

ActewAGL Distribution

A report on qualitative consumer engagement research

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I. Introduction

A. Background

A key component of ActewAGL Distribution's (AAD) Consumer Engagement Strategy is the undertaking of consumer analysis to better understand consumer views. This analysis is used to inform AAD operations and formulate long-term stakeholder engagement activities.

As a part of its Consumer Analysis Program, AAD commissioned ORIMA Research to conduct qualitative consumer research. This report presents the findings from the qualitative research.

B. Research objectives

The objectives of the research were to:

- ◆ Explore consumer understanding of challenges facing the energy market;
- ◆ Explore what consumers value when balancing the priorities of safety, network investment and reliability in relation to energy supply;
- ◆ Identify consumer preferences and priorities in relation to tariff structure and infrastructure investment levels;
- ◆ Explore consumer drivers for using gas as an energy source;
- ◆ Identify how effectively AAD is engaging with the community;
- ◆ Identify how consumers would like AAD to engage with them; and
- ◆ Identify consumer information needs.

C. Research methodology

A total of 20 people participated in the research, which was conducted in Canberra, on 3 and 4 December 2014 via three focus groups.¹

The research was qualitative in nature, and participants were Canberra residents, representing the average householder.

Research participants were recruited by local recruiters in the community. Participants received a reimbursement payment of \$80 to cover their expenses to attend focus groups of up to 1 ½ hours in duration.

Table 1 shows the research design adopted for the research.

Table 1: Research design

		Canberra, ACT
<i>Focus groups (FG) n = 6-8 participants</i>		
Average householder	20-35 years	1 x FG n = 6
	36-55 years	1 x FG n = 6
	56+ years	1 x FG n = 8
TOTAL		3 x FG n = 20

The demographic profile of research participants (refer to Appendix A) shows that people from a range of demographic backgrounds participated in the research.

D. Research stimulus

To prompt focus group discussion research participants were presented with:

- ◆ Contextual information about the energy network;

¹ 8 people were recruited for each focus group.

and

- ◆ The following four scenarios / ‘narratives’ about energy network issues:
 - Scenario 1 – ‘Impacts of new technologies and tariff options’;
 - Scenario 2 – ‘Impacts of smart metering’;
 - Scenario 3 – ‘Gas: building in redundancy infrastructure’; and
 - Scenario 4 – ‘Gas: drivers of purchasing decisions’.

(Refer to Appendix B for the stimulus materials).

E. Presentation of findings

The research was qualitative in nature and hence, the results and findings are presented in a qualitative manner. This research approach does not allow for the exact number of participants holding a particular view on individual issues to be measured. This report, therefore, provides an indication of themes and reactions among research participants rather than exact proportions of participants who felt a certain way.

The following terms used in the report provide a qualitative indication and approximation of size of the target audience who held particular views:

- ◆ Most—refers to findings that relate to more than three quarters of the research participants;
- ◆ Many—refers to findings that relate to more than half of the research participants;
- ◆ Some—refers to findings that relate to around a third of the research participants; and
- ◆ A few—refers to findings that relate to less than a quarter of research participants.

The most common findings are reported except in certain situations where only a minority has raised particular issues, but these are nevertheless considered to be important and to have potentially wide-ranging implications / applications.

Quotes have been provided throughout the report to

support the main results or findings under discussion.

F. Quality assurance

The project was conducted in accordance with international quality standard ISO 20252.

II. Knowledge and understanding of energy distribution

A. About this chapter

This chapter discusses participants' awareness and understanding of energy distribution and network costs, as well as their sources of information for this subject matter.

B. Awareness and understanding of energy distribution

The research found that participants had good awareness of AAD, and understood its responsibility for electricity and gas distribution in the Australian Capital Territory (ACT). (Participants were not probed about the distinction between ActewAGL Retail and Distribution).

However, the research found that participants had a limited understanding of:

"Would it be one-third? ...To be honest, I'm not sure"—56+ year old

"I didn't know that there's a usage component in the supply charge"—36-55 year old

"It surprises me that the [network] cost continues to increase"—56+ year old

- ◆ The proportion of their energy bill that network charges accounted for;
- ◆ How network charges were calculated (i.e. a flat service fee and usage component) – most participants were unaware of the usage component;
- ◆ The challenge faced by energy distributors in recouping increasing network costs – most participants were unaware that increased peak demand, combined with falling energy consumption had limited distributors' ability to recoup network costs; and
- ◆ Who / what contributed the most to network costs, specifically that:
 - Cross-subsidisation occurred within the network – most participants were unaware the network costs of consumers with solar and air-conditioning were being subsidised by other consumers; and
 - Usage of air-conditioning was the key driver of peak demand – some, particularly older participants, found this difficult to believe.

Participants considered the following as the main

“We’re really dependent on all our gadgets”—56+ year old

“The gold-plating of the infrastructure, that’s a big problem”—36-55 year old

“We’ve got ageing electricity infrastructure... it seems to be the main media story”—36-55 year old

challenges to the energy distribution market:

- ◆ Increased electricity demand – participants felt this was due to population growth and increased usage of electrical devices;
- ◆ The “over-investment” in “unnecessary” network infrastructure (i.e. the “gold-plating” of the network); and
- ◆ The need to upgrade and maintain “ageing” network infrastructure.

