Essential Energy 2019-23 Pricing Submission for Water and Sewerage Services in the Broken Hill area

Chief Executive Officer's Declaration

In accordance with the *Guidelines for Water Agency Pricing Submissions*, December 2017 (the Guidelines), of the Independent Pricing and Regulatory Tribunal of New South Wales,

I declare that:

a) the information provided in our pricing submission submitted on 13 July 2018 is the best available information of the financial and operational affairs of Essential Water and has been checked in accordance with the Guidelines; and

b) there are no circumstances of which I am aware that would render the information provided to be misleading or inaccurate.

Certified by the Acting Chief Executive Officer:

[redacted]

Justin Hillier

12/7/2018

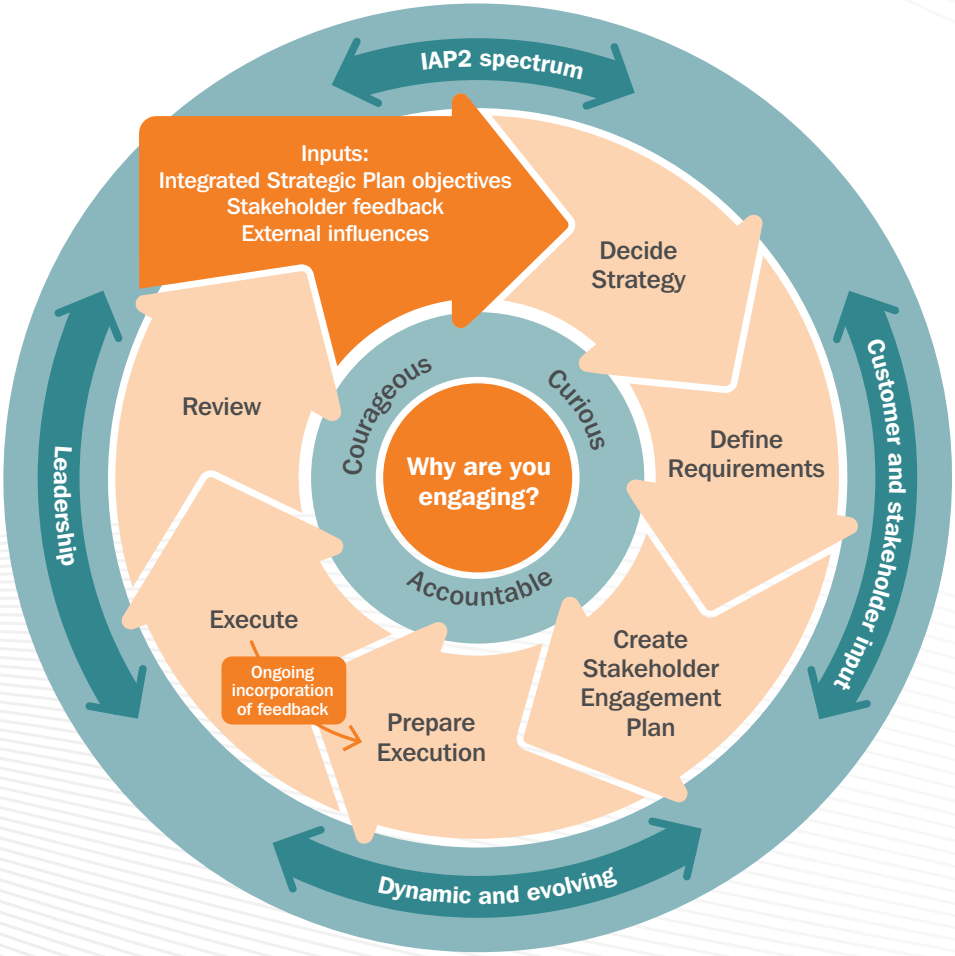
Dated

empowering communities

Stakeholder Engagement Framework

April 2018

Stakeholder Engagement Framework on a page



Our Vision

Empowering communities to share and use energy for a better tomorrow

Our Purpose

To enable energy solutions that improve life

Our Customer Commitment

- Listen
- Respect
- Deliver

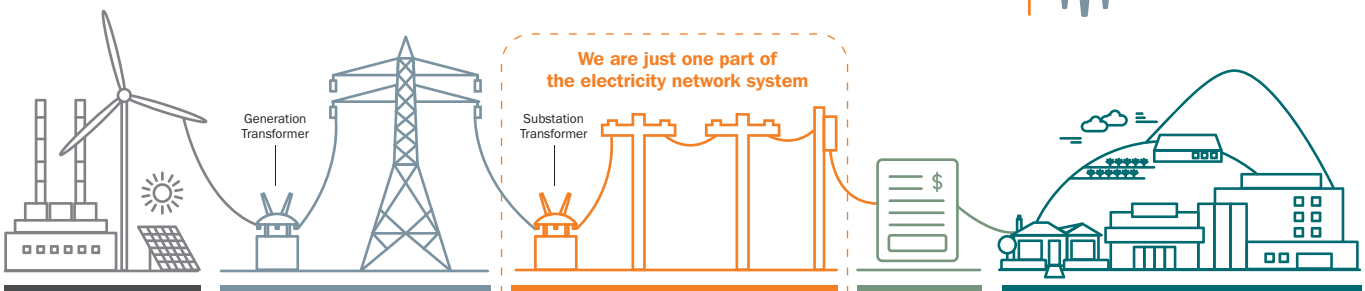
Customers Priorities

Our customer and stakeholder engagement activities have shown our customers value:

- Affordability
- Reliability
- Good customer service and communication
- Transparency/bill itemisation
- Innovative technologies
- Environmentally friendly/ encouraging renewables

We will be

- Curious
- Accountable
- Courageous



Generates electricity

Carries high voltage electricity long distances

Essential Energy responsibility
Carries electricity at high and low voltage to communities

Electricity bill

Power supplied to consumers

Purpose of the Stakeholder Engagement Framework

Customer and stakeholder engagement informs all of our decision-making processes.

Background

Our Stakeholder Engagement Framework (SEF) has been prepared to guide Essential Energy across all department and project teams in their adoption of stakeholder engagement protocols, ensuring customer and stakeholder research and analysis informs future projects and activities.

Previously reviewed and updated in August 2016, Essential Energy's SEF should be regularly refreshed to reflect feedback received through consultation, research, the changing dynamics of stakeholders and projects, and emerging trends and important innovations in engagement practice.

Our SEF promotes a culture within Essential Energy that recognises and values working with customers and stakeholders, recognising the diversity of customers and the importance of developing appropriate engagement programs to support customer and business objectives. Application of the SEF helps us to manage material risks and inform strategic business decisions to meet our business objectives.

Our SEF links directly to Essential Energy's Strategic Vision and Purpose and underpins Essential Energy's three-year strategic plan and has been informed by industry best practice, including the International Association of Public Participation (IAP2) *Quality Assurance Standard* (2015), AccountAbility AA1000 *Stakeholder Engagement Standard* (2011), AER *Stakeholder Engagement Framework* (2017) and *CSIRO and Energy Networks Association 2016, Electricity Transformation Roadmap: Customer Engagement Handbook.*

We will be

Curious

Engaging early, to build respectful, inclusive, and collaborative relationships with our diverse stakeholders. Recognising that our stakeholders are diverse, we design our engagement activities to meet the needs of stakeholders, actively seeking feedback to learn and improve.

Accountable

We are transparent, setting clear deliverables for measuring and evaluating the quality of our engagement. Outcomes from engagement are visible to stakeholders.

Courageous

Action-orientated, open-minded and acting with integrity. Our business is continuously informed and shaped by our engagement.

Our plans:

- Implement a stakeholder management system
- Deliver on the actions from our 2019-24 Regulatory Proposal engagement
- Roll out an evaluation and reporting framework across the business
- Deliver on our engagement programs

Understanding our customers and stakeholders

Our stakeholder relationships are evolving as we interact with customers and stakeholders to structure our programs and inform our business strategy in a way that is meaningful and relevant to our business and our customer and stakeholder groups. Our community consultation committees, such as our Customer Advocacy Group provide valuable insight and feedback.

Everyone is different and within each stakeholder group there will be varying levels of interest, impact, needs, concerns, values, wants, ideas, relationships, perceptions, bias and influence.

Therefore, stakeholder identification and analysis is an integral part of our engagement planning process and for each engagement activity we seek to engage stakeholders who are impacted or interested in our business activity, process or outcome.

Our stakeholder engagement approach

Our approach to stakeholder engagement is based on the IAP2 framework, but designed specifically for each engagement to meet the needs of our business and our stakeholders. It is adapted to support input from stakeholders when decisions are required.

Evaluation

Curious

- Stakeholder interactions tracked and all actions recorded
- % engagement with stakeholder groups quarterly

Accountable

- SEF published on Essential Energy website
- Mechanisms established to measure, monitor and assess the quality of engagement program and published on Essential Energy website
- Community samples demographically represented
- Evidence of how stakeholders influenced the project made available to impacted stakeholders

Courageous

- % evaluations completed per engagement activity
- % positive feedback on our engagement

Appendix

Strategy development

Decide engagement strategy

In this stage:

- Analyse the objectives of Integrated Strategic Plan
- Deliver integrated risk assessment
- Use this information to develop our Engagement Plan

Ref.	Checkpoint	N/A	Yes	No
1.1	Review Integrated Strategic Plan against Customers Priorities.			
1.2	Clearly articulate: > Project goals > Engagement goals > Desired project outcome			
1.3	Participate in project risk assessments for key-decision making and business planning processes for identification of issues and mitigation strategies.			
1.4	Analyse our stakeholder feedback and lessons learned from previous engagement activities.			
1.5	Questions for consideration: > What are the issues you will engage on? > What risks/challenges are anticipated? > Have decisions already been made on these issues? > What issues are not negotiable? > Is community profiling required to understand the nature of stakeholders and the community?			
1.6	Assess the risks of delivering the engagement.			
1.7	Consider the constraints to delivering the engagement: > Political, social, economic, technical and cultural context > Timing > Availability of resources and budget			
1.8	Review to ensure we are being Curious, Accountable and Courageous.			

Case study 1: Curious

Natalie Lindsay, Head of Regulatory Affairs

"The recent customer research that has been undertaken by Essential Energy has been amazing, in terms of informing our plans for the Regulator.

Listening to customer's needs and expectations was central to informing the 2019-2024 Regulatory Proposal. Nothing beats the voice of a 'real' customer. In the past, the customer voice was not well represented in the regulatory determination process and didn't reflect the diversity of our customer and stakeholder priorities. That changed a lot in this most recent submission.

In preparation for the 2019-2024 regulatory proposal a comprehensive stakeholder engagement program was implemented, involving customer surveys, interviews, deliberative forums, and stakeholder group meetings. By conducting targeted sampling and a diverse range of communication and engagement activities, we are confident we received sufficient and high-quality information and feedback to ensure we considered the needs, values, and concerns of all customer groups impacted by this Proposal.

As our customer research and analysis matures, I'm really looking forward to where customer insights and engagement takes our business, and our regulatory plans and proposals for the future."

Strategy development

Define requirements

In this stage:

- Stakeholder identification and analysis
- Establish governance

Ref.	Checkpoint	N/A	Yes	No
2.1	Identify and categorise stakeholders based on impact, level of interest and influence.			
2.2	Develop the questions that should be asked during consultation, and consider the impact those questions may have.			
2.3	Articulate what is negotiable and not negotiable and how this will be explained.			
2.4	Plan for effective engagement to be implemented as early as practical, to facilitate stakeholder input and participation in the decision-making process.			
2.5	Determine the budget.			
2.6	Understand the governance processes including: > Approval process > Internal stakeholders: > Who should be informed? > Involved? > Reporting All media enquires must be referred to Essential Energy Corporate Affairs Team.			
2.7	Invite program partners to be involved in the design, implementation, and evaluation of the program.			
2.8	Review to ensure we are being Curious, Accountable and Courageous.			

Planning

Create engagement plan

In this stage:

- Set specific objectives for engagement with stakeholder groups
- Define the approaches we will take for each engagement based on the IAP2 spectrum of engagement

Ref.	Checkpoint	N/A	Yes	No
3.1	Anticipate customer touchpoints and the opportunities for stakeholder consultation. What contributes to their World View so that we can reach them through engagement			
3.2	Identify the most effective engagement techniques which encourage open dialogue.			
3.3	Identify opportunities for innovative engagement activities.			
3.4	Engagement activities are accessible, proactive, and inclusive.			
3.5	Leverage communication channels and identify ways to create different virtual, physical, and digital experiences to take stakeholders on the journey of the project.			
3.6	If appropriate, establish a community advisory committee.			
3.7	Understand the stakeholder history: > Level of knowledge? > Previous engagement? > Broken promises? > Relationships – positive, negative? > Level of trust?			
3.8	Is there an opportunity for CAG members to facilitate participation in engagement activities by their members?			
3.9	The communication plan, an element of engagement plan, describes the communication approaches and tools for targeted, inclusive communication and reporting against defined milestones.			
3.10	Identify opportunities for coaching and support – internal and external stakeholders.			
3.11	Establish indicators to measure the impacts of engagement. > Qualitative > Quantitative			
3.12	Review to ensure we are being Curious, Accountable and Courageous.			

Planning

Prepare for engagement

In this stage:

> Finalise engagement plans

> Continue to adjust and refine based on stakeholder feedback

Ref.	Checkpoint	N/A	Yes	No
4.1	Ensure the engagement plan is timely and has clear objectives and outcomes.			
4.2	Stakeholder representation is inclusive and supportive of minority and disengaged groups.			
4.3	The most appropriate person is engaging with the stakeholder (technical experts, management, engagement professionals, decision-makers)			
4.4	Consultation and communication material is approved.			
4.5	The right approvals processes have been followed.			
4.6	All engagements and strategies are recorded in stakeholder management system and reviewed throughout the project.			
4.7	Review to ensure we are being Curious, Accountable and Courageous.			

Case study 2: Courageous

Damian Munday, Land and Routes Team Leader

"We undertake stakeholder engagement on 99% of our works from land, easement and encroachment projects. Every day we must manage the balance between removing safety risks from the network in a timely way while maintaining constructive relationships with affected customers. It's about understanding the customers perspective, being clear in our information and fair in our approach. It is not always easy, but critical to our business. Some of our engagements can end in people being frustrated and angry and not being very pleasant to deal with, which can be challenging for the team."

What have we learned from these situations?

Empathy *We need to be able to see both sides of each situation and show the landowner that we do understand.*

Consistency *Clear, consistent guidelines for dealing with landowners around encroachments are vital.*

Relationships *Ensuring a single point of contact for the land owner is not only more practical and efficient, it humanises our business, and builds trust with our stakeholders – which is critical when we need to have those 'difficult' conversations.*

At the end of the day, we strive for interactions that balance the needs and concerns of the stakeholder, while delivering the right outcomes for Essential Energy.

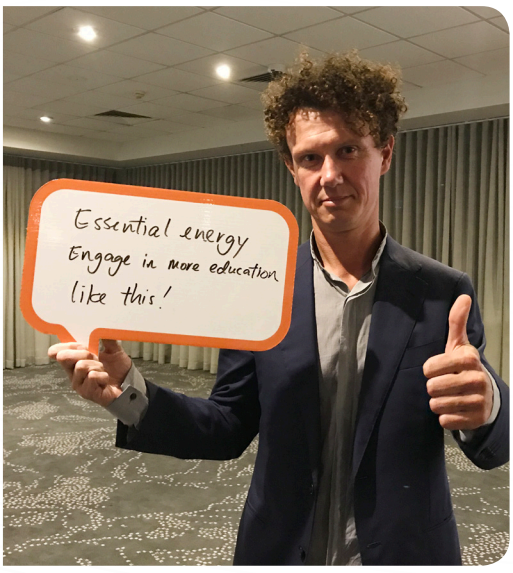
Delivery

Implement engagement plan

In this stage:

- > Engage and collaborate with our stakeholders
- > Seek feedback
- > Record our interactions and stakeholder feedback

Ref.	Checkpoint	N/A	Yes	No
5.1	Consultation activities address needs of stakeholders, delivering the most appropriate level of engagement.			
5.2	The communication and engagement plan has been integrated into the project schedule and is reported on through team meetings and regular reports.			
5.3	Key messages are tailored to meet the needs of relevant stakeholder groups and individuals.			
5.4	Communication and engagement material is clear, accurate, and timely.			
5.5	Mechanisms are in place for feedback to stakeholder groups.			
5.6	Prepare for and manage emerging issues.			
5.7	Evidence of consultation activities are captured.			
5.8	Additional stakeholders may be identified throughout the engagement process therefore refine effective and relevant consultation and communication materials.			
5.9	In the event of intensified opponent activity and need for outrage management, employees and identified stakeholders will have access to training and development to support engagement program delivery (e.g. resilience training, IAP2 training, outrage management training).			
5.10	Review to ensure we are being Curious, Accountable and Courageous.			



Feedback and reporting

Review engagement outcomes

In this stage:

- > Monitor and evaluate our engagement activities
- > Review engagement program against IAP2 Quality Assurance Standard
- > Summarise and report the outcomes of our engagement with stakeholders
- > Use the feedback as input into future strategies including the Stakeholder Enagagement Framework

Ref.	Checkpoint	N/A	Yes	No
6.1	Evidence of clear and transparent reporting on community engagement activities is demonstrated.			
6.2	Records to include details of engagement including who was consulted and why, channels used, dates and times, objectives of engagement, what was discussed and issues raised, and details of the feedback and commitments met.			
6.3	Participation in a project team Lessons Learned Workshop identifies successes and areas for improvement.			
6.4	Lessons learned and the benefits of engaging are incorporated into an action plan.			
6.5	Complaints and concerns have been actioned as per Essential Energy's Complaints Policy.			
6.6	Employees within Essential Energy, engaging with external stakeholders, have appropriate training and development.			
6.7	Review to ensure we are being Curious, Accountable and Courageous.			

Case study 3: Accountable

Romain Papasidero, Program Manager, Execution Optimisation

"Private asset management is an area that has benefited from communication and stakeholder engagement. Essential Energy has statutory obligations to ensure that privately owned power poles and overhead lines are properly maintained so that they do not pose a serious bushfire or electrical safety hazard for the property owner, the broader community and Essential Energy's employees. We take this role very seriously as the work we do has a very high customer sensitivity.

For us, being accountable means not only taking the necessary action to ensure defects are rectified, but being open, transparent and proactive in communicating with, and educating property owners about their responsibilities, requirements and mitigation options if privately owned network components are not safe or properly maintained.

Last year we implemented a comprehensive stakeholder engagement program with different customer groups to get an understanding of their needs and expectations, and importantly – how well they knew their responsibilities regarding privately owned assets.

This dialogue with our customers delivered some great outcomes for Essential Energy. Our processes were reviewed and developed in an open and transparent way, with customer's feedback informing changes to our procedures and communications. This became the basis for a comprehensive education campaign which reinforced key messages about the customer and Essential Energy's mutual responsibilities."

Reference List

AccountAbility. (2015). AA1000 Stakeholder Engagement Standard (SES) 2015.

AER. (2017). Stakeholder Engagement Framework. https://www.aer.gov.au/publications/corporate-documents/aer-stakeholder-engagement-framework-2017.

ENA/CSIRO. (2016a). Electricity Network Transformation Roadmap: Customer Engagement Handbook. http://www.energynetworks.com.au/sites/default/files/customer_engagement_handbook_july_2016.pdf

International Association of Public Participation (IAP2) (2015). Quality Assurance Standard. https://www.iap2.org.au/Tenant/C0000004/00000001/files/IAP2_Quality_Assurance_Standard_2015.pdf.

Have your say

You can provide feedback on our plans in a number of ways:

Email yoursay@essentialenergy.com.au

Post Manager Customer Service
Essential Energy
PO Box 5730
Port Macquarie NSW 2444

Phone 13 23 91

Web essentialenergy.com.au/yoursay

Essential Engagement
engage.essentialenergy.com.au

Sharing your views. Our customer engagement is always on, with many platforms:

www.essentialenergy.com.au

Community Feedback Report

2019-23 Water & Sewerage Pricing Submission

May 2018

A message from Essential Water's CEO

As an operating division of Essential Energy, Essential Water is an important contributor to the Far West NSW economy and the communities who live there, delivering water services to around 10,500 customers in Broken Hill, Menindee, Sunset Strip and Silverton, and sewerage services to approximately 9,500 customers in Broken Hill.

