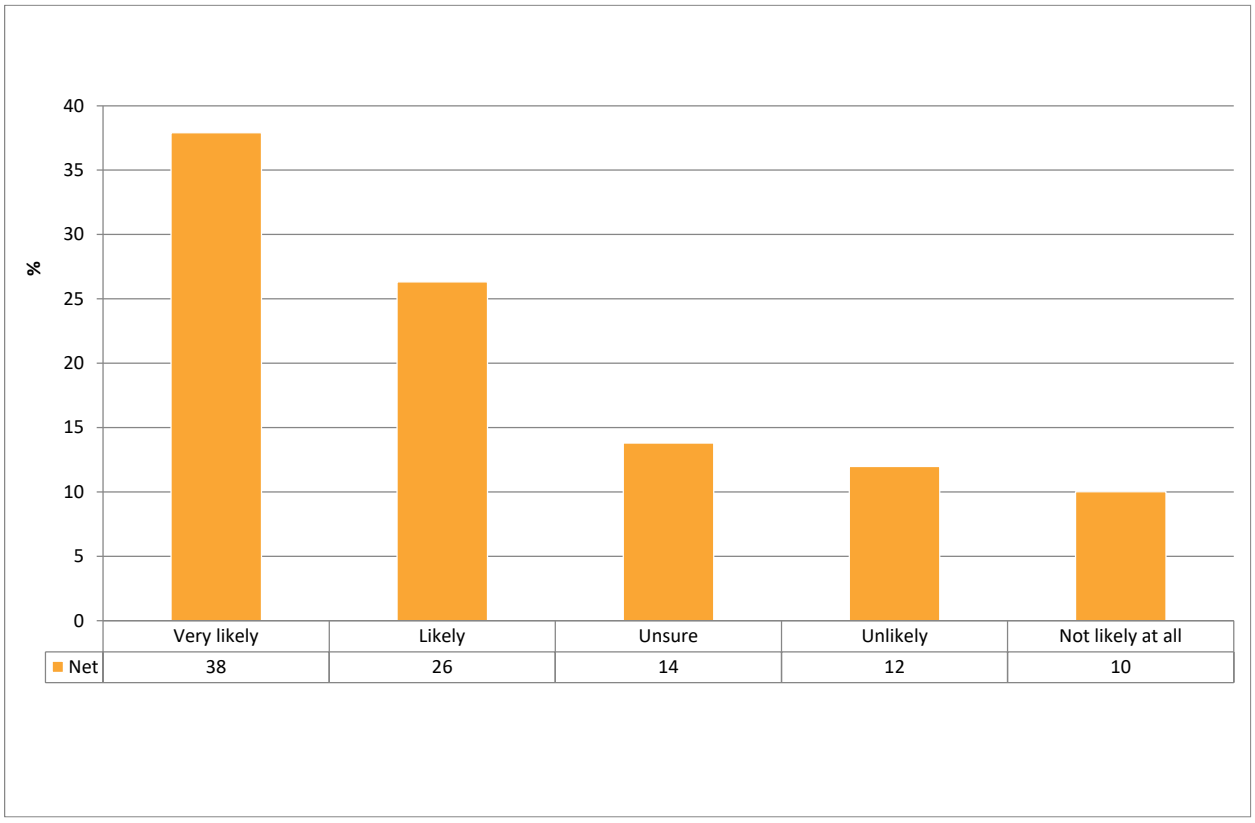


Base: those prepared to pay more for continuous operation

The chart above shows that there is an expectation that continuous operation will be far more expensive than high availability. Twenty-seven percent (27%) are willing to pay between $10 and $19.99, twenty-nine percent (29%) willing to pay between $20 and $49.99 and twenty six percent (26%) $50 or more.

The average amount residents are prepared to pay is $30.12.

Chart 26: Q39 Willingness to pay $7.50 per quarter for continuous operation Base: 500



Base: all those asked about continuous operation

The data on amounts that residents are prepared to pay for continuous operation shows that their expectation is that this will be a large cost. It is not surprising that when given a modest amount of $7.50 per quarter the results are similar to high availability.

Thirty-eight percent (38%) are 'very likely' and twenty-six percent (26%) are 'likely' to pay $7.50. This is a Top 2 Box of sixty-four percent (64%).

Table 37: Q39 Willingness to pay $7.50 per quarter by environmental concern Base: 500