C. Sources of information

Participants reported receiving information about energy distribution through the following sources:

“Through the ‘Australian’ mainly”—56+ year old

“There’s been good programs on TV lately... documentaries about how the solar market’s been changing”—56+ year old

“Through talking to people, it’s in the periphery of my work”—20-35 year old

- ◆ News items, including:
 - On television (TV);
 - On the radio; and
 - In print (i.e. newspapers and magazines);
- ◆ AAD advertising (that provided notification of network maintenance);
- ◆ TV documentaries; and
- ◆ Online, through energy retailers’ websites; and
- ◆ Word-of-mouth.

III. Expectations and satisfaction with energy supply

A. About this chapter

This chapter presents research findings about participants' key priorities and expectations in relation to energy supply and then discusses participants' satisfaction with their energy supply.

B. Expectations

"There's nothing worse than not having air-conditioning on a hot night"—56+ year old

Overall, the research found that most participants considered reliability to be the most important factor in relation to their energy supply. Participants reported that a reliable supply was important to their daily lives, and felt an unreliable supply would be a severe inconvenience and a source of stress.

"I live on a low budget... [cost] makes a difference"—56+ year old

The research also identified cost as an important factor to participants in relation to their energy supply, particularly for participants with a lower income. While reliability was the most important factor for most participants, a few indicated that they would be willing to compromise on reliability (i.e. experience more outages) for a reduced cost.

"I never think of that, we just assume it's safe. We don't have those sorts of safety problems here"—20-35 year old

While safety was also felt to be an important factor, most participants perceived that a high level of safety would be "a given" in Australia. As such, safety was not something participants generally considered in relation to energy supply.

"It would be nice to see more investment in sustainability"—20-35 year old

The research found that investment in new technologies was a secondary priority for participants, who felt it was more important to have a reliable and affordable energy supply. The research found that younger participants, and those with environmental concerns, placed more importance on investing in 'green' technologies.

C. Satisfaction

Overall, the research found that participants were highly satisfied with their electricity and gas supply, due to:

"I can't even remember the last

- ◆ Its reliability – participants reported that their

time we lost power”—36-55 year old

“I read these Facebook feeds in Melbourne, they were having all these power-offs, and I was thinking ‘thank god I live here’”—20-35 year old

“If there’s a break in supply you have to know there’ll be a quick response. They were fabulous with the bushfires”—56+ year old

“I’ve noticed the supply charge has gone up a lot in recent years... I’m concerned about it increasing”—20-35 year old

“If they say Canberra has the cheapest prices... I hate to think what others pay”—36-55 year old

electricity and gas supply was extremely reliable. Many also perceived the energy supply in Canberra to be more reliable than other areas in Australia; and

- ◆ The responsiveness of AAD – participants reported that AAD were quick and effective in addressing maintenance and emergency situations (e.g. bushfires).

However, the research found that many participants reported that their supply charges had increased and were concerned about rising energy costs. While many participants were aware that energy prices in the ACT were lower in comparison to other states, some participants with cost concerns questioned whether prices were indeed lower.

IV. New technologies and tariff options

A. About this chapter

This chapter presents research findings about Scenario 1 – ‘Impacts of new technologies and tariff options’. It discusses participants’ awareness of the impact of new technologies on network infrastructure and prices. It then discusses participants’ perceptions the following tariff models:

- ◆ The current tariff model;
- ◆ A model designed to reduce the cross-subsidisation of households with solar power; and
- ◆ Two tariff models designed to reduce peak demand.

B. Awareness

Overall, the research found that there was limited awareness amongst participants of the cost to the electricity network as a result of:

- ◆ Solar power – most participants had not previously considered the increased complexity required as a result of the need to both deliver and receive electricity from homes with solar panels installed; and
- ◆ Air-conditioning use – while many participants were aware of the high energy requirements of air-conditioning, there was limited understanding that their use was the key driver of peak demand.

“It’s not only caused by air-conditioning... I think it comes down to higher users”—56+ year old

“I wasn’t aware there was such a huge disparity”—20-35 year old

Additionally, as previously discussed, no participants were aware of the cross-subsidisation that occurred within the network, of both solar consumers and those with air-conditioning units installed.

C. Tariff models to address cross-subsidisation of solar

Overall, there were mixed preferences for the tariff models discussed during the research (included at Appendix B). Specifically:

- ◆ **Many** participants preferred to continue with the

current tariff model (i.e. flat fee + per unit usage charge); and

- ◆ **Some** participants preferred a model with an increased flat charge (i.e. that spread the distribution costs more evenly across all users).

However, the research found that neither model fully addressed all concerns raised by participants in relation to the electricity network.

