RCP INDEPENDENT REPORT ON AUSGRID'S RESILIENCE INVESTMENT BUSINESS CASE 2024-29

Foreword

This report, the Reset Customer Panel's third, provides independent commentary on the design and conduct of Ausgrid's customer engagement in relation to its proposed investment of up to $202 million on resilience, as described in Ausgrid's January 2023 Revenue Proposal (Proposal).

In this report Ausgrid's resilience investment business case (resilience business case) is taken to mean the material lodged with the AER in July 2023 which supplements its Proposal. The resilience investment has been modified since January 2023 to $176.5 million.

Ausgrid is the first Australian distributor to submit a resilience investment proposal since the publication of the AER's Note on Network Resilience April 2022[1] (AER Resilience Note). To achieve this in the limited time available many Ausgrid staff committed themselves to what was an enormous undertaking. At all times in our dealings with Ausgrid we have found staff to be unfailingly focussed on doing the job as well as possible and open to suggestions as to the best ways of engaging with customers. For their good will and unceasing efforts we need to acknowledge their contribution and thank them.

We are also grateful to the willingness of customers across the three trial Local Government Areas (LGAs) and in the Voice of Customer Panel to involve themselves for the past few months in deliberations over what resilience means to them and how this effectively translates into network and non-network solutions. We appreciate that a community based resilience discussion involves a sharing of lived experiences, some of them painful. It also allows participants to explain in their own words what is important to them in the area they call home. Observing these discussions and the strong sense of local pride that informed them was a privilege.

I also need to acknowledge the combined effort of my colleagues in making themselves available to assist in this engagement over the past several months. As a team we have worked with a strong sense of common purpose and I thank them for their hard work.

As with any novel proposal there are substantial learnings available. Regardless of what the AER determines, Ausgrid's engagement is highly valuable as it will inform many future electricity distributor revenue reset proposals. Our report makes a series of observations on the engagement process as well as the business case and we hope that the AER, distributors, governments and other resilience actors can benefit from them.

As always the Panel would welcome the opportunity to discuss this report with the AER Board at its convenience.

Tony Robinson

Chair, Reset Customer Panel (RCP)

14 July 2023

[1] See Network resilience A note on key issues AER April 2022.

Executive Summary

This report is divided into 4 parts:

Part 1 discusses how the RCP believes that Ausgrid has complied with the regulatory guidance and customer expectations in the development of its resilience business case; the governance structure; the four foundational concepts in the AER Resilience Note and how they influenced engagement design and the modelling in the resilience business case; and introduces the Regulatory Stocktake.

Part 2 focusses on the engagement program including why Port Stephens, Central Coast and Lake Macquarie were chosen as the three pilot Local Government Areas (LGAs); the design of the engagement program and the three separate customer engagement streams; RCP's impressions of the engagement by stream; the detailed and nuanced qualitative and quantitative willingness to pay evidence that Ausgrid collected; RCP's conclusions on the engagement program and some learnings to date from the extensive engagement program.

Part 3 includes high level observations on the modelling underpinning Ausgrid's resilience business case; our revised conclusions on the application of the incentive schemes and detailed observations on each of the network and community resilience solutions in the whole of network (WON) package and the three LGA packages.

Part 4 discusses the accountability framework that the RCP believes is necessary to support Ausgrid's pilot resilience program in 2024-29 including accountability to the three LGAs; the important governance role for the Network Innovation Advisory Committee (NIAC); further engagement with Ausgrid's wider customer base; a post implementation review of the resilience program including a review of the co-designed Resilience Framework as well as our thoughts on the next steps needed for Ausgrid to finalise the resilience program for its December revised proposal.

Key observations

1. Ausgrid initially proposed in its Draft Plan in September 2022 that it would cap its resilience program at $204m. This was reduced to $202m in its January 2023 Proposal and has been further reduced to $176.5m in its mid-July 2023 resilience business case.

2. We welcome Ausgrid's decision to remove the Aerial Bundled Cable (ABC) solution from the resilience business case following concerns expressed by the RCP.

3. The objective of Ausgrid's resilience business case is to lower a projected increased outage risk from climate events. This projection is based on expert climate modelling at an LGA level.

4. Ausgrid's intention in the 2024-29 revenue reset is to build and refine an approach to resilience investment that is capable of being scaled and repeated in future regulatory periods.

5. The 2024-29 resilience investment is a pilot program focussing principally on three of the LGAs in Ausgrid's network.

6. The resilience business case has been developed at a time of significant change in customer needs and preferences.

7. The AER's Resilience Note includes four foundational concepts that have influenced the design of Ausgrid's engagement program and the way Ausgrid has developed its resilience business case.

8. The design of Ausgrid's engagement program was intricate and involved three separate customer streams.

9. The LGA engagement was structured to ensure that all solutions were valued by the local community, would plug gaps in existing support and were ones that the community believed were appropriate to come within Ausgrid's responsibility.

10. Ausgrid followed best practice in collecting qualitative and quantitative evidence of its broader customers' willingness to pay using a deliberative process.

11. Repeated engagement over the last two years has consistently shown that Ausgrid's broader customers accept there is a need for increased resilience to severe weather events; the impacts from prolonged outages resulting from severe weather events are profound; and they support investment in local communities and in the network.

12. Customers are unclear whose responsibility it is to make the investments that are needed to increase resilience in local areas. There are a range of views on where responsibility for this localised investment should fall and who should bear the burden of that funding. Current affordability concerns are also influencing this view.

13. Ausgrid has used VCR to calculate customer benefit in the modelling of network solutions. We agree with the AER that VCR on average understates customers' experience during Widespread and Long Duration Outages (WALDOs).

14. In the absence of a value for WALDOs and instead of using VCR or other numeric proxies, RCP supports Ausgrid relying on the substantial evidence from Ausgrid's customers that they value the non-network solutions and are prepared to pay for them.

15. The RCP's close engagement and challenge as Ausgrid has developed its business case presented here has led to us conclude that it is a strong case for the prudency and efficiency of the proposed $176.5m totex.

16. Ausgrid's resilience business case is continuing to evolve. The RCP will continue to challenge Ausgrid on all aspects of the resilience business case including:
    - development of more detailed accountability measures;
    - implications of the AER's Draft Decision on all allowed expenditure and implications for the resilience business case modelling;
    - the LGA and broader customer engagement planned in October; and
    - refinement and optimisation of each of the network and community resilience solutions in the LGA and WON packages in the December revised proposal.

Summary of RCP conclusions

In this report we have reached the following conclusions about Ausgrid's resilience business case:

1. **RCP conclusions on engagement from Part 2 (p.43 below)**

As RCP members we are satisfied that Ausgrid has developed and executed a resilience engagement program consistent with the AER's Resilience Note, Chapter Three of the BRH and the Resilience Framework. We are further satisfied that Ausgrid repeatedly advised engagement participants that network solutions funded by customers represented part of a broad range of treatments, responses and solutions to the electricity supply difficulties arising from climatic events.

We also believe that customers at the LGA level, in the VoC23 Panel and in the C&I interviews were advised of the risks of paying twice (before and after an event), the timing and location of the proposed investments and the degree of uncertainty in the climate modelling.

We have been impressed with the genuine desire of Ausgrid staff to engage in a resilience engagement program notwithstanding its unprecedented nature and untested features. Ausgrid actively invited and welcomed RCP feedback as to how the program could be improved, and we believe it represents a thorough, well-resourced and comprehensive engagement program.

We are satisfied that the results of the engagement program indicate customers, both those in the three LGAs subject to the trial and more broadly in Ausgrid's wider customer base, continue to provide strong support for the resilience business case submitted by Ausgrid to the AER and that the proposed investments in the resilience business case have been shaped by customers to meet their needs and preferences.

2. **RCP observations on modelling in the resilience business case from Part 3 (pp 45-47 below)**

The RCP has been closely engaging with Ausgrid over the whole period of the engagement as the business case has been developed for the range of network and non-network options. Through this time we have provided continued challenge to Ausgrid on meeting the AER Resilience Note's business case requirements. There are many examples where Ausgrid has taken our views on board, most recently in respect of the exclusion of the co-funded ABC expenditure and the abandoning of a VCR based methodology to justify non-network expenditure for the updated business case. While we have not had the opportunity to review the final business case version in any detail – we received it at the same time as the AER – we provided extensive comments on the 4th July version. Ausgrid indicated that they were going to incorporate all our points in the final version.

Were those changes to be incorporated in the final version then we have confidence that it will provide a strong case under the Resilience Note guidelines for the prudency and efficiency of the proposed $176.5m totex.

The 'engagement valuation' approach of non-network solutions is consistent with the AER Resilience Note's acknowledgement that VCR may not fully represent the value local communities place on these solutions and is consistent with the Resilience Note's discussion of community resilience. These non-network solutions have a strong 'community' aspect where Ausgrid will be collaborating with Local Government and various emergency services providers.

While we support this method of justification for non-network solutions, the RCP will continue to challenge Ausgrid to ensure the expenditure is prudent and efficient.

3. RCP recommendations on solutions in the four investment packages from Part 3 (pp 51 and 55 below)

The RCP recommends that the AER review each of the WON solutions. The RCP strongly supports the build back better protocols; the data sharing for multi-agency response; the evaluation and accountability back to the community and ongoing climate impact assessment modelling. Whilst we support the creation of greater asset zones around major substations we have some concerns about the feasibility of implementing the vegetation management asset protection program given community resistance to the removal of trees. We support in principle the fault detection program and spreader bar programs however, we are unsure of the long term cost effectiveness of the spreader bar program, given that Ausgrid's standard is to gradually replace its LV network with ABC.

We encourage the AER to review the local network solutions to ensure as far as possible a similar degree of discipline and optimisation is brought to the resilience investments that Ausgrid brings to its repex and augex programs.

The RCP expects that the AER will carefully review all of the local community resilience solutions as this is the first time that these type of investments are being proposed by a network. We confirm that there are very high levels of community value for the community resilience solutions and for that reason the RCP supports them with the caveats expressed below. Our support is based on the deep local engagement that Ausgrid has done with the local communities to understand unmet needs and individual discussions with the Councils to ensure that the solutions would integrate with and complement existing community support services. In the absence of this local, bespoke engagement and the accountability and evaluation of the pilot discussed in part 4 of this report, we would not have supported these largely opex based community resilience solutions.

We believe that there is scope for Ausgrid to improve the efficiency of the solutions by responding to the commentary from the LGAs as they described the objectives and their hopes for the solutions in Workshop 3 as well the detailed feedback from the VoC23 Panel. The broader customer base has given clear direction to Ausgrid of ways it can increase the perceived value in these local community solutions from its perspective without second guessing the needs of those communities. Some suggestions include:

- looking for further savings now that Ausgrid is aware of more than one LGA choosing the same or a similar solution;
- finding ways to optimise community resilience across the three LGAs; and
- developing the solutions further by increasing the descriptions for these solutions particularly the Ausgrid Liaison Officer, the granular blackout plan and communication solutions.

