POWER AND WATER'S FUTURE SERVICE DELIVERY

Customer Deliberative Forums Final Research Report

October 2017



REPORT PREPARED FOR



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DISCLAIMER

In preparing this report we have presented and interpreted information that we believe to be relevant for completing the agreed task in a professional manner. Where we have made assumptions as a part of interpreting the data in this report, we have sought to make those assumptions clear. Similarly, we have sought to make clear where we are expressing our professional opinion rather than reporting findings. Please ensure that you take these assumptions into account when using this report as the basis for any decision-making.

The qualitative research findings included throughout this report should not be considered statistically representative and cannot be extrapolated to the general population. For the quantitative research results, the base (number and type of respondents asked each question) and the actual survey questions are shown at the bottom of each page. Results may not always total 100% due to rounding.

This project was conducted in accordance with AS: ISO20252:2012 guidelines, to which Newgate Research is accredited. Project reference number: NGR 1608014.

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Executive Summary

Key findings and strategic recommendations

KEY FINDINGS

This report presents results from two 4-hour deliberative forums conducted on the 21st and 23rd of August 2017 in Darwin and Alice Springs. A total of 66 customers participated in these engagement events (including 10 in an initial test forum). Participants were selected to be broadly representative of Power and Water's customer base including specific representation of vulnerable customers, solar customers, and small business owners and managers.

Electricity issues, interests, and concerns

Consistent with previous engagement activities, key energy interests raised prior to Power and Water presenting its proposals included:

Concern about high and rising bills, and the impact on pensioners and other vulnerable groups; interest in ways customers could reduce costs (e.g. via solar or being more energy efficient) and estimated meter readings – which a few felt were linked to unexpectedly high bills.

Reliability of supply, with some participants in both locations frustrated by the frequency and duration of blackouts – although some praised the efforts of crews who work hard to restore supply.

Interest in solar, with some wanting to know what Power and Water was planning in relation to the transition to renewables.

In addition, certain customer segments raised the following issues:

- Residential customers were concerned about the rising prices and the impact on Northern Territory businesses;
- Highly vulnerable residential customers were struggling with bill affordability and reducing usage;
- New residential solar customers were feeling inadequately informed and confused by their new electronic meters; and

 Small-Medium Enterprise (SME) customers appeared most frustrated by brownouts, outages and by perceived limits placed on the number of solar panels they can install.

Knowledge and attitudes towards Power and Water

While most customers had heard of Power and Water before the forums, there was a **limited understanding of its role or contribution to power bills.** While many were aware that Power and Water is a monopoly, most were unaware that it is regulated, and there was no awareness of the Northern Territory Government's Electricity Pricing Order (Pricing Order).

Attitudes to Power and Water were **mostly neutral at the start of the forum** but improved at the end due to:

- A greater appreciation of Power and Water's role and work, and some of the challenges and costs it faces; and
- Perceptions of transparency and genuine customer consultation created throughout the engagement.

Reliability and responsiveness

Initially, customers expressed varied satisfaction with current reliability and responsiveness levels. However, they were **highly accepting of Power and Water's plan to maintain current service levels** for the majority of customers. On average, participants rated the plan a 7.1 out of 10 with 46% rating it a 10 out of 10. Knowledge of improved reliability over recent years and a reluctance to pay more underpinned this broad acceptance.



KEY FINDINGS (CONTINUED)

Demand charging

Moving to a cost-reflective model was explored in principle, noting that Power and Water's tariff model was still being developed.

Customers were somewhat split on this issue, but more often found the principle acceptable. The average rated acceptability was 5.7 out of 10 with nearly half (45%) rating it 7 or more, while just under a third (30%) gave a low acceptability rating of 0-3.

The large majority indicated they understood the impact to them of any changes, with the Pricing Order in place. Other main reasons for acceptance were:

- The alternative (investment in building network capacity) would increase electricity bills;
- This model offers the opportunity to reduce bills;
- There would be limited (if any) impact on residential and SME customers; and
- Customers mentioned that it may help to promote energy efficiency along with associated environmental benefits.

Principle reasons for rejection were:

- Limited ability to shift usage behaviours, and concerns for others such as pensioners – just under a quarter (23%) indicated they definitely or probably would not shift any usage;
- Timing of the peak period (12-6pm) particularly impacting on use of air-conditioning in the hottest part of the day, and on dinner time for younger families; and
- Scepticism that bills could go down.

Removal of cross-subsidies

Most participants were in favour of Power and Water's proposal to phase out cross-subsidies from residential to business customers, with an average acceptability of 7.1 and 57% of participants rating it as a 7 or more out of 10.

However, although customers supported the proposed reforms, there were some concerns about the impact of increased electricity bills for businesses. Some residential customers felt the cost would be passed back to them by businesses anyway. Some SMEs, however, saw this as a good opportunity to look at ways to become more efficient and reduce energy usage.

Smart metering

Overall, customers demonstrated a strong interest in smart meters, once the benefits were explained and understood.

Almost three quarters (73%) of customers found the proposal to roll out smart meters to all new customers to be *completely acceptable* (scoring a 10 out of 10).

There were some strong concerns from a small minority regarding potential health risks with smart meters. Some solar customers who had just paid for a new electronic meter due to PV installation were concerned that other customers would now be receiving a 'better' meter than theirs for 'free'.

In-home energy audits

There was strong resistance to the idea of funding in-home audits for vulnerable customers. It was typically not considered Power and Water's responsibility, and customers did not see a clear or guaranteed return on their investment. However, highly vulnerable customers were supportive.



KEY FINDINGS (CONTINUED)

Online communications

- Participants were highly supportive of Power and Water using digital communication - 90% of participants rated the importance of Power and Water developing and promoting its website and online tools as a 7 or more out of 10.
- There was low awareness of the Power and Water app (20%) and moderate awareness of any Power and Water social media platforms (45%).
- However, there was strong interest in the app, with 58% of customers either rating their interest at 7 or more out of 10, or having already downloaded it prior to or during the deliberative forums. This, along with the qualitative feedback, indicates that Power and Water should certainly do more to publicise the app's existence.
- SMS was highlighted as the preferred communication channel, by far, for communicating planned and unplanned outages.

Proposed engagement program

- The costed engagement proposal was strongly rejected by participants with over half (55%) scoring this at a 0 or 1.
- Reasons for rejection were price/value perceptions and a lack of detail about what this would include or achieve. There was an expectation that Power and Water should engage with customers as a matter of course.
- However, several customers did not realise that this included education initiatives, which were strongly valued regarding efficient energy usage, solar and particularly for vulnerable customers.

Undergrounding established power lines

- Despite the widespread popularity of undergrounding powerlines for visual amenity and reliability purposes, the majority of customers did not want more undergrounding once they understood the costs involved.
- However, customers were more in favour than might be expected, given the quoted cost (\$1M per km), with a quarter (26%) in favour.
- There was less support for a shared cost arrangement with local councils.

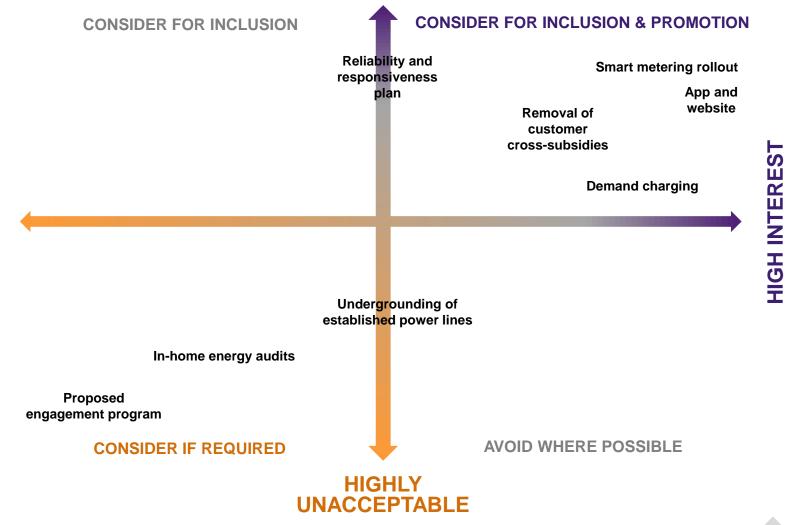
Final advice for Power and Water

- Participants were very positive about the engagement process, rating the quality of the forums at 8.2 out of 10.
- The majority of customers also felt positively about Power and Water's regulatory proposal, but this result could be improved with more information, more options/levels of choice (including options which reduced current bills) and by including other aspects of interest such as solar power and ways to reduce the environmental impacts of energy use.
- Final advice from customers centred on cost-efficiencies, enabling solar installation capabilities and other new technologies, continued communication, and the environment.