Participants who preferred the **current tariff model** tended to be younger participants, those with solar power, and those with strong concerns for the environment. These participants were supportive of a model primarily made up of usage charges as they felt this:

“There’s more incentive in the current model to keep your usage low”—56+ year old

“I think people should have control... if you want to use it, pay for it”—56+ year old

- ◆ Encouraged consumers to use less electricity, which was beneficial for the environment and placed less pressure on the network infrastructure; and
- ◆ Gave consumers greater control over the cost they paid for electricity (i.e. reducing usage would reduce their bill).

However, participants had concerns that if the **current model** was continued, a higher fee would be passed on to all consumers in order to recoup the increasing infrastructure costs.

Some other participants, particularly middled-aged participants, preferred a model that **increased the flat charge**. These participants perceived reducing the cross-subsidisation of solar power to be “fairer” as:

“I don’t think it’s fair they are being subsidised even though they use it in peak times”—20-35 year old

“I think it’s very unfair... not everyone can afford solar”—36-55 year old

- ◆ Solar consumers were still accessing the network’s electricity, particularly at times of peak demand; and
- ◆ Not everyone could afford and / or had the opportunity to install solar (e.g. those living in apartments and renting);
- A few participants felt it was particularly unfair to subsidise consumers with solar who were receiving the introductory, high feed-in tariffs, as these rates were no longer available to others.

Additionally, a few participants felt that the subsidisation of solar was inappropriate as the environmental benefits were

not universally recognised.

However, other participants were less supportive of a model that **increased the flat charge**, as:

“There is less incentive to use less”—20-35 year old

- ◆ It did not encourage reduced energy consumption – participants felt this was environmentally “irresponsible” and may lead to increases in peak demand;
- ◆ Low energy users, including low income earners, may face increased network costs; and
- ◆ It would negatively impact solar consumers, specifically:
 - Retrospectively reducing the subsidy received by solar users was considered “unfair” – participants with solar reported that there were significant costs associated with installing solar power, and that this model would reduce the ability for their costs to be recouped; and
 - Some participants felt it was environmentally “irresponsible” to “penalise” consumers who were generating an environmental benefit.

“We’ve outlaid thousands of dollars to get solar and do our bit for the environment”—56+ year old

D. Tariff models to address peak demand

Overall, the research found that most participants were supportive of a **model with higher fees for contributors to peak demand**. These participants felt it would be effective at reducing both peak demand and network maintenance costs. Additionally, participants felt that such a model would empower them to have greater control over their network charges.

“You can feel like you do have control, you’re not just victim to a big lump sum all the time”—20-35 year old

However, many participants felt that this model should account for actual energy usage at peak times, as charging an extra flat fee based on installed appliances (e.g. air-conditioning units) would be:

“Does that mean they’d have to know when I get a new air conditioner?”—36-55 year old

- ◆ Difficult to implement and monitor; and
- ◆ Not accurately reflective of usage at peak times.

“What about the elderly who can’t do without air-conditioning?”—36-55 year old

Additionally, a few participants were concerned that a model with a flat charge on air-conditioning would have a negative impact on vulnerable consumers (e.g. the sick, elderly and those with young children) who had a greater

need for air-conditioning.

Many participants were supportive of a **stepped fee model** as they felt it would:

“It gives a signal for people to use less”—56+ year old

- ◆ Encourage lower energy consumption – many participants felt this would benefit both the network infrastructure and the environment;
- ◆ Relate more closely to households’ overall energy consumption, which was perceived to be “fairer”; and
- ◆ Allow them greater control over their energy costs.

“It might penalise a larger family who is more efficient per person in the household”—20-35 year old

However, a few participants thought this approach “penalised” households with more people, including families. These participants suggested that a model that determined the stepped fee by taking into account energy usage per person would be “fairer” as it would relate more closely to the household’s energy efficiency.

V. Impacts of smart metering

A. About this chapter

This chapter presents research findings about Scenario 2 – the ‘Impacts of smart metering’. It discusses participants’ awareness and interest in smart metering as well as the reported likely behavioural impact of smart metering. It also includes participants’ interest in a ‘power-off’ service.

B. Awareness

“I think smart meters are already available”—36-55 years old

The research found that most participants were aware of smart meters prior to the research and had a general understanding that they provided data that allowed users to monitor their energy usage.

However, most participants were unaware of the expected future capability of smart meters to provide:

- ◆ Real-time information about the cost of electricity; and
- ◆ A ‘power-off’ service, in which appliances could be programmed to turn off at certain times (i.e. during periods of peak demand).

C. Interest and consideration

Overall, the research found that most middle-aged and younger participants were interested in smart metering and would consider having a smart meter installed to monitor and reduce their energy costs.

“I’m concerned that they’re complex and difficult to program”—56+ year old

“I have an elderly friend who has been in tears with hers”—56+ year old

“I don’t want it to be mandated”—56+ year old

The research found that older participants were less likely to consider smart metering as many were concerned that smart meters would be expensive and difficult to use. A few of these participants had heard negative stories through the media and / or word-of-mouth about the mandatory installation of smart meters increasing consumer electricity bills in other states.