We encourage Ausgrid to continue the development of these solutions alongside the local Councils and as part of the Letters of Intent process with other resilience actors to have a more optimised package of community resilience solutions in time for the engagement in October. This will create greater accountability to the local communities. The identification of partnering opportunities with Councils and others should assist in the broader customer base's concerns that disaster response and support should be a shared responsibility between Ausgrid and others.

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Part 1 – Compliance with regulatory guidance and customer expectations

1. Background

Ausgrid's resilience business case is built on a strong foundation of documented regulatory and consumer guidance, including:

- the AER Resilience Note;
- the AER's Better Resets Handbook (BRH);
- Ausgrid's Resilience Investment Framework[2] (Resilience Framework), jointly developed by Ausgrid and the RCP; and
- Ausgrid's Resilience Implementation Plan[3] (Implementation Plan).

The resilience business case had not been completed when Ausgrid lodged its Proposal with the AER in January 2023, but its progress was well described in both Ausgrid's Draft Plan (published on 2 September 2022) and Proposal, as well as in the RCP First and Second Reports[4] which accompanied the Draft Plan and the Proposal. This Report should be read in conjunction with the detailed guidance we provided on the development of Ausgrid's Resilience Framework and Implementation Plan in our RCP First and Second Reports[5].

At the end of 2022 Ausgrid agreed with the RCP to jointly develop a pilot to trial the Resilience Framework in three of its 33 LGAs: Port Stephens, Lake Macquarie and Central Coast. The way in which these LGAs were selected is detailed by Ausgrid in its resilience business case (section 3.3) and is also discussed below in Part 2. We supported Ausgrid's choice. The Implementation Plan sets out the approach agreed between Ausgrid and the RCP for how the pilot would be run. It is in two parts:

1. Engagement with customers in the three LGAs, each involving two full day face to face sessions and two on-line evening session between February and June 2023 to determine their preferred resilience expenditure options; a comprehensive report on this has been completed by bd infrastructure[6] (the bd Report) and submitted as part of Ausgrid's resilience business case.
2. A separate engagement with Ausgrid's Voice of Customer 2023 Panel (VoC23 Panel), involving one on-line evening session and two face to face sessions (in both Newcastle and Sydney) on two aspects
    a. whole of network resilience solutions, and
    b. given all Ausgrid customers were to pay for the resilience options chosen by the three LGAs, the views of the VoC23 Panel on the spreading of the cost of the three LGA options to all Ausgrid customers.

    The detailed output on this second part has been documented by MosaicLab and this analysis has been included in Appendix 1 to the bd Report.

[2] The Resilience Framework is attachment 5.5.c to Ausgrid's Proposal.
[3] The Implementation Plan is attachment 5.5.a to Ausgrid's Proposal.
[4] RCP First Report dated 29 August 2022 and RCP Second Report dated 27 January 2023 being attachment 3.5 to Ausgrid's Proposal.
[5] See RCP First Report at pp 30-33 and Appendix C at p.72 and RCP Second Report at pp 32-37.
[6] bd Infrastructure Ausgrid Resilience mid-term report July 2023 (the bd Report) is Attachment B to the resilience business case.

Ausgrid initially proposed that it would cap its resilience program at $204m totex. This was reduced to $202m in its Proposal and has been further reduced to $176.5m in the resilience business case:

LGA	**Capex** ($FY24)	**Opex** ($FY24)	**Totex** ($FY24)
Port Stephens	$19.0m	$0.7m	$19.7m
Lake Macquarie	$39.6m	$0.8m	$40.4m
Central Coast	$66.7m	$2.0m	$68.7m
Whole of network	$45.3m	$2.4m	$47.7m
Total	**$170.6m**	**$5.9m**	**$176.5m**

2. The objective of Ausgrid's resilience program

Throughout the development and engagement of the resilience response, we have continually challenged Ausgrid to be as clear as possible as to '*what is the problem that is being addressed here*?'

Ausgrid's answer is '*how can we best support communities most exposed to changing climate risk*?' The intention of the expenditure is to lower a projected increased outage risk from climate events in those communities. It is not to reduce the future level of outages below the current level. The focus is on the expected increased risk of 'major event days'. It was recognised that this 'support' has a much wider scope than just power system reliability, that includes community resources and changing customer technologies.

3. Governance

The RCP has had a particular focus on the governance across all aspects of Ausgrid's proposed resilience investment including development of the Resilience Framework, customer engagement, development of the business case and implementation. As a result of the Resilience Framework we developed in conjunction with Ausgrid last year, Ausgrid created two bodies:

- the Engagement Stakeholder Working Group (the Working Group); and
- the Steering Committee (also referred to as Steerco).

The Working Group met regularly with representatives of bd, MosaicLab, Gauge and the Ausgrid engagement, and the regulatory and asset management teams. The Working Group managed engagement milestones in the Implementation Plan including:

- reviewing the preparation of engagement materials and solution modelling for all upcoming engagement sessions to ensure that it complied with the AER Resilience Note, Resilience Framework, the BRH and the Implementation Plan;
- debriefing after each workshop to see if any improvements and changes were needed between workshops[7];
- ongoing monitoring of Ausgrid's stakeholder engagement with other resilience actors (including the progress of signing letters of intent and other collaboration opportunities);
- ensuring the engagement design and execution proceeded within the agreed constrained time frame to meet Ausgrid's commitment to submit its resilience business case by mid-July 2023; and

[7] One of the challenges that RCP observed was that Ausgrid could introduce only minimal improvements and changes between the same workshops to ensure consistency and continuity of the methodology. Any changes agreed to in the Working Group were modest and were aimed at clarifying material for the participants.

- identifying any risks in the project implementation that the Working Group wanted to escalate to Steerco.

The Steerco included members of Ausgrid's senior Executive Leadership Team and its task was to oversee the project, including the resolution of any risks to project implementation such as availability of resources.

One member of the RCP attended all of the Working Group meetings and up to three RCP members attended the Steerco meetings. Appendix A includes the dates for the meetings for these two groups.

The RCP's requirements included that every customer engagement session had at least one RCP member acting as an Observer. In keeping with the practice developed in relation to customer interviews and workshops prior to Ausgrid's Draft Plan and Proposal, RCP members assigned to specific resilience engagement sessions drafted Observer reports for our future reference. A continuous RCP presence at engagement sessions provided us with a means of validating a consistent approach and being more confident of the robustness of the engagement outcomes. These Observer reports, which have not been shared with Ausgrid, are available to the AER upon request.

4. First application of the AER Resilience Note

Ausgrid has always made it clear to the RCP and to its customers that its intention in the 2024-29 revenue reset is to build and refine an approach to resilience investment under the Resilience Framework that is capable of being scaled and repeated in future regulatory periods. This is reflected in the question Ausgrid posed to its wider customer base:

> "*Given the intensity of severe weather events and the damage being experienced to the network; the impact prolonged power outages have on households and on communities and what the climate modellers are forecasting about the future of severe weather events in NSW, is 2024-29 the right time to shift and to start making greater proactive investment in the network?"*

The resilience business case has been developed at a time of significant change in customer needs and preferences:

- the rapidly rising affordability pressures across many areas, including energy;
- technology development, combined with Government net zero targets, which is leading to greater 'electrification of everything';
- community lived experience of recent natural disasters that have impacts aside from extended power outages; and
- a developing sense within the community and Government of the need to support the development of community resilience to increasing incidence of natural disasters.

This changed context is reflected in the AER Resilience Note. For example at p.4 the AER states:

> "*We recognise that climate change is a global issue with localised impacts that can profoundly affect communities…There has also been increased awareness and activity to better understand how different entities can assist communities prepare, plan and respond to natural disasters…Like many other entities, the AER is also thinking about the future effects of climate change. We are especially interested in the impact on electricity networks among the community more broadly and the way we regulate in this uncertain environment".*

And on p.5 the AER notes:

> " *A resilient electricity network can assist in building community resilience. But many different entities have a role in supporting communities to withstand and recover from the impacts of natural disasters. Government bodies, individual themselves and several critical infrastructure operators (beyond electricity networks) have a role to support community resilience*."

And on p.8:

> *"In an environment where the impacts of climatic change on the frequency and severity of major events is uncertain, it is important that there is an optimal balance of ex-ante and ex-post funding (or balance of risk allocation) to maintain service level outcomes so that it is consistent with the needs and preferences of consumers. We are aware that the right balance may need to change over time if we are seeing a material shift in more reactive outcomes that are higher cost than a proactive response to limiting the damage from extreme weather events."*

Ausgrid's engagement highlighted the range of activities currently underway to improve individual and community resilience capability in response to recent events. These included the purchase of diesel generators and back up supplies of fuel by households in remote locations; the installation of islandable Tesla Powerwall 2 batteries to complement home PV systems and investment by communities in fixed hubs to support the most vulnerable, equipped with essential services such as dry goods, shower facilities, clothes and charging facilities. However, unlike Council evacuation centres not all of these community hubs appear to have back up energy supply. In other cases, the local knowledge about options to improve resilience was limited and the Ausgrid engagement gave many ideas to help these communities become more resilient.

We saw first-hand from the local engagement the benefits of the AER's expectations on networks to (p.13):

> "*work collaboratively with affected communities, and other responsible entities involved in disaster management, to understand what the communities' genuine needs are to plan and prepare for, as well as recover from a natural disaster. We are also interested in the degree of input these stakeholders have had in developing the proposed resilience- related expenditure;…"*

And we discuss this in more detail below.

5. Four foundational Concepts

Our review of the AER Resilience Note and Resilience Framework highlighted four foundational concepts that Ausgrid would need to engage on as part of developing its resilience business case:

1. resilience v reliability;
2. the role of other resilience actors;
3. the risk of paying twice; and
4. evidence of customers' willingness to pay for both local and whole of network solutions including non-network solutions.

These four concepts were discussed at length between the RCP, Ausgrid, bd, MosaicLab and Gauge to ensure that Ausgrid's engagement program clearly addressed these concepts in order to meet the various requirements in the AER Resilience Note, the BRH and the Resilience Framework.

5.1 Resilience v reliability

The AER Resilience Note focusses on the distinction between resilience and reliability[8]. Our focus on this distinction has been to challenge Ausgrid to:

- ensure the discussion does not become another excuse for 'gold plating'; and
- look beyond technical responses that reflect traditional reliability improvement. Resilience is much more than traditional reliability planning, and very different to maintaining the continuous supply of electricity.

We believe that this challenge has been largely successful, with engagement focussing on the community impact of prolonged outages helping focus the response to community wellbeing. We have been pleased to see technical staff moving beyond network performance and risk modelling to taking a much greater interest and consideration of the human and community impacts of longer-term and more widespread interruptions of power supply. Changing customer technology, divergency of consumer needs and accommodating uncertainty are more evident in Ausgrid's planning. This approach is also evident in Ausgrid's consideration of their 'worst performing feeders.'