As the sole provider of essential services to these communities, Essential Water is regulated by the Independent Pricing and Regulatory Tribunal (IPART). IPART monitors Essential Water's service delivery performance, recommends minimum service standards, sets water prices to reflect the efficient cost of providing the services, and ensures a fair price for the customers we serve.

Prior to each regulatory cycle, we submit a four-year revenue proposal to IPART, taking into consideration operational sustainability, service levels, customer demographics and economic, environmental and health considerations. We are currently preparing our water and sewerage pricing proposal for 2019-23.

This proposal will aim to balance investment in water infrastructure, operation and maintenance to meet community needs while, at the same time, minimising price increases for our customers. In doing so, we must also take into consideration some unique operational challenges, such as:

- the geography Essential Water services is the most arid in NSW, with extreme climatic variations and more frequent drought than coastal areas;
- input costs outside Essential Water's control are rising, such as the cost of chemicals used in water treatment to deliver consistent water quality that meets the Australian Drinking Water Guidelines; and
- a large portion of our water and sewerage infrastructure was built 50-100 years ago and, like any ageing assets, requires significant investment to maintain reliability levels, service customer needs and comply with safety and environmental requirements.

Essential Water is also acutely aware of the challenges our customers face in paying for these services. Compared with Australian national statistics, the average age of the population Essential Water serves is higher, with more than 22 per cent of the community aged 65 or older, and average incomes are significantly lower.[1]

Hence, we understand the importance of involving the community at every step of the way in developing our 2019-23 proposal and have already been consulting with our customers to ensure our business decisions are informed by what is important to them.

This document summarises the feedback we received and sets a platform for further, ongoing community engagement.

John Cleland

Chief Executive Officer

[1] Australian Bureau of Statistics 2016 Census data.

Who we spoke to

During March/April 2018, Essential Water engaged Woolcott Research and Engagement to conduct telephone surveys with residential and business customers selected randomly within our service area.

The Woolcott team brings extensive experience in customer engagement and ensured that all community feedback was independently and anonymously collected, analysed and verified.

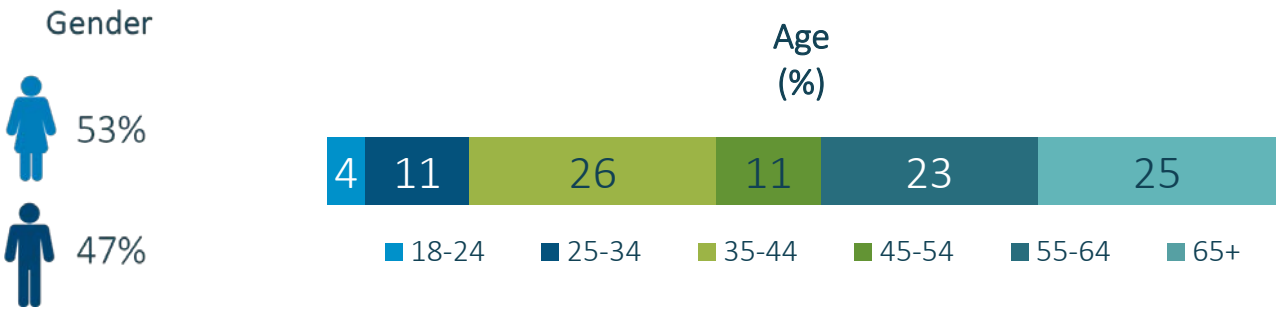
Customers were also invited to complete the survey online, on Essential Water's 'Have your say' website (engage.essentialenergy.com.au).

Residential customers

A total of 430 residential customers were surveyed, representing approximately 4 per cent of the total customers we serve.

The majority were surveyed via telephone interview, and 30 completed the survey online.

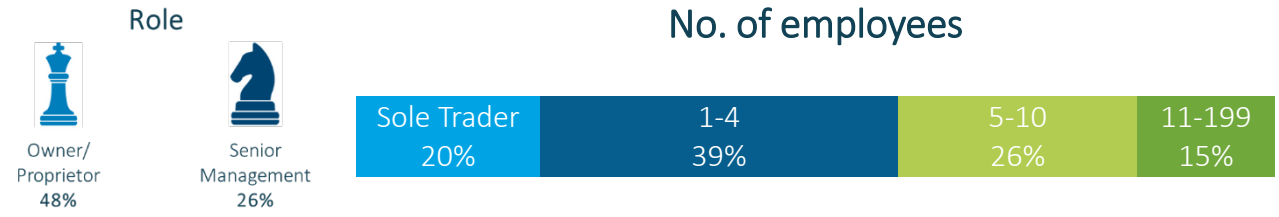
The survey was representative of the community, with the following characteristics:



Business customers

A total of 100 business customers were surveyed, representing approximately 17 per cent of customers we serve.

The survey was representative of a cross-section, with the following characteristics:



Essential Water's performance

Awareness of Essential Water was high among both customer groups, with residential scoring 97 per cent and business scoring 99 per cent. Many praised Essential Water's reliability of supply.

What does Essential Water do well?

Approximately 35 per cent of residential customers and 40 per cent of business customers suggested that what Essential Water does well is supply running water.

Approximately 35 per cent of residential customers and 40 per cent of business customers perceived that Essential Water is providing very good /good value for money.

Customers also felt that Essential Water is good at giving acceptable warnings for planned interruptions and then restoring supply in a reasonable timeframe.

Giving you acceptable warning in advance of a planned water interruption	Very/quite good 68% residential 73% business
Restoring supply within an acceptable timeframe	Very/quite good 57% residential 65% business
Responding to emergencies in a timely manner	Very/quite good 53% residential 60% business
Keeping you informed during an unplanned water interruption	Very/quite good 42% residential 48% business

How could Essential Water improve?

Some residential and business customers mentioned water quality and affordability as areas for improvement.

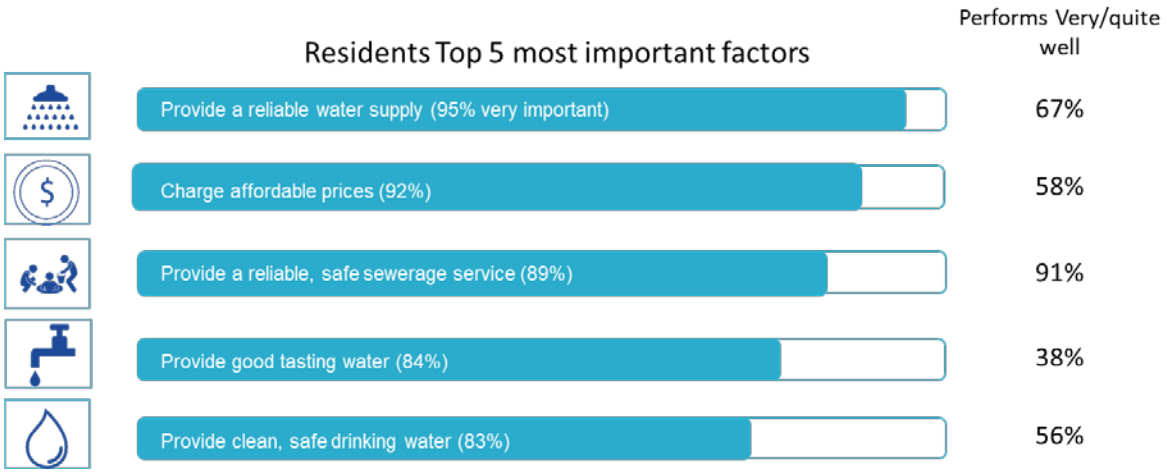
Approximately 32 per cent of residential customers and 24 per cent of business customers thought water quality should be improved.

Approximately 19 per cent of residential customers and 18 per cent of business customers thought affordability should be improved.

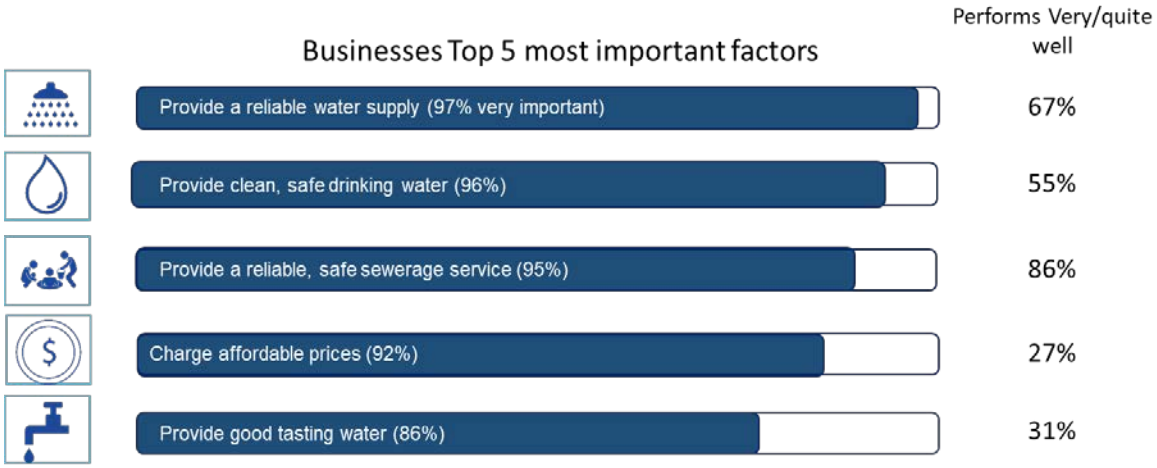
What is important to customers?

Reliability of water supply and affordability were the two most important factors for residential customers. The next most important factors were providing a reliable, safe sewerage service, providing good tasting water, and provision of clean, safe drinking water.

Residential customers agreed that Essential Water performs well in terms of reliability of water supply, but not as well on the quality of water, especially taste.



Business customers also felt that providing a reliable water supply was key, however they placed having clean, safe drinking water and a reliable sewerage service ahead of affordability. Essential Water was less positively perceived by businesses as providing good tasting water and charging affordable prices.



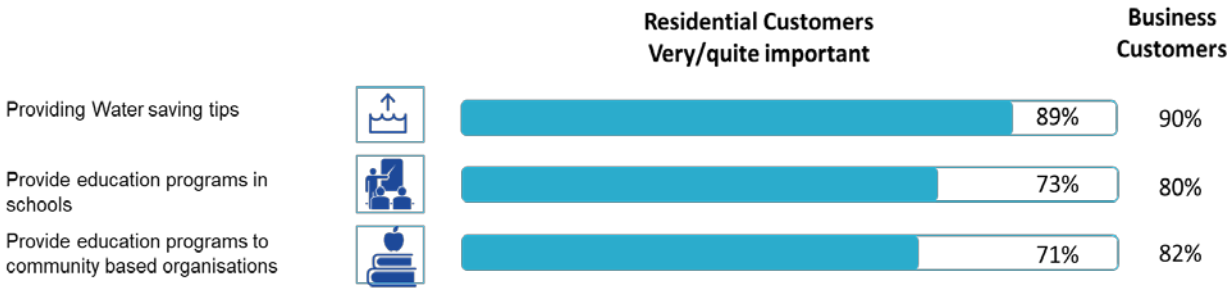
N.B. The performance scores exclude respondents who said ‘don’t know’

Water saving tips and education

Most customers believed it is important for Essential Water to provide education to schools and the community on how to save water.

Approximately 81 per cent of residential customers and 50 per cent of business customers have water saving devices installed.

However, only 17 per cent of residential customers and 10 per cent of business customers have accessed Essential Water's website for water saving tips.



Contacting Essential Water

Approximately 55 per cent of residential customers and 61 per cent of business customers believed it would be easy to contact Essential Water if they needed to.

Approximately 88 per cent of residential customers and 94 per cent of business customers would prefer to contact Essential Water by phone.

In person is the next most preferred option.

Pricing structure

When asked, few customers were willing to trade off frequency of water interruptions against price. Approximately 61 per cent of residential customers and 75 per cent of business customers preferred to keep the status quo, rather than increase water interruptions and pay less in their bill, or pay more in their bill for less water interruptions.

Approximately 70 per cent of residential customers and 66 per cent of business customers wanted their bill structure to stay the same. Around 3 in 4 residents (75 per cent) believe service charges for houses and apartments should be the same.

Approximately 23 per cent of residential customers and 30 per cent of business customers preferred to increase the variable component, more often nominating an increase from 34 to 50 per cent.

Next steps

Essential Water will provide an overview report of how our customers' views, priorities and needs have been considered in our 2019-23 pricing submission to IPART.

We will continue to work with and seek feedback from Essential Water's Customer Council which includes representatives from Broken Hill City Council, Broken Hill Health Council, Pastoralists Association of West Darling, CBH Resources, Perilya Mines, Broken Hill Chamber of Commerce and the Menindee, Sunset Strip and Copi Hollow area.

Our online project hub Essential Engagement at engage.essentialenergy.com.au has been established to receive feedback from customers, provides an outline of engagement activities for the IPART determination process and we invite you to register and have your say on water services in Broken Hill.

IPART will release an issues paper in September 2018, inviting public submissions. We will also provide details of how you can make a submission via the Essential Engagement project hub referenced above.

We also welcome the opportunity to discuss environmental initiatives, such as how you may save water in the home. Our website www.essentialwater.com.au provides some water saving tips and information about our business, such as the Essential Water Customer Charter.

We will continue to engage with the community throughout the IPART determination process and beyond. Consultation for our 2019-23 regulatory proposal forms part of our commitment to open and ongoing engagement with our customers and we invite customers and stakeholders to share their views with us at any time.

To provide feedback or for further information:

Visit: engage.essentialenergy.com.au

Phone: 13 23 91; or

Drop into the Essential Water office: Block 10 Depot, Blende, Broken Hill

WOOLCOTT
RESEARCH & ENGAGEMENT

Essential Water Survey for the IPART Submission

Prepared for: essential water

Prepared by: Liz Sparham
Karyn Wong

April 2018

Executive Summary

Awareness of EW is high amongst both residential and business customers (97%; 99%), with many praising EW's reliability of supply. However, residents and businesses alike spontaneously mentioned water quality and affordability as areas for improvement.

Both residents and businesses rate reliability of sewerage and water services, affordability, and clean, safe drinking water as the most important functions. EW are seen to perform well in terms of reliability of services by all customers, however taste and affordability are less positively rated.

Residents and businesses rate EW well in terms of the warnings given for planned water interruptions, however many could not comment on other aspects of EW's service. The preferred method of contact was by far and away the telephone across both businesses (94%) and residential customers (88%).

Education in schools and within the community is important to residents and businesses, however few have accessed water savings tips on the EW website. Many residents (81%) and businesses (50%) have water saving devices installed.

The majority of residents (61%) and businesses (75%) do not want to trade off price for a change to the number of water interruptions. Similarly most (70% of residents and 66% of businesses) would prefer to keep the fixed and variable component of the bill the same.

Residents are unwilling to pay more (55% 'No') to reduce sewerage usage charges to small businesses despite thinking 'all customers should pay the same' (60% residents; 60% businesses).

- Who we spoke to
- Performance
- Key Attributes
- Community Education
- Contacting Essential Water
- Pricing
- Engagement







WOOLCOTT
RESEARCH & ENGAGEMENT

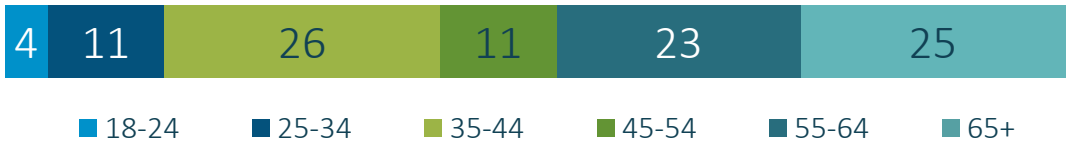
Residential Survey Results

WOOLCOTT
RESEARCH & ENGAGEMENT

Residents we spoke to

Age

%



Gender

53%

47%

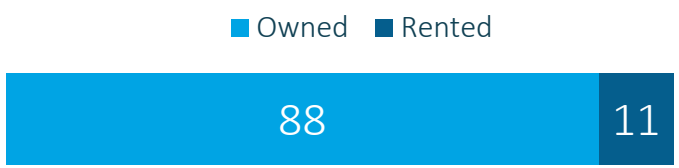
Residence type

House
97%

Apartment
3%

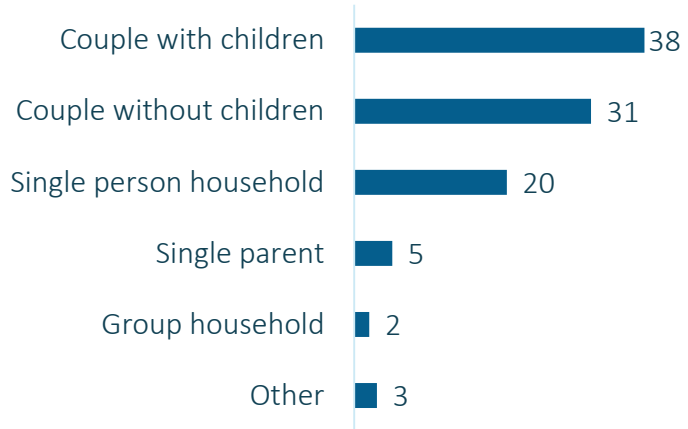
Owned or Rented

%



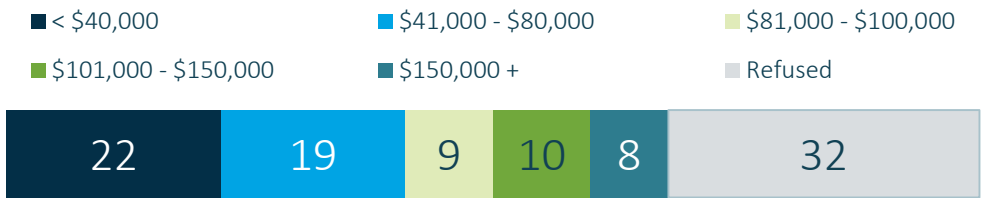
Household Type

%



Household Income

%



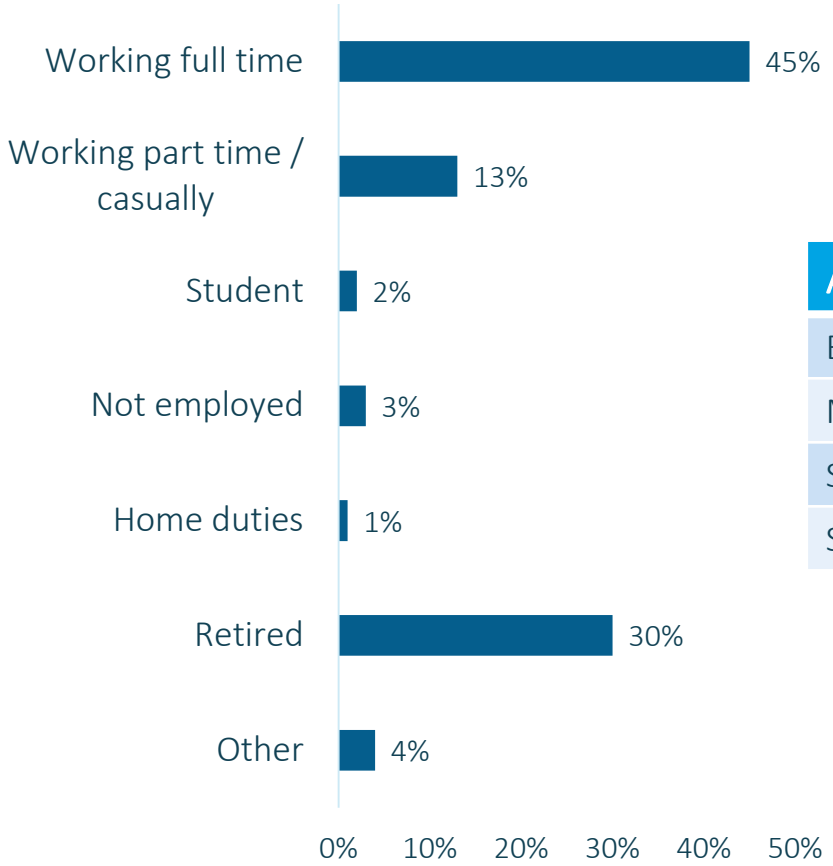
RECORD Gender; Age, residence type, household type and income.