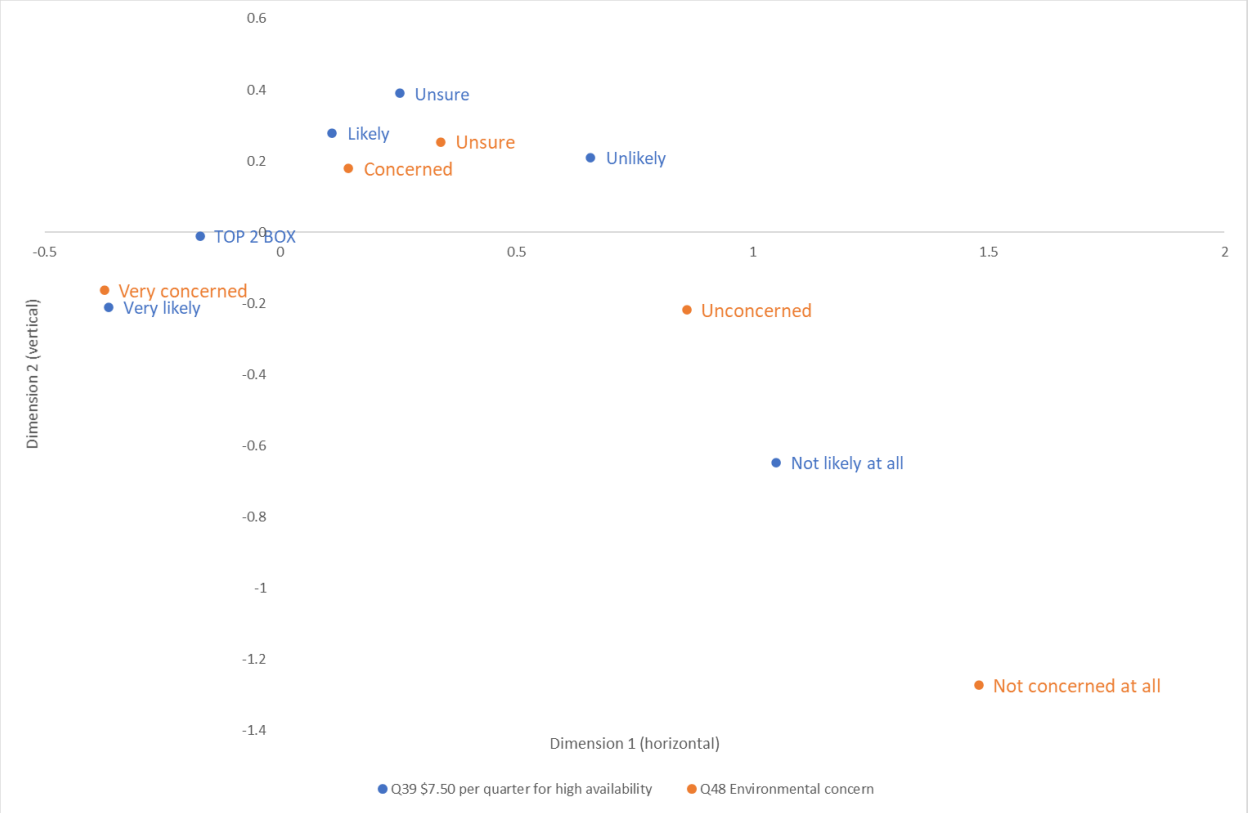
	Very concerned	Concerned	Unsure	Unconcerned	Not concerned at all
Very likely	64	26	17	12	17
Likely	21	32	30	23	0
Unsure	8	18	24	3	7
Unlikely	3	15	18	33	15
Not likely at all	4	9	12	29	61

Base: all those asked about continuous operation

When the price point of $7.50 per quarter is included the only variable that has any significant difference is concern with the environment.

Those who are 'very concerned' with the environment are more likely to pay for continuous operation with sixty-four percent (64%) 'very likely' and twenty-one percent (21%) 'likely'. This is a Top 2 Box of eighty-five percent (85%).

Chart 27: WTP $7.50 by environmental concern correspondence analysis **Base: 500**



Base: all those asked about continuous operation

As with the findings for high availability, this analysis shows high correlation between concern with the environment and WTP $7.50 for continuous operation.

Table 38: Q40 Reasons for not paying $7.50 per quarter **Base: 183**

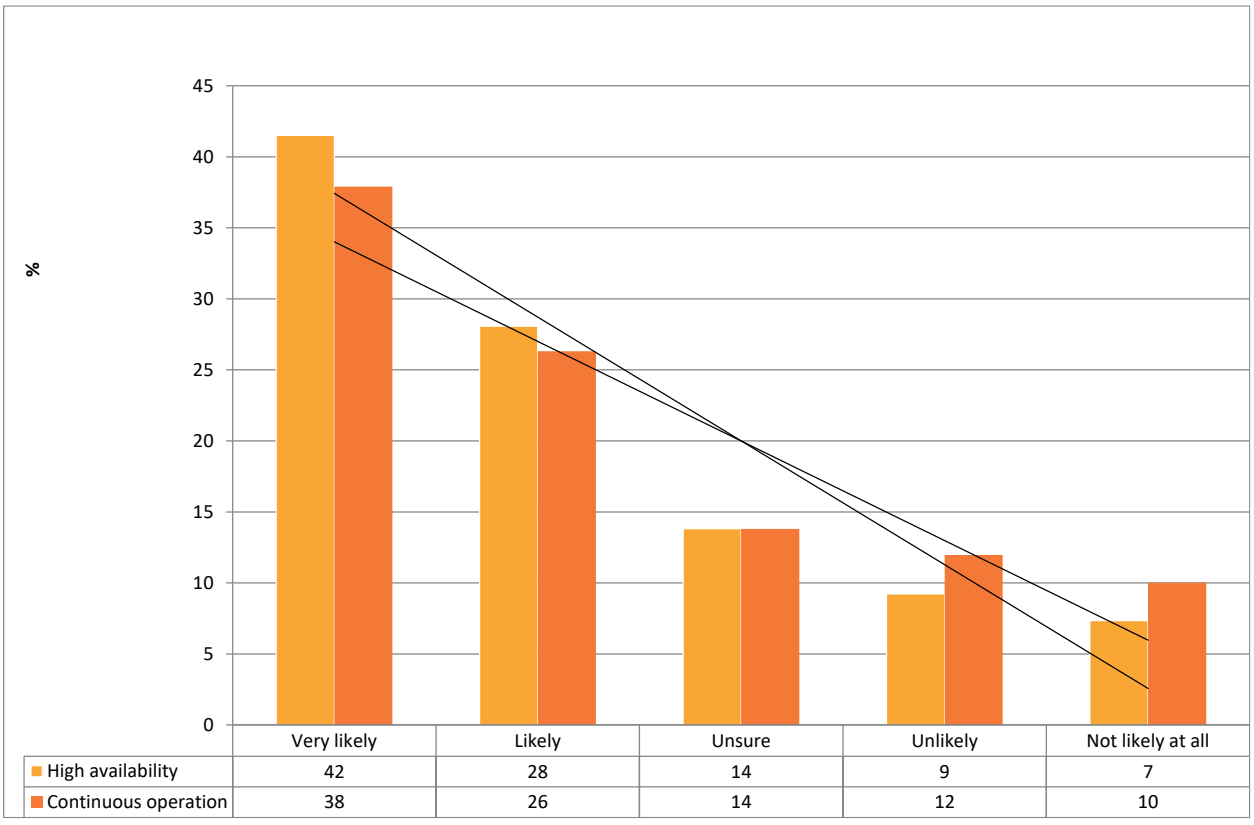
	%
Could be expensive for some people	61
May encourage people to waste water	32
Not needed	18
Uses too much energy	18
Water restrictions have never been a problem	12
We don't need extra water	10
Could produce too much water	7
Don't know	8
Other reason	14