Nevertheless given the climate modelling shows the major climate risk is the increase in frequency and severity of East Coast Lows, a large part of the response will be investment to reduce the extent and frequency of outages due to overhead line damage and improve the speed of response. This will mean solutions such as reclosers and covered conductors that deliver a 'reliability dividend'.

5.2 The role of other resilience actors

The AER Resilience Note highlights that the role of distributors in supporting network resilience is a collaborative one with other resilience actors[9]. We have continually challenged Ausgrid in our discussions with them since 2021 that Ausgrid not seek to act alone in its proposed response to severe weather events and that it look to work with other emergency response agencies and resilience actors as part of developing community resilience[10]. This is also reflected in Section 5 of the Resilience Framework. The customer engagement has also given consistent feedback that they want to see the role of Governments, Councils and others made more explicit.

Ausgrid has had many very productive discussions with a variety of resilience actors. RCP members have observed that there is a preparedness amongst many of these entities, particularly Councils and the NSW Reconstruction Authority to partner and work co-operatively with Ausgrid. The detail of this ongoing work is set out in Appendix B of Ausgrid's resilience business case.

RCP has observed a range of climate resilience preparedness in these organisations. Some do not have local climate modelling so Ausgrid has provided its modelling as an excellent starting point for discussions. Others, such as Business NSW have extensive experience in providing business resilience services across NSW following the recent floods. Through the Letters of Intent process, Ausgrid is now working with some of these other resilience actors to share its modelling to enable an overlay of those entities' critical infrastructure on Ausgrid's network. This is the start of partnerships and co-funding

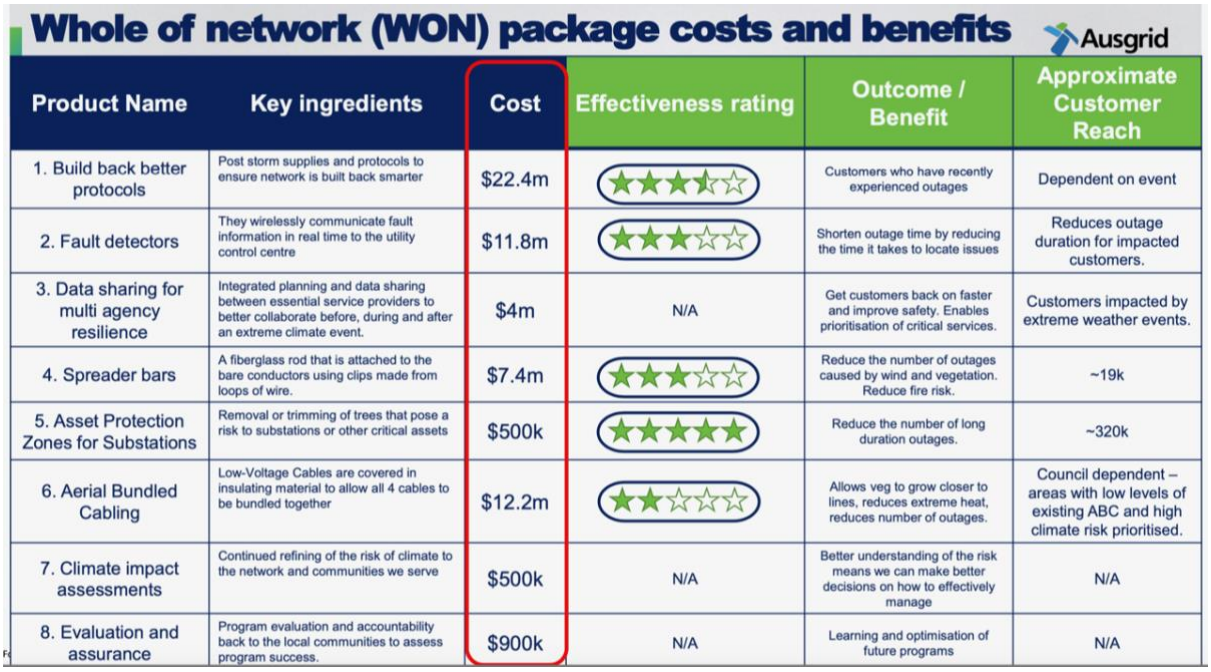
[8] AER Resilience Note at p.6.
[9] AER Resilience Note at pp 14-15.
[10] We discussed this in the RCP First Report at p.33 and Appendix C and in the RCP Second Report at pp 32-37.

opportunities which we have always seen as the natural evolution of the Resilience Framework. As we discuss below, customers have given consistent feedback that they want to see the role of Governments, Councils and others made more explicit.

5.3 The risk of paying twice

The AER Resilience Note discusses the efficient allocation of risks between networks and customers and the risk that a customer may be required to 'pay twice' – once for the resilience capex and opex in a particular area and again if the severe weather event impacts on other areas or if the investment does not withstand the event and there is a cost pass through event[11]. During the engagement, Ausgrid approached this issue in two ways:

(i) Given the climate modelling uncertainties, it developed an 'effectiveness star rating' for each of the solutions it proposed which indicated the likely effectiveness of network and non-network solutions against the specific climate peril. The following tables are two examples – for the Whole of Network and Central Coast – showing the effectiveness rating of each solution in mitigating the impact from major windstorms and East Coast lows[12].



Whole of network (WON) package costs and benefits Ausgrid

Product Name	Key ingredients	Cost	Effectiveness rating	Outcome / Benefit	Approximate Customer Reach
1. Build back better protocols	Post storm supplies and protocols to ensure network is built back smarter	$22.4m	★★★½☆	Customers who have recently experienced outages	Dependent on event
2. Fault detectors	They wirelessly communicate fault information in real time to the utility control centre	$11.8m	★★★☆☆	Shorten outage time by reducing the time it takes to locate issues	Reduces outage duration for impacted customers.
3. Data sharing for multi agency resilience	Integrated planning and data sharing between essential service providers to better collaborate before, during and after an extreme climate event.	$4m	N/A	Get customers back on faster and improve safety. Enables prioritisation of critical services.	Customers impacted by extreme weather events.
4. Spreader bars	A fiberglass rod that is attached to the bare conductors using clips made from loops of wire.	$7.4m	★★★☆☆	Reduce the number of outages caused by wind and vegetation. Reduce fire risk.	~19k
5. Asset Protection Zones for Substations	Removal or trimming of trees that pose a risk to substations or other critical assets	$500k	★★★★★	Reduce the number of long duration outages.	~320k
6. Aerial Bundled Cabling	Low-Voltage Cables are covered in insulating material to allow all 4 cables to be bundled together	$12.2m	★★☆☆☆	Allows veg to grow closer to lines, reduces extreme heat, reduces number of outages.	Council dependent – areas with low levels of existing ABC and high climate risk prioritised.
7. Climate impact assessments	Continued refining of the risk of climate to the network and communities we serve	$500k	N/A	Better understanding of the risk means we can make better decisions on how to effectively manage	N/A
8. Evaluation and assurance	Program evaluation and accountability back to the local communities to assess program success.	$900k	N/A	Learning and optimisation of future programs	N/A

[11] AER Resilience Note at pp 12-13.

[12] The various tables and slides extracted in this report are also reproduced in the Climate Resilience Engagement Material which is Attachment A to the resilience business case.

Central Coast package costs and benefits

Ausgrid

Product Name	Key ingredients	Cost	Effectiveness rating	Outcome / benefit	Approximate customer reach
1. Reduce outage time and frequency for most customers	Reduce impact of extreme weather through • Sectionalisers / reclosers • Covered conductors	$37.3m	★★★☆☆	Is most effective at improving network performance for the most customers.	~58,000
2. Community resilience plan	A community action plan to help prepare for and recover from extreme events.	$400k	★★☆☆☆	A community with frequent extreme weather.	All community members who participate
3. Ausgrid Liaison Person (1/3)	Dedicated resource to support climate impacted areas • Cross agency support • Local response coordination	$333k	★★★☆☆	Any customer within the LGA (resource permitting).	Whole of LGA
4. Community awareness and education campaign	Widescale communications pre storm season communicating Blackout Plan	$500k	★★☆☆☆	Most customers	100k
5. Local safety and outage messaging	During event restoration and awareness communications • SMS and email	$750k	★★★☆☆	Customers impacted by extreme weather.	Whole of impacted areas
6. Protect high vegetation areas from East Coast lows	Target highly vegetated areas with • Aerial Bundles Cables • Covered conductors	$29.8m	★★★★☆	Tree lined streets.	~5,400
7. Strengthen network for worst served	Target High Voltage network with poor performance utilising a mix of all network solutions.	$3.4m	★★★☆☆	High climate risk and critical supply feeders/customers. Worst served customers.	~800
8. Small mobile generators	Mobile generator or battery • Provided after 'x' days • Pre deployed to vulnerable community	$20k	★★★★☆	Customers experiencing extended outages in identified community.	10 (Product includes 10 Small Generators)

(ii) At all engagement sessions, Ausgrid's intention was to convey to customers that the resilience expenditure will not prevent Ausgrid from seeking the pass through recovery of storm related costs in the future if allowed under the AER regulatory framework. The tool Ausgrid developed to convey this was a traffic light guide for each solution of the level of risk of 'paying twice' where the storm damage occurs away from or even in spite of the increased resilience expenditure. The following slides are taken from LGA Workshop 3 and VoC23 Panel engagement materials:

The risk of regret is different for each solution...

Ausgrid

For each solution we show we'll indicate the level of risk of paying twice

= the risk of paying twice is lower:
- isn't in a fixed location, or
- not vulnerable to extreme weather
- e.g. communication campaign ahead of a East Coast low season

Lower risk

= the risk of paying twice exists:
- is in a fixed location, and maybe that's the wrong location, but
- is less likely to be impacted by extreme weather
- e.g. under grounding

Medium risk

= the risk of paying twice is higher:
- is in a fixed location, and maybe that's the wrong location, and
- may be impacted by extreme weather and if this storm is significant we may seek **additional** funding to cover repairs
- e.g. covered conductor

Higher risk

Each solution (whether network or non-network) was then presented with one of these arrows so that customers understood the level of risk of paying twice as part of their decision making.

The issue of paying twice also arose in the context of consumers' personal and community assets. When the communities were asked whether resilience spending should be targeted to those who are worst served or those of the highest numbers, a number of participants were concerned that targeting the worst served could undermine what customers on those feeders had done themselves leaving them with stranded assets e.g. back-up generators.

In engagement with business customers RCP has heard concerns being expressed about the risk of paying three times – the third time being through higher insurance premiums – they wanted to see Ausgrid engage with insurance companies to ensure the increased resilience was reflected in lower insurance premiums.