Base n=430

WOOLCOTT RESEARCH & ENGAGEMENT

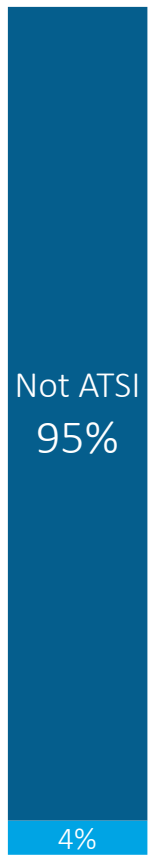
Residents we spoke to

Work Status



Area of Residence	%
Broken Hill	96
Menindee	2
Silverton	1
Sunset Strip	1

ATSI



English at Home

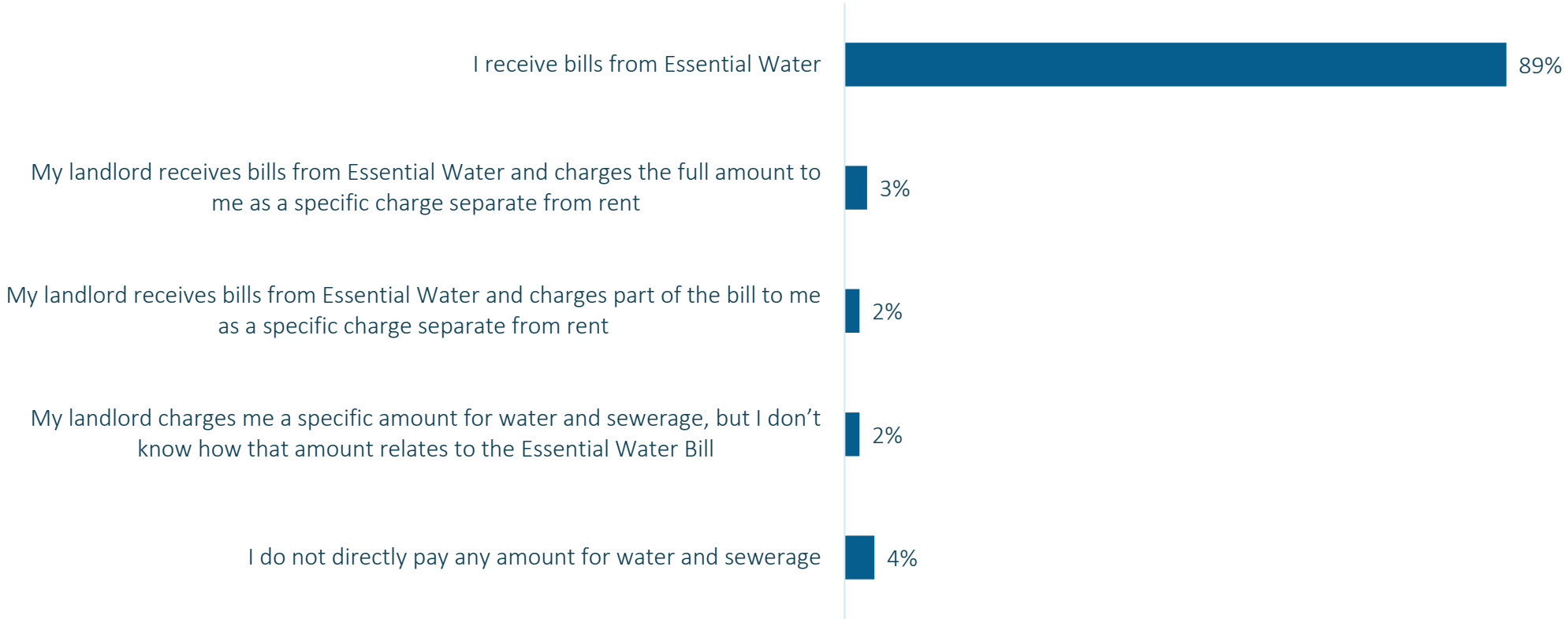
Q33. What is your work status? Q6 Which area are you a resident of? Q4. Do you speak a language other than English at home?

Base n=430

WOOLCOTT RESEARCH & ENGAGEMENT

Residents we spoke to

Types of Bills Received



Q29. Which of the following best describes the water and wastewater bills you receive for the residence you live in? Base n=430

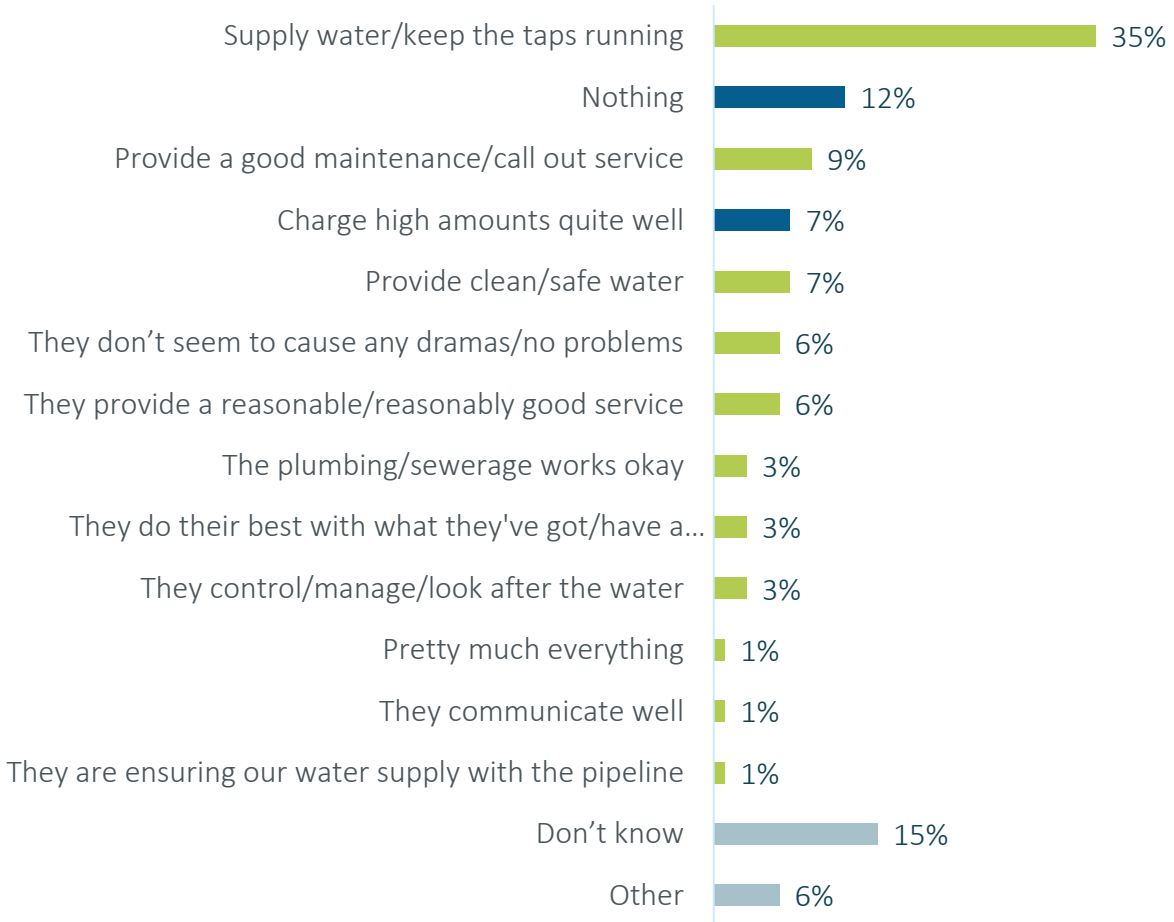
What Essential Water does well

Before today, had you heard of Essential Water?

97%

3%

What do you think Essential Water does well?



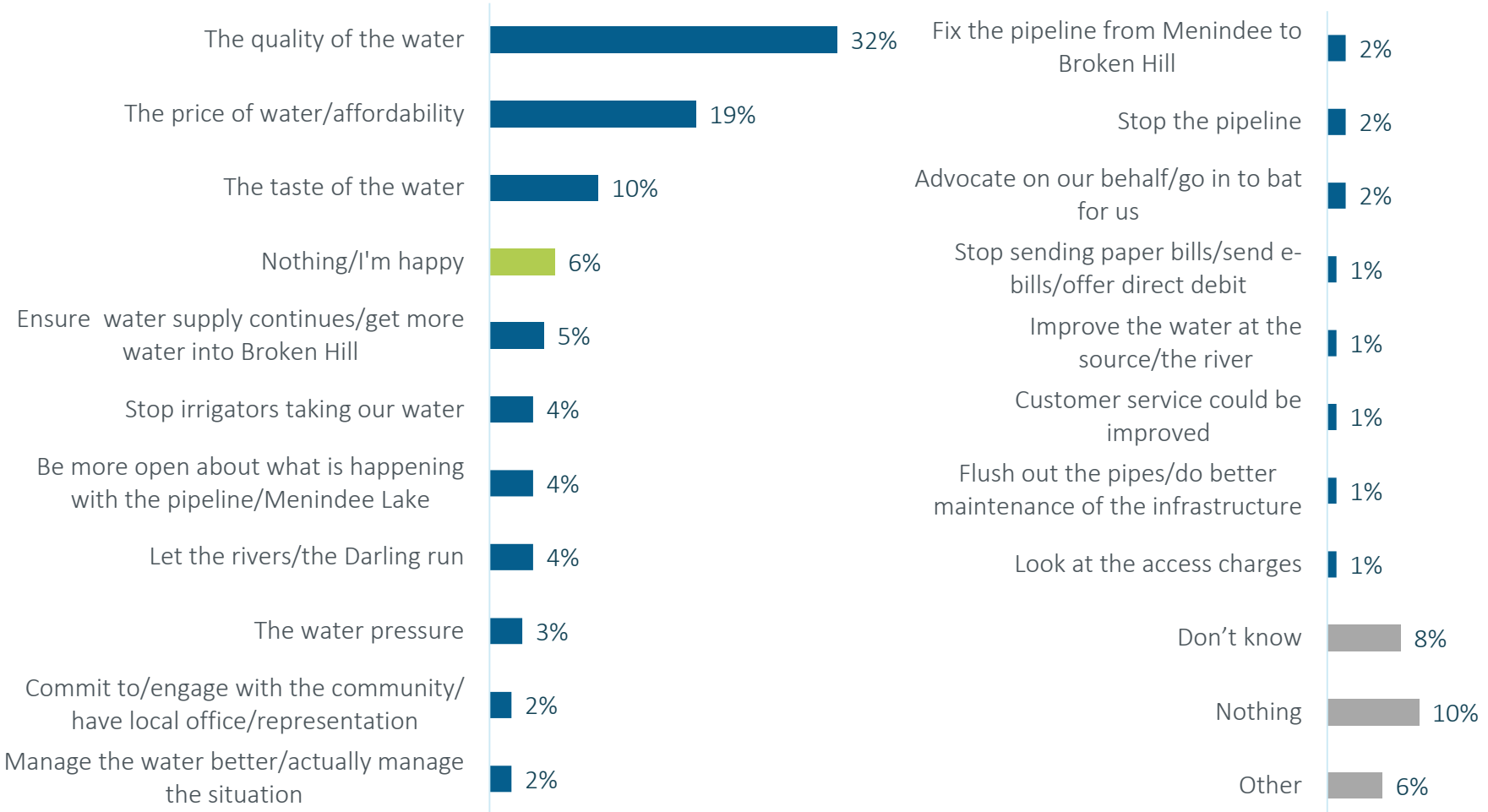
Most residents had heard of Essential Water and believed Essential Waters' supply of water and maintenance are currently done well.

Q7. Before today, had you heard of Essential Water? n= 430

Q8. From what you know or have heard, what do you think Essential Water does well? n= 430

WOOLCOTT RESEARCH & ENGAGEMENT

What could be improved



Water quality and affordability were seen as areas for improvement.

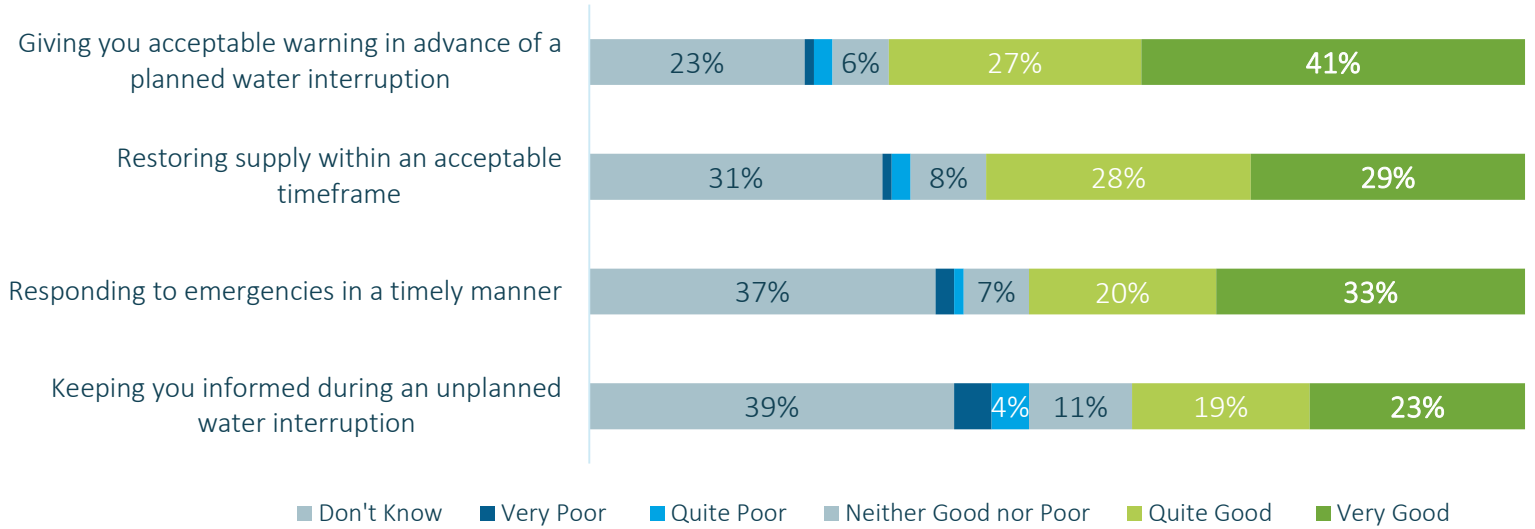
Taste was an issue for **1 in 10** residents, and some (10%) did not cite anything to improve.

Q9. And what do you think needs to improve? n=430

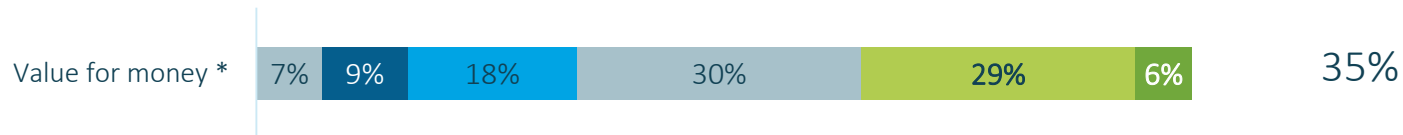
WOOLCOTT RESEARCH & ENGAGEMENT

Service performance

How would you rate Essential Water's service in terms of… ?



How would you rate your water and sewerage service in terms of value for money… ?



Those who were able to rate EW's service, were positive. Particularly regarding the warning given for interruptions and restoring supply.

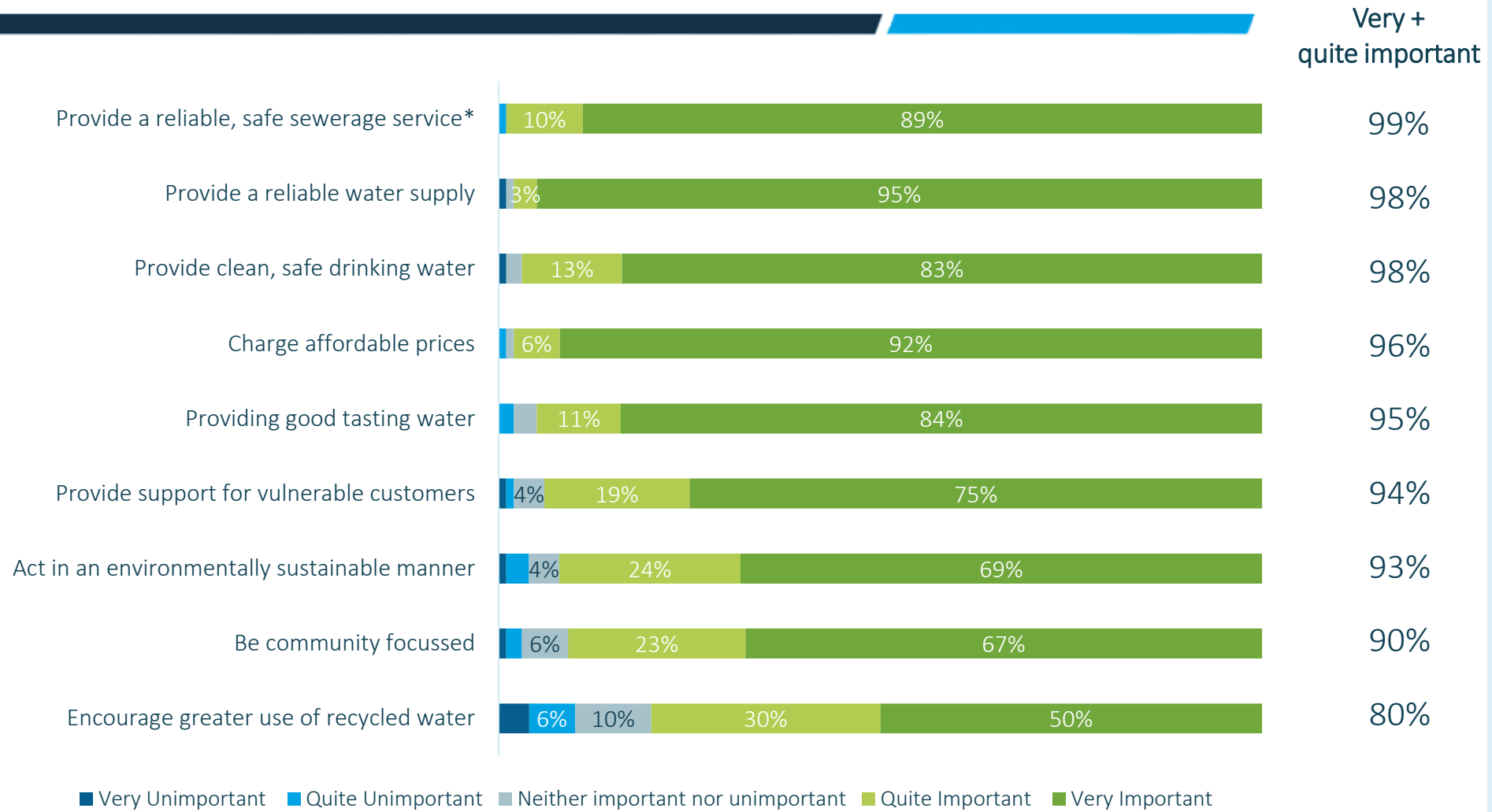
However, many residents felt they were unable to comment on EW's service.

Only a third of customers perceived they were receiving 'good value for money' from EW.