Base: those 'unlikely' or 'not likely at all' to pay $7.50 for continuous operation

The main reason for being unlikely to pay $7.50 per quarter is that it 'could be expensive for some people' (61%). This is followed by thirty-two percent (32%) who believe it may 'encourage people to waste water'. Only eighteen percent (18%) say continuous operation is 'not needed'.

10.3 Comparison of high availability and continuous operation

Chart 28: 34/39 High availability v continuous operation **Base: 1,004**



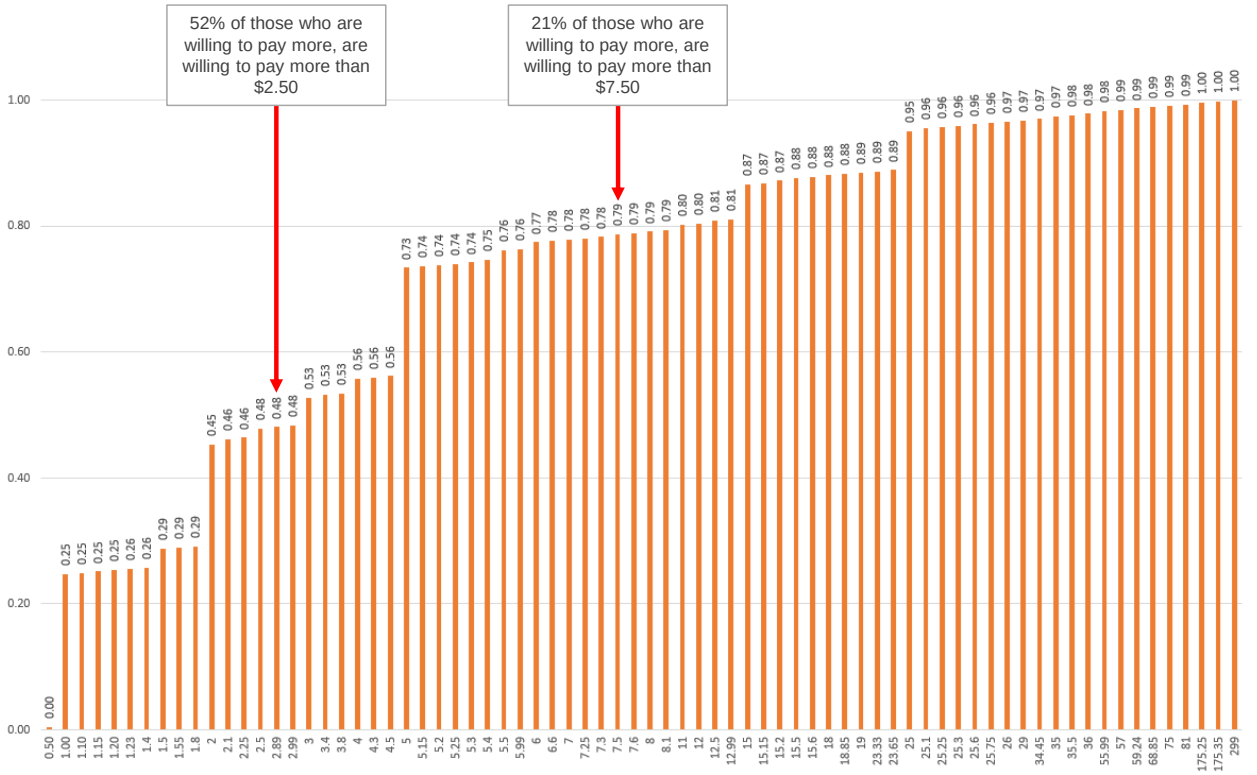
	Very likely	Likely	Unsure	Unlikely	Not likely at all
High availability	42	28	14	9	7
Continuous operation	38	26	14	12	10

Base: all research participants

When willingness to pay $2.50 per quarter for high availability and $7.50 per quarter for continuous operation are compared this is relatively little difference.

A charge of $2.50 is only slightly more acceptable than a charge of $7.50.

Chart 29: Q33/Q38 Amount prepared to pay for additional capacity **Base: 477**



Base: those who are prepared to pay more for 'high availability' and 'continuous operation'

Of those prepared to pay more for either 'high availability' or 'continuous operation' fifty-two percent (52%) are prepared to pay more than $2.50 per quarter. Twenty-one percent (21%) are prepared to pay more than $7.50.

11 Open ended comments

At the end of the survey research participants were invited to leave any comments about the topic, questions we may have missed or other comments they would like to make. Seventeen percent (17%) left comments.