5.4 Evidence of Ausgrid customers' willingness to pay

The AER notes at pp 10-11 in the AER Resilience Note:

> *"VCRs are usually provided by NSPs to support proposed expenditure intended to maintain reliability of the network. We consider that the VCRs we published in our review in 2019 may not be appropriate to estimate the value which customers would place on avoiding or reducing the severity of larger unplanned outage events that have specific localised impacts. The 2019 values were based on customer survey responses that tested the value customers placed on unplanned outages of up to 12 hours duration and had a limited geographic impact (a few blocks for a CBD/suburban customer and an entire town for rural and more remote areas)……..[W]e also consider that the VCRs for widespread and long duration outages (WALDO), which the AER published in September 2020, has limited application at this stage…..[I]n the absence of this work, we encourage NSPs to demonstrate consumer preferences for proposed resilience-related expenditure using other supporting evidence such as through willingness-to-pay studies"*

Ausgrid's customer engagement clearly showed that customers in the three LGAs, who have strong lived experience of major weather events, place a high value on a resilient network. This value is increasing with the 'gradual 'electrification of everything'.

The RCP observed several participants in the Port Stephens and Lake Macquarie communities referencing the immense inconvenience, discomfort and distress caused from the prolonged power outages (in some cases up to 3 weeks) from previous major storms particularly the Pasha Bulker storm in 2007. In the Central Coast we observed participants exhibiting ongoing signs of trauma as a result of multiple recent major events (including bush fires, floods and storms). To this point Ausgrid, on advice from the NSW Reconstruction Authority and the RCP, made available special trauma counselling support for participants. This was called upon during the consultation as participants relived past experiences and the associated traumatic impacts[13].

We agree with the AER's observation above that VCR understates the value customers place on avoiding/reducing major unplanned outages. Because of this lack of an agreed value for WALDOs this has given rise for the need for Ausgrid to provide evidence to support its customers' preferences in this respect.

At p.13 the AER Resilience Note discusses the type of evidence that the AER is looking for to demonstrate that customers are willing to pay for resilience expenditure (emphasis added). The AER expects networks to:

[13] RCP observed the value of a qualified mental first aid Ausgrid staff member assisting participants particularly at the May 27 Central Coast session.

> *"consult with its wider consumer base on their preferences for bearing resilience-related costs to address localised impacts. We would expect NSPs to explain to its customer base that the **benefits** associated with upfront investment in resilience expenditure to address a **localised low probability, high consequence event outweigh the costs.***

And the AER concludes at p.13:

> *'We would also be interested in evidence of customers' willingness to pay for the proposed expenditure. We expect these studies to be based on **genuine engagement** where **different feasible options** to address the network are explained to customers, as well as **any trade-offs,** and they are satisfied that the proposed expenditure should be prioritised over other proposals by the business'."*

The AER Resilience Note distinguishes between Willingness To Pay (WTP) studies (in the absence of an agreed VCR or WALDO value) and the need for evidence that Ausgrid's broad customer base are willing to pay (wtp) for the proposed local resilience expenditure given postage stamp pricing in revenue cap regulation.

The Ausgrid process is not a WTP study in its generally accepted (i.e. in past examples) form. Instead the Ausgrid process was designed to satisfy the second of the AER's references to wtp namely evidence that the broader customer base would support investment by Ausgrid in localised targeted solutions as well as the whole of network solutions. This was the result of the intricate local and whole of customer base engagement that was necessarily iterative in nature over two years and resulted in the development of bespoke packages by the three LGAs, which Ausgrid and the RCP believed was important context and detail to be shared with the VoC23 Panel and C&I customers.

Attempts to measure WTP for infrastructure expenditure by regulated businesses have had a chequered history. In seeking to challenge Ausgrid to provide a robust justification the RCP reviewed a number of studies to gain a perspective on what constitutes best practice:

1. The NTF Group's targeted Willingness to Pay Research July 2014[14], the two Oakley Greenwood reports[15] commissioned by the AER to review the NTF Research and the AER's final Decision in SAPN's 2015-20 revenue proposal[16];
2. Water Services of Australia 2019 – Principles for a robust study[17]; and
3. Yarra Valley Water's citizen jury deliberative process underpinning its 2018-23 Price Submission[18].

[14] NTF SAPN Targeted Willingness to Pay Research Findings which is Attachment 6.8 to SAPN's 2025-20 proposal.

[15] Oakley Greenwood 20 April 2015 Peer Review of the willingness to pay research submitted by SAPN commissioned by the AER and attached to its Draft Decision and Oakley Greenwood 21 September 2015 Response to comments on the peer review of WTP research submitted by SAPN commissioned by the AER and attached to its Final Decision.

[16] The AER's discussion of the NTF study and the Oakley Greenwood reports for capex expenditure is in the AER Final decision SA Power Networks distribution determination – Attachment 6 – Capital expenditure October 2015 at pp 6-106-110 and for opex expenditure is in AER Final decision SA Power Networks distribution determination – Attachment 7 – Operating expenditure October 2015 at pp 7-89-95.

[17] Willingness to Pay Principles for a robust study August 2019 prepared for the Water Services Association of Australia by the Centre for International Economics and Marsden Jacob Associates.

[18] Yarra Valley Water engaged MosaicLab and newDemocracy to deliver the citizen's jury which explored willingness to pay. See Yara Valley Water 2018-23 Price submission dated 28 September 2017, which was subsequently accepted by the Essential Services Commission in its Draft decision on 7 December 2017.

The following table summarises our learnings and then our assessment of how the Ausgrid process measured against those learnings.

Learnings	Comments on Ausgrid's approach
The AER criticised the SAPN NTF WTP study for its lack of engagement with C&I customers[19].	Ausgrid has a separate individualised engagement stream with its C&I customers to assess their support for the resilience program and wtp for the investments, which we discuss below.
The number and strength of contrary submissions lodged with the AER which undermined the validity of SAPN's WTP study[20].	As pp 126-127 in Appendix D to the resilience business case notes Ausgrid has consistently received support in all submissions for its approach to resilience engagement and the development of the Resilience Framework.
It is important that customers are provided detailed information about the benefits of each option they are considering so that they can accurately consider the intended outcomes of investments[21].	The LGA engagement was structured to first elicit the outcomes that the community was seeking to achieve and then Ausgrid proposed a series of solutions for consideration by the local participants designed by Ausgrid's planners to deliver one or more of those outcomes. Ausgrid also took steps to provide LGA and its broader customer base participants with both the costs and benefits of specific solutions as part of the LGA and broader customer engagement as shown in the effectiveness slides extracted above.
A bare majority support (55% acceptance) could be used as evidence in a WTP study by all customers surveyed, however this would raise	Given the process undertaken by Ausgrid is not anything like the 30 minute online WTP study on very specific parameters (as per SAPN), Ausgrid does not need to argue for a fixed % as

[19] "*Further, the WTP survey was only aimed at measuring the willingness to pay of South Australian residential consumers. It did not assess whether non-residential consumers would be willing to pay for increased vegetation management expenditure. Tariffs levied on non-residential customers provide approximately 50 per cent of SA Power Networks revenue. Therefore the survey is not representative of SA Power Networks' entire cu*stomer base." See AER Final Decision at p.6-109 and similar comments on capex engagement at p.7-95.

[20] "*In taking consumer engagement into account, we must not only consider consumer feedback on discrete initiatives proposed by SA Power Networks but also a wide range of other information including consumer feedback we receive about SA Power Networks' proposal in consulting with consumers.*

The findings of the WTP survey which suggested that consumers are willing to pay for additional vegetation management initiatives was in contrast with other stakeholder feedback we received on SA Power Networks' proposal." See AER Final Decision at p.7-93.

[21] "*In each case the customer can choose based on what they think of the bundle of service levels and the price, and in doing so they can express a preference for those service levels as compared to price. In this sense, the DCE approach will provide a preference function.*

However, the choice that is being provided is about inputs, not outcomes. Presumably, the objective of these service activities is to reduce the incidence of fires in bushfire risk areas. What is lacking is the likely relative reduction in fire risk that could reasonably be associated with each service bundle. In effect, the respondent is being asked to choose between different cost levels without understanding what the benefit level is likely to be." See Oakley Greenwood April 2015 at p.6.

equity issues that would need to be considered[22].	a proxy for acceptance of the majority. We discuss in detail below what the qualitative and quantitative evidence has revealed about Ausgrid's customers' views on the likely bill impacts from Ausgrid's resilience investment.
The Water Services Australia report shows the importance of choosing the most suitable wtp technique depending on the stage of the business case development. Contingent valuation and choice modelling approaches are recommended as most appropriate for assessing circumstances where business cases are being developed and where costs and benefits are not widespread[23] .	Ausgrid followed a deliberative wtp methodology to collate the evidence.
Yarra Valley Water four phases of engagement to get robust valuations.	Ausgrid's approach closely resembles this approach.

Yarra Valley Water

Yarra Valley Water undertook its first PREMO[24] engagement exercise with its customer base in 2016. One RCP member was involved in this engagement design. This engagement was undertaken at a time when the Victorian community was experiencing a long, protracted drought that required significant infrastructure expenditure to share water supply across regions. Assessment of the customer willingness to pay for this investment required a completely new engagement approach. The outcome of these conversations in the socio-environmental context the community was experiencing, led to a proposal that was accepted by the Essential Services Commission and significantly shaped the services and value offering of the water company. The 18 month engagement approach in 2016-17 involved 4 phases each building on the previous phase[25]:

- The Story – understanding and empathy
- The Insights – listening and co-creating outcomes
- The Value Creation – choices and design
- The Proposal – decisions and reporting

The third phase used conjoint choice modelling and the citizens jury process to explore customers' willingness to trade-off price and service. The RCP believes that the detailed two year approach

[22] "*We did not disagree that this threshold [55%] might be a reasonable basis for presenting research results as indicating that a specific service initiative had attracted a significant majority of community support" . However, we rejected the notion that this threshold necessarily constitutes a sufficient basis for imposing the costs associated with that service initiative on what could be up to 45% of the customer base ……[I]n our peer review report we presented an alternative means for making capital and operating expenditure decisions based on WTP research results…..In summary, we did not object to the way in which the NTF Group presented the results of the WTP research. Rather, we felt that the way in which the results were used to determine the preferred service option had some relatively obvious equity consequences that could and should have been more carefully considered*." See Oakley Greenwood September 2015 at pp 6-8.

[23] See slides 5 and 6 from the Water services report.

[24] From 1 July 2018 the Victorian Essential Services Commission adopted a PREMO water pricing framework to review prices of Victorian water businesses. PREMO stands for Performance, Risk, Engagement, Management Outcomes.

[25] For more detail see Yarra Valley proposal at pp 8-9.

followed by Ausgrid to date to assess its customer's support and wtp for this new category of expenditure most closely resembles the approach adopted by Yarra Valley Water. This PREMO approach continues to be used[26].