Q17. I would now like you to rate the service you receive from Essential Water in times of water interruptions. That is, when your water supply is turned off for maintenance work or to fix a problem. How would you rate Essential Water's service in terms of the following?
Q14. How would you rate your water and wastewater service in terms of value for money? * Only asked of Broken Hill respondents
n=409

WOOLCOTT RESEARCH & ENGAGEMENT

Importance of Attributes



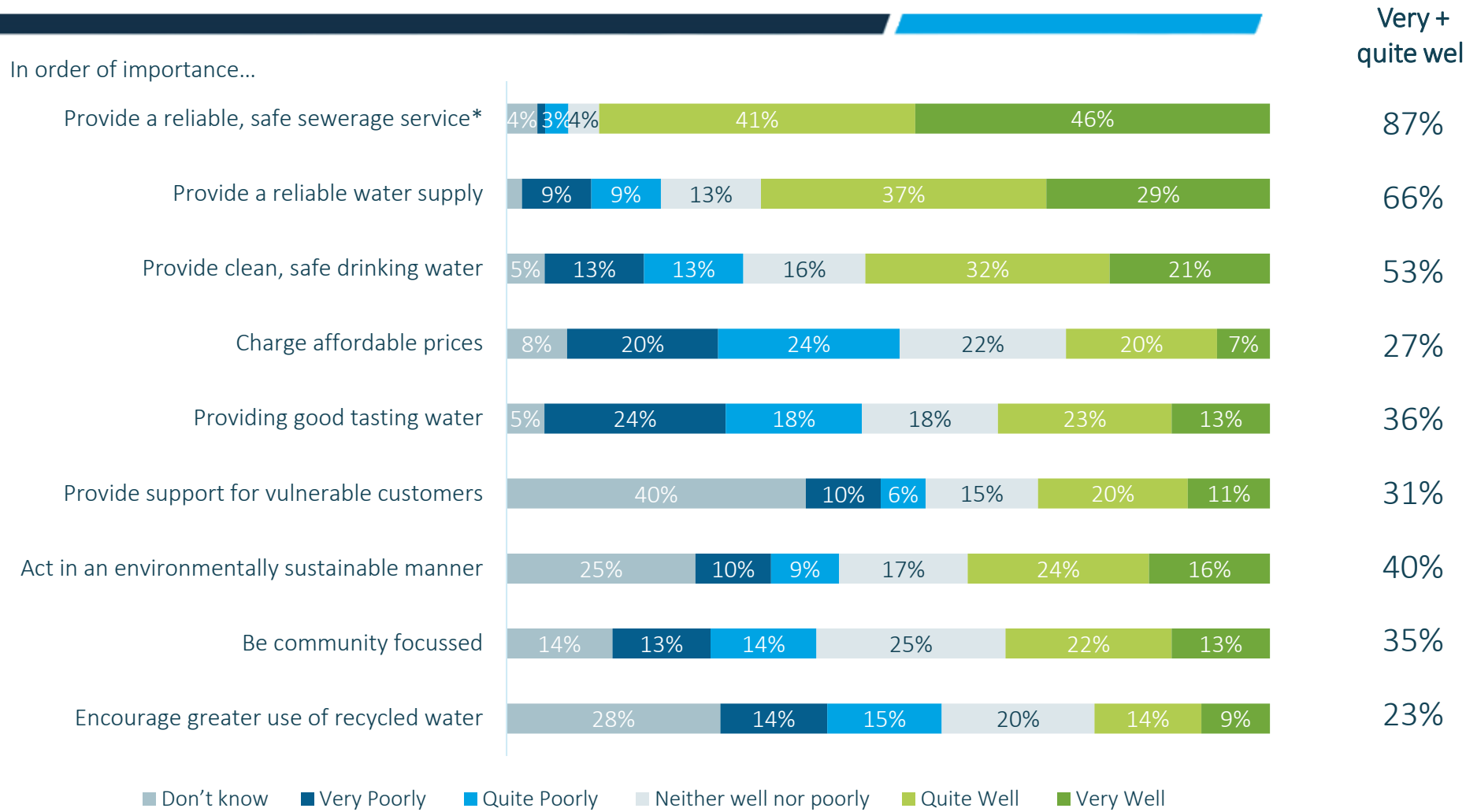
Whilst all attributes are important, reliability, quality, and affordability are the most important to residential customers.

Having a community focus and environmental aspects were less important to residents.

Q10. Thinking about your water and sewerage service, how important are each of the following factors to your business? How important would you personally say it is for Essential Water to……. n=430
* Only asked to Broken Hill respondents n=409

WOOLCOTT RESEARCH & ENGAGEMENT

Performance of Essential Water



EW's performance was rated well in terms of reliability and water cleanliness.

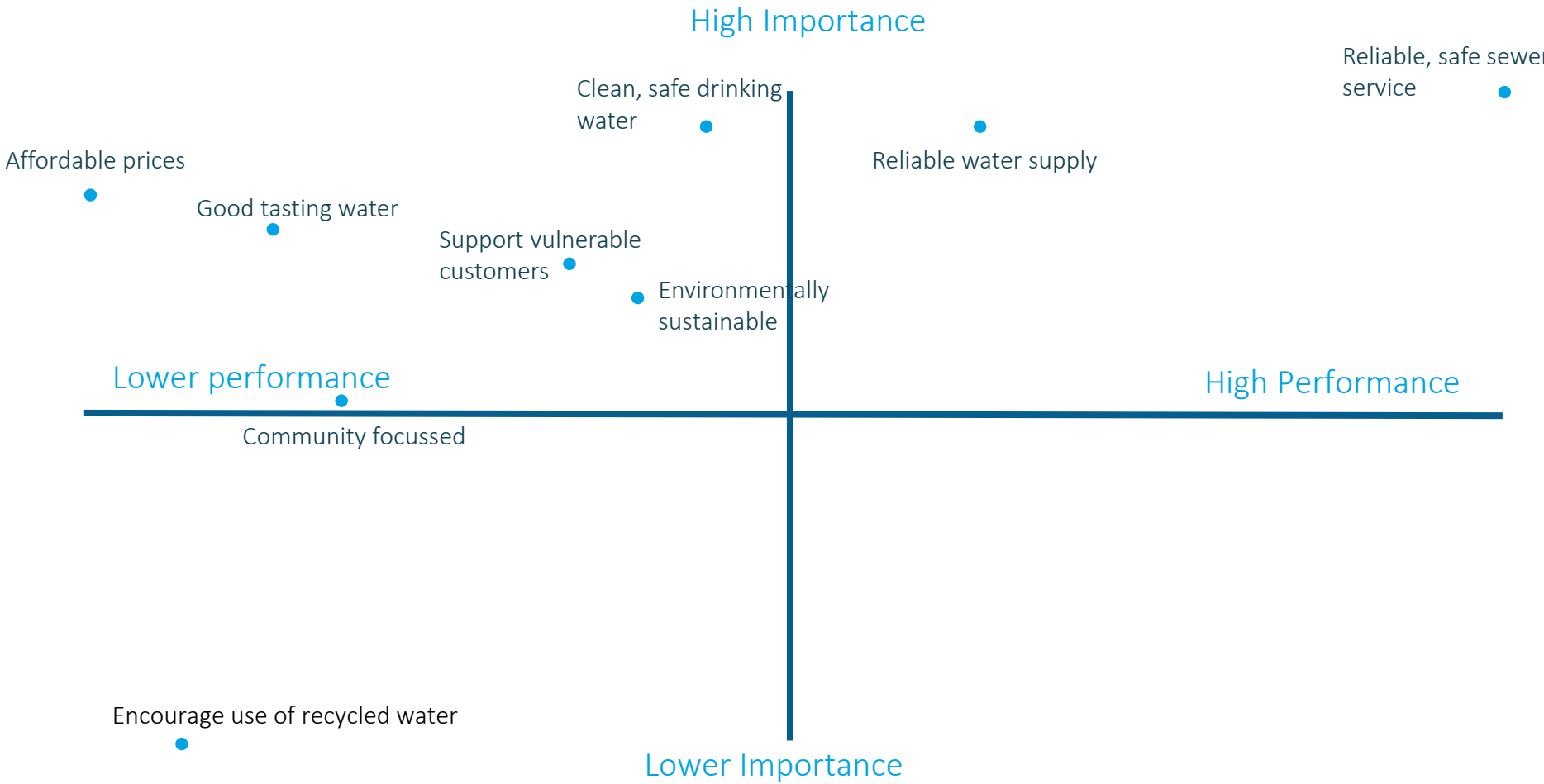
The attributes receiving less positive performance scores were affordability, water taste.

Many could not comment on how EW performed in terms of supporting vulnerable customers, encouraging recycling, or being environmentally sustainable.

Q11. Thinking about those same factors, I'd like you to indicate how well you personally think Essential Water performs on each aspect of service? Taking the first aspect….., how well do you think Essential Water performs? n=430
* Only asked to Broken Hill respondents n=409

WOOLCOTT RESEARCH & ENGAGEMENT

Importance versus Performance

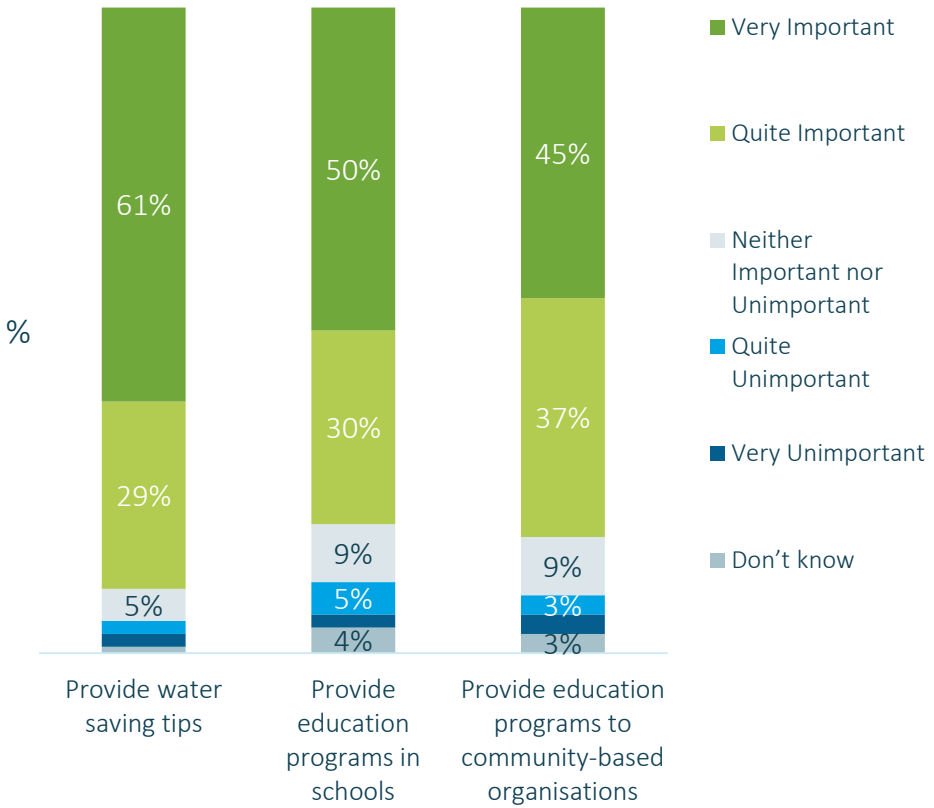


Residents were happy with the reliability of their water and sewerage, however there were a number of areas where satisfaction could improve, in particular good tasting water and affordable prices.

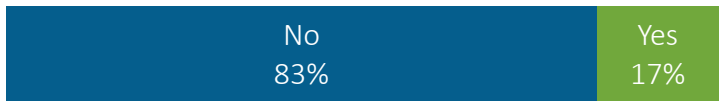
Q10. Thinking about your water and sewerage service, how important are each of the following factors to your business? How important would you personally say it is for Essential Water to……..
11. Thinking about those same factors, I'd like you to indicate how well you personally think Essential Water performs on each aspect of service? Taking the first aspect….., how well do you think Essential Water performs? n=430
* Only asked to Broken Hill respondents n=409

Water Saving and Education

How important do you feel it is for Essential Water to…?



Have you ever accessed the Essential Water's website to find information on water saving tips?



Do you currently have any water saving devices installed in your business (for example, low flow shower heads, water efficient toilets or taps)?

Education in schools and within the community is important to residents.

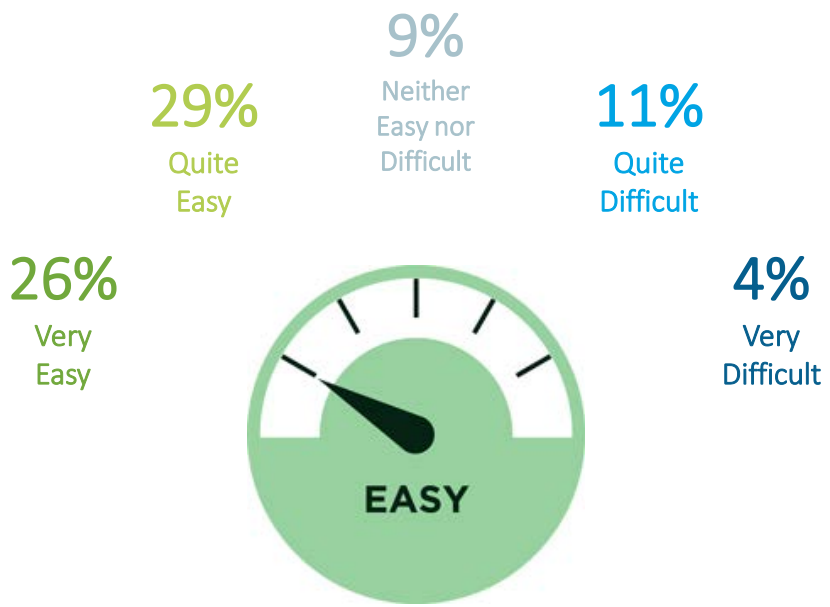
Few have accessed information on water saving tips, despite the majority having water saving devices installed.

Q15. Essential Water has numerous programs to provide education to schools and community based organisations. I would like you to tell me how important you feel it is for Essential Water to…….
Q16. Have you ever accessed the Essential Water's website to find information on water saving tips for your business?
Q19. Do you currently have any water saving devices installed in your business (for example, low flow shower heads, water efficient toilets or taps)?
n=100 * Broken Hill residents only

WOOLCOTT RESEARCH & ENGAGEMENT

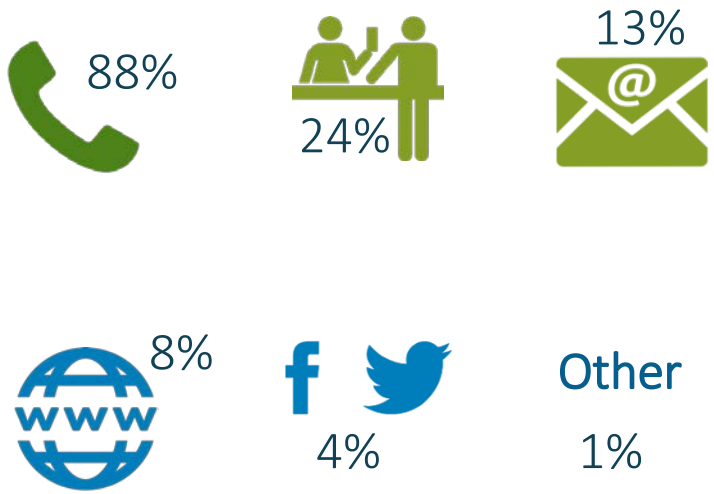
Contacting Essential Water

How easy do you think it is to contact Essential Water if you need to?



20% Don't Know

If you needed to contact Essential Water, which of the following methods would you prefer to use to interact with them?



Over half of residents think contacting Essential Water would be 'very easy' or 'easy', however **1 in 5** 'didn't know'.

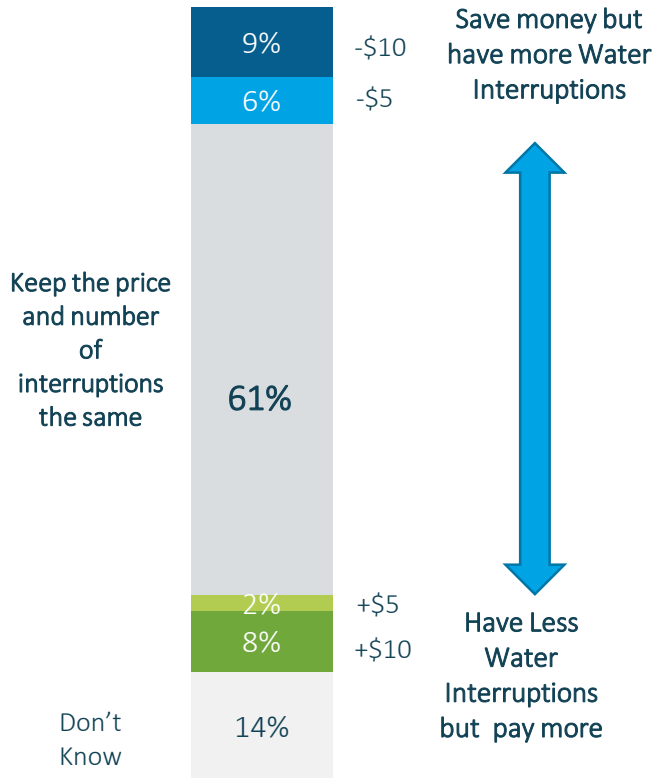
Most (88%) would prefer to contact EW by phone.

Q12. How easy do you think it is to contact Essential Water if you need to? n=430
Q13. And if you needed to contact Essential Water, which of the following methods would you prefer to use to interact with them? n=430

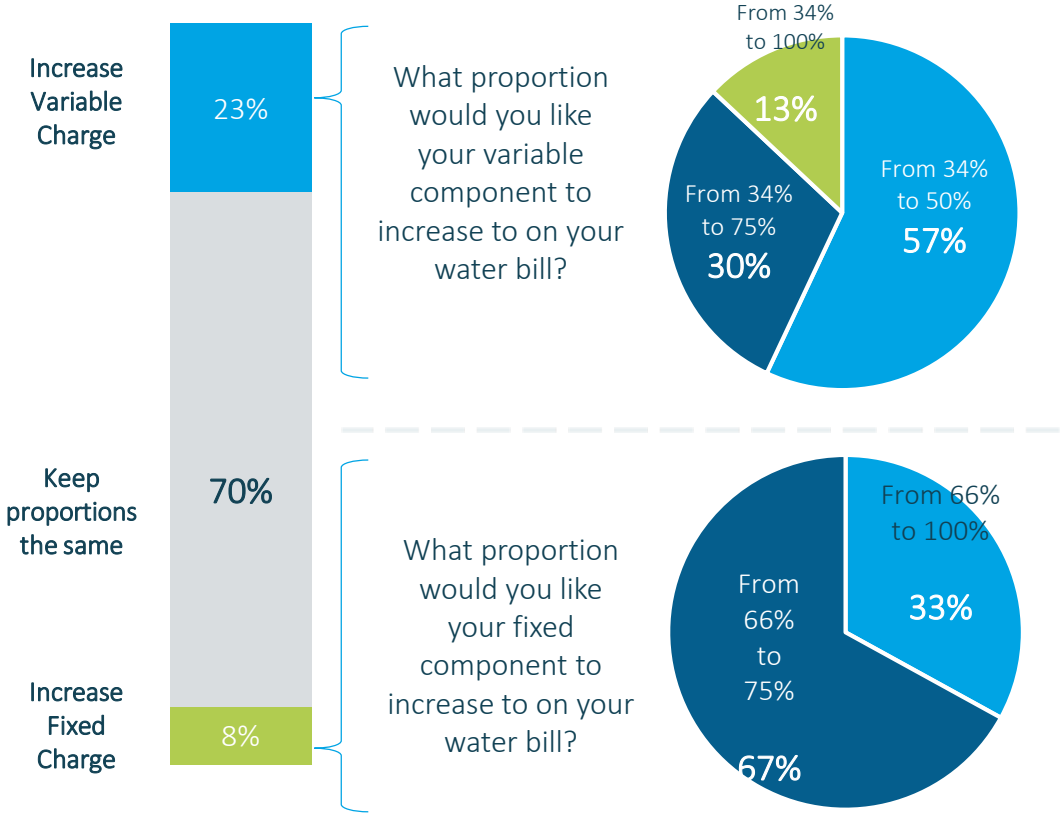
WOOLCOTT RESEARCH & ENGAGEMENT

Price trade offs

Which best describes your preparedness to pay or reduce your water bills to change the level of service you receive from Essential Water?



Would you prefer to change the proportion of fixed and variable charges in your water bill?



Few were happy to trade off price for more interruptions.