SUMMARY OF RESPONSES TO THE PROPOSALS CONSULTED ON

HIGHLY ACCEPTABLE



NEWGATE RESEARCH

-OW INTEREST

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RECOMMENDATIONS FOR POWER AND WATER'S 5-YEAR PLAN

We note that Power and Water's regulatory proposal will also be informed by an upcoming large energy user forum as well as external factors that are beyond the scope of this deliberative engagement. Ideally, future engagement should also seek to gain feedback on the proposed tariff model (which had not yet been finalised) including case studies and modelling of impacts for customers not protected by the Pricing Order.

Based on the engagement conducted to date we recommend Power and Water should:

- 1. Proceed with the reliability and responsiveness proposal: It may also be of benefit to provide data about reliability and responsiveness and how it compares across the Northern Territory, to provide a clearer understanding of the current situation across the regions.
- 2. Proceed with the introduction of cost reflective pricing based on demand principles: As part of this, Power and Water should carefully consider an averaged rather than a one-off model for demand charging, recognising customers' concerns around the potential bill-shock which may result from this. If, and when, Power and Water moves to demand charging, it will be important to assist customers during the transition period via targeted communication and education. In any case, there would be conceivable benefit in communicating with customers about the importance of shifting usage behaviours during the peak to delay significant future infrastructure costs.
- 3. Phase out cross-subsidies from residential to business customers: But consider the impact on SMEs (and possibly large energy users, who did not participate in these forums), and ways to assist them with the transition e.g. via a glide path.
- 4. Proceed with the smart metering plan: Consider fast-tracking this, given the high level of support and the potential introduction of demand charging. In addition, Power and Water could consider accommodating solar customers who have just paid for a meter upgrade and are now concerned that it is not the best option and that others are receiving a better option for free (e.g. allowing them to purchase a modem at cost). The Power and Water customer service team should also be briefed to address concerns about the perceived negative health impacts of smart meters.
- 5. Make more use of digital: Invest in the development and promotion of the app, website and SMS notifications, to give customers more insight via real-time information.
- 6. Consider an expanded communications program: There is an opportunity for Power and Water to become a trusted information source on topics such as solar and energy efficiency (noting there was broad opposition to providing in-home energy audits for vulnerable customers).
- 7. Only consider undergrounding power lines in some areas, (e.g. blackspots): Given the openness to this from some customers, a cost-benefit analysis may be worthwhile for particular locations.

RECOMMENDATIONS FOR COMMUNICATING DEMAND CHARGING

Task	Suggested messaging approach
Clearly state the case	 The network is operating at peak capacity, and there are two alternatives: Build more infrastructure – this would be very costly and likely result in bills going up for everyone in the long run Or redistribute demand (flatten the peak) through pricing signals – this will have a different impact on different customers depending on when they use electricity, their willingness to adjust behaviour, and their uptake of solar/batteries/etc. The regulator requires that networks move to this model of charging to keep overall costs to customers down.
Create confidence in the figures	 The peak exists in all areas of the NT, including your area. Provide figures at both a state and local (Darwin, Alice Springs) level. The timing of peak pricing can't be changed to better accommodate what suits customers – infrastructure has to be built to service the peak regardless of when it falls.
Ensure understanding that the model can benefit customers	 (In the event the Pricing Order is amended or removed), customers will have the opportunity to further reduce their bills, to take advantage of cheaper pricing, through small changes in their behaviour. It is not simply that peak becomes more expensive; off-peak also becomes cheaper. Critically, it's 'revenue neutral', not a profit-making exercise. Provide case studies and worked examples of how charges would change in different scenarios, including for customers who do and don't make any changes, and who do different things to shift their behaviours.
Carefully consider type of language used to communicate messaging	 Do not talk about 'adding an extra charge' – this is misleading as customers interpret that they are all going to get 'hit' with extra costs, even during periods when they are not at home. Consider empowering language making it clear the customer has control.
Manage conversation to avoid emotive responses or focusing on potential negative impacts on vulnerable people and/or quality family time	 We're here to help customers through it as much as possible; including education on easy ways to shift usage. Explain how customers who are at home during the peak period can manage the use of their air conditioner to minimise peak usage. Provide more education around solar – including assisting those who rent/live in public housing and consider advocating for the transition to renewables (rather than being impartial about energy generation).





Introduction

Background, objectives and methodology

BACKGROUND AND RESEARCH OBJECTIVES

Background

As part of the process of transitioning network regulation under the National Energy Rules, Power and Water must produce a Stakeholder and Customer Engagement Strategy Report for submission to the Australian Energy Regulator (AER) as part of its draft regulatory reset proposal due in January 2018.

Power and Water contracted Newgate Research to undertake a comprehensive four-phase research and engagement project to help inform Power and Water's longterm plan for their electricity network.

This report details findings from the deliberative forums module as part of this broader engagement program. Power and Water will use these findings to inform the remainder of its consultation program, and overall submission to the AER.

Objectives

The purpose of the deliberative forums was to provide customers with information about key elements and options Power and Water is considering for its 5-year plan, and to explore and understand their views and preferences regarding these, including:

- Reliability and responsiveness standards;
- The principles of cost-reflectivity and demand charging;
- Current cross-subsidisation from residential to business customers;
- Smart metering roll-out;
- Undergrounding established power lines;
- Communication and engagement preferences; and
- Assistance for vulnerable customers through in-home energy audits.

Some of these items – such assistance for vulnerable customers, and undergrounding – had emerged as issues during the focus group discussions conducted in February, and Power and Water was seeking further more detailed consultation on these.

OVERVIEW OF THE RESEARCH PROGRAM

THIS REPORT PRESENTS RESULTS FROM PHASE FOUR

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ESTABLISHMENT PHASE	STAKEHOLDER INTERVIEWS	FOCUS GROUPS	CUSTOMER ADVISORY COUNCIL	DELIBERATIVE FORUMS RESIDENTIAL & SME
Initial planning phase including meetings with Power and Water – comprising detailed background briefings, finalisation of requirements and approaches, and development of materials, options and trade-offs to present to customers.	36 in-depth interviews with a mix of senior representatives from: large energy users; Government and regulatory bodies; advocacy groups; Indigenous groups; and energy generators and retailers.	Nine x 2-hour focus groups held in Darwin, Palmerston, Katherine, Alice Springs and Tennant Creek with a total of n=73 residential and business customers.	Council established with assistance from Newgate, and two meetings held – in May and July. Designed to engage with key stakeholders on regulatory proposals and the engagement approach.	Two x 4-hour deliberative forums in Darwin and Alice Springs, with a mix of residential and SME customers, following a test forum in Darwin.
From November 2016	February-April 2017	February 2017	Throughout 2017	August 2017 – reported here

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METHODOLOGY

- Results presented in this report are based on two 4-hour deliberative forums conducted with Power and Water customers on the 21st and 23rd August 2017. Each forum comprised four to five tables of participants, drawn from a variety of customer segments as noted in the table below.
- The forums comprised a series of activities including: presentations from senior Power and Water executives; table discussions; open-forum discussions; and voting on specific options and their acceptability.
- A 3-hour rehearsal group with 10 participants was conducted prior to the forums, on August 9th, to ensure the line of questioning, activities and presentations were well received and understood by 'everyday' customers and contained all the required information. Results from the test forum were included in the qualitative analysis but not the quantitative results (since some of the questions and options put to participants were changed after the test forum).
- Residential participants were incentivised \$175 while SME participants were incentivised \$250 in line with standard market research practice.