The bd Report

The bd Report discusses these different approaches to collecting evidence of customers' wtp. The report also summarises why bd, MosaicLab and Gauge recommended the deliberative process methodology to Ausgrid as best practice for its resilience business case:

> "*bd infrastructure, MosaicLab and Gauge Consulting deployed a deliberative approach to meet the AER's requirements. More than 600 'mini-publics' like these have been used around the world to provide everyday people with the time, information and iteration opportunities they need to provide meaningful advice on complex topics (OECD, 2020).*
>
> *Deliberative processes have been entrusted with complex, national decisions, such as Ireland's Citizens Assembly on abortion and other constitutional issues and France's Citizens Convention for Climate, which recommended measures for reducing the nation's greenhouse gas emissions. They have been successfully used in Australia many times for public budgeting (Schecter, 2017) and by Victorian water and other resource industries since at least 2018 (Essential Services Commission, 2016).*
>
> *These deliberative processes have been found to broaden participation, enable a more informed conversation, produce more sensible recommendations (including on tough issues) and lead to greater public trust in an organisation's decision (Schecter, 2017). They are often superior to broad polling of customers or community because they require the mix of participants to deliberate on their disparate opinions and reach a super-majority position that 'sets the dial' on these trade-offs (Carson & New Democracy Foundation, 2019).*
>
> *For conversations on topics such as resilience, deliberative processes also offer the opportunity for customers to share and express the real trauma they have experienced and continue to feel in a safe and supported way with appropriate support services available as required*[27]."

In summary, Ausgrid's approach is much more nuanced than a brief online formal WTP study and we believe the results will be much more useful to the AER when it is seeking to understand what is important to Ausgrid's customers around resilience, what they value and how they reached their conclusions on wtp.

6. Regulatory Stocktake

As we noted above, there are many requirements that we believe that Ausgrid needs to meet to fulfil the regulatory guidance and customer expectations for its resilience business case. Those requirements are contained in the AER Resilience Note, Chapter Three of the BRH, the Resilience Framework and the Implementation Plan.

At our request Ausgrid has prepared a stocktake of how it believes it has satisfied all the different requirements in these four documents (the Regulatory Stocktake) and this is included in its business case[28]. In addition the bd Report includes analysis of how the engagement methodologies chosen by

[26] https://www.esc.vic.gov.au/water/how-we-regulate-water-sector/premo-water-pricing-framework
[27] See bd Report at pp 4-5.
[28] The Regulatory Stocktake includes evidence of compliance with the AER Resilience Note, the BRH and the Resilience Framework in section 2 of the resilience business case and in Appendices A and D.

the independent facilitators meet the AER's requirements in the AER Resilience Note[29]. The Regulatory Stocktake and bd's analysis have been an important resource for the RCP as we prepared this Report and reached our conclusions about how Ausgrid has satisfied each of the different regulatory and consumer expectations. We believe the Regulatory Stocktake and the bd Report will also assist the AER in its consideration of Ausgrid's resilience business case given the shortened time for analysis by the AER.

We have recently become aware from our review of a draft of the resilience business case, that Ausgrid is also seeking to rely on three additional requirements as partial justification for its resilience business case. These requirements are contained in the:

- Security of Critical Infrastructure Act 2018 (Cth) (SOCI);
- NSW State Infrastructure Strategy 2022-2042; and
- NSW Critical Infrastructure Resilience Strategy.

At p.6 of the resilience business case Ausgrid cites the following from the two NSW Resilience Strategy documents:

> *"In doing so, we have considered guidance from the NSW Critical Infrastructure Resilience Strategy which calls upon infrastructure providers like Ausgrid to "view the community as active partners in critical infrastructure resilience, and a valuable resource before, during, and after an emergency", and the NSW State Infrastructure Strategy which requires infrastructure providers to consider infrastructure and non-infrastructure resilience strategies. We have considered non-infrastructure investments where they allow greater flexibility, are more cost effective, or better target the needs of the community. "*

We have not reviewed the SOCI nor the NSW State Resilience strategy documents for the purpose of this report. Instead we recently wrote to Ausgrid seeking further information on what (if anything) might be considered an obligation as opposed to Governmental guidance. Ausgrid replied to our question as follows:

> *"In terms of the NSW Infrastructure Strategy, it would fall more into "guidance" rather than a firm "regulatory obligation" as defined in the NEL and typically understood by the AER. To that end the business case applies the NSW Infrastructure Strategy in the "identifying need" section (definitely a relevant consideration here). It is then left to our probabilistic modelling techniques to assess cost/benefits and identify the preferred solution."*

It is not clear to the RCP what force the NSW Government's guidance has, nor whether the SOCI mandates any obligation on Ausgrid on how it should plan for or respond to severe weather events. Subject to the AER's Draft Decision and in particular what expenditure the AER allows for the proposed non-network community resilience solutions, we believe that it may be worthwhile for Ausgrid, the AER and the NSW Government to discuss the Government's expectations.

[29] See Table 3.2 in the bd Report at pp 20-24.

Part 2 – Engagement

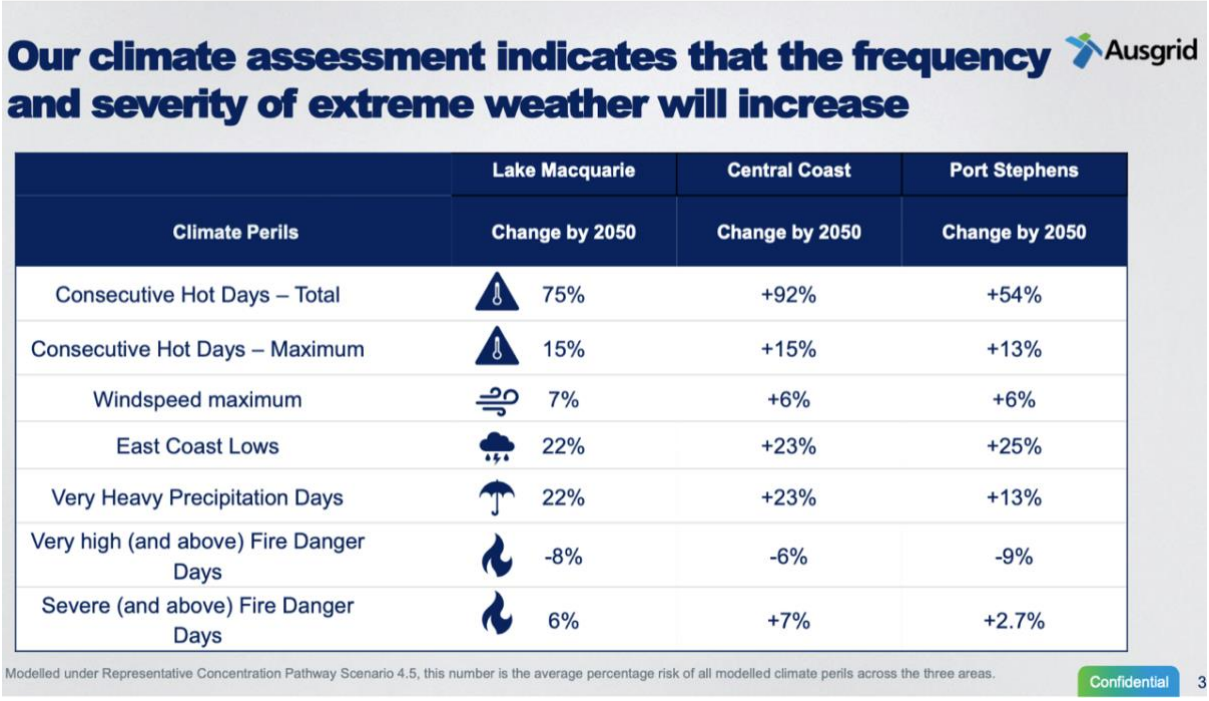
1. **Why three LGAs selected and why these three?**

Given the reset timetables, in late 2022 the RCP encouraged Ausgrid to run a pilot of its approach to resilience investment in no more than three of its LGAs. During 2022 Ausgrid received consistent feedback from stakeholders and customers that it should prioritise resilience investment in areas where:

- people are vulnerable and less able to cope with impacts of increasingly extreme weather; and
- extreme weather impacts the most.

Ausgrid prepared various data points confirming that Port Stephens, Central Coast and Lake Macquarie met those criteria:

- Ausgrid's climate modelling for these three LGAs reveals that the frequency and severity of extreme weather events is forecast to increase by 2050:



Our climate assessment indicates that the frequency and severity of extreme weather will increase

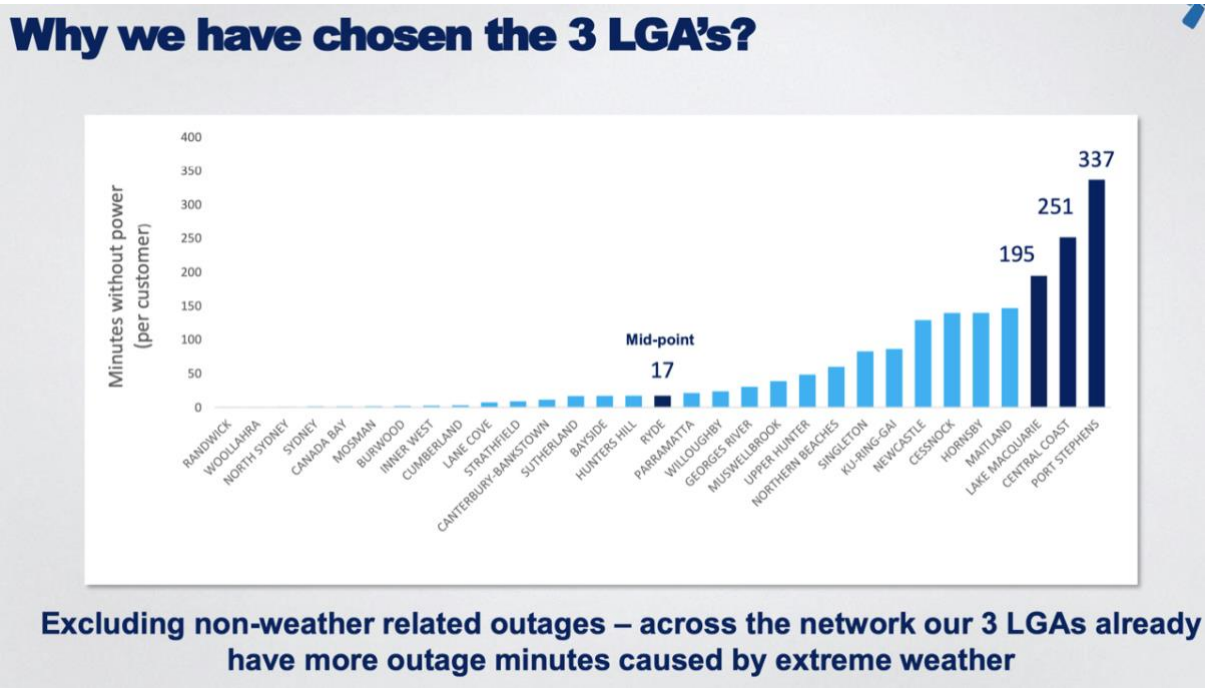
Ausgrid

Climate Perils	Lake Macquarie Change by 2050	Central Coast Change by 2050	Port Stephens Change by 2050
Consecutive Hot Days – Total	75%	+92%	+54%
Consecutive Hot Days – Maximum	15%	+15%	+13%
Windspeed maximum	7%	+6%	+6%
East Coast Lows	22%	+23%	+25%
Very Heavy Precipitation Days	22%	+23%	+13%
Very high (and above) Fire Danger Days	-8%	-6%	-9%
Severe (and above) Fire Danger Days	6%	+7%	+2.7%

Modelled under Representative Concentration Pathway Scenario 4.5, this number is the average percentage risk of all modelled climate perils across the three areas.