- I would like to see the Government initiate a water scheme which harnesses rain & flood water that would normally be lost.
- sydney water should be encouraging households to install rainwater tanks & give a % off the purchase to those who do also they should be connecting all households to grey water
- Very good
- This survey was very interesting, water usage is something we all need to think about seriously. I am glad I was able to have my say. Thanks for the opportunity to do so.
- Build new dams, this is the only long term solution. Sydney has grown but infrastrecture has not. Bite the bullet and build dams, besides everything else will supply many new jobs in difficult times
- sydney water should have more communication with the public of their plan
- De Salanation is an emergency back up, If running should sup[ply oterareas as needed, but acts as a reserve for Emergency or drought use
- The idea of water shortages in Sydney is a pernicious myth. Australia's rainfall is enough for us to never have to worry about water supply. But we choose to create a problem where none exists. What we have is a shortage of capture, storage & transport of water. When we have floods most of the water washes out to the ocean. It seems as if we want to manufacture a "crisis" in order to propagate the false narrative of Catastrophic Climate Change and to appease the gods of green ideology. The de-sal plant is a laughing stock - hardly ever used, enormously expensive. Where is the logic in letting all flood waters run out to the ocean, then once every 10 years or so, retrieving a tiny portion of it, removing the salt from it and using it to top-up a dam which would otherwise have been full if we hadn't let all the floodwater run into the ocean in the first place. We have surely reached peak stupidity.
- I enjoyed this survey.
- We need to be good stewards of the environment and our water supply and ensure we do not abuse the privilege of the wonderful natural environment and take care not to waste water.
- Nice survey
- what is the impact from the salt removed from the water and pumped back into the ocean. This must have an affect on the marine environment. The Federal and State governments keep on increasing our population, however the infrastructure has not been built to accommodate the increased population. The existing infrastructure encounters difficulties coping with the additional loads. We have been advised that Sewer inspection manhole

covers could potentially discharge raw sewerage in heavy rainfall condition. Is this what we deserve in the 21st century?

- We need to build more dams and increase the heights of existing dams where possible desalination is only used when severe droughts are in place. Our population is increasing but our dam volumes have not changed for decades pathetic.
- the desal plant should run all the time meaning there is less reliance on Warragamba and less likelihood of water restrictions during drought because climate change or no climate change there will be more droughts because that's Australia
- I am concerned about a private plant running the water supply though desalination plant
- it was very important things. And it was great
- Why do we not use the desalination plant all the time
- There should be iniative for household/ local councils to have store water rather than relying 100% on Sydney water.
- i like this survey and i worked this survey in future
- Provide focus groups for educational purposes, so that all can be involved in some form or another.
- Less money should be taken from Sydney Water by the NSW Government to allow more to be don eto capture stormwater and address other supply issues in the face of climate change
- we need to be educated more
- we should never have sold the plant. We pay to maintain it. It is a total rort
- the recycling plant was a panic response to non-existent climate change - global warming lie. it is a costly boondoggle.
- you cannot suck water from a stone, charge excess costs from high water users, eg councils, industry large company water users, government buildings, etc etc instead if screwing another levy from thrifty small home owners
- hard to answer some questions as i don't know much about desalination pros and cons
- Perhaps using renewable energy, The Desalination Plant should run all the time so that as soon as Warragamba & Prospect Dams get below 75%, water can top up supply without delay.
- Next time you can put 'prefer not to answer' as a choice for income level...I really don't like having to put my income level in surveys!!:<
- How about encouraging more householders, businesses and parks to use rainwater tanks and other water collection devices to save some of the huge amount of water that runs away when it does rain.

Open ended comments

- Any water shortages that Sydney has are of the governments own making due the overpopulation of Sydney, immigrants should be sent to SA and WA rather than the most populace states and cities.
- The desalination plant seems to be a white elephant
- My wife and I are both age pensioners and we are not getting a pension discount for our water bill.
- Creating more dams could be one of the solutions as well as increasing the levels of existing dams
- I do not approved of the suggestion to increase the level of the Warragamba Dam as this would take more water fron the environment
- build the extra dams
- is the 15% on current unrestricted volume or is restrictions
- I am very concerned about future droughts due to climate changes and I think that it is main government issue and also all Australian citizens should need to contribute.
- It is absurd to have spent millions to build the desalination plant and not use it. Even 'high availability' makes some sense compared to sitting idle and taking months to get running.
- Given that it takes 8 months to "re-start" the plant every time, why on earth does it not run continuously, albeit at a very much lower capacity. Why does it have to be an "all or nothing" approach?
- The survey let me know about various information. Thanks for that.
- The wall of the Warragamba Dam should be increased in height so it can store a lot more water which has been proposed at least twice before, but never eventuated. The size of Sydney has vastly increased and is continuing to do so, but the water storage has not kept pace. If the desalination plant is supposed to run on renewable energy, it needs its own solar farm to run it and not be buying from alleged renewable energy sources. Sydney Water needs to become more efficient.
- There should be minimal water restrictions in place at all times. More should be done to fine people who break restrictions and generally waste water, like hosing driveways and gutters for example
- please think about climet
- my late dad used to be a water board inspector - so I am passionate about the subject. We have too much waste from non English speaking Australians and industry. The Bradfield project while expensive needs to be introduced, and also look at other countries such as those with deserts to see how they do water
- Desalination plant is great, build another one, also build some more dams in the bush no dams built for 50 or so years in the driest continent. It's a political disgrace along with, sadly, many others.