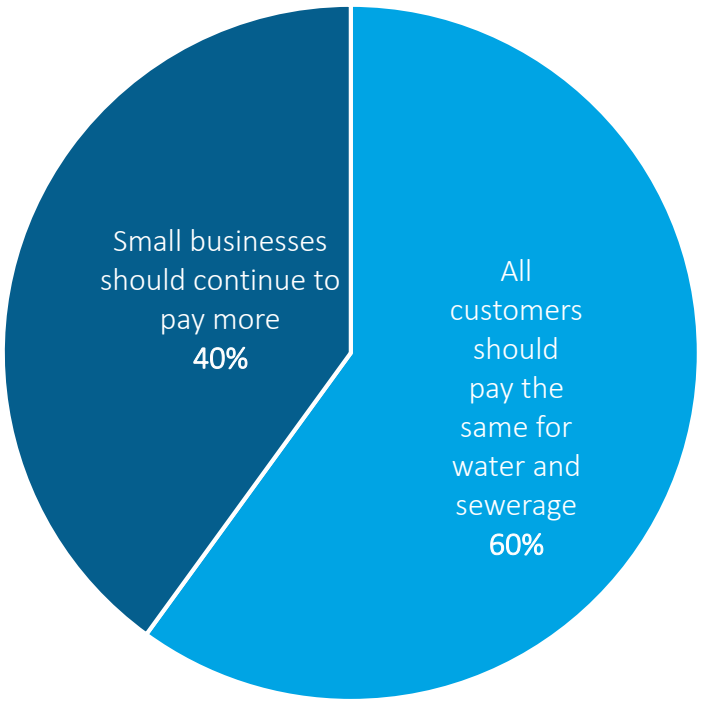
Whilst most do not want to change the fixed/variable proportions, there were around a quarter who preferred to increase the variable component, more often residents aged **18-44.**

Those **45+** preferred to keep the proportions the same.

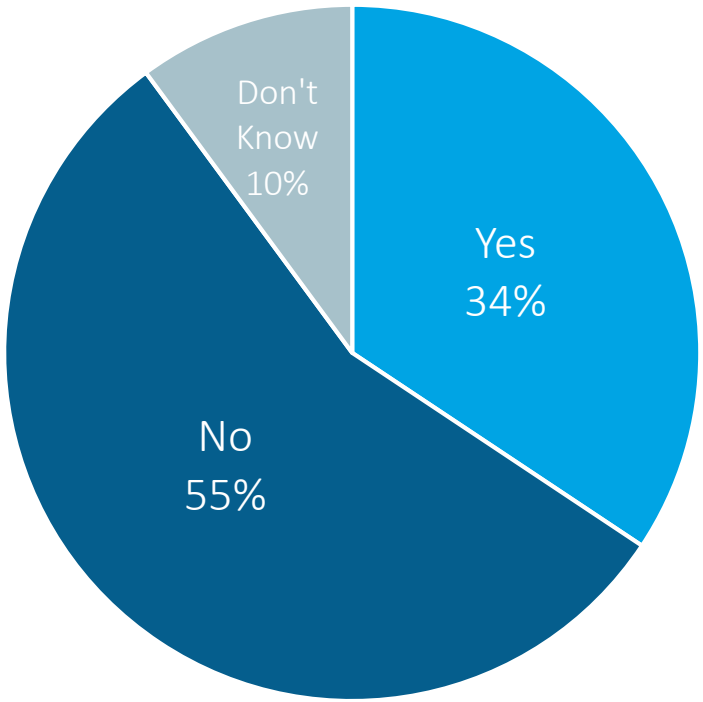
Q18. Which of the following statements best describes your preparedness to pay or reduce your water bills to change the level of service you receive from Essential Water? n=430
Q20. When you receive your water bill, there is a fixed charge component (that stays the same each quarter) and a variable charge (which goes up and down according to how much water you use). Currently around 66% of your water bill is fixed (i.e. the same each quarter), and 34% is variable (based on your usage).Bearing this in mind, would you prefer.... n=430
Q20/21. What proportion would you like your variable/fixed component to increase to on your water bill?
Q20 n=33 /Q21 n=97

Sewerage usage charges

Which of the following statements best describes your feelings toward businesses having to pay a sewerage usage charge?



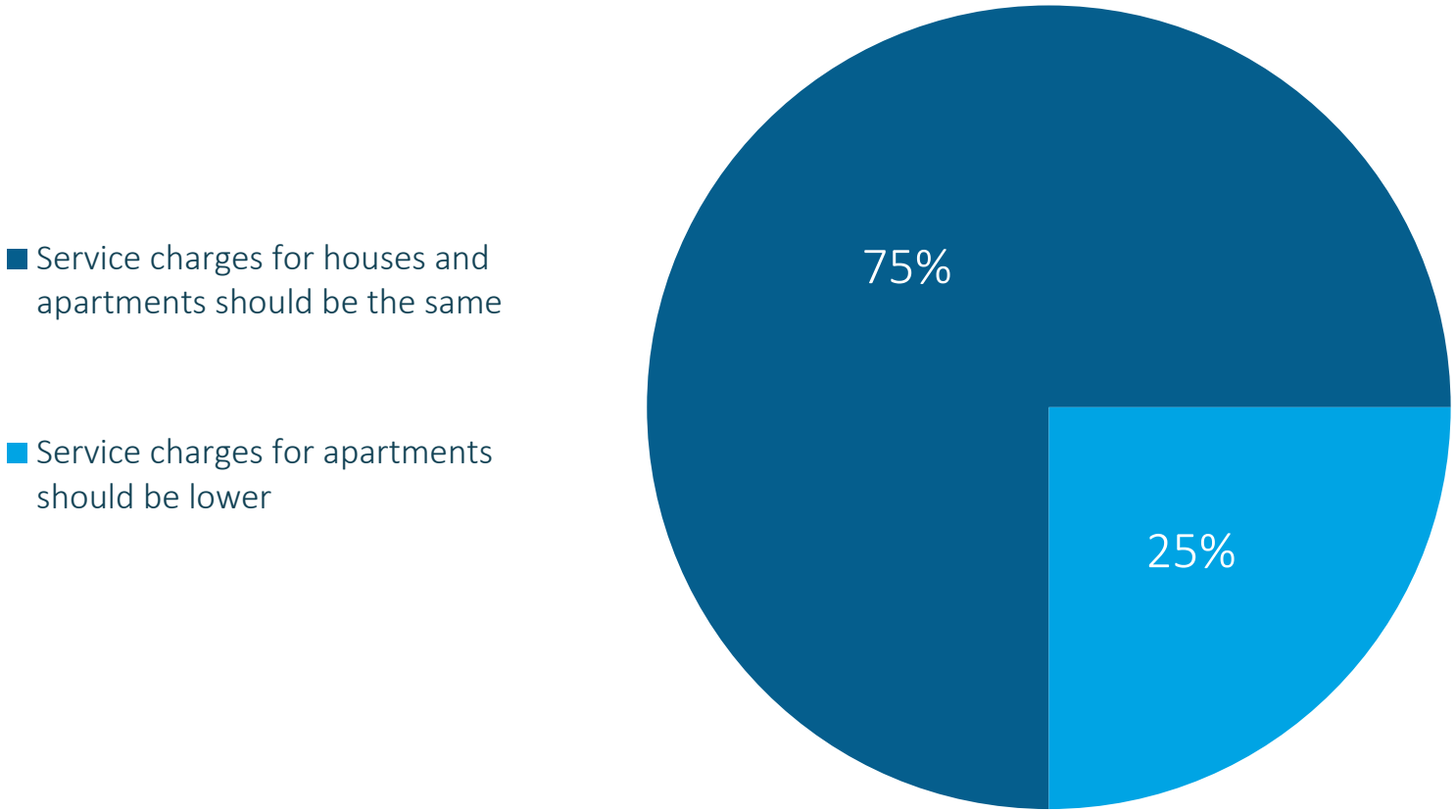
Would you be prepared to pay around $10 more a year in order to reduce this difference?



Residents are unwilling to pay more to reduce the cost to small businesses despite thinking 'all customers should pay the same'.

Q22. Currently small business customers have to pay a sewerage usage charge as well as a water usage charge. Residents do not currently pay for their sewerage usage. This means that small business customers pay more for their water bills than residential customers for the same service. Which of the following statements best describes your feelings toward this?
Q23. At the moment, small business customers pay more than residential customers by about $115 a year for the same sewerage service because they pay a sewerage usage charge that residential customers don't pay. Do you think that residential customers should pay around $10 more a year in order to reduce this difference? Base: n=413

Fixed Charges for Houses vs Apartments

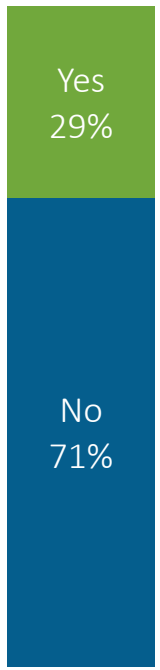


3 in 4 residents believe service charges for houses and apartments should be the same. This is consistent across age and gender.

Q24. Currently fixed charges are the same for a residential customer whether they live in a house or apartment. Do you think…? n=430

Interest in Engagement

Are you interested in being involved in other customer engagement programs to help Essential Water in their business decision making process?



Do you agree that surveys such as these are a good way of Essential Water obtaining feedback from customers?

Customers aged **18-44** are more interested in future customer engagement programs with most feeling surveys are good way for Essential Water to obtain feedback.

Q26. Are you interested in being involved in other customer engagement programs to help Essential Water in their business decision making process?
Q27. Do you agree or disagree that surveys such as these are a good way of Essential Water obtaining feedback from customers?
n=430

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Additional Comments

	n=430
Lower the bills please	5
The water quality here is a huge issue	4
I'm happy with Essential Water	4
We are disappointed with our water management/lack of info/lack of support from Essential	3
The pipeline is the main issue/everyone is up in arms about it	3
We are all worrying about increased costs due to the pipeline	3
They let too much water out of the system/Menindee/the river	3
More should be done to recycle/capture water	2
Access prices for water/sewerage are unfair	2
Water pressure needs improvement	1
Don’t know	1
Other	11
Nothing	64

28. Do you have any further comments about your water and sewerage service that you do not feel are covered by this survey? n=430

Business Survey Results

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Businesses we spoke to

No. employees

Gender

50%

50%

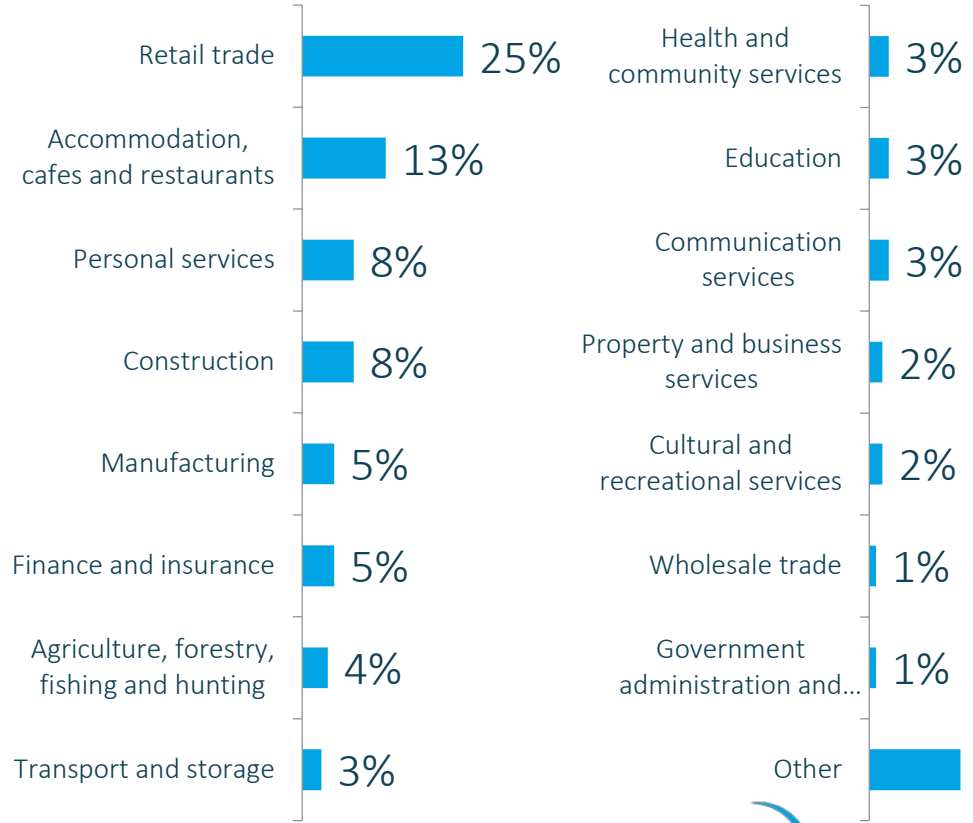
Role

Owner/ Proprietor
48%

Senior Management
26%

Other Staff
26%

Industry



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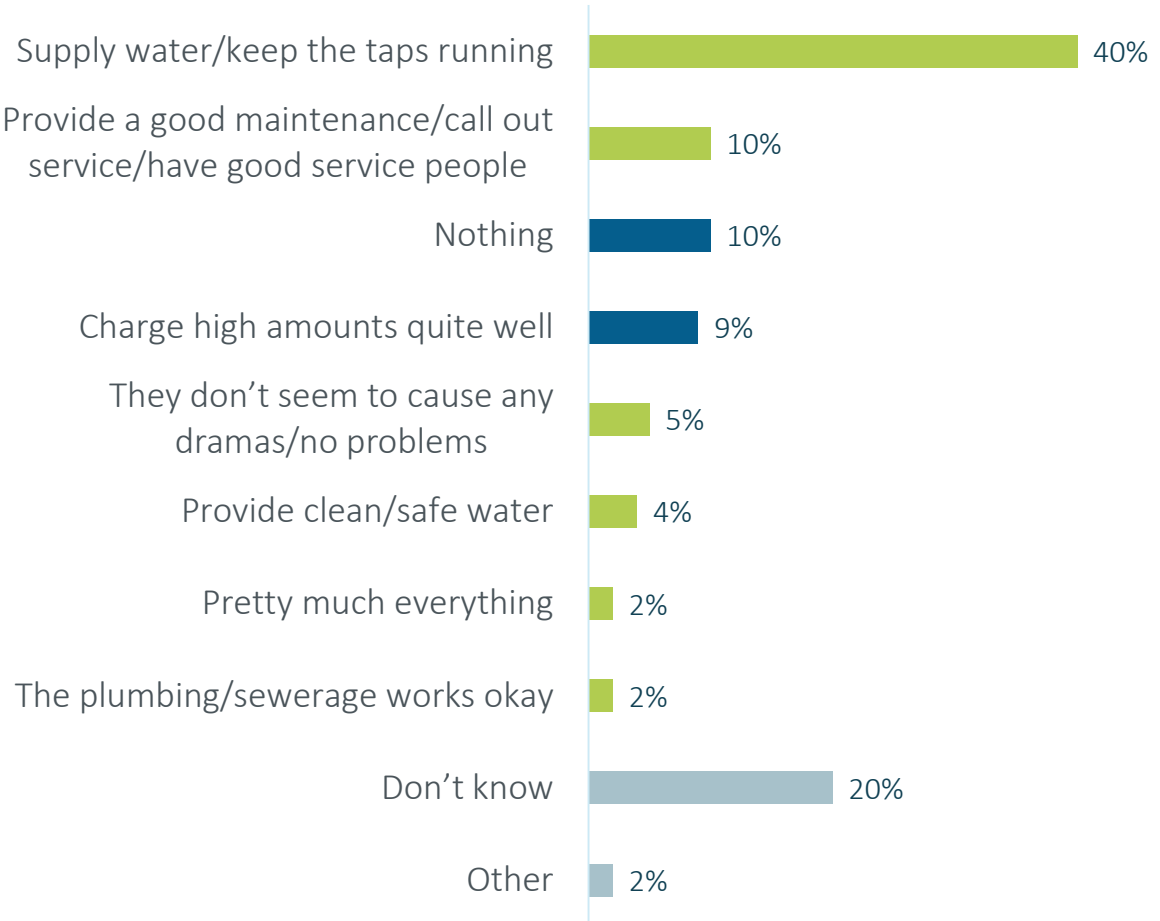
What Essential Water does well

Before today, had you heard of Essential Water?

99%

1%

What do you think Essential Water does well?



Awareness of Essential Water was high amongst businesses.

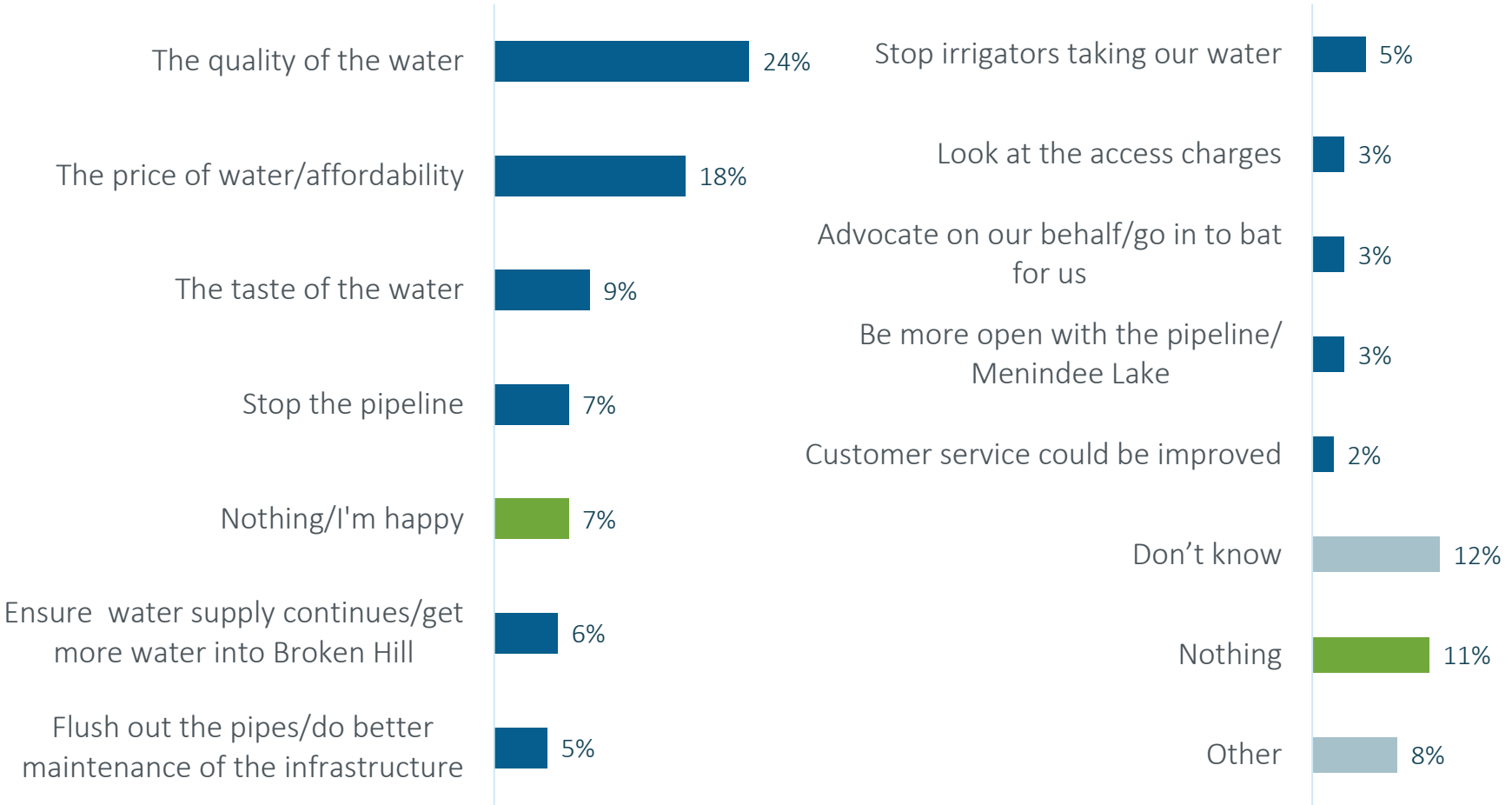
EW was seen to do well in providing water and good service, however one in five didn't know what EW does well.