Confidential 3

- average minutes without power per customer from weather related outages across the Ausgrid network revealed that these three LGAs already have more outage minutes caused by extreme weather than the other 30 LGAs in Ausgrid's network area; and



- relative socio-economic advantage and disadvantage ranking was low for the three LGAs with Port Stephens ranking 4th, Central Coast ranking 9th and Lake Macquarie ranking 10th in the 33 LGAs in Ausgrid's network[30]. The ABS broadly defines relative socio-economic advantage and disadvantage in terms of people's access to material and social resources, and their ability to participate in society and the lower the score the greater relative disadvantage.

2. Engagement Design and Implementation

Introduction

Given the very tight timeline between February and June 2023 for the detailed resilience engagement program, Ausgrid refined and adapted its 2022 residential and small business deliberative engagement methodology that it had co-designed with the RCP. A key way of achieving continuity was to invite some participants from the VoC22 to join additional customers in the VoC23 Panel. The RCP was involved in this process from the start through our membership of the Working Group, with Ausgrid willing to seek advice from the RCP. We were satisfied that the proposed engagement methodology was sufficiently robust when engagement began in February 2023 and that suitable adjustments were made during the engagement process to continue our confidence in the engagement. Our goal has been ensuring that Ausgrid has remained focussed on delivering engagement and engagement outcomes that meet all the requirements of the regulatory and consumer guidance.

The design for residential and small business customers involved 15 workshops between February and June:

- 10 workshops across the three LGAs including 6 whole day weekend face to face sessions and 4 evening online sessions (Stream 1); and

[30] ABS data: Index of Relative Socio-economic Advantage and Disadvantage (IRSAD)

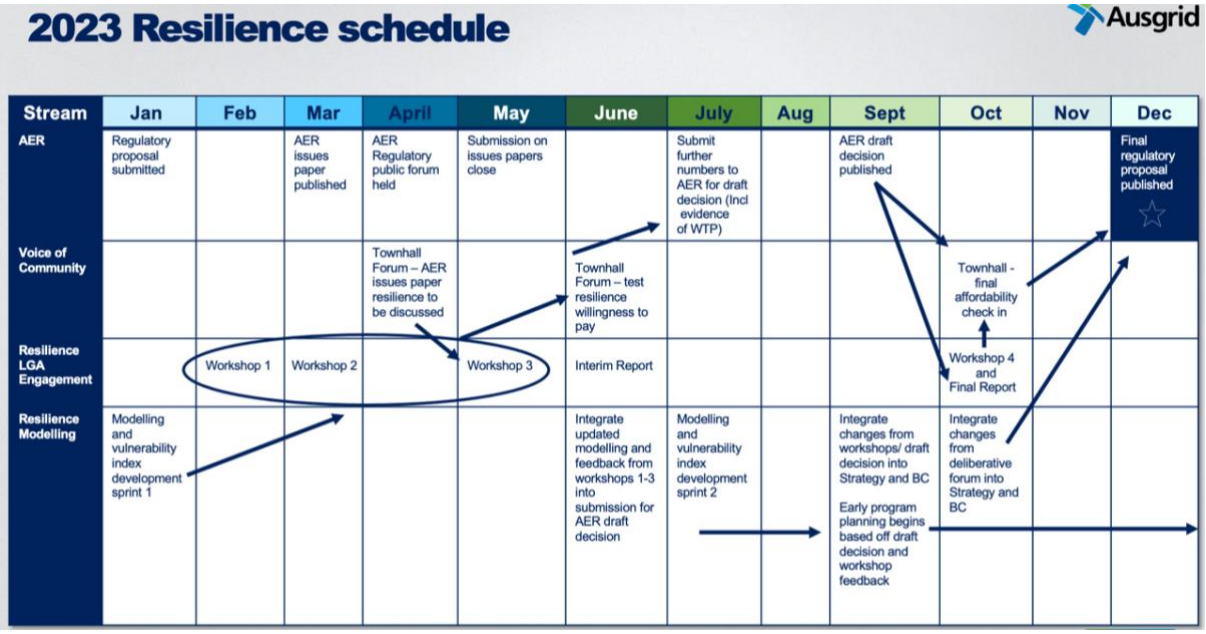
- 5 workshops for the VoC23 Panels including one online evening session and 4 whole day weekend face to face sessions[31] (Stream 2).

The C&I engagement program (Stream 3) which was managed by Ausgrid intentionally followed the conclusion of the local engagement and involved a series of bespoke one on one interviews with individual large customers in June and July and we have discussed this separately below.

Residential and small business engagement

The bd Report includes detailed commentary about the design of the residential and small business engagement program and the methodologies chosen. We have already discussed above the four foundational concepts in the AER Resilience Note and how they were reflected in the engagement. In this section of our report we reference some additional design features that were very important to the RCP. Following that we have included our observations of the engagement by stream.

The design developed by Ausgrid for the engagement program was intricate and this intricacy in (Streams 1 and 2) is reflected in the following graph[32]:



Ausgrid engaged three independent facilitators to assist with the engagement design and to ensure oversight over the whole program:

- bd infrastructure was engaged to design and run the LGA engagement;
- MosaicLab and Gauge Consulting (Gauge) were engaged to design and run the VoC23 Panel engagement; and
- Gauge was separately engaged to:
    - maximise design continuity between bd, MosaicLab; Ausgrid and the RCP;
    - work with all parties to ensure that the engagement met the requirements in the AER Resilience Note, the BRH and the Resilience Framework; and

[31] Workshop 1 for the VoC23 Panel held on 1 April in Newcastle and on 29 April in Sydney allocated half the day to resilience and workshop 2 for the VoC23 Panel held on 17 June in Newcastle and on 24 June held in Sydney allocated the full day to resilience.
[32] Modified Figure 4.2 Implementation Plan at p.6.

- manage the various inputs, outputs and flow between the two engagement streams in order to support overall project management.

It is important to acknowledge that the time constraints under which the engagement has proceeded has meant that not all aspects of the engagement were designed with the RCP. However, Ausgrid and the independent facilitators regularly invited RCP feedback on strengths and weaknesses with a view to identifying any content we felt would potentially mislead customers or which might not be clear. At the end of each engagement session RCP members participated in debriefing sessions with Ausgrid and the independent facilitators and provided feedback to Ausgrid as well as session facilitators as to what we felt had worked well and what could be improved. Our continuous focus was ensuring that we allowed participants every opportunity to express themselves clearly.

LGA engagement (Stream 1)

The LGA engagement program was structured as two full day face to face workshops in the LGA (Workshops 1 and 3) with a four hour online workshop in between (Workshop 2). Material across the three workshops was designed to meet the AER Resilience Note expectations and in particular the four foundational concepts discussed above. Given that each LGA starts from different levels of community resilience, community infrastructure and unique lived experiences from severe weather events we expected the outcomes to differ across the three LGAs. Whilst the same methodology was used consistently across the three LGAs, the Workshop material was bespoke. At RCP request in all workshops Ausgrid also highlighted the range of initiatives it had planned as part of its BAU planning to improve resilience so that the community was aware that if they chose not to spend any of the $202m on resilience that the base case was not purely the status quo. This was referred to as the pantry. These BAU initiatives are included in Option 1 the base case BAU option at pp 31-32 in section 4.1 of the resilience business case.

The bd Report sets out the LGA resilience forum[33] roadmap in figure 5 on p.14:

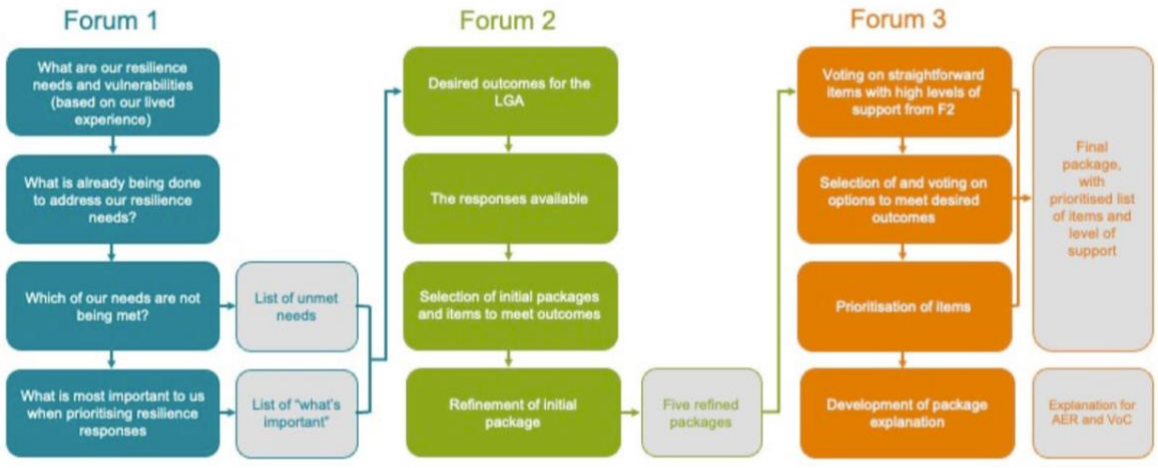
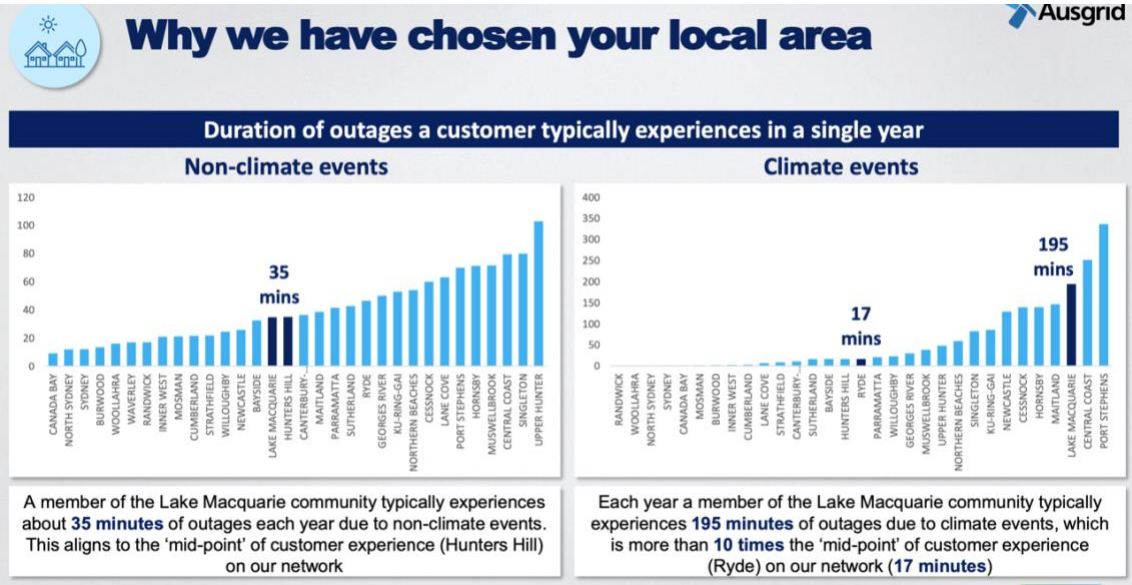