Open ended comments

- it is another burden on Sydney, that is a waste of money for bum Politicians and socall Business Men who do nothing but act chrooks and slobs parasiting on the worker
- Although the fee of $2.50 seems small, it is just the start of bringing something in so they can use it to charge more down the road
- It is expensive but solar and/or wind power should be built at Kurnell to power it and the Shire! Future proof it and the growing Shire area
- The desalination plant is built able to run uses renewable energy but somehow still requires "extra" funds to run??? Doesnt make sense unless profits are put ahead of need... it should also cover northern, western & southern sydney
- People in Sydney waste so much water and too much water is sent down the drain in stormwater - and it is too cheap for people to buy and waste
- we do not wish to pay another levy, let the high water useage concerns pay for their wastages instead of the little battlers, thank you..
- The Desalination Plant should always be on standby, by producing a small amount of water to keep the dams topped up. In cases of drought, this can then be ramped up to full production without delay. $2.50 extra per quarter is nothing. That is only $10 per year. I am sure that everyone would be willing to pay such a small amount
- Stop increasing the population beyond the country's ability to provide water, energy, basic infrastructure etc, we will never catch up
- Sydney desperately needs additional water storage as the population increases. The desalination plant is insufficient
- Very interesting survey. Over the years we've heard a lot about the desalination plant, but generally it flies under the radar. Thank you for giving me the opportunity to learn more about desalination.
- I wish that all the population of Sydney and Australia wide would not waste water and not take it for granted.
- the desalination plant if a white elephant. the cost wasted money by governments. Years ago there have been studies about building dams or collecting water from tropical places in australia and piping it down to areas of need. I wish governments would talk to our first australian elders who would know how to conserve and keep our country water plenty
- More work should be done on ways to recycle water within Sydney - rainfall and runoff. Capture it before it is carried away.
- In a city the size of Sydney it is essential there is a desal plant. You can no reply upon rainfall entirely.
- now it is high time to solve the water and invironment problem.
- The desalination plant is fine but Sydney needs additional dams or expanded dams as the primary means to lift and secure water supply, dams should form part of any future infrastructure plans. We get sufficient rainfall but much of it is not captured and stored for times of drought.

Open ended comments

- We need to be concern about our environment's elements like water, trees, air etc. We need to make a proper use of this elements.
- this is very important
- Sydneys water storage capacity should ve increased so we would not have to rely on this plant
- GLOBAL WARMING IS GLOBAL BULLLSHIT! DESALINATION IS PART OF THE AGENDA FOR THE NEW WORLD ORDER!
- I live in the greater Sydney metropolitan area (Box Hill) but do not have a water supply from Sydney Water available.
- raising dam levels are the the answer
- yet another example of the corrupt liberal government of public asset given to private thieves
- I'm happy to pay a little more to ensure we have a back up supply of water, even when it's not used. It's cheaper to use this when we need it then build more dams
- Desalination plant should only run when dam levels drop below 40% instead of 60%
- Actually, this survey was very good. There are many important topics.
- Sydney should have gone ahead with building the Welcome Reef Dam. Warragamba Dam was sufficient for Sydney's water supply when it was built, but Sydney's population is growing at an unsustainable level. Also, I have previously told Sydney Water that restrictions on washing cars with buckets instead of using a trigger hose uses much more water, and should not be mandated when the dam levels are low.
- More dams should be built ready for the future, not wait until it is too late. Need to utilise the stormwater that is wasted by just letting it flow into the sea and recycle treated sewerage for use on gardens etc.
- The Desalination Plant was a complete waste of money and effort. Proper conservation would solve all potential problems without the high energy/high cost deal. plant.
- The average survey-taker (not me) has very little appreciation of water supply issues and thus their answers will skew the results in this survey. Secondly, it is not a matter for citizens but one that requires a courageous political decision to equip our city for the future.
- Sydney should always have a backup water supply plan ready regardless of drought.
- we live in an area that rely on rain water catchment - no piped supply
- great and short survey
- The desalination plant was a big flop. The cost was monumental and on going cost is totally wasted. I do not believe we should commit more money to this plant under any circumstances. Dams would be much better from an environmental perspective.
- to make a good environment

Open ended comments

- i think water level is going down so we should prevent it.
- I believe the desalination plant was sold and one of the questions ws who do you think owns it. You delivered plenty of information but none about ownership
- The desalination plant has been a poor performer and why isn't it used more. Why don't we lift dam levels and build new dams ?????
- THIS SURVEY IS A VERY INFORMATIVE AND EASY TO COMPLETE.
- The survey was great
- I don't believe enough information has been issued about this water process; Example:- Does this process effect sea life & where/how is the salt disposed & is this survey a means to gain input to push the NSW Government into increasing or building additional plants for the benefit of the private construction company?
- Increase the size of the plant. Take over the ownership of the plant from foreign company
- Definitely need a more secure source of water, so desalination output should be increased. I am mainly concerned about the fact that actual water use doesn't cost much compared to the huge cost of infrastructure. My water bill is by far the most expensive utility.
- Water rates go directly to Treasury and Sydney Water is paid a stipend to operate. Raising extra charges is just a money grab by state government. It is not related to integrity of supply.
- are there any concerns about the amount of water extracted if plant is run constantly?
- the desalination plants are not the answer
- The survey was great
- BUILD DAMS!!!!!!
- this survey shuld help about water problem
- Very good
- The desalination plant is a huge waste of money. The outrageous predictions of the climate doom-merchants have always turned out to be wrong, so it's not surprising that the desal plant has hardly ever been required. There is no evidence that droughts are increasing and if "climate change" is a euphemism for "global warming" there is little likelihood of "climate change" causing more droughts. It's more likely that warmings would cause more rain. The driest continent on Earth is also the coldest. The wetttest continent is also the hottest. There was no science behind the construction of the desal plant - it was a purely political move to assuage the climate warriors. To ensure water security, all we need to do is build a few more dams. There is no shortage of rainfall. We just choose not to catch it and store it. Water restrictions are not necessary. Desalination plants are absurd.
- Build more dams. Increase existing dam capacity. Use abundant coal to fire power stations and provide cheap energy to run the desalination plant. Building a new desalination plant at Newcastle and pipe water inland etc. Common sense not communist, ,green, left wing garbage about renewables providing base power loads.