Participants felt that installation of smart meters should be voluntary. This was particularly important for a few participants who considered themselves to be low energy

"If you could recover the costs within a year, that'd be reasonable"—56+ year old

users, and felt that a smart meter would not reduce their energy costs.

Participants who were interested in smart metering reported that they would be willing to pay for the installation of a smart meter. Most indicated that they would want to recoup the costs through energy savings within one year.

"You don't pay for data on your usage in other situations"—20-35 year old

However, most participants felt it was unreasonable to be charged a monthly or yearly fee to access smart meter data as:

- ◆ Other services did not charge fees to access account data (e.g. internet usage); and
- ◆ The cost to supply the data to consumers was perceived to be minimal.

Participants also indicated that they would like information about the typical savings that different types of electricity users could expect through using a smart meter to inform their decision making.

D. Likely impact on behaviour

"If I knew the dryer was the most expensive thing in the house, I'd make more effort to put the clothes on the line"—20-35 year old

Participants who expressed interest in smart metering reported that they were likely to use a smart meter to:

- ◆ Educate themselves on which devices were impacting their energy costs the most and reduce their use of these and / or replace inefficient appliances;
- ◆ Limit wastage in their energy use (e.g. turn off unnecessary appliances / lights);
- ◆ Monitor the cost of energy at a certain point in time – participants felt that they may change their behaviour to avoid peak costs; and
- ◆ Start conversations around the reduction of energy use in their household (i.e. with partners, children and housemates).

"You could make an informed choice about when to run an appliance"—56+ year old

"...telling other people in the family what it is costing us"—36-55 year old

Additionally, participants reported it was important for smart meter data / information to be easy and convenient to access to encourage usage of the information and

"I assume it would be another facility of the online account"—20-35 year old

changes in consumption behaviour. Participants indicated that they would like access to the data online (through their billing portal), through a mobile application and on the smart meter.

E. Interest in a 'power-off' service

"You could have your hot water switched off from 10-4"—36-55 years

The research found that there was some interest in a 'power-off' service amongst participants. In particular, the ability to program services that were unnecessary during the day (e.g. electric hot water) to be turned-off appealed as a convenient way to reduce electricity costs.

However, participants had concerns about the service's flexibility and impact on appliances. As such, participants reported that in order to consider using a 'power-off' service, it would need to:

"I'd have to have complete control over exactly which switch can go on and off"—36-55 year old

"If it's Saturday night and I realise I need to change the arrangement urgently because of illness, can I do that?"—20-35 year old

"What happens to all these sensitive appliances?"—56+ year old

- ◆ Allow the user a high level of control over which appliances were turned off and at what times;
- ◆ Allow 'power-off' settings to be quickly and easily altered – this was particularly important for participants in case of a last-minute change in their schedule; and
- ◆ Ensure that no damage was caused to appliances – some participants were concerned that the constant powering on and off of appliances would cause them damage.

"Is it going to save me? I was under the impression that turning stuff on and off uses a lot [of energy]"—20-35 year old

Additionally, a few participants reported that information about how a 'power-off' service could generate savings would be important to encourage them to use the service, as they had heard that turning appliances on and off used more energy.

VI. Building in redundancy in gas infrastructure

A. About this chapter

This chapter presents research findings about Scenario 3 – ‘Gas: building in redundancy in infrastructure’. It discusses participants’ preferences for prioritisation of the completion of the gas ring pipeline, and then discusses funding preferences for the project.

B. Overall priority

“If it’s going to be shut down for one day in ten years, that’s better than paying \$100 extra on my bill”—36-55 year old

“The reliability’s not bad at the moment”—56+ year old

“If our pipeline’s about to blow up, then I’d say yes”—36-55 year old

Overall, participants felt that the completion of the gas ring pipeline should be a longer term priority (i.e. extended gradually). Participants felt that the additional cost to the consumer outweighed the benefit of completing the pipeline in the short term, as the gas supply was reliable, and instances when the pipeline risked being shut down were rare.

However, most participants felt that if the reliability or safety of the gas supply were to be significantly compromised, investment in the completion of the pipeline should be made a priority in the short term.

C. Perceptions of funding options

The research found that participants had mixed preferences for how to recoup the cost of extending the pipeline to new suburbs.

Some participants thought that consumers in new suburbs should bear the cost (i.e. through **increased fees for new connections**) as they benefited the most and had driven the need for the extension.

Some other participants felt **that costs should be shared across all users**, however with a greater share paid by those in new suburbs (i.e. through an increase in new connection fees and a small increase in distribution charges to all users). These participants felt that this was “fair” as all consumers would benefit through increased reliability in the long term.

“Everyone will benefit from it through increased reliability”—36-55 year old

“If it’s on safety, then everyone should pay”—36-55 year old

“We’d need to know about it before they start changing things”—56+ year old

Additionally, the research found that in the event that the pipeline needed to be prioritised and completed in the short term (i.e. if reliability and / or safety were likely to be significantly compromised), most participants were willing to pay increased costs for this completion. However, participants expected to be consulted and informed prior to the investment being made and fees being increased.