Q6. Before today, had you heard of Essential Water? n= 100

Q7. From what you know or have heard, what do you think Essential Water does well? n= 100

WOOLCOTT RESEARCH & ENGAGEMENT

What could be improved

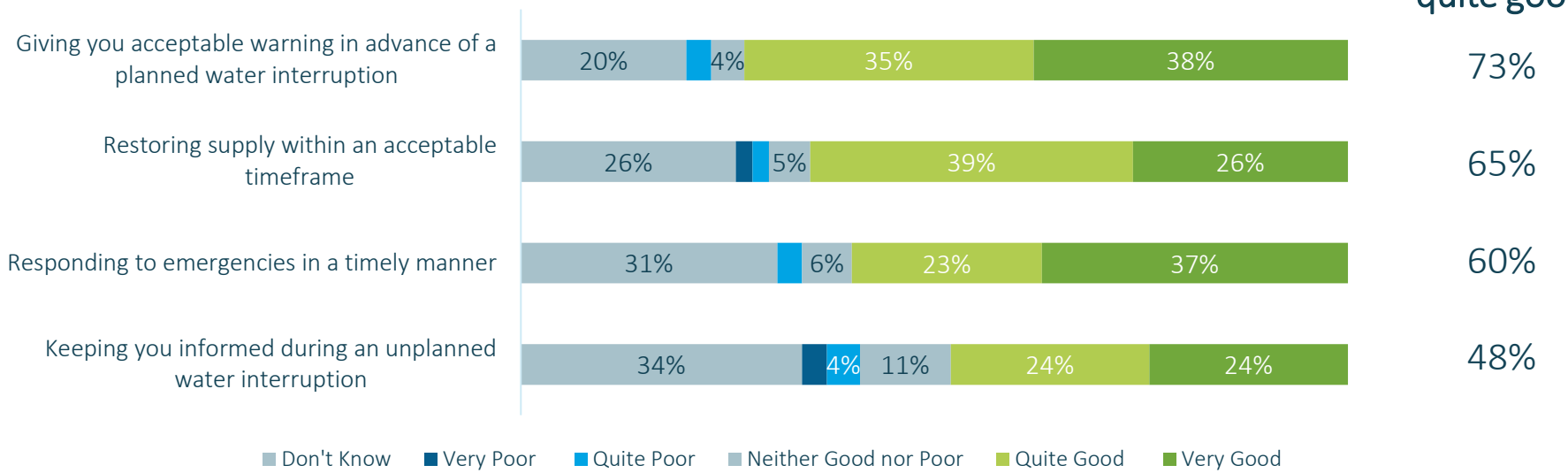


'Improvements' were largely centred on continuing to supply quality water and improving affordability.

Q8. And what do you think needs to improve? n=100

Service performance

How would you rate Essential Water's service in terms of… ?



How would you rate your water and sewerage service in terms of value for money… ?

Q16. I would now like you to rate the service you receive from Essential Water in times of water interruptions. That is, when your water supply is turned off for maintenance work or to fix a problem. How would you rate Essential Water's service in terms of the following?
Q13. How would you rate your water and wastewater service in terms of value for money?
n=100

For business owners who felt they could rate Essential Water's service, the majority were positive, particularly with regard to the warnings given for planned interruptions and restoring supply in an acceptable timeframe.

They were less positive with respect to the value for money they were receiving.

Many business owners, however, were unable to comment on EW's service.

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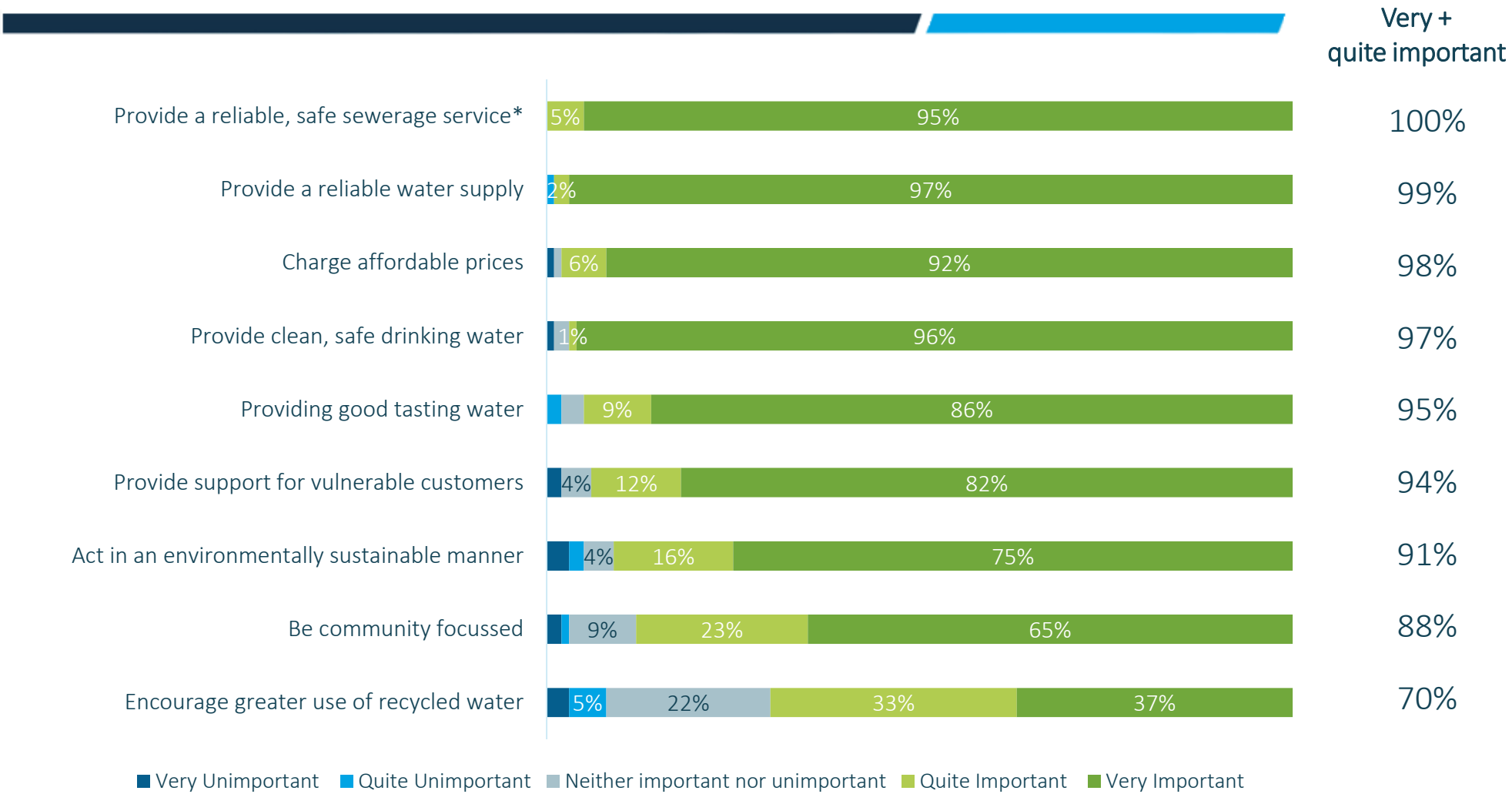
Importance of Attributes



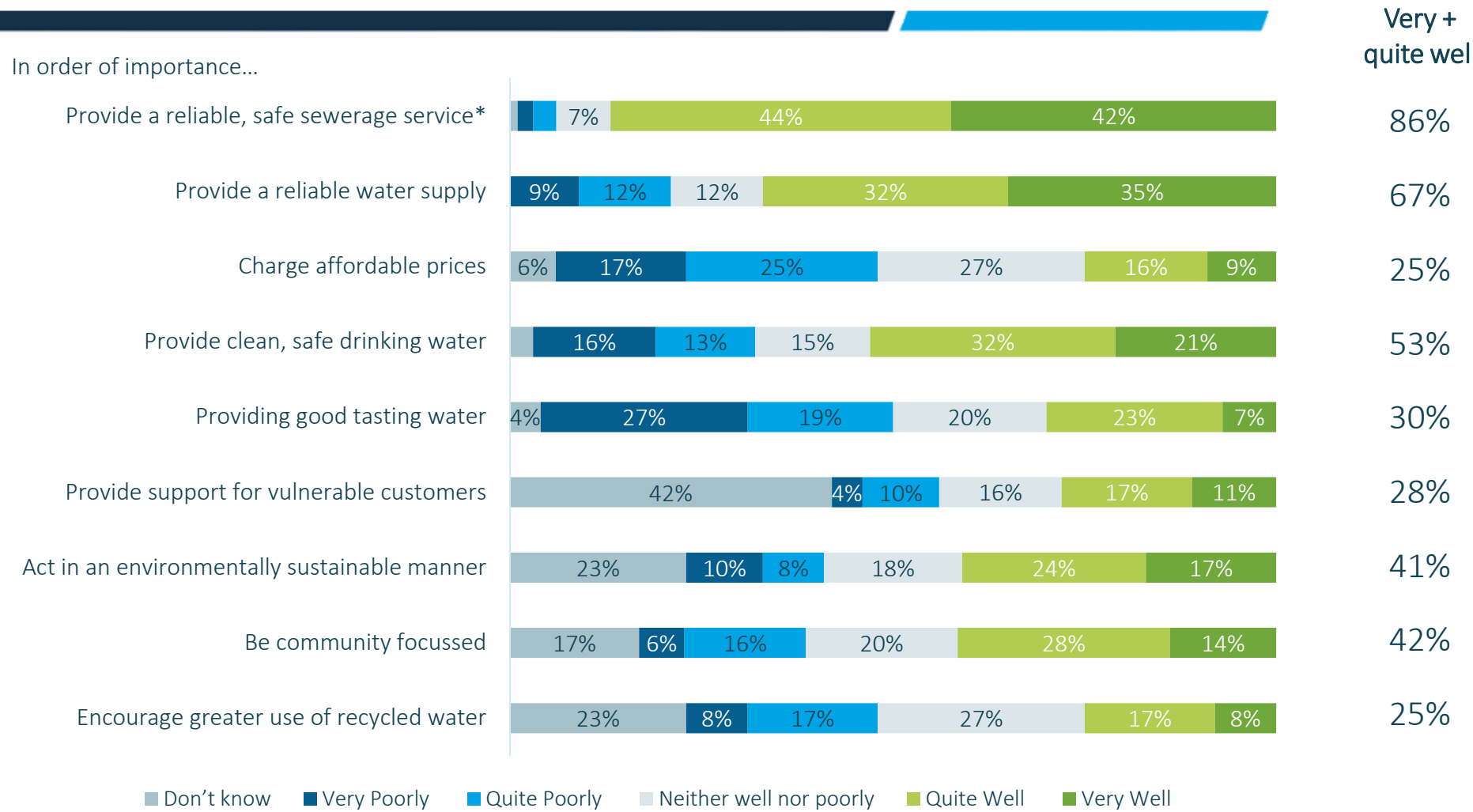
Reliability attributes were the most important to customers as well as price.

Environmental sustainability and community focus were still largely important, however less of a priority.

Q9. Thinking about your water and sewerage service, how important are each of the following factors to your business? How important would you personally say it is for Essential Water to……. n=100
* Only asked to Broken Hill respondents n=97

WOOLCOTT RESEARCH & ENGAGEMENT

Performance of Essential Water



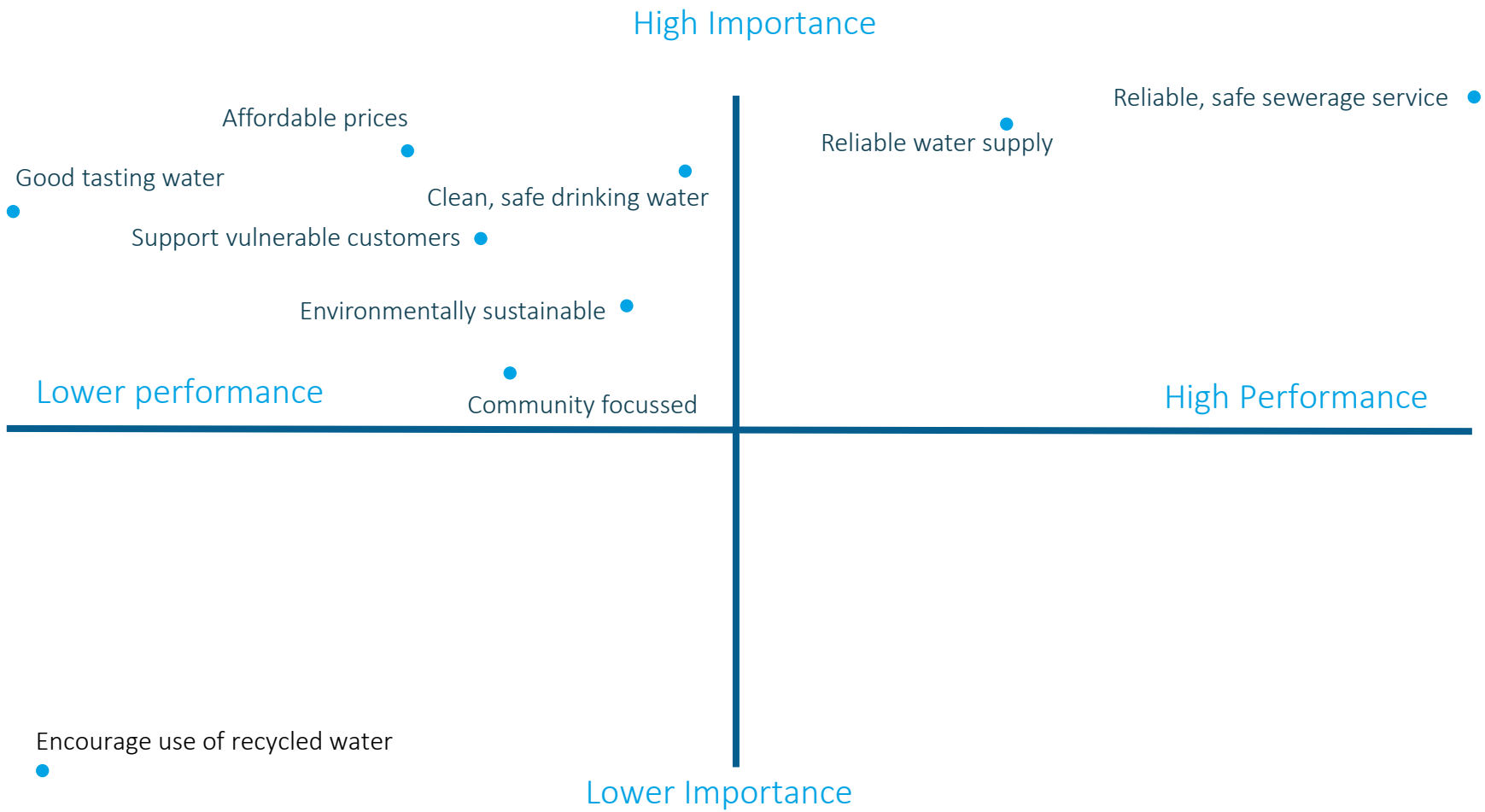
Affordability and water taste were important to customers yet Essential Water were not rated well in terms of their current performance.

The sewerage service outperformed perceived reliability of supply.

Many businesses were unable to comment on EW's support for vulnerable customers and around a quarter did not know if EW were sustainable or encouraging the use of recycled water.

Q10. Thinking about those same factors, I'd like you to indicate how well you personally think Essential Water performs on each aspect of service? Taking the first aspect….., how well do you think Essential Water performs? n=100
* Only asked to Broken Hill respondents n=97

Importance versus Performance

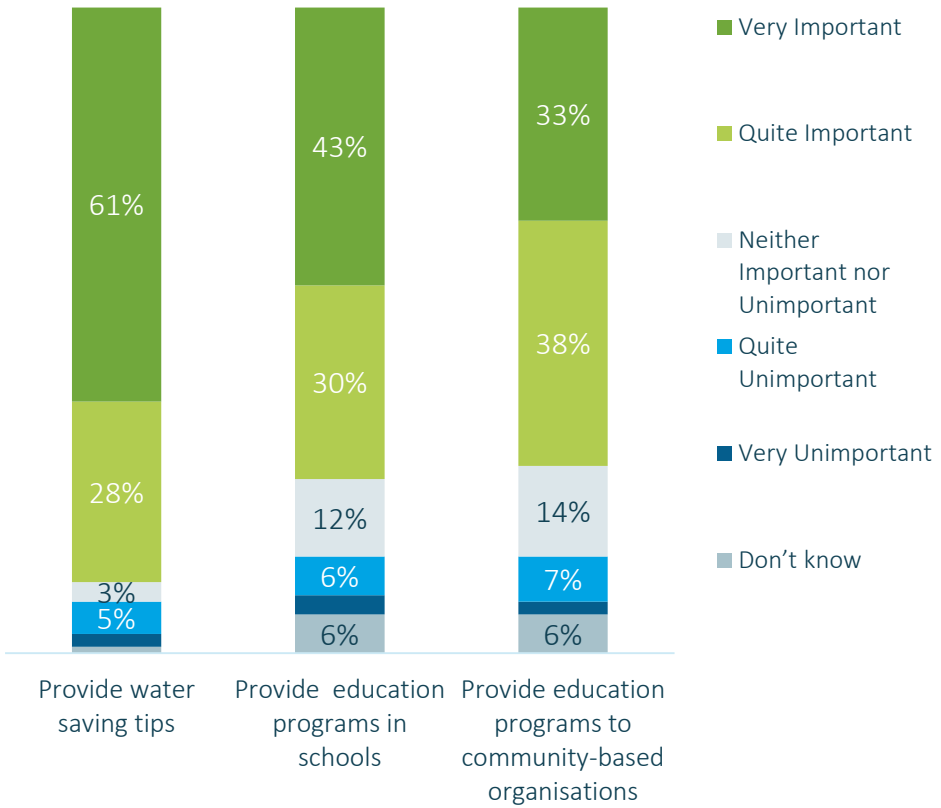


Customers were happy with the reliability of their water and sewerage, however there were a number of areas where satisfaction could improve, in particular good tasting water and affordable prices.

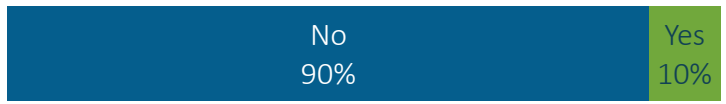
Q9. Thinking about your water and sewerage service, how important are each of the following factors to your business? How important would you personally say it is for Essential Water to……..
10. Thinking about those same factors, I'd like you to indicate how well you personally think Essential Water performs on each aspect of service? Taking the first aspect….., how well do you think Essential Water performs? n=100
* Only asked to Broken Hill respondents n=97

Water Saving and Education

How important do you feel it is for Essential Water to…?



Have you ever accessed the Essential Water's website to find information on water saving tips?



Do you currently have any water saving devices installed in your business (for example, low flow shower heads, water efficient toilets or taps)?

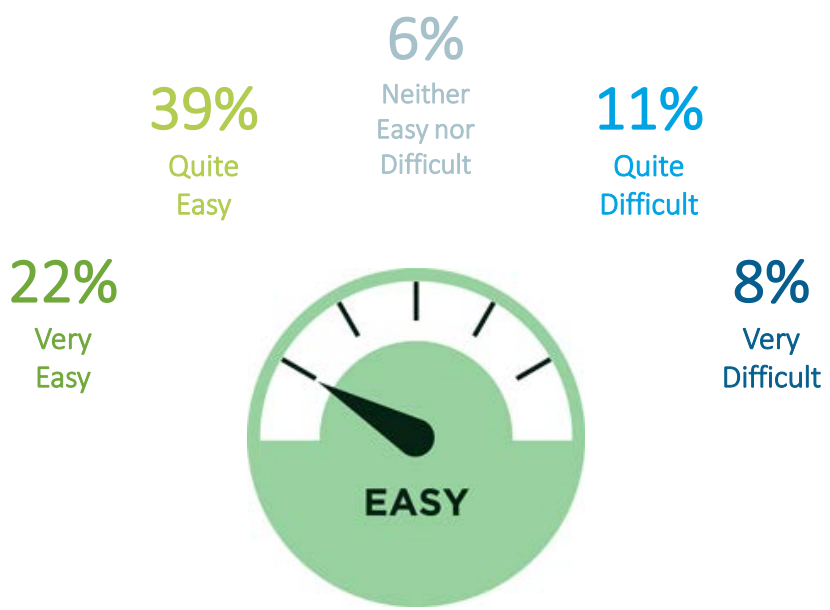
Despite business owners feeling it is 'very/quite important' for Essential Water to provide water saving tips, only 10% have actively sought this information from their website.