TABLE / SEGMENT	Darwin Test Forum 9 th August 2017	Darwin 21 st August 2017	Alice Springs 23 rd August 2017	Total
SMEs	2	5	6	13
Solar (PV panel)	2	5		7
High vulnerability	2	6	9	17
Medium vulnerability	2	6	5	13
Low vulnerability	2	6	8	16
Total	10	28	28	66

FORUMS IN DARWIN AND ALICE SPRINGS

















Context: Electricity issues and attitudes towards Power and Water

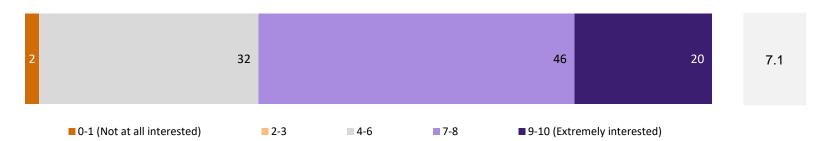


INTEREST IN ELECTRICITY ISSUES

PARTICIPANTS WERE VERY INTERESTED IN ISSUES SUCH AS RISING ELECTRICITY COSTS, RELIABILITY AND THE TRANSITION TO RENEWABLES

Baseline interest in electricity issues (start of forum) %

Average rating



Participants arrived at the forums highly interested in electricity issues with 66% rating their interest at 7 or more out of 10. Their interests and concerns were similar to those from the February focus groups with the strongest themes as follows:

- Concern about rising bills, and related aspects such as:
 - Instances of unexpectedly high bills and their impact on pensioners and other vulnerable groups;
 - Interest in ways people could reduce costs (e.g. via solar or being more energy efficient);
 - Comment on the reliance on air-conditioning in the Territory and whether climate change will increase the need for this in the future; and
 - ♦ Estimated readings which a few felt were the reason for unexpectedly high bills.
- Reliability of supply, with some participants in both locations frustrated by the frequency and duration of blackouts we
 note there had been a blackout in Darwin on the day of the forums which may have impacted views.
- Interest in solar, with some wanting to know what Power and Water was planning in relation to the transition to renewables.

Q5. Please complete the following table, circling the number which best reflects your opinions. Your general level of interest in issues to do with electricity (0 = not at all interested, 10 = extremely interested). Base: n=56

INTEREST IN ELECTRICITY ISSUES

IN THEIR WORDS

The cost of electricity increases quicker than wages and CPI. Medium vulnerability customer, Darwin

It's difficult to predict your next bill, it changes substantially all the time. Medium vulnerability customer, Darwin

It's linked to climate change – increasing humidity caused by climate change leads to higher air con, which increases costs.

High vulnerability customer, Alice Springs

Power and Water limited the size of solar units I could have – I wanted to install larger units.

SME, Alice Springs

Solar is making things better and reducing bills, but cost is still a concern.

Residential solar customer, Darwin

Solar should be mandatory on new houses – Power and Water should focus on this.

SME, Darwin

Outages when overseas visitors come to Darwin is embarrassing. Low vulnerability customer, Darwin

Outages do happen... three hours off just recently. I'm looking to go off-grid. SME, Alice Springs

There were some recent outages at 5-6am and then tea time – and there was nothing on TV communicating this. Medium vulnerability customer, Alice Springs

Does turning off your lights and fans really make a difference?

High vulnerability customer, Darwin

Not being able to run aircon [due to cost] is a big problem. Low vulnerability customer, Darwin

Reliability in billing... I always get estimated bills because I have a locked gate. Residential solar customer, Darwin

Everything is an estimate! Medium vulnerability customer, Alice Springs I was surprised at the power cost after coming from Adelaide.

Low vulnerability customer, Alice Springs

INITIAL PERCEPTIONS OF POWER AND WATER

KNOWLEDGE, UNDERSTANDING AND VALUE PERCEPTIONS WERE LARGELY NEUTRAL AT THE START OF THE FORUM, BUT INCREASED WITH EDUCATION

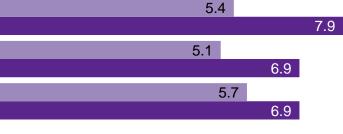
Knowledge and attitudes towards Power and Water

Knowledge and understanding of what Power and Water does

Overall feelings towards Power and Water

Value received for the electricity services you pay for

- While most customers had heard of Power and Water before the forums, there was a **limited understanding of its role or contribution to power bills** – including whether it is also a retailer, its relationship with Jacana Energy, the separation of the supply chain and the rationale behind the structural separation.
- While many were aware that Power and Water is a monopoly, most were unaware that it is regulated. This lack of knowledge led to some concern that it will do as it pleases and raise prices whenever it wants to. Additionally, there was little or no awareness of the Pricing Order.
- Overall attitudes to Power and Water were largely neutral (with an average of 5.1 and a most common rating of 5). Reasons for lower scores included perceptions of high energy bills, estimated readings and a few negative



Start of forum

End of forum

experiences with the water side of the business.

- Attitudes to Power and Water became more positive at the end of the forum which was largely due to:
 - Reassurance that Power and Water is subject to regulation;
 - Awareness of the Pricing Order (noting that it may not always exist in its current form);
 - An increased understanding of the work Power and Water does, particularly in reliability and responsiveness, and some of the challenges and costs it faces; and
 - Perceptions of transparency and genuine customer consultation created through the forum process.

Q5. Please complete the following table, circling the number which best reflects your options. Your level of knowledge and understanding of what Power and Water does (0 = know nothing at all, 10 = know a lot); Your overall feelings towards Power and Water (0 = strongly negative, 10 = strongly positive); The value you receive for the electricity services you pay for (0 = very poor, 10 = excellent). Base: n=56

ATTITUDINAL DIFFERENCES AMONGST CUSTOMER SEGMENTS CONCERNS AND INTERESTS OF EACH SEGMENT CONTEXTUALISE THEIR RESPONSE TO POWER AND WATER'S PROPOSALS



Residential customers were particularly concerned about the impact of any price rises for both themselves and business customers – they felt the Northern Territory economy was struggling, and did not want businesses (who provide employment as well as valued services) to leave the Territory. Not surprisingly SMEs also shared this sentiment.



High and medium vulnerability customers mentioned they were making every effort to reduce their bills, including showing bills to their children to make them more conscious of usage – although several were not convinced their efforts were making much difference. High vulnerability customers were often very willing to support free in-home energy audits for vulnerable customers whereas **low vulnerability** customers were among the *least* prepared to pay for initiatives which did not have a direct benefit to themselves – such as in-home audits, or improved reliability in lower performing suburbs.



Many **residential solar** customers had only recently installed their panels (early-mid 2017, using the Northern Territory Government home improvement scheme voucher). Some felt confused, under-informed, and asked numerous questions of Power and Water staff during the forums. Several did not understand how to read their new electronic meter and had struggled to find any information online (although the Alice Springs Solar Cities pamphlet was mentioned positively). There was also some concern about whether feed-in tariffs would change and some concern about whether the proposals Power and Water presented would affect them.

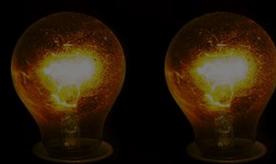


SMEs were typically more aware and informed about Power and Water and the electricity network than other customer segments. Some were frustrated with the perceived limits placed on the number of solar panels they were allowed to install – or the limits on the amount of solar energy they can put back into the grid. Their confusion about the situation was coupled with a desire for more information about solar installations overall and reflected a belief that solar should be promoted more strongly (given perceived benefits in reducing bills and the load on the network).

Some SMEs were quite frustrated by brownouts and power outages – this appeared to be a bigger issue in the Darwin region, although the issue was raised in both forums. Some had installed surge protection equipment or back-up generators and voiced concern about the network's perceived age and capacity, requesting a carefully-planned and thorough upgrade.