VII. Gas purchasing decision drivers

A. About this chapter

This chapter presents research findings about Scenario 4 – ‘Gas: drivers of purchasing decisions’. It discusses factors that influenced participants’ energy purchasing decision, as well as the impact the installation of gas had on property purchase and rental decisions.

B. Drivers of purchasing decisions

The research found that for most participants, the decision on whether or not to use gas was driven largely by:

“When we bought our home it was already connected”—20-35 year old

“A separate meter and bill to pay... it’s a bit annoying for us”—20-35 year old

“It’s so much less expensive”—36-55 year old

“I’m only using it for the heating, so it’s only three months that I use the service, but every month I pay \$60 to have it connected”—20-35 year old

“We chose a gas cooktop because we like to cook on gas”—36-55 year old

- ◆ Convenience – many participants who used gas indicated that it was already connected to their property when they had moved in, so it had been more convenient to retain it;
 - However, a few participants had a preference for the convenience of being connected to only one energy source, and receiving only one energy bill;
- ◆ Cost – this included both the cost of connecting and installing gas, as well as usage costs. Some participants who had built new homes or renovated had chosen to install gas services as it was a cheaper energy source;
 - However, a few participants opted not to have gas installed, as they felt the installation / connection costs were too high;
 - Additionally, a few participants who used their gas appliances infrequently, felt it was not cost-effective, due to the supply charges they paid despite minimal usage; and
- ◆ Appliance preference – a few participants preferred cooking on gas stovetops and / or found gas heating more efficient, and had decided to connect gas as a result.

C. Effect on housing decisions

"I'd factor it into the decision, but only a little bit"—36-55 year old

Overall, most participants reported that the availability of gas would only influence their decision about purchasing or renting a home if all other factors were equal (i.e. if deciding between two very similar properties).

"If I was in an apartment I'd want the same choices as in a house"—36-55 year old

While some participants expressed safety concerns relating to the installation of gas in apartment blocks, most felt it should be available to consumers where safety was not an issue.

VIII. Consumer engagement

A. About this chapter

This chapter presents research findings relating to AAD's consumer engagement. It discusses participants' perceptions of AAD's current engagement with consumers, followed by their engagement needs and preferred channels of engagement.

B. Perceptions of current engagement

*"There doesn't seem to be any community engagement, I've never seen them do anything like that"—
20-35 year old*

Overall, research participants felt that AAD did not actively engage with consumers. Participants indicated that they had not received information or heard of any community consultations / consumer engagement activities undertaken by AAD (other than notifications about maintenance work).

*"They didn't give me the choice about when they came in to do [maintenance]... and I assume it would be a consistent approach"—
20-35 year old*

The research found that some participants felt that AAD took their relationship with consumers "for granted". These participants assumed that as AAD did not face competition, they did not feel the need to engage. The research also found that a few participants who felt that they "had not had a say" about the timing of AAD maintenance on their property, perceived it to be likely that AAD would take a similar approach to consumer consultation about major infrastructure projects.

"You don't really think about it much... because it's reliable we take it for granted"—56+ year old

However, most participants acknowledged that they had not sought out information from AAD, and / or about the energy network, as they were generally satisfied with their energy supply. Most participants reported that they would only seek out information if they were unsatisfied, or experiencing problems with their energy supply.

C. Engagement needs

The research found that participants did not currently feel a need for greater engagement from AAD about network investment and maintenance issues due to their high levels of satisfaction with the reliability of their energy supply.

"I'd like information that allows you to be part of the decision-making process"—56+ year old

"They need to make the case for really big infrastructure"—36-55 year old

However, research participants reported that they would want to be engaged about any changes that would significantly affect the reliability or cost of their supply (e.g. changes to pricing structures and / or large scale network investments). The research indicated that early engagement and communication that explained "the case" for such changes would be important to building acceptance.

The research identified that AAD could have greater engagement with consumers around issues associated with cost, and areas that would empower the consumer. Many participants reported that they would appreciate:

"I'd like to know how my bill's split"—56+ year old

"More information is always good because it gives you the power to make a choice"—36-55 year old

- ◆ More information about how their network billing costs were calculated and charged (i.e. that usage was a component) – participants felt this would give them greater control over managing their costs and increase transparency;
- ◆ A more active explanation of pricing issues – participants felt that more context about what was driving increasing network costs would assist their understanding of why future price increases and / or changes were necessary, and reduce perceptions that AAD were "profit driven"; and
- ◆ Information about smart meters – particularly younger and middle-aged participants, who expressed a strong interest in this technology.

D. Channels of engagement

Research participants identified the following as preferred channels to receive information from AAD:

"I really like the letter"—20-35 year old

"Distribution info in the magazine I get with my bill"—20-35 year old

"I think they'd have to do a media campaign. They stuff things in with the bills and I never read them"—

- ◆ Direct mail, including the provision of information with bills;
- ◆ The ActewAGL website;
- ◆ The ActewAGL Retail magazine;
- ◆ Community consultations (when major changes were being considered); and
- ◆ Advertising on radio and TV (when major changes were being implemented) – some participants indicated this would be the most effective way to inform them of important changes, as they were

36-55 year old

unlikely to engage with other channels.