Figure 5 LGA resilience forum roadmap

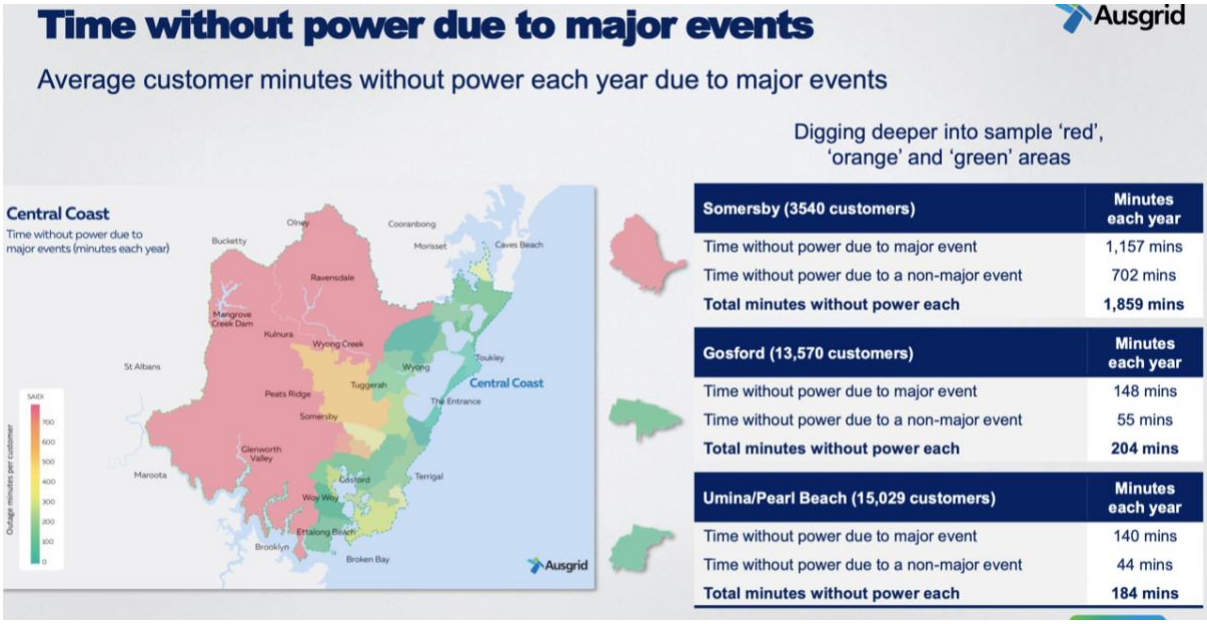
[33] The bd Report uses the term 'forum' where we have used the term 'Workshop' in this report.

Workshop 1

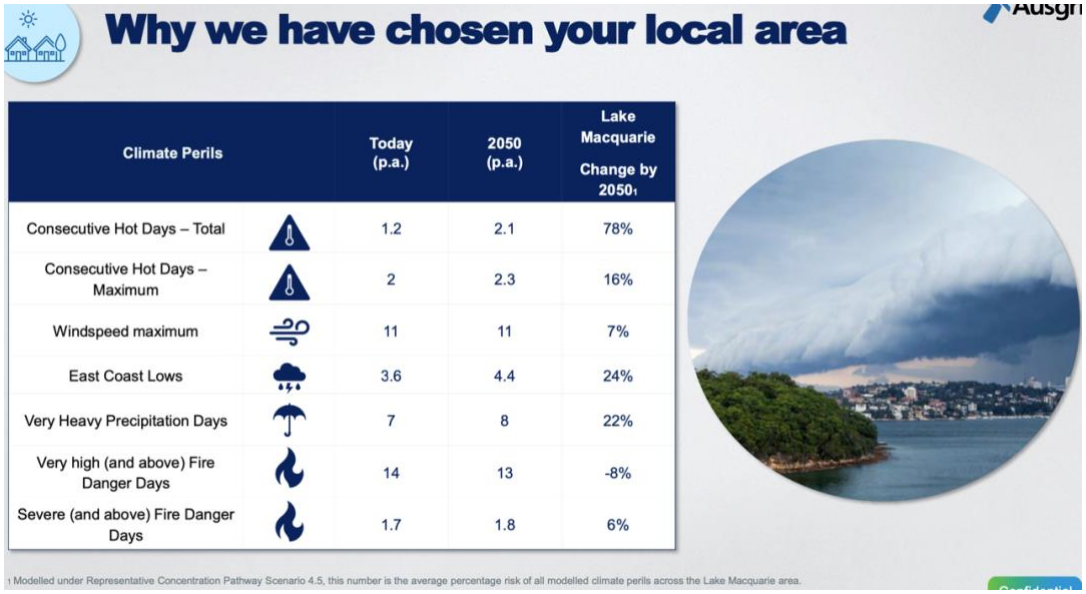
Ausgrid began Workshop 1 by sharing why it had chosen the three local areas based on bespoke local information. For example, Ausgrid used average data comparing reliability and outages from severe weather events and focussed on this important foundational concept.



Ausgrid then shared tailored heat maps to show that even within each LGA the experience of customers of prolonged outages from severe weather events varied significantly.



In addition, Ausgrid presented the detailed local climate modelling projections for that specific area:



The next stage of Workshop 1 was for the community to build on their recent experiences during prolonged outages to articulate a list of the community's unmet needs before, during and after major weather events. Participants also focussed on the improvements in preparedness that individual households, businesses and communities had implemented following their experience in prolonged weather related outages. Their unmet needs were then reviewed for the ones that the community believed Ausgrid should respond to either alone or in conjunction with others and those that should be met by other resilience actors such as communication services. The needs were then developed by the local community into three specific outcomes that the community wanted to achieve from any network and non-network package of solutions for their LGA.

The following table sets out the final prioritised outcomes from the three LGAs:

LGA	OUTCOMES		
Central Coast	Benefit **most** customers with solutions that impact everyone	Help us to be more resilient with solutions that support **self-resilience**	Benefit customers experiencing the **longest outages**
Port Stephens	Build for the long-term a package of solutions that are for the **long-term**	Lift up everyone together a package of solutions that benefit **all** customers equally	Work towards a new Port Stephens resilience standard through a package of solutions that mitigate the **impacts of extreme weather**
Lake Macquarie	Benefit **most** customers with solutions that impact everyone	Prioritise **vulnerable** customers with a package of solutions that target the elderly or vulnerable	Improve the resilience of the **worst served** areas

Workshop 2

In Workshop 2 Ausgrid retested the outcomes with the community and proposed a number of possible network and community resilience solutions to respond to the communities unmet needs and their prioritised outcomes. The LGAs worked in small groups to outline their preferred solutions and gave reasons for their prioritisation. Ausgrid used a shopping trolley analogy during Workshops 1 and 2 and we advised Ausgrid of our preference for this analogy to be dropped in Workshop 3 and replaced by the concept of LGA's building packages rather than shopping trolleys.

Between Workshops 2 and 3 Ausgrid developed a series of network and non-network solutions and trade-offs for the LGAs to consider for inclusion as part of their tailored packages during Workshop 3.

The participants were provided an opportunity to attend an optional information session ahead of Workshop 3 to familiarise themselves with aspects of a range of issues including undergrounding, vegetation management and the design of grid scale and local community batteries. We recommended that Ausgrid hold this session as RCP members had observed that some participants had unresolved questions about these topics after Workshops 1 and 2. In the case of undergrounding (which was of great interest to Port Stephens residents) the intention was to explore the feasibility and costs involved in undergrounding parts of HV feeders near a zone substation and the impracticality of undergrounding LV feeders in built up areas[34]. The intention of this instructive session was to ensure that each of the Workshops 3 proceeded with participants more comfortable with the technical options under discussion and the language used to describe them. A total of 28 participants (nearly one third) across the three LGAs attended this voluntary 90 minute evening session[35] and others indicated to RCP members that they watched the recording after the session. Some participants subsequently expressed their gratitude for the opportunity to receive advice beforehand and we would recommend it be included in future engagements of this type.

Workshop 3

Ausgrid then presented all material in Workshops 2 and 3 to the LGAs to show how individual solutions could meet each of the specific outcomes prioritised by the community alongside the effectiveness rating (in Workshops 2 and 3) and the guide to the level of risk of paying twice in Workshop 3. As bd notes in its report they facilitated a detailed process to achieve an 80% super majority for every solution in the package and the final package overall.

The following is one example (from many) of our input into the content of one customer presentation and is typical of the role we played during the engagement design phase:

"We have a couple of general comments and some specific ones below, which you might pick up in the speaking notes for Workshop 2. Some of them relate to the presentation of detailed costings for Workshop 3. Our general observations are:

- *It is important to emphasise that the group does not have to spend money when they go shopping. They don't have to choose a trolley and they don't have to fill their trolley.*
- *We are keen to understand how the effectiveness scores for the solutions have been derived. Participants aren't being given an express idea of what might be a generic or no frills type of*

[34] When this issue was discussed in Port Stephens and Lake Macquarie workshop 3 the participants appeared to understand the distinction and that new estates would be undergrounded as part of development standards and that this would be paid for by the purchasers of those new estates.
[35] Held on May 16.

product and what might be a more targeted or high end product other than in the effectiveness score

- *We note that Ausgrid is not presenting fully costed trolleys in Workshop 2 but this modelling will need to be addressed for Workshop 3 to make sure that cost and bill impacts are discussed and not just speed of recovery."*

RCP believed that it was important for each LGA to present and explain in their own words directly to the broader customer base to explain the process they had been through to develop their package, why they believed their package was right for their local area to meet their needs and why they believed it was fair to ask the broader customer base to pay for those investments. RCP explored several methods for this with Gauge, MosaicLab and bd to endure that the methods chosen would be inclusive and suitable for all participants. Ultimately bd, MosaicLab and Gauge developed an exercise in which the LGA customers deliberated and prepared written and video explanations to the VoC23 Panel by responding to four questions:

1. **Your Needs**: What's special or unique about your area? Why invest here and not other places?
2. **The Process**: What have you considered in coming to a decision?
3. **The Package Prepared:** Why is this list the right thing to invest in? Why is this the right mix of network and non-network solutions?
4. **Why it should be approved:** Why is it fair for others to pay more for the benefit to your local area?