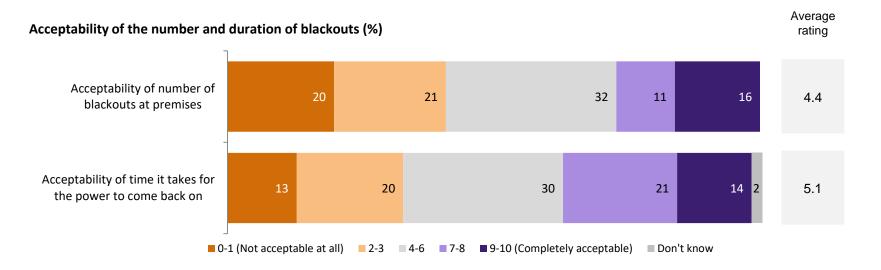


Reliability and responsiveness





PERCEPTIONS OF CURRENT RELIABILITY AND RESPONSIVENESS SATISFACTION WITH CURRENT RELIABILITY AND RESPONSIVENESS WAS MIXED

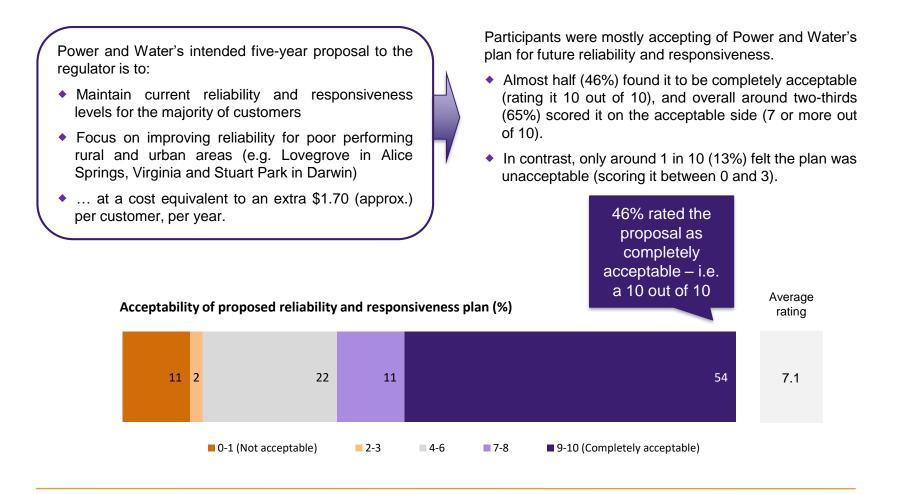


- Several participants in both locations spontaneously mentioned the frequency and duration of planned and unplanned outages (and brownouts). When asked to score their acceptability of the current situation:
 - Two in five customers (41%) marked the acceptability of the number of blackouts at their premises at a low 0-3 out of 10, while only just over a quarter (27%) rated it highly at 7-10;
 - A third (33%) of customers found the duration of blackouts at their premises unacceptable (0-3 score), with another third (35%) finding it acceptable (7-10 score).
- Reliability appeared to be a greater problem for customers at the forums than those at the earlier focus groups. Some
 mentioned outages which had occurred on the day of the forum or very recently which may have led to the issue being more
 top of mind.

Q5. The acceptability of the number of blackouts at your premises; The acceptability of the time it takes for the power to come back on after a blackout (0 = not at all acceptable, 10 = completely acceptable). Base: n=56

RESPONSES TO POWER AND WATER'S 5-YEAR PLAN FOR RELIABILITY AND RESPONSIVENESS

CUSTOMERS WERE MOSTLY ACCEPTING OF THE PLAN TO MAINTAIN CURRENT SERVICE LEVELS FOR THE MAJORITY OF CUSTOMERS

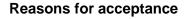


Q7. How acceptable is this plan to you? (0 = not at all acceptable, 10 = completely acceptable). Base: n=54

REASONS UNDERPINNING THE ACCEPTANCE OF THE RELIABILITY AND RESPONSIVENESS PLAN

IMPROVED RELIABILITY OVER RECENT YEARS AND A RELUCTANCE TO PAY MORE WERE KEY REASONS FOR SUPPORT

It is worthwhile noting *why* customers were generally accepting of a plan in which the majority would continue to receive the same levels of reliability and responsiveness for the next five years, given the initial dissatisfaction expressed in relation to blackouts. The presentation provided a better understanding of the issue with key reasons for acceptability noted below.



- Seems fair to bring everyone up to the same standard
- \$1.70 is a minor and therefore acceptable increase
- The actual figures for current frequency and duration of blackouts (2.7 per year, 160 mins across the Northern Territory; 2.4 per year and 140 mins in Alice Springs) are acceptable in the context of Power and Water's operational environment
- Recognition of the improved performance over recent years
- Knowing that additional or upgraded infrastructure would cost even more, and an unwillingness to pay for this
- Many blackouts are due to natural or external causes

Reasons for rejection

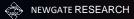
- Cost: worries about current bill affordability (especially among the most vulnerable customers), and suspicion that giving permission for any price rise will 'open the door' to further increases
- Some confusion about what the implications would be per household/business (rather than 'per customer')
- Importantly reasons given for rejection were not because people wanted more reliability everywhere, but because they did not want any increase to their own bills

I'd be happy to pay much more [to improve reliability]... \$1.70 is very small compared to the overall bill. The cost if we lose power is a lot more than that.

SME, Alice Springs

I'm happy with the current situation... Hardly any outages and not for too long, usually only an hour. High vulnerability customer, Darwin Why pay extra? Even if it's a small amount, it all adds up. Residential solar customer, Darwin

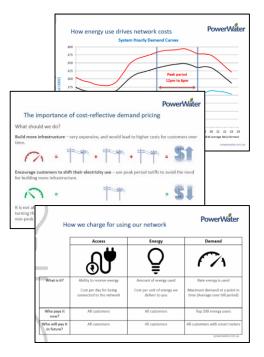
Demand charging



PROPOSED INTRODUCTION OF DEMAND CHARGES THE MOVE TO A COST-REFLECTIVE MODEL EXPLORED IN PRINCIPLE

To gain an understanding of customer reactions to cost-reflective pricing principles, Power and Water gave a presentation which outlined:

- An approximate breakdown of cost components on electricity bills (49% generation, 40% transmission and distribution, 1% system control, and up to 10% retail component);
- The Regulator's requirement that network providers move toward 'cost-reflective pricing', where the price people pay is reflective of their impact on the network and the demands they place on it;
- How energy use drives network costs;
- The alternative to cost-reflective demand pricing i.e. building more infrastructure – and its potential impact on bills;
- That residential and SME customers are protected by the Pricing Order, so the proposed changes will only affect the biggest 200 customers; and
- The breakdown of access, usage and demand charges, including who pays these now and will in the future.



It is important to contextualise participants' responses by noting the specifics of Power and Water's tariff model were yet to be developed and as such:

- Cost-reflectivity was explained and explored in principle only
- Many participants viewed this question through the lens of 'peak and off-peak charging'

ACCEPTABILITY OF DEMAND CHARGING

CUSTOMERS WERE SOMEWHAT SPLIT ON THIS ISSUE, BUT MORE LIKELY TO FIND THE PRINCIPLE ACCEPTABLE

Average Acceptability of proposal to introduce demand charges (%) rating 5.7 15 25 25 20 2-3 4-6 7-8

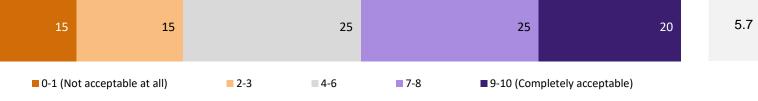
Just under half (45%) of participants rated the acceptability of the proposed introduction of demand charging highly at a 7 or more, while around a third (30%) giving it a low acceptability rating of 3 or below.

Reasons for rejection

- Limited ability to shift behaviour e.g. stay-at-home parents, large families, Indigenous households hosting their extended families, retirees, SMEs, those who cannot afford solar, and customers requiring energy for life support were mentioned specifically;
- Timing of the proposed peak (12-6pm Monday to Friday): some were sceptical that this was the actual peak in their area; and some (midhigh vulnerability) felt it would impact on meal times for younger families:
- Placing limits on use of air-conditioning between 12-6pm (the proposed peak) was particularly concerning (with concern exacerbated by perceptions of a warming climate);
- Did not understand that the proposed model could also provide the opportunity to reduce their bills; and
- Concerns and questions about smart meters discussed further in the ٠ smart metering proposal section of this report.

Reasons for acceptance

- Infrastructure is expensive and investment in building greater network capacity would drive prices up overall;
- Understanding that the model offers people the opportunity to reduce bills (not just increase them):
- Anticipation of limited, if any, impact on themselves personally (e.g. those who work during the proposed peak period and/or have solar):
- Incentivises efficiencies / reduces waste and promotes environmentally-friendly behaviours; and
- Customers would be protected by the Pricing Order anyway.





PERCEPTUAL MAP OF FACTORS UNDERPINNING THE **ACCEPTABILITY OF DEMAND PRICING**

PERSONAL IMPACTS ARE MOST IMPORTANT WITH IMPACT ON THE COMMUNITY ALSO CONSIDERED

My household **Power and Water** My community More Are smart Will it affect me? If so. important will I pay more or less? meters safe? Can I change my Existence of behaviour to save? **Pricing Order** Is it revenue neutral? Is it fair for Will it compromise my / my vulnerable family's comfort / health (e.g. customers? ability to use air conditioning)? Are smart meters easy and Will I be penalised for an cheap to install? abnormal / accidental spike in usage? Will it bring down Is it simple Will it encourage network costs, and and easy to ultimately bills in the and reward understand? long-term? energy efficiency? What happens if the shift in demand just creates a new peak? Is it cost-reflective? less important

Relates mostly to



DEMAND CHARGING IN THEIR WORDS

As tenants, we have very limited control over our bill... we can't get solar, we can't get more efficient hot water. High vulnerability customer, Darwin If you want the benefit of turning the power on you need to think of ways to change behaviours. Medium vulnerability customer, Alice Springs

Most of us come home at 3pm and that's our time with our family. High vulnerability customer, Alice Springs

With solar for us there is less opportunity to benefit and no incentive to further change... If the dollar for dollar feed in tariff was to be removed by Government then the incentive would come back.