"I don't know if I would take what they said at face value. If it's from the company I'd be sceptical... it might need a more credible source"—20-35 year old

Participants also felt that providing information through the media about the key issues driving energy network costs would be an effective way to increase their awareness of these issues. Some participants felt that they would be more likely to trust and engage with information through this channel as it was from an "independent" source.

IX. Conclusions and recommendations

A. Conclusions

Overall, the research found that there was good awareness of AAD, and their role in distributing electricity and gas throughout the ACT.

However, participants had limited awareness of the challenges to network infrastructure, and how network charges were calculated and applied to consumers. Additionally, the research identified that there was limited awareness of the cross-subsidisation of consumers with solar panels and / or air-conditioning units installed.

The research found that reliability was the most important factor in relation to energy supply for most participants, with cost also identified as an important factor. As such, the research found that participants expected to be engaged about any changes that would significantly affect the reliability or cost of their service (e.g. changes to pricing structures and / or large scale network investments).

Overall, participants were highly satisfied with AAD, particularly in terms of reliability and responsiveness. However, the research found that many participants had concerns about rising energy costs.

Overall, most participants thought AAD's current level of consumer engagement was adequate. However, there was a perception amongst some participants that AAD took the relationship "for granted" as they did not actively engage with consumers.

Most participants expressed an interest in receiving more information about cost-related issues, and issues which would empower them. The research suggested that greater engagement with consumers around these areas of interest would increase confidence and trust in AAD and help to build a 'reservoir' of good will – this would help to increase acceptance in the advent that there is a need to introduce significant changes in the future.

The research recommendations, outlined below, identify consumer priorities and needs in relation to engagement and network investment to be considered by AAD.

B. Recommendations

Based on the research findings, the following recommendations are made in relation to:

AAD's engagement with consumers

1. Maintain the current level of engagement with consumers around network infrastructure and maintenance issues.
2. Consider engaging more with consumers around issues relating to cost and areas that would empower the consumer (e.g. smart meters) to build trust and good will towards AAD – see chapter VIII for specific areas of interest to consumers and their preferred channels to receive information.
3. If significant changes are being considered and / or implemented (i.e. to tariff structure or network infrastructure), consider the following approaches to build acceptance:
 - Engaging consumers in the decision-making process via consumer consultation; and
 - Providing early notification to consumers, outlining “the case” for the change.

Consumer priorities

4. Overall, when making future network decisions, ensure that reliability and cost are a priority.
5. If tariff models are being changed, consider how the proposed model impacts consumers. Specifically, consider a model that balances the following priorities:
 - Providing consumers some control over their network charges (i.e. by including a usage component);
 - Encouraging a reduction in energy consumption, particularly at peak times;
 - Reducing the cross-subsidisation of solar and air-conditioning consumers; and
 - Limiting the negative impact on low-income consumers.
6. Maintain the current approach of investing in the

gas pipeline as a longer-term priority. However, if reliability or safety become significantly compromised, consider increasing short-term investment.

Appendix A: Profile of participants

The demographic profile of research participants shows that people from a wide range of demographic backgrounds participated in the research. The demographic profile of the research participants is presented below. ²

Age:

- ◆ 20-25 years – 5%
- ◆ 26-35 years – 25%
- ◆ 36-45 years – 15%
- ◆ 46-55 years – 15%
- ◆ 56-65 years – 25%
- ◆ Over 65 years – 15%

Gender:

- ◆ Female – 55%
- ◆ Male – 45%

Marital status:

- ◆ Married – 65%
- ◆ Single – 25%
- ◆ De facto / partnered – 10%

Highest level of education completed:

- ◆ Year 10 or equivalent – 5%
- ◆ Year 12 or equivalent – 10%
- ◆ TAFE, Diploma, Certificate – 30%
- ◆ University degree (undergraduate) – 20%
- ◆ University degree (postgraduate) – 35%

Life situation:

- ◆ Working full time – 45%
- ◆ Working part time – 25%
- ◆ Retired – 20%
- ◆ Working on a casual basis – 5%
- ◆ Home duties – 5%

² Percentages are based on the total number of valid responses made to the question being reported on. Percentages may not sum to 100% due to rounding.

Annual total household income:

- ◆ Under \$30,000 – 10%
- ◆ \$30,000 – \$59,000 – 5%
- ◆ \$60,000 – \$89,000 – 5%
- ◆ \$90,000 – \$119,000 – 20%
- ◆ \$120,000 – \$149,000 – 30%
- ◆ \$150,000 – \$199,000 – 20%
- ◆ \$200,000 or more – 10%

District / area lived in:

- ◆ Belconnen – 25%
- ◆ Canberra Central (North and South Canberra) – 20%
- ◆ Woden Valley – 15%
- ◆ Tuggeranong – 15%
- ◆ Gungahlin – 10%
- ◆ Weston Creek – 10%
- ◆ Molonglo Valley – 5%

Type of home:

- ◆ House – 75%
- ◆ Apartment / flat (more than 10 apartments in block) – 15%
- ◆ Townhouse or duplex – 5%
- ◆ Apartment / flat (10 apartments or less in block) – 5%

Energy sources used / connected to *[multiple response question]*:

- ◆ Electricity – 100%
- ◆ Gas – 75%
- ◆ Solar power – 15%

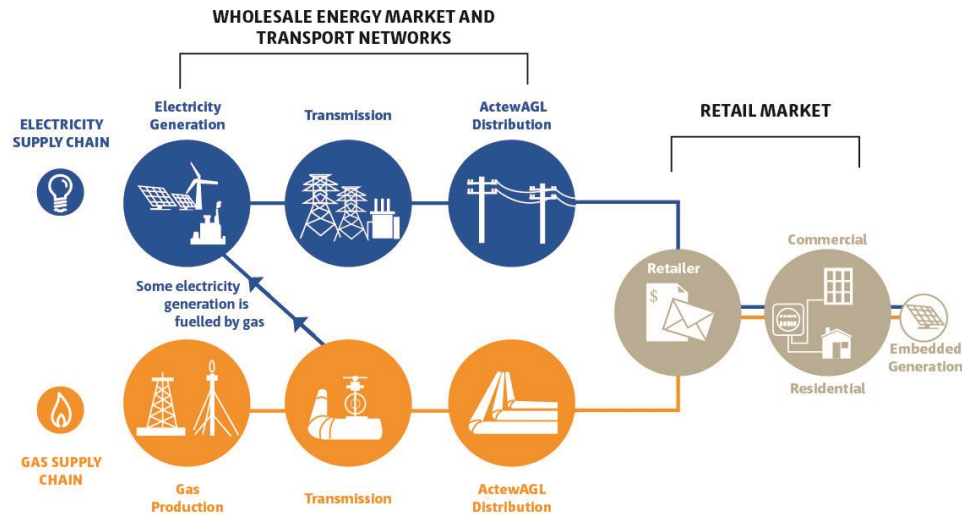
Incidence of air conditioner being installed in home:

- ◆ Yes – 84%
- ◆ No – 16%

Appendix B: Scenarios and models tested

Contextual information and tariff understanding

Delivery of energy to the customer requires a network of infrastructure from the generator or producer to consumers in homes and businesses.



This network is designed to deliver energy on demand to customers 24 hours a day seven days a week. You may have experienced in other countries around the world where the power is only on for certain periods of the day, or there are extended 'black-outs' if there is excess demand for the power.

In Australia, the power network is designed to cope with periods of high demand such as very hot or very cold days. It is also designed with certain levels of redundancy, or back-up capacity, so that when bushfires or other natural disasters impact on power supply infrastructure large areas, or whole states, do not suffer extended power outages.

Obviously the more power you use, the higher your power bill. This is because for most users, the bill is largely made up of charges per unit of electricity or gas consumed. However, the cost of building and maintain the energy network to meet 24/7 requirements does not depend upon your daily average energy use, it is driven more by the capacity that needs to be built into the system to cope with high peaks in energy demand. Embedded in all electricity and gas bills is a share of the 'network costs'. These 'network costs' or distribution charges are made up of a service fee as well as a usage component.

Scenario 1 (Electricity) – impacts of new technologies and tariff options

Increasingly households are focussed on reducing their energy consumption, both in response to environmental concerns, as well as to manage household costs.

New homes are more energy efficient, particularly in Canberra where the environmental rating of homes is compulsory. Appliances are more efficient and more transparent in their energy use. Many homes are now installing alternate energy sources, such as solar panels on the roof.

ActewAGL shares a strong commitment to the environment and seeks to help households manage their energy consumption. However, these changes in energy use are rapidly impacting on Australia's energy business and the contributions that different types of customers make to cover the costs of the electricity network.

Average electricity use by ACT households has fallen from around 8.7 megawatt hours per household to 7.7 MWh per household in 2013. Average consumption for new residential customers is now less than 5 MWh per year.

While average consumption is falling, peak demand has been growing in the ACT (particularly in summer as demand for air conditioning increases). Peak demand is the key driver of network costs, as networks are built to cope with the peak (high points), not the average, demand.

The infrastructure required to deliver the electricity to homes today has not changed – the wires and the poles still need to be installed, maintained and managed. Even though average consumption has fallen, network costs have not fallen. If anything the infrastructure has become more complex, as now the electricity network needs to both deliver and receive electricity from the homes that are generating it with solar panels.

If you consider an average suburb in Canberra; the cost of providing power to that suburb has not changed, but due to declining use by individual households, the income collected from that suburb is falling. Some homes generating solar energy pay very little, but remain connected to the electricity network and need to use the power supplied by ActewAGL at peak times and when their systems are not generating enough to meeting their needs (such as on cloudy days).

Current tariff model – “Continue with current distribution charge model (i.e. flat fee + per unit usage charge)”.

Increased flat charge model – “Change model by increasing flat connection charge and reducing per unit charges (i.e. a larger proportion of distribution bill becomes flat charge so distribution cost spread more evenly across all users)”.