Open ended comments

- i found positivity through this survey
- very unique
- It always seemed illogical that the desalination plant was not put into use immediately after it was completed. Having infrastructure like that not being maximised is wasteful.

12 Questionnaire

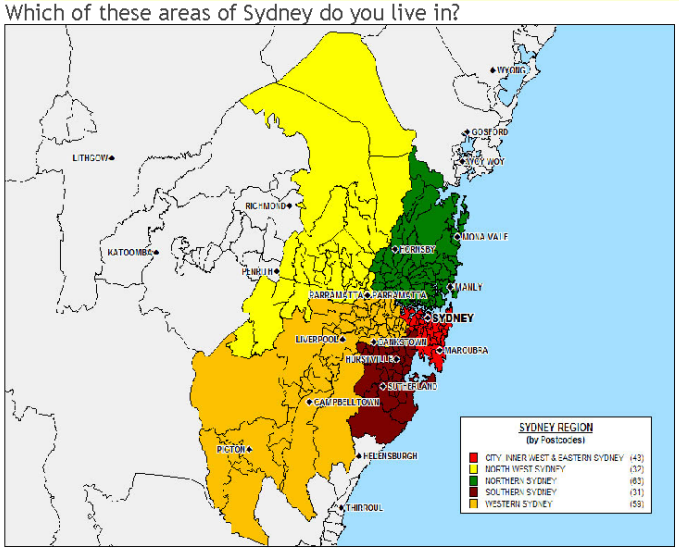
Q1
Which of these types of home do you live in?

Live with parents or relatives
Skip to:screenOut
Shared household
Skip to:screenOut
Own my home or apartment
Rent my home or apartment
Skip to:screenOut
Other
Skip to:screenOut

Q2
Are you a decision maker or influencer in your household bills payment?

Yes
No
Skip to:screenOut

Q3
Which of these areas of Sydney do you live in?



City, Inner West and East

North West

Northern Sydney

Southern Sydney

Western Sydney

None of these

Skip to:screenOut

Q4

What is your residential postcode?

Postcode

Q5

Which of these describes your gender?

Female

Male

Gender diverse

QUOTA_GENDER

Sample Size1010
First Question:Q5

Male	Female	Gender diverse
503	503	4

Q6
Which of these age groups do you fall into?

- Under 18 years
  Skip to:screenOut
- 18 to 24 years
- 25 to 29 years
- 30 to 39 years
- 40 to 49 years
- 50 to 59 years
- 60 to 69 years
- 70 years of age and older

INTRO
Thank you for your time today. This survey is on the topic of the water supply for Sydney

The survey will take around 5 to 10 minutes to complete.

At the end of the survey there is a space where you can make any comments on the questions we have asked, areas that you feel we have missed or any other comments about you would like to leave.

The survey is being carried out by research company StollzNow Research. All interviewing complies with the Privacy Act and The Research Society's Code of Professional Behaviour.

To read our Privacy Policy click here

Q7
Do you live in any of the areas of Sydney coloured in green on this map?

Yes

No

Q8

Thinking of the Sydney drinking water supply, how important are each of these?

	Extremely	Very	Moderately	Slightly	Not at all
Clean drinking water					
Reliable water supply					
Avoiding water restrictions					
Cheap water					
Uninterrupted water supply					

Q9

When do you try to conserve water?

All the time

Some of the time

When there is a drought

Never

Q10

Which of these are concerns you have about Sydney's water supply?

Need to conserve water

Effect of droughts

Dam levels

Quality of water for drinking

Pollution

Water restrictions

Other concern (please tell us)

No concerns about water supply

Q11

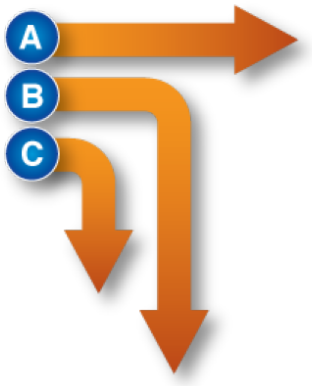
Do you believe that the climate is changing and droughts will increase?

Yes

No

Don't know

GATE_CLIMATE_CHANGE



if	Q11.Yes is true
then	Q12
else	Q13

Q12
How likely is it that climate change will make drought more frequent in your lifetime?

- Extremely
- Very
- Moderately
- Slightly
- Not at all

Q13
Do you think Sydney could run out of drinking water in a severe drought?

- Yes
- No
- Don't know

Q14
Which of these are ways that Sydney's water supply could be protected from future droughts?

- Increasing the size of existing dams
- Recycling water

Conserving water

Building more dams

Using desalinated water

Sydney's water supply does not need to be increased

Q15

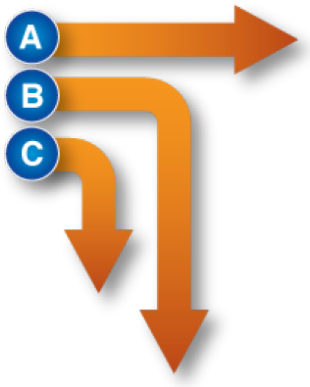
Are you aware of the Sydney Desalination Plant?

Yes

No

Don't know

GATE_AWARE_SDP



if	Q15.Yes is true
then	Q16
else	SDP_INFO

Q16

When do you think the Sydney Desalination Plant operates?

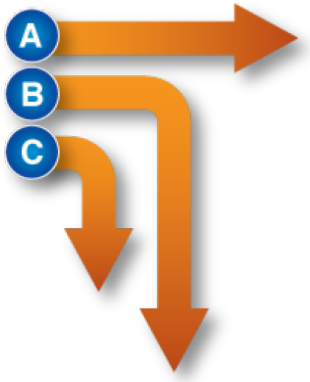
Never been used

All the time

Turned on when water levels in dams drop

Don't know

GATE_SUPPLY_ZONE



if	Q7.Yes is true
then	Q17
else	Q18

Q17

Before now, did you know that when the Sydney Desalination Plant is running your home is receiving water supplied by the Plant?