Residential solar customer, Darwin

Darwin is already expensive and increasing the costs to business would see more increases passed on to consumers.

Low vulnerability customer, Darwin

Small businesses are the ones employing people and should not be penalised... Can we not think of other strategies like encouraging more people to use solar?

SME, Darwin

Businesses in Alice Springs are doing it hard enough! Medium vulnerability customer, Alice Springs

Logically its makes sense and it could be a good idea if it actually reduces wastage and the need for more infrastructure.

SME, Alice Springs

You can't put the aircon on in the morning and then have the house cool all day.

SME, Darwin

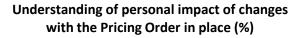
We need to be more informed with a before and after model. Show people peak and off peak, two adults and two kids in a house, do it at peak and off peak.

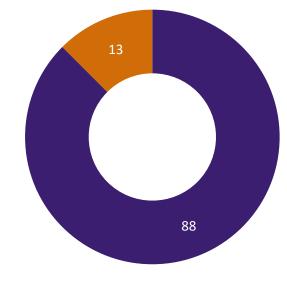
Medium vulnerability customer, Alice Springs

UNDERSTANDING OF IMPACT WITH PRICING ORDER IN PLACE

THE IMPACT OF THE PRICING ORDER WAS TYPICALLY WELL-UNDERSTOOD ONCE CUSTOMERS WERE INFORMED ABOUT IT DURING THE FORUMS

- As noted earlier, there was little or no prior awareness of the Pricing Order among customers – its existence and impact was fully explained during the presentation.
- The large majority of customers (87.5%) indicated that they understood the impact of any changes with the Pricing Order in place; i.e. there is a price cap, and their bills will not go up. Limited understanding was more prevalent among the more vulnerable customers.
- Some of those who found the proposed demand charging less acceptable noted concerns about what might happen if the Pricing Order was removed or amended in the future.





Yes, understand the impact

No, do not understand the impact

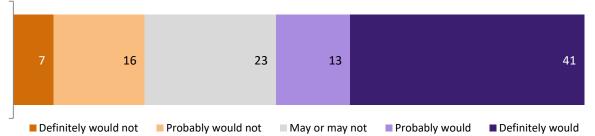
Q9. Do you understand the impact (to you) of any price changes with the pricing order in place? Base: n=56



LIKELIHOOD OF SHIFTING USAGE

MOST CUSTOMERS FELT THEY WOULD PROBABLY OR DEFINITELY SHIFT THEIR USAGE, IF IT MEANT LOWER BILLS

Likelihood of shifting some electricity outside of peak periods (12-6pm) if there were financial incentives to do so



Reasons given for likelihood of shifting usage

- Over half (54%) indicated that they 'definitely' or 'probably' would shift some of their electricity usage, while just under a quarter (23%) indicated they wouldn't. The remaining quarter (23%) were uncertain, and their likelihood of shifting would depend on actual prices and education about the topic.
- Those who felt they could shift thought they would be able to use appliances such as washing machines at different times, and/or install solar panels.
- Those who felt they would not shift their usage indicated they were usually at home during the proposed peak period and needed to use appliances such as air conditioners, televisions or ovens at that time – or they represented businesses who required electricity for their operations, and did not feel they were not using any more than they needed to now. Further, some customers were simply not prepared to change behaviour and would rather just pay more.

Suggested levers to increase shifting usage

- Education on how to shift behaviours, including:
 - Tips and fact sheets, covering a range of strategies including how to manage air conditioning – and how much customers could save by shifting usage;
 - Face-to-face information sessions, especially among highly vulnerable customers; and
 - ◊ School programs children 'will educate their parents'.
- Promoting the app and the introduction of smart metering will help customers manage behaviour if they understand how best to utilise these.
- **Promoting the benefits** of shifting usage in relation to keeping energy delivery costs down, and the environmental benefits.
- Some SMEs requested that Power and Water assist them with site audits and provide information on new technologies, as they did not see how they could shift their usage at all.

RESPONSE TO THE PRINCIPLES OF DEMAND CHARGING SUMMARY OF KEY FINDINGS AND CONSIDERATIONS

- 1. Opinions on the acceptability of the principle of demand charging were fairly divided (45% rating it a 7 or more out of 10), despite the fact that the large majority (88%) indicated they understood the impact on them personally with the Pricing Order in place.
- 2. This division of opinion was predominantly **based on their perceived ability and willingness to adjust** and take advantage of (or not be disadvantaged by) this tariff structure. Just over half (54%) indicated they would definitely or probably shift some of their usage if there were financial incentives.
- 3. However, to some degree, it is also based on their concerns around the potential for the tariff structure to have a negative impact on certain customers such as businesses, the elderly and stay-at-home parents.
- 4. This indicates **customers will need information and education about the importance of shifting some of their usage outside of the peak, to reduce or delay the need for Power and Water to spend money on major infrastructure capacity upgrades** (whether or not the Pricing Order is changed or removed, the 'call to action' would appeal to strong belief in avoiding wastage, potential increased costs and being more environmentally friendly). It is important for customers to feel they are in control and understand how to take advantage of the tariff structure or at least minimise their risk and impact on the environment – and even the Northern Territory economy. The nature and tone used in communicating this message will need careful consideration given the issue could instigate a strong emotional response.





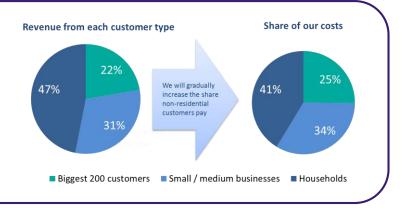
Cross-subsidies



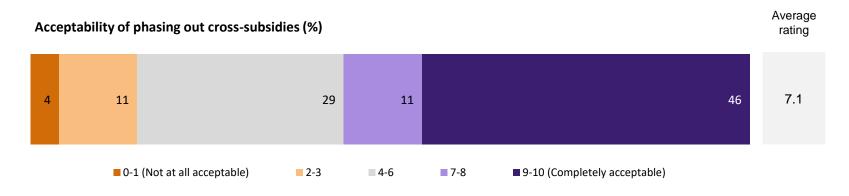
ACCEPTABILITY OF PHASING OUT CROSS-SUBSIDIES MOST PARTICIPANTS WERE IN FAVOUR OF THIS PROPOSAL

In the forums it was explained to participants that:

- Power and Water plans to align how much revenue it receives from customers with how much they cost to service; and
- Over time, this would mean a decrease in the revenue share paid by residential customers and an increase in the share paid by non-residential customers.



Most customers were in favour of this proposal, with 57% giving it a high acceptability score of 7 or more out of 10. It should be noted that participants in these forums were mainly residential customers.



Q11. How acceptable to you is Power Networks' proposed approach to gradually phase out the cross-subsidies from residential to business customers, so that larger customers are charged what it costs to service them? (0 = not at all acceptable, 10 = completely acceptable) Base: n=56

REASONS FOR ACCEPTABILITY OF PHASING OUT CROSS-SUBSIDIES

ACCEPTANCE WAS BASED ON EQUITY, DESPITE CONCERNS FOR BUSINESSES



Quite simply, it was considered fair

 Why should any customer group subsidise another? In particular, why should residents subsidise businesses (who make a profit and can claim tax deductions on their bills when residents can't)?

Some SMEs saw it as an opportunity

- They acknowledged the proposal was more equitable than the current situation, and they had been lucky to be subsidised thus far.
- Rather than cause for panic, some saw this as providing the impetus to embrace change and new technology, especially if Power and Water can provide guidance. For example, there was some interest in the ice machine that was mentioned, which provides cooling during peak times.

But there were some concerns about the impact of increased bills on businesses ...

- Some residents and SMEs voiced concern about the impact on businesses, as they are:
 - a) Often struggling with some businesses already closing or leaving the Territory due to high operational costs; and
 - b) Providing a valuable contribution to the community (employment and services).
- Some SMEs suggested large businesses should absorb more of the costs (i.e. large businesses should subsidise SMEs) as they can better afford it.
- Certain industries felt they would be impacted more than others (e.g. hospitality) – and were therefore more concerned. The proposal exacerbated some frustrations with the perceived limits placed on access to solar.

Some residential customers felt it would make no difference to them in the long run ...

- Some felt businesses would just pass their increased costs back to customers anyway – though SMEs varied according to whether they felt they could pass costs on or would need to absorb them.
- Some residential customers were also concerned about the potential impact on their employers, and were therefore happy to continue with cross-subsidisation.