Q14. Essential Water has numerous programs to provide education to schools and community based organisations. I would like you to tell me how important you feel it is for Essential Water to…….
Q15. Have you ever accessed the Essential Water's website to find information on water saving tips for your business?
Q18. Do you currently have any water saving devices installed in your business (for example, low flow shower heads, water efficient toilets or taps)?
n=100

WOOLCOTT RESEARCH & ENGAGEMENT

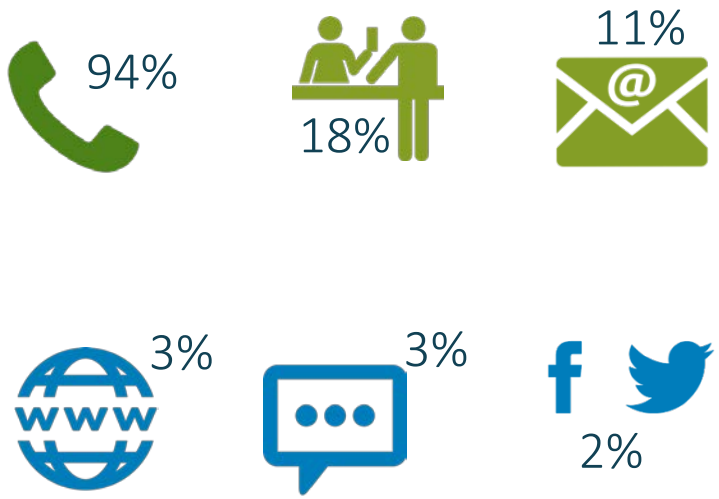
Contacting Essential Water

How easy do you think it is to contact Essential Water if you need to?



14% Don't Know

If you needed to contact Essential Water, which of the following methods would you prefer to use to interact with them?



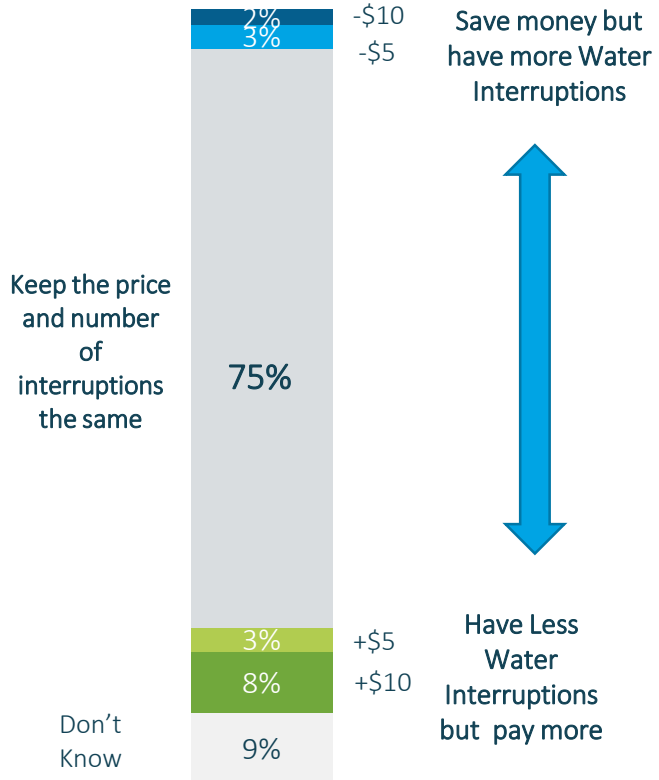
61% of customers thought it was 'quite/very easy' to contact Essential Water.

Almost all would prefer to telephone if they needed to contact EW.

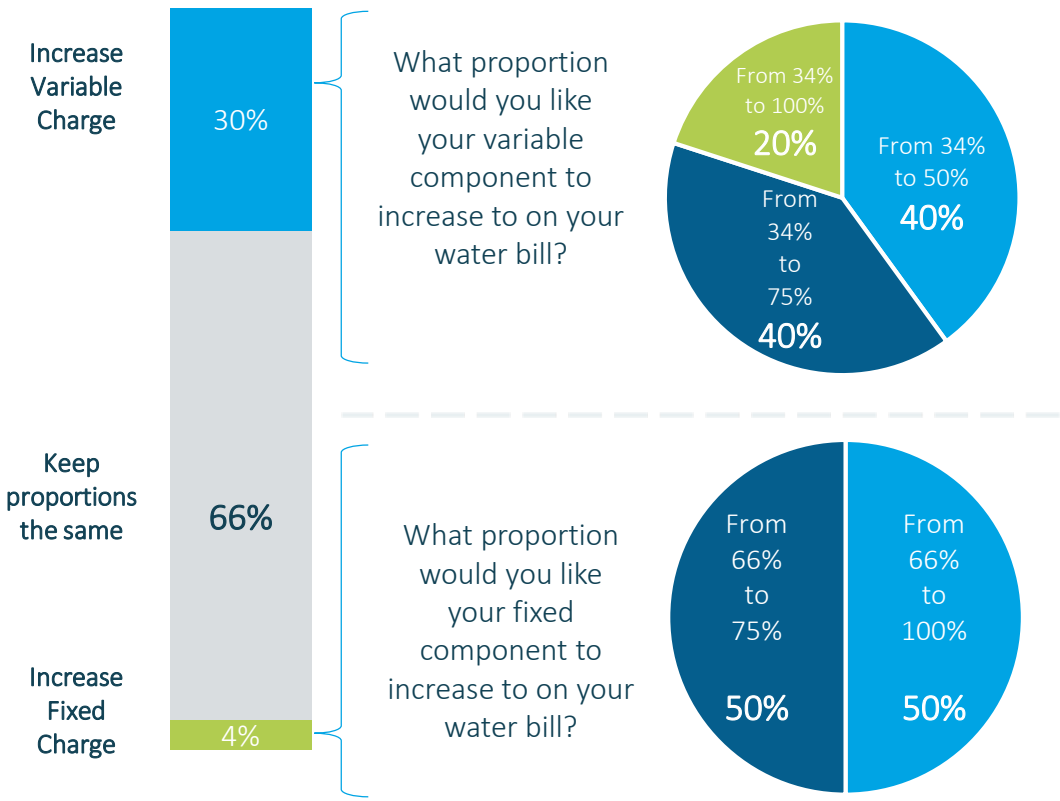
Q11. How easy do you think it is to contact Essential Water if you need to? n=100
Q12. And if you needed to contact Essential Water, which of the following methods would you prefer to use to interact with them? n=100

Price trade offs

Which best describes your preparedness to pay or reduce your water bills to change the level of service you receive from Essential Water?



Would you prefer to change the proportion of fixed and variable charges in your water bill?



Business owners reported they preferred to keep their bill and the number of interruptions the same.

While most did not want to change the fixed or variable component, there were 30% who were happy to increase the variable charge, from 30% to either 50% or 75%.

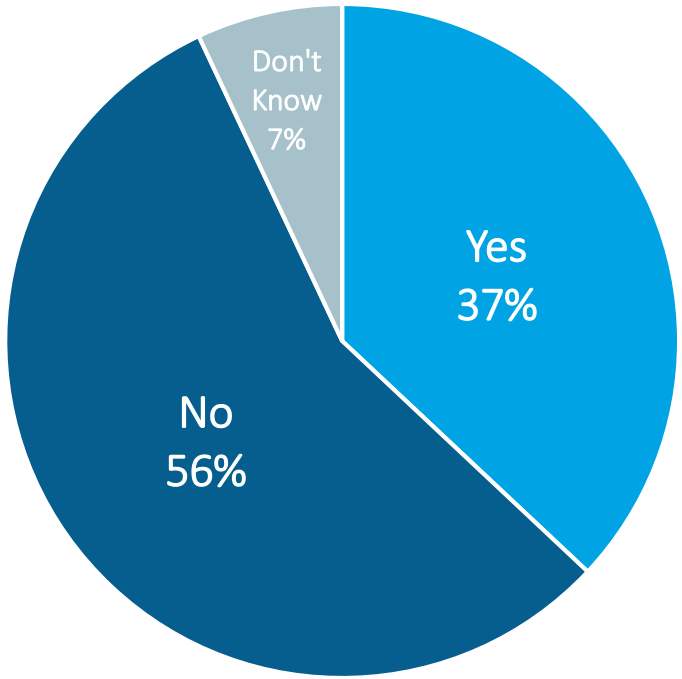
Q17. Which of the following statements best describes your preparedness to pay or reduce your water bills to change the level of service you receive from Essential Water? n=100
Q19. When you receive your water bill, there is a fixed charge component (that stays the same each quarter) and a variable charge (which goes up and down according to how much water you use). Currently around 66% of your water bill is fixed (i.e. the same each quarter), and 34% is variable (based on your usage).Bearing this in mind, would you prefer.... n=100
Q20/21. What proportion would you like your variable/fixed component to increase to on your water bill?
Q20 n=4 /Q21 n=30

WOOLCOTT RESEARCH & ENGAGEMENT

Sewerage usage charges

Which of the following statements best describes your feelings toward businesses having to pay a sewerage usage charge?

Do you think residential customers should pay around $10 more a year in order to reduce the sewerage charge for businesses?



Most business owners felt that business and residential customers should pay the same rates for water and sewerage services.

However, only a third (37%) felt that residents should pay more to reduce sewerage charges for businesses.

Q22. Currently small business customers have to pay a sewerage usage charge as well as a water usage charge. Residents do not currently pay for their sewerage usage. This means that small business customers pay more for their water bills than residential customers for the same service. Which of the following statements best describes your feelings toward this?
Q23. At the moment, small business customers pay more than residential customers by about $115 a year for the same sewerage service because they pay a sewerage usage charge that residential customers don't pay. Do you think that residential customers should pay around $10 more a year in order to reduce this difference?
n=97; Broken Hill Businesses only

Interest in Engagement

Are you interested in being involved in other customer engagement programs to help Essential Water in their business decision making process?

Do you agree or disagree that surveys such as these are a good way of Essential Water obtaining feedback from customers?

Online surveys were seen as a good way for Essential Water to obtain feedback from customers yet many are not interested in further participation.

Q24. Are you interested in being involved in other customer engagement programs to help Essential Water in their business decision making process?
Q25. Do you agree or disagree that surveys such as these are a good way of Essential Water obtaining feedback from customers?
n=100

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Essential Water Survey for the IPART Submission

Contact: Karyn Wong or Liz Sparham

2019-23 Water and Sewerage Pricing Submission

Attachment 6: How our water charges are determined

29 June 2018

1. What is tariff structure?

Tariff structure refers to the mix of charges Essential Water uses to recover the required revenue from water and sewerage customers. The tariff structure considers issues such as:

- how usage is charged to promote economic efficiency,
- the balance between fixed charges and usage charges, and
- whether tariffs should vary between different customer classes.

Our water and sewerage tariffs consist of fixed charges for having water and sewerage services and variable charges that are applied to the volume of water consumed or sewerage discharged. This attachment explains how we have considered short run and long run marginal costs in setting our usage charges. This attachment should be read in conjunction with Chapter 12 'Tariff structures and price path'.

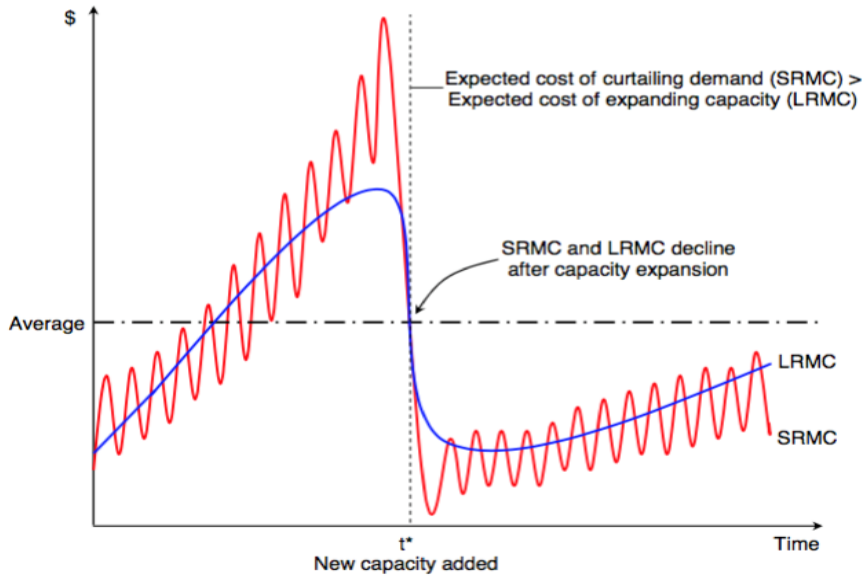
2. Short run marginal costs

An important distinction between short run marginal costs (SRMC) and long run marginal costs (LRMC) is when physical capacity is constrained and supply is unable to meet demand. In this circumstance, the SRMC rises to the price necessary to curtail demand so that demand is exactly equal to the available capacity.

While SRMC can both exceed and be less than LRMC at any point in time, on average the SRMC will equal LRMC. This is because if SRMC persistently exceeds the LRMC then producers are provided with signals to expand capacity.

Specifically, when demand is growing over time, or subject to short term fluctuations, SRMC can be expected to increase to the point at which the cost of curtailing demand exceeds the cost of expanding capacity to meet that demand, that is, when LRMC is less than SRMC. This relationship is illustrated in Figure 12-1 prepared by NERA Economic Consulting (NERA)[1], which depicts the SRMC and LRMC in a market in which demand is increasing over time.

Figure 1: LRMC, SRMC and capacity expansion



Source: NERA (see footnote below)

[1] NERA *Final Report An Economic Framework for Estimating Long Run Marginal Costs in the Victorian Water Industry – 24 January 2012.* Page 37.

NERA points out that the same relationship holds when demand is decreasing.

SRMC is often construed as simply the operating and maintenance costs associated with providing the water or sewage service. It is important to note this does not always hold. When an incremental change in demand can be met through increased supply from existing capacity, the SRMC will be equal to the operating and maintenance costs associated with producing those additional units.

However, an important but often overlooked element of SRMC is that, in the event that supply cannot expand to match the incremental change in demand, SRMC rises to whatever level is necessary to curtail demand to match available capacity, e.g. by imposing water restrictions.

The issue of 'scarcity' is a fundamental component of marginal costs that needs to be incorporated in any calculation of SRMC. Specifically, in situations where there is an increased risk of supply shortages, SRMC will rise well above variable costs.

SRMC estimates by regulators have traditionally not included the cost of scarcity, which significantly undervalues marginal costs under certain conditions.

As illustrated in Figure 1, and when taking scarcity into consideration, pricing is necessarily more volatile for SRMC even though over time the outcomes would be expected to produce similar outcomes. Customers are unlikely to support a pricing framework where charges would change frequently to reflect water scarcity, as would be required under a SRMC framework.

In its review of reform for metropolitan water utilities, the Productivity Commission highlighted the need for marginal pricing to include 'flexible' pricing that caters for 'scarcity', as highlighted below.[2]

The marginal opportunity cost of water has three components:

1. *the marginal direct cost of water — this refers to the variable operating costs (short-run marginal costs (SRMC)) of extracting water*
2. *the cost of externalities — this is the net value of any losses and gains in welfare that water use imposes on individuals other than those engaged in the activity*
3. *the scarcity value of water — this relates to the value of the opportunity foregone by using water in the present period rather than in the future, and the increased future costs that occur as a consequence of current use (such as higher extraction charges)*

> *Pricing bulk water according to the marginal opportunity cost of supply will cause prices to adjust to the demand–supply balance, because the opportunity cost increases as current (and expected future) water availability decreases. In this sense, the opportunity cost of supplying a unit of water is a dynamic concept.*
>
> *This describes what many refer to as 'flexible' or 'scarcity' pricing of bulk water. All of these terms essentially describe the same thing — a price that varies in line with movements in the current and expected future demand–supply balance.*

The need to include the pricing of scarcity within a SRMC framework was noted by NERA in a report for the Smart Water Fund prepared the Metropolitan Melbourne water businesses.[3]

> *[SRMC] therefore takes account of the costs of shortages faced by customers. This may include costs such as plant losses in residential gardens and parks, reductions in agricultural output, diminished quality of golf courses and higher production costs for breweries. In the extreme case where, say, Melbourne ran out of water, the SRMC could include the cost of bottled or tankered-in water.*
>
> *Whether prices are more appropriately set by reference to SRMC or LRMC depends on the institutional circumstances of the market and the demand and supply implications of departing from either cost measure. In the water industry, pricing by reference to LRMC is often preferred (see Box 3.1 below). In practice, the realisation of any significant benefits under SRMC pricing arrangements would require*

[2] Productivity Commission *Inquiry Report Volume 1 Australia's Urban Water Sector No. 55, 31 August 2011*. Page 135.

[3] NERA Final Report *An Economic Framework for Estimating Long Run Marginal Costs in the Victorian Water Industry – 24 January 2012. Page*

customers to be able to respond to short-run changes in price. Significant technological developments and associated investment in metering infrastructure would be required for any such benefits to be available in the Victorian water industry.

As noted by NERA, the technological developments that would need to take place to facilitate pricing to enable customers to respond to SRMC pricing arrangements do not currently exist for the Victorian water industry. We consider this equally applies to customers in the Broken Hill region.

3. Long run marginal costs

In the long run, the level of capacity in a network is a variable factor of production. When an asset approaches the end of its useful life, a network business has the choice of maintaining its current level of capacity, increasing capacity or decreasing capacity, depending on demand and use of the network.

In its 2016 determination for Sydney Water, IPART stated its preference for setting water usage prices for metropolitan utilities based on LRMC:

> *Our usual practice is to set water usage prices with reference to the LRMC of water supply. The LRMC of supply represents the costs of the next efficient augmentation to Greater Sydney's water supply network. The aim of setting water usage charges at LRMC is to encourage the efficient use and allocation of resources, by signalling to customers the costs of their decisions to consume an extra unit of water.*[4]

This is consistent with conventional regulatory thinking across a number of sectors. For example:

- the National Electricity Rules (NER) require distribution network tariffs to be based on long run marginal cost;[5]
- the National Gas Rules (NGR) require that gas networks must take into account the long run marginal cost for the reference service;[6] and
- IPART has based a number of decisions, including the Sydney Water 2016 decision, on LRMC.

When tariffs accurately reflect the marginal or forward-looking cost of increasing demand, consumers may make informed choices about their water usage. Pricing efficiency seeks to promote investment in the network by distributors only when consumers value changes in demand more than the cost of delivering the changes in network capacity necessary to meet that demand.

We note that IPART in its 2014 determination looked to set usage charges with reference to SRMC, rather than LRMC:

> *We have found, however, that there is no long term water supply/demand imbalance in Broken Hill for the foreseeable future. Consumption has never reached more than 67% of the safe system yield and Broken Hill's population, and therefore water consumption, is declining (see Appendix B for more detail). Therefore, no augmentation of water supplies is required in Broken Hill for the foreseeable future.*
>
> *For this reason, Essential Energy's LRMC of water supply effectively equals its short run marginal cost of supply (SRMC). That is, the water usage price should be set with reference to the SRMC, or simply the marginal cost of supply.*[7]

As outlined later in this chapter, the water usage rate was ultimately set closer to the plausible range of LRMC estimates than SRMC estimates.

[4] IPART *Review of prices for Sydney Water Corporation From 1 July 2016 to 30 June 2020 - Final Report June 2016*. Page 155.

[5] NER Rule 6.18.5(f)

[6] NGR Division 8, Rule 94(4).

[7] IPART *Essential Energy's water and sewerage services in Broken Hill Review of prices from 1 July 2014 to 30 June 2018 Water — Final Report June 2014.* Page 122.

We do not support the use of SRMC for setting water usage charges, even if adjustments are made for water scarcity as outlined above (which we do not think are practical with current metering). Setting a price signal that is based on a calculation of marginal cost that includes the cost of increasing physical capacity is an important price-setting signal, even if augmentation is unlikely to occur over the short term.

4. LRMC or SRMC? No perfect solution

There are many advantages for LRMC as the basis for water usage pricing. These include:

- on the demand side, LRMC pricing may send better signals for long-term decisions that affect consumption levels, such as households' investment in water-using appliances and industries' location choices. For example, landscaping, dual-flush toilet, breweries, orchards, golf courses, parks, underground sprinkler systems and pools all last for decades and involve decisions that take consumers some time to make and implement,[8]
- LRMC appropriately signals to customers regarding the costs of augmenting the network at some point in the future as physical capacity is depleted,
- LRMC provides greater pricing stability for customers, as a longer-term view of marginal costs would smooth out the potentially significant price increases associated with SRMC pricing as physical capacity tightens,
- LRMC provides a framework that is consistent with regulatory trends that overwhelmingly are based on LRMC, and
- Availability of accumulation meters that support pricing on an LRMC basis that would not support more flexible pricing that addresses scarcity under an SRMC framework.