Yes

No

Q18

Who owns the Sydney Desalination Plant?

Private company

NSW Government

Other (please tell us)

Don't know

Q19

Who runs the Sydney Desalination Plant?

NSW Government

Private company

Other (please tell us)

Don't know

SDP_INFO

Desalination is a process that removes salts and minerals from saltwater to produce water suitable for human consumption.

The Sydney Desalination Plant is a water desalination plant that forms part of the water supply system of Greater Metropolitan Sydney. The plant is located at Kurnell, in Sutherland Shire. It converts salt water to drinking water.

The Sydney Desalination Plant commences operation when the combined Sydney metropolitan dam levels are below 60%. From being shut down to delivering drinking water can take up to 8 months for water production to commence.

Q20

Do you see any benefits in the Sydney Desalination Plant?

Yes

No

Don't know

Q21

Which of these are benefits of the Sydney Desalination Plant?

Uses renewable energy

Protects Sydney water supply from drought

Helps Sydney provide water for a growing population

Provides a back-up when the water levels in dams are low

Means new dams are not required

Reduces reliance on dams

Dam levels can stay higher for longer

Means there will always be water

Protects Sydney from reduced rainfall (less water)

Protects Sydney from the impact of climate change

Other (please tell us)

None of these

Q22

Do you have any concerns about the Sydney Desalination Plant?

Yes

No

Don't know

Q23

Do you share any of these concerns about the Sydney Desalination Plant?

Only runs some of the time

Expensive to run

It does not protect Sydney from a drought

Does not supply enough water to Sydney

Takes too long to start

Not needed for Sydney

Uses a lot of energy

Bad for the environment

Has rarely been used

Other (please tell us)

I have no concerns about Sydney Desalination Plant

Q24

When the Sydney Desalination Plant is operating what percentage of Sydney's water is produced?

5%

15%

30%

50%

75%

100%

Don't know

Q25

When running the Sydney Desalination Plant produces about 15% of Sydney's water supply.

Do you think this is...

Too little

About the right amount

Too much

Don't know

Q26

Most other capital cities in Australia have desalination plants that can produce around 30% of their water needs.

With this information do you think the 15% that the Sydney Desalination Plant produces is...

Too little

About the right amount

Too much

Don't know

Q27

Do you think the Sydney Desalination Plant output should be increased to about 30% of Sydney's water supply?

Yes

No

Don't know

Q28

Did you know the Sydney Desalination Plant operates using 100% renewable energy?

Yes

No

I do not believe there is 100% renewable energy

Q29

How important is it that the Sydney Desalination Plant operates using renewable energy?

Extremely

Very

Moderately

Slightly

Not at all

Q30

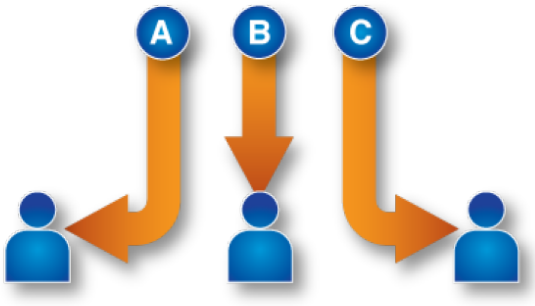
Should the Sydney Desalination Plant seek to support renewables by buying energy directly from new generators that use the latest renewable energy technology?

Yes

No

Don't know

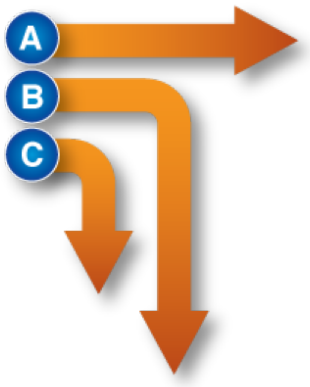
SPLIT_SAMPLE



Matching Sample:QUOTA_GENDER

Group Name	Embed Text	Sample Size%
HIGH AVA		50
RUN ALL		50

GATE_WTP



if SPLIT_SAMPLE.HIGH AVA is true
then Q31
else Q36

Q31

Currently the Sydney Desalination Plant is shut down when not needed. The Plant could be run on 'high availability mode' where it will be available to ramp up production quickly and always produce a small volume of water.

Benefits of high availability mode are:

- Able to deliver water immediately when needed
- Could make water restrictions less likely to be needed
- Can respond to an emergency within the Sydney Water network by providing water quickly
- Delay the need for additional water supply infrastructure investment

Q32

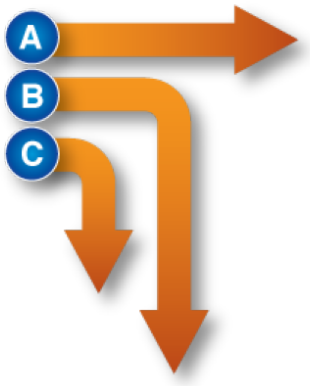
Do you think it is fair or reasonable to ask bill payers to pay a little bit more for these benefits?

Yes

No

Don't know

PAY_MORE_01



if	Q32.Yes is true
then	Q33
else	Q34

Q33

How much per quarter would you be prepared to pay for these benefits?

If zero cents please enter 0

DOLLARS

CENTS

Q34

A possibility is to charge about $2.50 per quarter for this service.

How likely are you to pay for this amount?