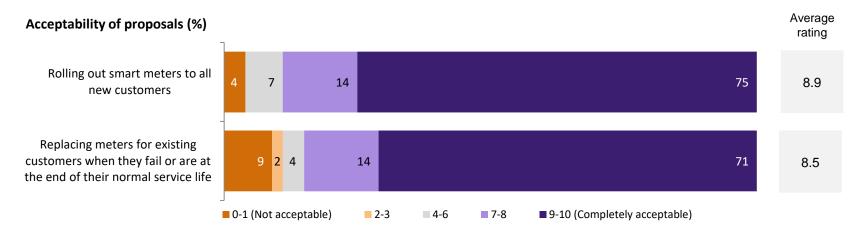
I am concerned about struggling businesses... I don't want to see them forced under due to high electricity bills. Medium vulnerability customer, Darwin



Smart metering

INTRODUCTION OF SMART METERS

CUSTOMERS WERE VERY INTERESTED IN SMART METERS, ONCE THE BENEFITS WERE UNDERSTOOD, AND SUPPORTED THE PLANNED ROLL-OUT



Participants were informed:

- There are different meter types standard accumulation, time-of-use accumulation, and smart – which have different capabilities in measuring how customers use energy.
- The benefits of having a smart meter include: customers will be able to monitor usage at certain times of the day; support new technologies like batteries and solar; reduce the need for estimated reads; reduce illegal consumption; and enable cost-reflective demand charging and pricing signals.

- Almost three quarters (73%) of participants found the proposal to roll out smart meters to all new customers to be completely acceptable (scoring a 10 out of 10), and only 4% gave a low acceptability score of 0-3.
- The acceptability of the second proposal replacing old meters for existing customers when they fail or are at the end of their normal service life – was also strongly accepted (with an average rating of 8.5 out of 10).

Q12. How acceptable are the following proposals to you? Rolling out smart meters to all new customers; For existing customers replacing their old meters when they fail or are at the end of their normal service life. (0 = not at all acceptable, 10 = completely acceptable) Base: n=56

REASONS FOR ACCEPTANCE OF SMART METERS

ACCEPTANCE WAS LARGELY DUE TO POTENTIAL COST SAVINGS AND HAVING MORE UNDERSTANDING AND CONTROL OVER ENERGY USAGE

Reasons for acceptance



- Simple common sense modernising, moving with the times.
- Enables people to take advantage of time-of-use or demand pricing.
- Helps with understanding more about usage, and possibly taking measures to reduce it – or identifying faults immediately.
- Significantly reduced number of estimates which are often considered to be on the high side.
- Meter readers won't need to visit the property some participants had found this intrusive or annoying (e.g. if they left the meter box open).

Reasons for rejection



- A small minority of participants had significant concerns around health and safety in relation to smart meters – these customers strongly opposed their introduction and wanted to opt out.
- Cyber security concerns were voiced e.g. "someone could hack into my meter and manipulate it or turn it off."
- A minority reacted against the additional monitoring of their usage (by 'big brother') or were concerned about the loss of jobs for meter readers.

Questions

Smart meters generate a lot of interest and questions which Power and Water will need to be prepared for in the event of a rollout – for example:

- How long will it last?
- How well will it stand up to the heat?
- Who pays? Who installs?
- Is it safe?

REPLACING CURRENT METERS WHEN THEY FAIL

THE SLIGHTLY LESS ENTHUSIASTIC ACCEPTANCE OF THIS SECOND PROPOSAL WAS DUE TO SOME CUSTOMERS FEELING IT WASN'T FAIR

- As already noted, the proposal to replace old meters for existing customers when they fail or are at the end of their normal service life was slightly less acceptable than the first proposal to roll out smart meters to all customers. This was due to the following:
 - It was seen to be fairer if all customers were standardised.
 - Customers wanted the smart meters installed sooner, rather than later, with some concerned they might have to wait up to thirty years for a smart meter, while others reaped the benefits. (It was explained at the tables that many meters are nearing the end of their normal service life).
 - Some solar customers who had just paid for an upgrade to a new electronic meter were also concerned that other customers would now be receiving a better meter than theirs for free.

It would stop the estimated meter readings.

SME, Alice Springs

If someone has a TOU meter in place you should make it smart as part of the rollout.

Residential solar customer, Darwin

Will we get charged if the meters break down?

High vulnerability customer, Alice Springs

Smart meters contain carcinogenics and cause cancer. There was a report on it.

Medium vulnerability customer, Darwin





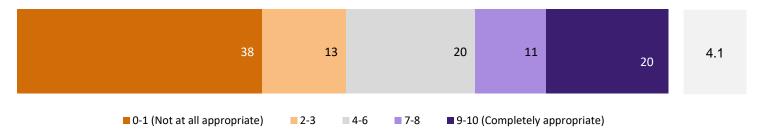




IN-HOME ENERGY AUDITS FOR VULNERABLE CUSTOMERS THERE WAS STRONG RESISTANCE TO THIS IDEA, WITH MOST BELIEVING IT WOULD BE INAPPROPRIATE

Appropriateness of funding in-home energy audits (%)

Average rating



- During the focus groups held in February, many participants expressed concerns for low income earners (such as pensioners) being able to afford rising electricity bills – and a desire for Power and Water to help customers to understand how to use energy more efficiently.
- Audits were suggested as one potential solution, and Power and Water sought further consultation on this.

- However, within the forums, there was strong resistance to the idea:
 - Around a third of customers (34%) scored a 0 for this initiative while around a half (52%) scored between 0 and 3;
 - Only around a third (31%) were supportive of the idea, scoring it between 7 and 10.

Q13. How appropriate do you think it is for Power and Water to offer in-home energy audits for households experiencing financial difficulty to help identify ways they can reduce their energy costs? (0 = not at all appropriate, 10 = completely appropriate) Base: n=56

REASONS BEHIND LACK OF ACCEPTANCE OF IN-HOME ENERGY AUDITS

CUSTOMERS QUESTIONED WHETHER IT WOULD HAVE AN IMPACT AND WHETHER IT IS POWER AND WATER'S RESPONSIBILITY

Reasons for rejection were:

- It was not considered to be Power and Water's responsibility with several feeling that it is the role of the retailers and/or the Government, as well as being covered by COOLmob (which was mentioned by several participants).
- Some were sceptical that customers would actually change their behaviour after the audit – either because they were unwilling to change, or because they could not afford the required investment e.g. in more efficient appliances.
 - The costs of individual audits (estimated at around \$500) also seemed expensive to some, for something that may have little impact on behaviours.
 - Some would have been more in favour of in-home energy audits if there
 was some sort of penalty or incentive involved to encourage change postaudit, so that the investment was not wasted.
- Finally, there was lack of understanding of what these audits could achieve beyond the obvious (advising people to switch off appliances or replace them with more energy efficient ones).

Within our sample, the **high vulnerability participants found the proposal more acceptable** than other customer segments, along with some business customers who had received audits themselves as part of a free Government scheme.

Ultimately, there was a preference for broader educational programs or advertising which would cover and reach more customers.

Power and Water should focus on low cost, good quality infrastructure, not worry about this stuff.

Medium vulnerability customer, Alice Springs

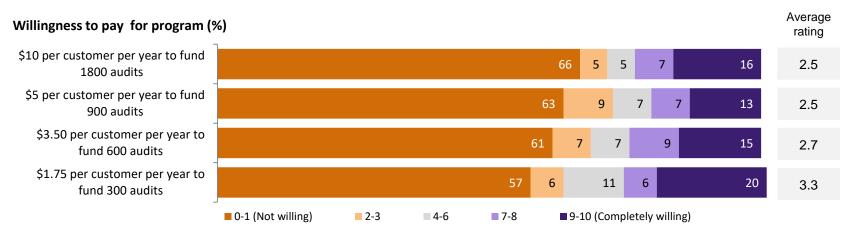
Doesn't COOLmob have booklets and things?

High vulnerability customer, Darwin

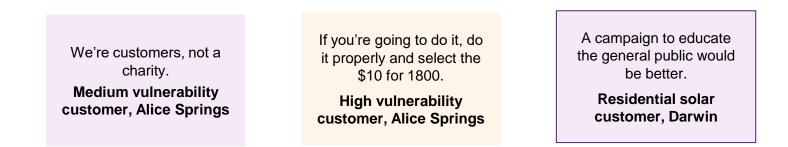
It's not rocket science, just turn off the switch.

SME, Darwin

SPECIFIC IN-HOME ENERGY AUDIT PROGRAM PREFERENCE MOST DID NOT WANT POWER AND WATER TO OFFER IN-HOME ENERGY AUDITS AT ALL



Customers were presented with four options and asked how willing they would be to pay for each of these. Acceptability increased as price decreased, but there was very limited support for any option, with a median score of 0 for all options.