Essential Water notes that, while it supports the use of LRMC as the starting point for setting of infrastructure usage charges, LRMC is by no means a perfect surrogate for usage charges. For instance:

- LRMC tends to undervalue the costs of scarcity: [9]
  - when water is scarce, LRMC significantly under-prices water because it fails to reflect the opportunity cost of current water consumption, which will at times be greater than the LRMC. This leads to over consumption of water and will tend to bring forward investment in supply augmentation,
  - at times of high inflows, water is abundant and a price based on LRMC is too high. This will cause some consumers to forgo water consumption that they would have valued and will delay investment in supply augmentation that would benefit the community, and
- LRMC pricing also assumes that demand and supply are known with certainty, and that investments in capacity are made optimally. However, this is not the case where there is a high degree of uncertainty involved in relation to rainfall events and, therefore, using LRMC pricing can lead to inefficient outcomes.

On balance, Essential Water considers that the advantages of adopting LRMC as the appropriate starting point for the setting of water usage charges outweigh the associated disadvantages. We therefore propose that LRMC is more appropriate than SRMC as the starting point for calculating water usage charges.

[8] See NERA *Final Report An Economic Framework for Estimating Long Run Marginal Costs in the Victorian Water Industry – 24 January 2012.* Box 3-1, Page 8.

[9] Productivity Commission *Inquiry Report Volume 1 Australia's Urban Water Sector No. 55, 31 August 2011*. Page 136.

5. Calculating LRMC

LRMC is most commonly estimated using one of two methodologies, which using the common terminologies, are:

- the Turvey perturbation (Turvey) method, which involves estimating the present value (PV) of the change in future costs required due to a marginal change in forecast demand, and
- the average incremental cost (AIC) method, which involves estimating the PV of future costs required due to the forecast demand that is above current demand.

Both are measures of the PV of costs incurred in meeting additional demand averaged over a time period and are calculated to give a measure of cost per unit. The methods differ primarily in the weight they give to costs in different time periods and the level of data and analysis used to calculate results. Where data is available, the perturbation method is preferable. In most cases, however, network businesses do not have the necessary data to undertake this approach and instead rely on the AIC method.

Essential Water supports the use of LRMC as the starting point for the calculation of our water usage charges.

As IPART noted in its 2014 determination:

> *Essential Energy has provided us with estimates of its marginal costs of supplying water in various weather conditions, and the expected frequency of these conditions. Based on this cost and frequency information, we estimate that the weighted average marginal cost of treated water supply across all conditions is about $1.31 per kL. We therefore consider it reasonable to maintain a single usage price for treated water at $1.67 per kL and to also set usage prices for other water quality types at their current Tier 1 prices, as per our Draft Report.*[10]

For reference, the $1.67 per kilolitre referred to in the above quotation was stated in 2013-14 dollars. The price currently charged for water usage stated in today's dollars ($2018-19) is $1.80 per kilolitre.

As part of the 2014 determination process, Essential Water provided estimates of its marginal cost to supply treated water that included an upper boundary of $2.84 per kilolitre ($2013-14). When stated in today's dollars ($2018-19) this upper boundary is **$3.03 per kilolitre**.

We have not recalculated our marginal cost estimate from the 2014 determination. We consider that the LRMC of the water business would not have changed materially since the 2014 determination and that the current $1.80 per kilolitre remains representative. In this circumstance, we did not consider that the additional costs and resources required to recalculate the LRMC were justified for the small number of customers in the Broken Hill region.

We have, however, reviewed recent regulatory decisions on the appropriate LRMC for water utilities in order to establish a plausible LRMC range as outlined in the following section. We then assessed whether our current LRMC was within this plausible range as the starting point for setting our proposed treated water usage charge.

6. Plausible range for LRMC for water usage.

The following values highlight the LRMC estimates from recent regulatory decisions for water utilities around Australia:

IPART marginal cost for Essential Water	$1.44 per kilolitre,[11]
Essential Water 2017-18 usage charge	$1.80 per kilolitre,
Sydney Water's estimate	$1.24 per kilolitre,[12] and

[10] IPART *Essential Energy's water and sewerage services in Broken Hill Review of prices from 1 July 2014 to 30 June 2018 Water — Final Report June 2014.* Page 113.

[11] $1.31 from 2014 determination ($2013-14) converted to $2018-19 by using an inflation index of 1.096.

[12] IPART *Review of prices for Sydney Water Corporation From 1 July 2016 to 30 June 2020 - Final Report June 2016*. Page 288. Indexed from $1.16 in $2015-16 to $2018-9 using an index of 1.069.

IPART's estimate for Sydney Water	$1.19 - $1.39 per kilolitre,[13]
Hunter Water	(not set on LRMC basis),
Gosford City Council / Wyong shire Council	not explicitly stated in most recent review, and
ICRC (Icon Water)	$0.77 - $1.86 per kilolitre.[14]

The ERAWA in Western Australia has set the following range of LRMC estimates for the Water Corporation, based on a lower, mean and upper estimate of the LRMC of water that can be used to inform the level of tariffs for the three metropolitan usage tiers, as follows, in 2017-18 dollars ($2018-19 values provided in parentheses):[15]

- lower estimate: $1.00 per kilolitre ($1.03 per kilolitre),
- mean estimate: $2.41 per kilolitre; ($2.47 per kilolitre), and
- higher estimate: $3.77 per kilolitre ($3.86 per kilolitre).

Given the ERAWA calculations are based on a three-tiered pricing approach that does not exist in Essential Water's region, we have decided to exclude these results from further assessment.

Based on the sample of LRMC estimates listed above, combined with the upper LRMC boundary of $3.03 per kilolitre as provided at the 2014 determination (and stated in today's dollars), we have identified a **plausible LRMC range of $0.77 - $3.03 per kilolitre** used as the starting point for the calculation of our proposed water usage charge.

As outlined in Chapter 12 'Tariff structures and price path', we propose to increase our current water usage charge of $1.80 per kilolitre (2018-19) in each year of the upcoming regulatory period (2019-23) by the annual X factor on the basis that:

- our current $1.80 per kilolitre is within the plausible LRMC range of $0.77 per kilolitre to $3.03 per kilolitre as outlined above. This forms the starting point for setting the usage charge, which we propose to update each year of the four-year regulatory period by the average change in price,
- based on our overarching objectives, a usage charge higher than the LRMC value selected as the starting point, i.e. at the upper end of the LRMC range or above, is an appropriate means to promote environmental sustainability,
- approximately 70 per cent of residential customers (66 per cent of business customers) surveyed would like the current fixed / variable proportion of their bills maintained. Approximately 23 per cent of residential customers (30 per cent of business customers) have told us that if the fixed to variable proportion of the bill were to change, that it should be weighted more towards variable (rather than fixed) charges. On this basis, we propose to maintain the water (and sewerage) usage charge(s) at the current level, and
- our water usage charges are at the low end of what other water Australian utilities charge their customers.

[13] Ibid. Indexed from $1.11 and $1.30 in $2015-16 to $2018-9 using an index of 1.069.

[14] ICRC *Technical paper 2 Marginal cost pricingin the ACTTariff Review 2016Regulated water and sewerage services - Report 4 of 2016, June 2016*. Page xv. Range of $0.72 to $1.74 in $2015-16 indexed to $2018-19 using an index of 1.069.

[15] Economic Regulation Authority of WA - *The efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water Final Report - 10 November 2017*. Appendix 4, page 156.

Attachment 9 - IPART Submission Checklist

Pricing submission checklist	Provided?	Location
Executive summary	☑	Provided in Chapter 1 'Context and background'.
A separate plain English summary for customers	☑	A separate 'plain English summary is provided as a standalone document. To assist the reader, a copy is also provided as part of our consolidated written submission document.
Your role and functions	☑	Provided in Chapter 1 'Context and background' Chapter 1 'Context and background' (Sections 2.2 and 3.3) and Chapter 3 'Service standards' (Section 2).
Your performance over the current determination period	☑	
* Service levels	☑	Provided in Chapter 3 ' Service standards'.
* Sales volumes and customer connections	☑	Provided in Chapter 5 'Sales volumes and customer numbers'
* Historical operating expenditure (data presented in nominal $) – Totals or comparisons in real $ of the year stated in your SIP letter from IPART	☑	Provided in Chapter 7 'Operating expenditure' (Section 2.3). Comparisons provided in real $2018-19.
* Historical capital expenditure (data presented in nominal $) – Totals or comparisons in real $ of the year stated in your SIP letter from IPART	☑	Provided in Chapter 6 'Capital expenditure' (Section 2.4). Comparisons provided in real $2018-19.
* Implementation of current determination under section18(5) of the IPART Act	☑	Essential Water has implemented the approved prices as determined by IPART.
Standards of service		
* Service levels (quantity, quality and scope) for next determination period	☑	Provided in Chapter 3 ' Service standards' (Section 6).
Chapter 3 - Key building block inputs		
Forecast operating expenditure		
* A business case for proposed operating expenditure	☑	Provided in Chapter 7 'Operating expenditure' (Section 2.3), Attachment 4 'Water Strategic Plan' (Section 7) and Attachment 5 'Water Asset Management Plan'. (Section 3.9 and Section 9).
* Five years of future operating costs by service	☑	Four years of forecasts provided in Chapter 7 'Operating expenditure' (Section 2.5) as we are proposing a four year regulatory period. Five years of forecasts provided in confidential Attachment 4 'Water Strategic Plan', confidential Attachment 7 'AIR / SIR' and confidential Attachment 8 'Metro Model - Revenue and pricing model'.
* Operating costs are in real $ of the year stated in your SIP letter	☑	Provided in Chapter 7 'Operating expenditure (Section 2.5) and in confidential Attachment 7 'AIR / SIR' and confidential Attachment 8 'Metro Model - Revenue and pricing model'. Forecasts provided in $2018-19 unless otherwise stated.

Pricing submission checklist	Provided?	Location
* Drivers, justification and services levels	☑	Drivers are provided in Chapter 7 'Operating expenditure (Section 2.4. Section 2.5 and Section 2.6), Attachment 4 'Water Strategic Plan' (Section 7) and Attachment 5 'Water Asset Management Plan' (Sections 3.9 and 9). These sections also outline the justification for the major operating activities by driver. Expenditures are required to meet the service standards outlined in Section 6 of Chapter 3 'Service standards'.
* Approach to allocating common or shared costs	☑	Provided in Chapter 7 'Operating expenditure' (Section 2.6.6).
* Forecasting methodology, rationale and assumptions and risks	☑	Provided in Chapter 7 'Operating expenditure (Section 2, including risks in Section 2.8), confidential Attachment 4 'Water Strategic Plan' (Section 7) and confidential Attachment 5 'Water Asset Management Plan' (Sections 3.9 and 9).
* Potential efficiency gains	☑	Provided in Chapter 7 'Operating expenditure (Section 2.7).
Forecast and historical capital expenditure		
* A business case for proposed capital expenditure	☑	Provided in Chapter 6 'Capital expenditure' (Section 2.5), confidential Attachment 4 'Water Strategic Plan' (Section 12) and confidential Attachment 5 'Water Asset Management Plan'. (Sections 4 to 8).
* Five years of capital expenditure by service	☑	Four years of forecasts provided in Chapter 6 Capital expenditure' (Section 2.5) as we are proposing a four year regulatory period. Five years of forecasts provided in confidential Attachment 4 'Water Strategic Plan' (Section 11), confidential Attachment 7 'AIR / SIR' and confidential Attachment 8 'Metro Model - Revenue and pricing model'.
* Long-term investment plan is provided (at least 10 years)	☐	Essential Water's planning horizon for the water business as included in confidential Attachment 4 'Water Strategic Plan' and confidential Attachment 5 'Water Asset Management Plan' only extends to 2024.
* Capital expenditure is in real $ of the year stated in your SIP letter	☑	Four years of forecasts provided in Chapter 6 Capital expenditure' (Section 2.5) as we are proposing a four year regulatory period. Five years of forecasts provided in confidential Attachment 4 'Water Strategic Plan' (Section 11), confidential Attachment 7 'AIR / SIR' and confidential Attachment 8 'Metro Model - Revenue and pricing model'. Forecasts provided in $2018-19 unless otherwise stated.
* Drivers, justification and service levels	☑	Drivers are provided in Chapter 6 'Capital expenditure' (Section 2.5 and Section 2.6), in confidential Attachment 4 'Water Strategic Plan' (Section 12) and in confidential Attachment 5 'Water Asset Management Plan' (Sections 4-8). These sections also outline the justification for the major capital activities by driver. Expenditures are required to meet the service standards outlined in Section 6 of Chapter 3 'Service standards'.
* Forecasting methodology, rationale and assumptions and risks	☑	Provided in Chapter 6 'Capital expenditure' (Section 2), confidential Attachment 4 'Water Strategic Plan (section 13 'Key risks') and confidential Attachment 5 'Water Asset Management Plan' (Sections 3 to 8, including 8.5.10).
* Key assumptions underlying forecasts and identified risks	☑	Provided in Chapter 6 'Capital expenditure' (Section 2), confidential Attachment 4 'Water Strategic Plan (section 13 'Key risks') and confidential Attachment 5 'Water Asset Management Plan' (Sections 3 to 8, including 8.5.10).

Pricing submission checklist	Provided?	Location
Proposed Regulatory Asset Base (RAB), Weighted Average Cost of Capital (WACC), depreciation and asset lives		
* Total RAB for each year of the determination, RAB by service and/or service area and supporting calculations	☑	Provided in Chapter 8 'Regulatory asset base' (section 2 'Opening RAB for 2019-20' and Section 3 RAB for 2019-20') and confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'HistRAB' and Worksheet 'RegAssets').
* Proposed WACC, WACC components and supporting analysis	☑	Provided in Chapter 9 'Rate of return and inflation' (Sections 3 to 5).
* Outline of proposed depreciation method	☑	Provided in Chapter 8 'Regulatory asset base' (Section 3.3) and as calculated in confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'RegAssets').
* Proposed asset lives	☑	Provided in Chapter 8 'Regulatory asset base' (Section 2.7) and as calculated in confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'RegAssets').
Asset disposals		
* Asset disposals	☑	Provided in Chapter 8 'Regulatory asset base' (Section 3.2).
Tax allowance		
* Forecast tax depreciation and cash and asset contributions that contribute to regulated activities	☑	Provided in Chapter 10 'Corporate income tax' (Section 2) and as calculated in confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'Tax allowance').
Chapter 4 – Forecast sales volumes and customer numbers		
Sales volumes		
* Sales volumes and methodology used to forecast sales	☑	Provided in Chapter 5 'Forecast sales and customer numbers' (Sections 2 to 4) and confidential Attachment 7 'AIR/SIR' (Worksheet 'Non financial').
Customer numbers		
* Connection numbers by year and service * Entitlement and licence numbers by year, valley, water source and type (bulk water utilities)	☑	Customer numbers provided in Chapter 5 'Forecast sales and customer numbers' (Sections 2 to 4) and confidential Attachment 7 'AIR/SIR' (Worksheet 'Non financial'). Essential Water is not a bulk water utility and, as such, we are not required to provide the bulk water entitlement and licence number information.
Chapter 5 – Prices and impacts		
Proposed prices		
* Proposed tariffs for each service over the next five years (real $ of the year stated in your SIP letter)	☑	Provided in confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'Charges 1') and confidential Attachment 7 'AIR/SIR' (Worksheet 'Price data'). We have also provided proposed tariffs in nominal dollars in Chapter 12 'Tariff structures and price path' (Section 5) to assist readers when assessing bill impacts.
Impacts of proposed prices		

Pricing submission checklist	Provided?	Location
* Indicative bill impacts in nominal $ over the next five years (can also provide in both real $ and nominal $ in executive summary)	☑	Provided in 'plain English' Overview, Chapter 12 'Tariff structures and price path' (Section 5.6 to Section 5.10), confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'Bills') and confidential Attachment 7 'AIR/SIR' (Worksheet 'Price data'). We have also provided proposed tariffs in nominal dollars in Chapter 12 'Tariff structures and price path' to assist readers when assessing bill impacts.
* Transitional arrangements to manage or mitigate price changes	☑	N/A – no transitional arrangements to manage or mitigate price impacts are proposed.
* Rebates and other measures to mitigate price impacts	☑	Rebates are identified in Chapter 12 'Tariff structures and price path' (Table 12-5).
* Other impacts and matters in section 15 of the IPART Act	☑	The submission addresses all relevant elements s15 of the IPART Act, including information provided in Chapter 1 'Context and background' (social impact and the environment), Chapter 2 'Form of regulation' (the need to promote efficiency and the costs of providing the services), Chapter 3 'Service standards' (standards of quality, reliability and safety), Chapter 5 'Sales and customer number forecasts' (levels of demand), Chapters 6 'Capital expenditure' and 7 'Operating expenditure' (costs of providing services and need for greater efficiency), Chapter 9 'Rate of return and inflation' (appropriate rate of return on public sector assets, effect on general price inflation over the medium term), Chapter 11 'Revenue requirement' (impact on borrowings and dividend requirements) and Chapter 12 'Tariff structures and price path' (environmentally sustainable development through pricing efficiency).
* Analysis of affordability	☑	Provided in 'plain English' Overview and Chapter 1 'Context and background (Section 3.4)
* Financial impacts on your agency	☑	Provided in 'plain English' Overview, Chapter 11 'Revenue requirement' (Section 4 'Financial viability') and confidential Attachment 8 'Metro Model - Revenue and pricing model' (Worksheet 'RegFin' and Worksheet 'Scenarios').
Customer consultation		
* Details of customer engagement	☑	Provided in 'plain English' Overview, Chapter 4 'Customer and stakeholder engagement', Attachment 1 'Stakeholder Engagement Framework', Attachment 2 'Community Feedback Report' and Attachment 3 Essential Water Survey Report – Woolcott'.
Chapter 6 - Additional considerations		
Recycled water		
* Five years of capital and operating expenditure, avoided and deferred costs	☑	Five years of proposed operating expenditure is provided in Attachment 7 'AIR/SIR' (Worksheet 'Opex by function'). There is no capital expenditure forecast for recycled water in the 2019-23 period. Due to the unregulated nature of the recycled water pricing arrangements, and no proposed capital expenditure over the 2019-23 period, avoided and deferred costs are not applicable.
* Evidence that costs are fully ring-fenced	☑	While the Essential Water business is not required to fully ring fence its activities from Essential Energy as part of its AER-approved Cost Allocation Methodology, there is separate reporting of the water and sewerage business, with separate reporting of recycled water costs and prices.

Pricing submission checklist	Provided?	Location
* Any supporting evidence such as business cases for avoided or deferred costs	☑	N/A - As there is no forecast capital expenditure associated with providing recycled water for the 2019-23 period, no business cases are required.
Unregulated costs and revenue		
* Ring-fencing of unregulated revenue and costs	☑	The Essential Water business is not required to fully ring fence its activities as part of Essential Energy's AER-approved Cost Allocation Methodology. With the exception of recycled water (which is separately identified in its proposal), Essential Water does not have any unregulated revenues for its water and sewerage business.
Outstanding issues from the previous determination		
* Explanation of how outstanding issues have progressed with a summary of analysis in appendix	☑	Provided in Appendix 6 'Outstanding issues from 2014 determination',
Elements of regulatory framework		
* Length of determination period	☑	Provided in 'plain English' Overview and Chapter 2 'Form of regulation' (Section 2.3).
* Other issues eg, form of regulation, measures to mitigate risk	☑	Provided in 'plain English' Overview and Chapter 2 'Form of regulation' (Section 3 'Form of control and volume adjustments', Section 4 'Incorporating the new bulk water supply arrangements', Section 5 'Cost pass through arrangements', Section 6 'Incentive mechanisms' and Section 7 'Other considerations'.
Chapter 7 - Quality assurance requirements		
Quality assurance requirements and CEO's Declaration		
* QA check has been performed	☑	Completed. Performed as part of the CEO's Declaration process.
* CEO's Declaration has been provided and signed	☑	Provided as Attachment 9 'CEO Declaration'.