Scenario 2 (Electricity) – Impacts of smart metering

Advances in technology will continue to enhance energy consumption information for households. Over the next ten years 'smart metering' will allow individual households to have more information and therefore better control their energy consumption throughout the day and in response to certain situations.

Smart meters are more expensive than the standard meters.

In the future smart metering may allow you to make energy purchasing decisions based on the price of electricity on any given day, or times within a day. For example, on very hot days when large numbers of homes and businesses are running air conditioners, the cost of electricity can increase significantly. In the future you may be able to program your smart meter to allow your electricity company to turn off your power, or specific appliances for periods of time during that day. This 'power-off' may be for short times, not enough to impact negatively on fridges or other appliances, yet could save the household significant amounts of money.

There may also be ways that smart metering can provide increased consumer choice with respect to distribution costs. In order to explore these options, ActewAGL is interested in what impacts smarter metering may have on customer behaviour.

Scenario 3(Gas) – building capacity to ensure long-term reliability of infrastructure

The distribution of gas is complex and important to get right. To ensure the safety of the network and reliability, it is important to maintain appropriate pressure in the pipelines across the network.

In 2006 there was a particularly cold day in Canberra which led to a significant increase in gas usage throughout the city. This spike in demand for gas led to a drop in the pressure in the pipelines which ActewAGL monitored and managed very carefully.

If this drop in pressure had been any greater, there may have been a need by ActewAGL to shut-down large parts of the network to avoid damage to the pipelines and to minimise risks of explosion. Shutting down the network would have of course left many Canberra households without heat and the re-start process across the network is complex and takes time.

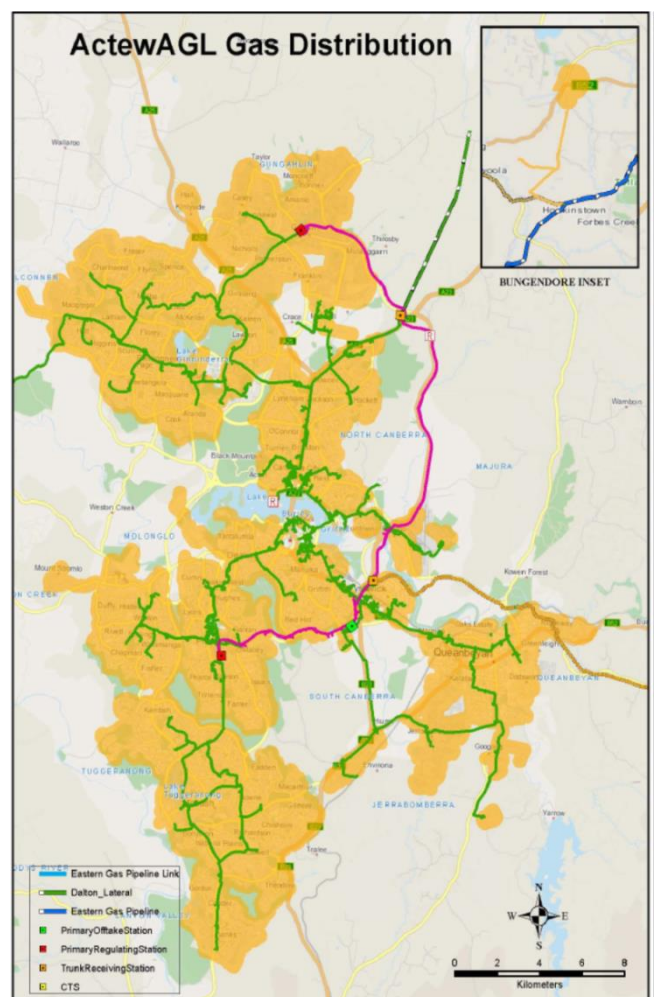
While this situation is very rare, ActewAGL is striving to build increased options within the gas network to further reduce the chances of needing to shut-down the pipelines across Canberra.

As you can see by the network map, the large red supply line currently runs down only one side of Canberra. The best way to increase flexibility and maximise capacity on the network, particularly in times of high demand, will be to extend this red-line to complete a circle around the Territory. This will mean that the chances of gas supply being interrupted during peak demand periods is reduced.

ActewAGL needs to consider the long term structure of the network when undertaking year on year developments to identify opportunities to build infrastructure for the long term. For example, some extension to the 'ring pipeline' is happening as part of the construction of the new suburbs of Molonglo. The completion of this work requires a significant investment of funds by ActewAGL.

Increased fees for new connections model – “Increase cost of new connections (i.e. customers in new suburbs and with new connections pay a greater share)”.

Costs shared across all users model – “Share costs across all customers equally through increased distribution charges in the short term”.



Scenario 4 (Gas) – power of choice – what drives purchasing decisions?

Canberra homes, both old and new, are mostly connected to natural gas, with the exception of many apartments.

However gas is an energy source of choice, it is not an essential infrastructure like electricity. Within Canberra, there is currently a large proportion (over 80%) of homes that use gas.

ActewAGL is interested in what factors are considered by households when choosing to use gas versus other forms of energy.