Q14. For the next 5-year period (2019-2024), how willing would you be to pay for the following audit programs? (0 = not at all willing, 10 = completely willing) Base: n=54-56.

IN-HOME ENERGY AUDIT PROGRAM PREFERENCE

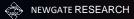
OPPOSITION TO THE AUDIT PROGRAM WAS CONFIRMED THROUGH ASKING AN ADDITIONAL QUESTION



- Finally, participants were asked to select one option for Power and Water's 5-year plan including the original four options, plus the option of not offering any audits at all:
 - ♦ Most customers (around two-thirds, or 65%) felt Power and Water should not offer any audits.
 - ♦ However, the second most popular option was the most expensive (\$10 per year to fund 1800 audits).
- This indicates the minority who were in favour believed it should be a substantial program they did not want Power and Water to take a half-hearted approach.

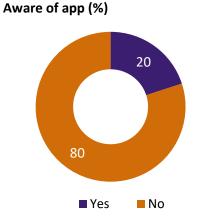
Q15. Which one of these options do you think Power and Water should propose in its plan? Base: n=55

Online communications



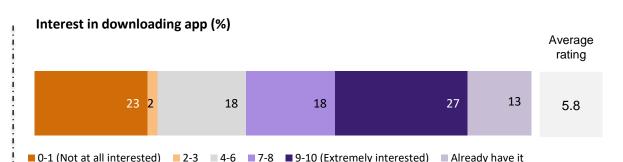
POWER AND WATER MOBILE APP

LOW AWARENESS OF THE APP, BUT SOME STRONG INTEREST, SUGGESTS POWER AND WATER SHOULD DO MORE TO PUBLICISE AND PROMOTE IT



Only 20% of customers were aware of Power and Water's app.

I downloaded it last night. You can take a photo of the meter reading! Medium vulnerability customer, Alice Springs



Reasonably strong interest in the app

- Around a quarter of customers (27%) were very interested in downloading the app, marking a 9 or 10 out of 10 – and another 18% could be described as quite interested (7 or 8 out of 10) while a further 13% either already had the app or downloaded it during the forums.
- Around a quarter (23%) were completely disinterested, scoring 0 or 1.
- Those who had a chance to look at the app during the forums were particularly positive.

Needs and wants from the app

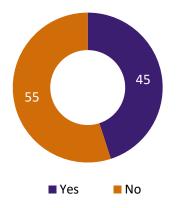
Customers suggested that the app could include push notifications if they're due to provide a meter reading (due to access issues), or if there is a planned outage approaching; an ability to pay bills, notify Power and Water about outages (or check they are aware), and educate themselves on how to save power; and links to retailers.

Q16. Were you aware that Power and Water had a mobile app that could be used to pay bills, log faults and supply meter readings, etc.? Base: n=55 Q18. How interested are you in downloading the Power and Water app? (0 = not at all interested, 10 = extremely interested) Base: n=56

POWER AND WATER WEBSITE & SOCIAL MEDIA

NEARLY HALF OF THE PARTICIPANTS WERE AWARE OF POWER AND WATER'S SOCIAL MEDIA PRESENCE AND THERE WAS STRONG INTEREST IN THE FURTHER DEVELOPMENT OF ONLINE TOOLS

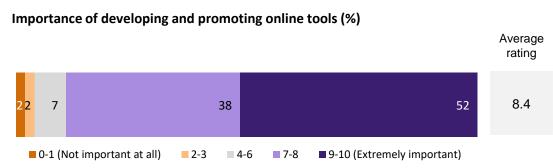
Aware of social media (%)



Awareness of Power and Water's social media presence was higher than the app (45% vs. 20%) but still under half of customers.

It's a very important tool

Low vulnerability customer, Darwin

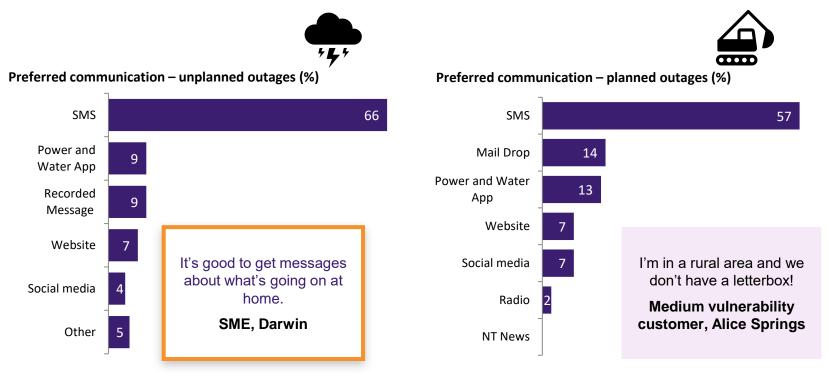


- Participants considered it to be very important for Power and Water to develop and promote its website and online tools, with 90% of customers rating this at a 7 or more out of 10.
- Several customers across a range of segments and locations mentioned they check Twitter or Facebook if there is an outage – some felt that older customers would be less able or likely to do so.
- One business participant also mentioned they would like to be able to pay bills online (not just through app) – we note this is already possible, but the customer was unaware.

Q19. How important is it for Power and Water to develop and promote its website and online tools? (0 = not important at all, 10 = extremely important) Base: n=56

PREFERRED COMMUNICATION METHODS

SMS WAS THE PREFERRED METHOD OF COMMUNICATION FOR PLANNED AND UNPLANNED OUTAGES



- During the focus groups, there was some interest in improving communications around outages to provide customers with a greater sense of control in managing the impact of these events – social media and text messaging were mentioned as particularly good channels since they require minimal effort from the customer.
- In the forums, SMS was clearly the preferred method of communication for both unplanned (66%) and planned (57%)
 outages while the app was the next preferred channel. Social media appeared to be less valued than the focus groups had
 indicated, due to the fact that it is not a push notification like the others.

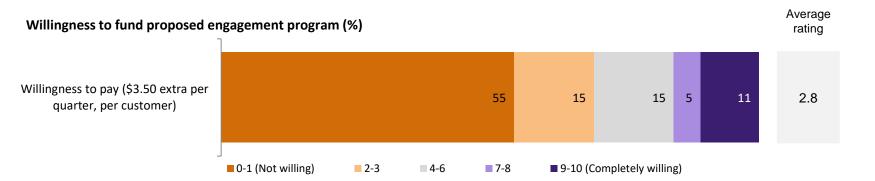
Q20. What is your <u>one</u> preferred method for Power and Water to communicate <u>unplanned</u> outages (blackouts)?

Q21. What is your one preferred method for Power and Water to communicate planned outages?



Proposed engagement program

WILLINGNESS TO FUND PROPOSED ENGAGEMENT PROGRAM MOST WERE UNWILLING TO PAY MORE FOR AN ONGOING ENGAGEMENT PROGRAM



- During the initial focus groups, there was strong support for Power and Water to be customer focussed and increase its overall level of engagement with the community; with some noting that this should be ongoing and embedded as part of business as usual.
- However, forum participants were not willing to fund Power and Water's proposed engagement program at the suggested price of \$3.50 extra per guarter per customer, with over half (55%) scoring this at a 0 or 1.



Q22. As a customer, how willing would you be to fund Power and Water's proposed engagement program (\$3.50 per quarter per customer)? (0 = not at all willing, 10 = completely willing) Base: n=55



WILLINGNESS TO FUND PROPOSED ENGAGEMENT PROGRAM

REASONS FOR REJECTION WERE PRICE AND LACK OF DETAIL – BUT EDUCATION INITIATIVES WERE STRONGLY VALUED BY CUSTOMERS

The response to the proposed engagement program was different from the focus groups. The reasons behind this were:

- The proposal lacked specifics on what this would entail (frequency and type of engagement) as opposed to the focus groups (see p37 of focus groups report);
- There was no clear outcome or return on investment for this initiative;
- The quoted price seemed high especially in comparison to other proposed initiatives which were seen to represent a clearer value (e.g. the reliability and responsiveness plan costing \$1.70);
- Some didn't understand that education would be included as part of the engagement program;
- They don't want to pay for Power and Water to engage with them;
- They felt that there can be too much engagement Power and Water shop fronts have lots of information and this could be doubling up.

It is important to note that the basis for rejection of this initiative was **not because customers did not value or want engagement from Power and Water** – in fact, several pieces of the written 'final advice' (see end of this report) requested ongoing dialogue – but they **wanted to ensure it was achieved in an effective and efficient way**.