Very likely

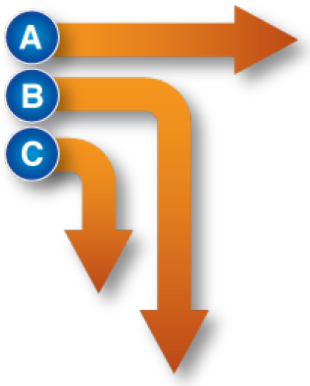
Likely

Unsure

Unlikely

Not likely at all

GATE_WHY_NOT_PAY_01



if	Q34.Not likely at all is true
or	Q34.Unlikely is true
or	Q34.Unsure is true
then	Q35
else	DEMO_IINTRO

Q35

Which of these are reasons you are unlikely to pay for this service at about $2.50 per quarter?

Not needed

Could be expensive for some people

Uses too much energy

8 months to start running is fine

May encourage people to waste water

We don't need extra water

Other reason (please tell us)

Don't know

JUMP_TO_DEMO_INTRO

Jump toDEMO_IINTRO

Q36

Currently the Sydney Desalination Plant is shut down when not needed. The Plant could be run all the time regardless of dam levels and deliver water to the Sydney area constantly.

Benefits of full production of water are:

- Able to deliver water immediately when needed
- Could make water restrictions less likely to be needed
- Delay the need for additional water supply infrastructure investment
- Reduces everyday reliance on dams
- Future-proofs Sydney for growing population
- Water available before there is a water crisis
- Can respond to an emergency within the Sydney Water network by providing water quickly
- Delay the need for additional drinking water infrastructure investment

Q37

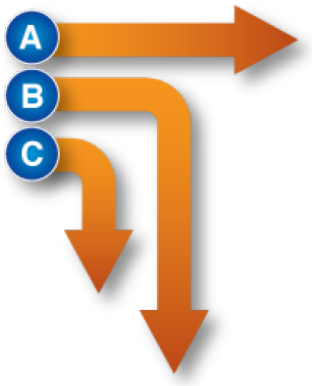
Do you think it is fair or reasonable to ask bill payers to pay a little bit more for these benefits?

Yes

No

Don't know

PAY_MORE_02



if	Q37.Yes is true
then	Q38
else	Q39

Q38

How much per quarter would you be prepared to pay for these benefits?

If zero cents please enter 0

DOLLARS

CENTS

Q39

A possibility is to charge $7.50 per quarter for this service.

How likely are you to pay for this amount?

Very likely

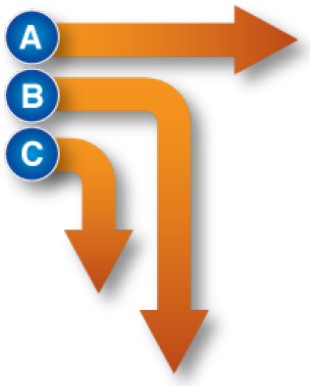
Likely

Unsure

Unlikely

Not likely at all

GATE_WHY_NOT_PAY_02



if	Q39.Not likely at all is true
or	Q39.Unlikely is true
or	Q39.Unsure is true
then	Q40
else	DEMO_IINTRO

Q40

Which of these are reasons you are unlikely to pay for this service at about $7.50 per quarter?

- Water restrictions have never been a problem
- Could produce too much water
- We don't need extra water
- Could be expensive for some people
- Not needed
- May encourage people to waste water
- Uses too much energy
- Other reason (please tell us)
- Don't know

DEMO_IINTRO

Finally we have some more questions about you and your household to better understand how different types of people respond to these questions.

Q41

What type of home do you live in?

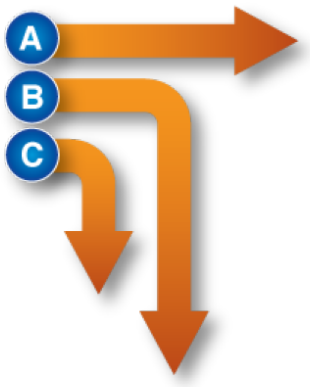
- House with a large garden
- House with a small garden
- Apartment with a garden
- Apartment without a garden
- Other (please tell us)

Q42

Including children, how many people live in your home?

[ ] # NUMBER OF ALL PEOPLE IN HOME

GATE_MORE_THAN_1_PERSON



if Q42.# NUMBER OF ALL PEOPLE IN HOME >1
then Q43
else Q44

Q43

Of these [Q42][opt:1608518046988_0] people, how many are...

If no children enter '0'

[ ] Adults

[ ] Childrenn

Q44
What is your household income?

This is all forms of income for the household BEFORE TAX.

- Under $20,000
- $20,000 to $40,000
- $40,001 to $60,000
- $60,001 to $80,000
- $80,001 to $100,000
- $100,001 to $125,000
- $125,001 to $150,000
- $150,001 to $175,000
- $175,001 to $200,000
- More than $200,000

Q45
How many cars or other motor vehicles does your household have?

If none enter zero

NUMBER OF MOTOR VEHICLES IN HOME

Q46
What is the highest level of education you have achieved?

- Primary school
- High school
- TAFE / Trade or business certificate
- University degree
- Postgraduate studies (PhD, Masters, Grad Diploma)

Q47
Which of these best describes your employment?

- Full Time
- Part Time
- Retired
- Student
- Home Duties
- Not currently employed
- Other (please tell us)

Q48
How concerned are you about the environment?

- Very concerned
- Concerned
- Unsure
- Unconcerned
- Not concerned at all

Q49
Do you have any comments you would like to add about this survey, the issues it has raised or water in Sydney?

- Yes
- No

Skip to:END

Q50
What comments would you like to make?

END

Thank you for your time today. This survey has been carried out for the Sydney Desalination Plant.

Please press SUBMIT to complete the survey.