Education was strongly valued



Requested themes included:

- Education around solar panels for residents and businesses e.g. how to access (whether owning or renting), available grants, how to read meters, use of inverters.
- Other education around how to manage, reduce or shift electricity usage – given high bills and potential for demand charging to be introduced.
- Some indicated willingness to pay for more engagement with vulnerable customers rather than the general population.
- In Alice Springs, customers had a higher focus on education and engagement targeted at Indigenous customers – including co-funded initiatives with Indigenous organisations, and the inclusion of senior Indigenous speakers in discussions.
- A few suggested the pop-up booths in shopping centres were not effective and that investment should be channelled into the other types of education described above.





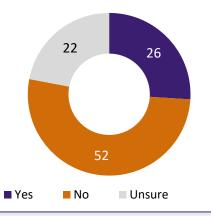
Undergrounding established power lines



UNDERGROUNDING ESTABLISHED POWER LINES

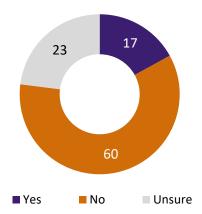
MOST PARTICIPANTS DID NOT WANT MORE POWER LINES TO BE MOVED UNDERGROUND, ONCE THEY UNDERSTOOD THE COST

Desire to see more overhead power lines moved underground, given the cost (%)



- Focus groups voiced some interest in undergrounding of power lines to improve reliability and aesthetics.
- Costs were calculated and presented to forum participants to further gauge interest given cost. These were:
 - $\diamond~$ Cost per km is estimated to be around \$1m
 - To underground 1km in the Darwin suburb of Fannie Bay or the Alice Springs suburb of Gillen would cost each customer who benefits approx. \$21,000
 - To underground 1km in the Darwin rural area would cost each customer who benefits approx. \$53,000

Support for shared cost arrangement between customers, local councils and Power and Water (%)



- No customer objected to undergrounding in principle, given the benefits in terms of reliability (protection from storms, wildlife, vehicle accidents, etc.) and greater aesthetic appeal.
 - Some in Darwin already had underground power lines and were positive about this.
- But overall, given the cost, over half (52%) were against the idea and only a quarter (26%) were in favour.
- There was even less support for a shared cost arrangement, with 17% in favour and 60% against.

Q24. Would you support a shared cost arrangement where customers, local councils and Power and Water all share the cost of undergrounding in your local area? Base: n=53

Q23. Given the cost per kilometre, do you want to see more overhead power lines moved underground? Base: n=54

REASONS FOR ATTITUDES TO UNDERGROUNDING

THE COST WAS THE MAIN CONCERN ALTHOUGH SOME WANTED TO KNOW MORE ABOUT SPECIFIC PROPOSALS BEFORE DECIDING

- In principle there was support for the idea of undergrounding established power lines although, as noted on the previous slide, most did not support continuing this given the cost estimates provided (which seemed, to many, to be very high). Others were unwilling to fund undergrounding in areas where they don't live.
- Within the forums there was limited time to discuss the results; although those who supported more undergrounding mentioned improved visual amenity and perceived reliability benefits, and highlighted the fact that some suburbs had already been undergrounded.
- Several were unsure and wanted more information on:
 - ◊ Potential long-term cost benefits from improved reliability;
 - ◊ If there are particular areas that would benefit more from undergrounding; and
 - Whether undergrounding would significantly reduce damage to power lines after cyclones and other extreme weather events, to the extent that the initial cost outlay would be justified.

Power poles don't bother me.

Low vulnerability customer, Alice Springs

Outages are only in the wet season anyway.

SME, Darwin

Identify where the traffic blackspots are and put wires underground at those locations.

Low vulnerability customer, Alice Springs



Views on the forums and final advice for Power and Water



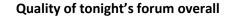
RESPONSE TO THE OVERALL ENGAGEMENT EXPERIENCE PARTICIPANTS WERE VERY POSITIVE ABOUT THE CONSULTATION AND QUALITY OF THE FORUMS

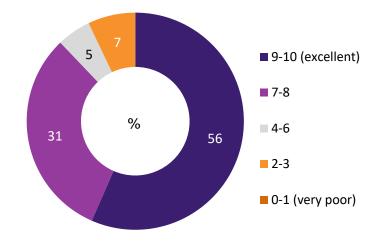
At the end of each session, participants were asked to anonymously rate the quality of the forum they attended.

On average, customers rated the quality at 8.2 out of 10, indicating a high level of satisfaction with the consultation experience.

As noted earlier (p.19), participation in the forums improved customers' knowledge of and attitudes towards Power and Water, measured at the beginning and end of each forum:

- Customers' overall feelings towards Power and Water became more positive by the end of each session (ratings increased from 5.1 to 6.9);
- Participants felt they had more knowledge and understanding about what Power and Water does and is responsible for (ratings increased from 5.4 to 7.9);
- They were found to be more likely to feel they received value for money from Power and Water's electricity services (ratings increased from 5.7 to 6.9).





Q25. And finally, how would you rate the quality of tonight's forum overall? (0 = very poor, 10 = excellent) Base: n=55



OVERALL IMPRESSIONS OF POWER AND WATER'S REGULATORY PROPOSAL

PARTICIPANTS WERE MOST LIKELY TO FEEL QUITE POSITIVELY ABOUT POWER AND WATER'S OVERALL APPROACH TO ITS REGULATORY PROPOSAL

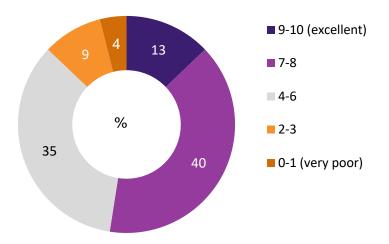
Participants were most likely to feel quite positively about Power and Water's thinking and approach to its regulatory proposal with an average rating of 6.3 out of 10. Over half of customers (53%) rated it between 7 and 10 while only 13% felt negatively, scoring between 0 and 3.

In asking how the approach could be improved some spoke of:

- A need for more information to truly evaluate and understand Power and Water's tariff proposal and address outstanding questions;
- Concern about the cumulative impact of proposed added costs noting that if they had agreed to all the various proposals it could have a significant impact on their bill;
- A desire for further options that result in a reduction in bills for customers to be included;
- A desire for more information regarding Power and Water's environmental responsibilities and plans to encourage the shift to renewables.

Before leaving the forum, all participants were provided with the opportunity to give final advice to Power and Water and discuss key themes which are summarised overleaf.

Overall thinking and approach to Power and Water's regulatory proposal



Q25. Please complete the following table, circling the number which best reflects your options. Power and Water's overall thinking and approach to its regulatory proposal (0 = very poor, 10 = excellent) Base: n=55

FINAL SUGGESTIONS FOR POWER AND WATER FOCUSSED ON COST-EFFICIENCY, SOLAR AND OTHER NEW TECHNOLOGIES, CONTINUED DIALOGUE WITH CUSTOMERS AND THE ENVIRONMENT

Use the internet and apps to provide educational information, and do school visits. Don't waste money on too much marketing – stands in shopping malls are a waste of time.

Low vulnerability customer, Alice Springs Think of affordability to the paying customer bearing in mind how hot it is in Darwin and how important it is to keep cool at any cost...

High vulnerability customer, Darwin

Don't slam small businesses and place them in the same category as the top 200. Small business is essential for the lifeblood of a community. SME. Alice Springs

Keep it simple – focus on an efficient, quality network and on ways to drive efficient use of the network.

Medium vulnerability customer, Alice Springs

Continue engagement and ongoing discussions. Low vulnerability customer, Darwin

Find better ways of applying solar as a cost benefit to both Power and Water and the customer. **High vulnerability**

customer, Alice Springs

Think of energy efficient ways to operate as this is the most important consideration for our environment.

High vulnerability customer, Darwin

The one thing I'd pay more for is increased environmental efficiency / reduced environmental impact. Is this part of your plan? Where are the questions related to the community's price point on this?

Residential solar customer, Darwin

Educate the community, especially schoolkids, on using electricity wisely.

SME, Alice Springs

Go with technology – roll out smart meters.

Low vulnerability customer, Alice Springs

No smart meters! Based on potential health implications.

Medium vulnerability customer, Darwin Solar technology. In Alice Springs there are around 326 days without clouds.

SME, Alice Springs

Work with solar power or incorporate solar infrastructure to lower costs... why weren't there any questions to the public about solar power as a future direction to take the pressure off the peak periods? SME, Darwin

APPENDICES



APPENDIX A: DISCUSSION GUIDE AND WORKBOOK

Deliberative Forum Discussion Guide



NGR 1608014 PW Im Guide V6 F (20

Participant Workbook

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THANK YOU

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