The LGAs were asked to make their responses factual and not emotive and to focus on fairness given they were asking for all customers to pay for the cost of their package. We believe that the final videos played to the VoC23 Panel were balanced and accurately reflect the extensive deliberation and strong alignment in the community reflected in the written statements. We strongly recommend that the AER review both the detailed written statements[36] from the LGAs as well as the shorter edited videos.

General Comments

Because our earlier work with customers had identified the value of involving a range of resilience actors in co-ordinating resilience treatments we requested other resilience actors be invited to play a role in the engagement. A good example is the opportunity for council staff from the three selected LGAs to be involved. Every effort was made to understand the way in which Councils worked with their communities, and recognition was given to those relationships. By doing this we appreciated that the regard shown by participants from Central Coast was significantly affected by the replacement of councillors by administrators some time beforehand. Port Stephens Council participated in all three of the workshops for its LGA and was able to provide information directly to its residents about Council's local community resilience plan and how Ausgrid might better work in with that plan. The Port Stephens Council officer was also able to confirm Council responsibility for identifying, equipping (including the provision of back-up power) and standing up evacuation centres during a severe weather event. Presentations were adjusted to accommodate specific community sensitivities. The Lake Macquarie Council supported Ausgrid's engagement but did not have staff available to attend the workshops. At our suggestion Ausgrid is pursuing an approach based on Letters of Intent to frame the collaboration with Councils and other resilience actors through and beyond this engagement.

[36] The LGA's written statements of their package explanations are included in the bd Report at pp 55-58.

The integrity of the customer engagement was aided by the decision not to allow too many external body representatives to make presentations to the assembled groups, as the RCP was concerned this risked both information overload and unintended digression. As a rule, other resilience actor representatives were invited to attend as observers and only contribute directly by request of the facilitator. The NSW Energy & Water Ombudsman (EWON) played a very constructive role on a few occasions. Telstra contributed helpfully to online Workshop 2 and the NSW Reconstruction Authority made very helpful contributions on the general planning for interactions between Government, Council, Ausgrid and other emergency response actors in each Workshop 1.

Another engagement feature was the presence of locally based Ausgrid staff which, in the face-to-face sessions, provided a much deeper recognition of network strengths and weaknesses in the specific LGAs, as well as a helpful degree of familiarity with some participants.

Ausgrid staff responded expertly to the challenge of informing trial participants through the production of highly informative slide packs, bringing together in some slides for the first time combinations of data and network information that enabled customers to better appreciate what various network investment options would mean for their communities. A good example of this, at the request of the RCP, was the inclusion of critical service locations in each LGA map, a representation we felt was very important after hearing the lived experiences of customers in earlier sessions and the role that those critical services had played in supporting them in earlier protracted outages.

In summary, customer engagement design was thorough, deep and involved the innovative use of Ausgrid network data, such as geospatial maps highlighting critical parts of the network overlaid with the locations of critical services, in ways that were appreciated by participants and which we observed assisted them in their deliberations. During the design of the customer engagement Ausgrid actively sought the input of RCP members and was prepared to adjust the program where it could. As a result, we believe participants in the engagement sessions were given the best possible range of information on which to base their judgements consistent with Chapter Three of the BRH and the other regulatory guidance and information focussed on the foundational concepts in the AER Resilience Note.

Whole of customer engagement

VoC23 Panel (Stream 2)

The VoC23 Panel was designed as a representative, stratified panel of Ausgrid's residential and small business customers to reflect three different Ausgrid customer cohorts being those:

1. who will face bill increases, have no immediate climate resilience threat, and will not benefit from the proposed local investment;
2. who will face bill increases, and a climate resilience threat, and will not benefit from the proposed local investment; and
3. who will face bill increases, and a climate resilience threat, and will benefit directly from the proposed local investment, but were not part of solution development.

The VoC23 Panel was then divided into two regions: the first covering the LGAs in the Hunter region and the Central Coast who fell into customer cohorts 2 and 3 and the Greater Sydney region which fell mainly into cohort 1 with some customers in cohort 2. Ausgrid ensured continuity with its extensive resilience engagement in 2022 by including 19 returning VoC22 members in both regions. As noted in Figure 3 of the bd Report (p.12) the VoC23 Panel was also stratified by gender, age, location and lived experience and home ownership as a proxy for income as far as possible.

We agreed with Ausgrid and Gauge that all feedback in the VoC23 Panel June Workshops would be collected on an individual basis by postcode so that Ausgrid, the RCP and the AER could review the data to see what different trends might emerge amongst the three different customer cohorts.

The objective of the VoC23 Panel was to obtain an assessment of all Ausgrid customers' wtp for resilience investment, which would be further evidence to build on the feedback obtained in 2022 about customer's wtp. The workshops were designed to provide the VoC23 Panel with as much qualitative and quantitative information as possible in the time available about the complex trade-offs they were considering on behalf of all Ausgrid customers. RCP's focus was on MosaicLab and Gauge collating as much qualitative data as possible alongside the quantitative data, given that this was the first time customers were considering a network seeking to make local investments through a new expenditure program with whole of customer impacts.

Another feature of the VoC23 Panel workshop design was to ensure Ausgrid maintained its transparent approach to affordability. We strongly commend Ausgrid for the approach it took to highlighting the affordability context as broadly as possible, first by focussing on the macro-economic context of rising cost of living, food etc, and then focussing on the context of the average retail electricity bill.

This part of the workshop material included a detailed discussion of Ausgrid's best understanding (using public information) of possible increases to the retail bill from each part of the energy supply chain. AEMO Services was unable to provide the detail required to estimate the forecast NSW Roadmap costs that are passed through to distribution customers over the 2024-29 period. The RCP worked with Ausgrid to develop an estimated cost comprising data from the Draft IIO Report issued in May 2023 (for Scheme LTESA and Transmission Costs) for the Central scenario[37] plus data from the AER's annual Contribution Determination for 2023-24 to estimate administration costs[38]. It was assumed that Ausgrid customers' share of the total costs in 2023-24 was the same over the 2024-29 period. This resulted in an estimated nominal cost to the 'average' residential customer of $39.

RCP advised Ausgrid that we did not believe that wtp evidence would be meaningful if it only considered movements in network prices when this is only 35% of the bill and we commend Ausgrid for the transparent approach it took to this issue. Ausgrid has re-committed to the VoC23 Panel to come back with updated information on affordability in its final engagement in October as it retests support for its revised proposal.

Another important feature underpinning the authenticity of the engagement with the VoC23 Panel on bill impacts was the multiple ways in which the bill impacts were presented. As can be seen in the following slide from the June VoC23 Panel Workshop, Ausgrid shared total revenue figures for the local and whole of network (WON) investments, the bill impacts in 2029 (for an average 5,000kWh annual usage customer), the total bill impacts cumulatively across 2024-29 for an average customer as well as sharing that 2/3rds of the approx. $10 were long term capex costs that would continue for many regulatory cycles. Some participants acknowledged that this amount was a very small percentage of the average retail bill over the five year period which, depending on the increase in the wholesale component, could be above $10,000.

[37] See Table 19 p.31 https://aemoservices.com.au/-/media/services/files/publications/iio-report/2023/231604-2023-iio-report-final.pdf?la=en; actual numbers in the Chart Data excel spreadsheet
[38] https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/cost-pass-throughs/nsw-electricity-infrastructure-fund-2023%E2%88%9224-contribution-determination

As we discussed above in Part 1, significant emphasis in the design of the VoC23 Panel sessions was on preparing material to ensure that the participants clearly understood the risk of paying twice, the risks of investments and their relative effectiveness and the objective of the investments to reduce projected increases in climate event outages in these local areas. The day was divided into 4 parts to cover affordability and the costs (first and last sessions) and benefits (sessions 2 and 3) and outcomes of the trade-offs that the participants were being asked to weigh up.

C&I Interviews (Stream 3)

Engagement with C&I customers was designed to:

- obtain as wide a representative sample as possible; and
- be very focussed given Ausgrid's experience that C&I customers are much more likely to have existing knowledge of the issues.

The sample was drawn from exiting Ausgrid customer contacts as well as Energy Users Association of Australia (EUAA) members that were personally approached by an EUAA representative on the RCP to participate in the engagement. There was a mix of customers with large single point loads (Scentre Group, Sydney Trains) as well as customers with large aggregate demand from many locations (Coles, Woolworths, Sydney Trains, Education NSW, Ampol, NSW Treasury representing overall NSW Government demand across many public services and Business NSW representing small and medium businesses across NSW).

The engagement generally consisted of two discussions:

- a one hour discussion using a structured discussion guide and slide pack that was sent to the participants ahead of the meeting. Most participants had a reasonable base level of knowledge on the issues that climate resilience raised so the discussion could start at a much higher level than the LGA engagement. The slide pack covered the same issues addressed in the LGA workshops – climate modelling, why the three LGAs were chosen; how the $202m was allocated between the three LGAs and WON, the three LGA and the WON packages and the L scale. There was a particular focus on opportunities for collaboration between Ausgrid and the C&I customer.

- A follow-up shorter discussion where estimated bill impacts on the particular C&I customer were discussed; the initial one hour discussion only had information on the impacts on the average residential customer; Ausgrid needed the customer's permission to calculate their particular bill impact.

At least one RCP member attended the one hour discussions and prepared Observer reports, which are available for the AER to review upon request. An RCP member did not attend the subsequent bill impact discussion as this covered confidential material.

3. RCP impression of engagement workshops and interviews

LGA engagement (Stream 1)

RCP observers attended all 10 engagement sessions with customers from the three LGAs. Observer reports were made for every session attended by RCP members. RCP can confirm that the LGAs rejected a number of possible network and community resilience solutions proposed by Ausgrid in both Workshops 2 and again in Workshops 3. bd worked with each LGA during Workshop 3 to ensure that a minimum 80% super majority support was required for a solution to be included in each LGA's final package. This deliberation was quite intense and involved reshaping of both network and non-network solutions in order to achieve the very high levels of community support[39].

Having observed each of the LGA sessions we are satisfied that:

- Participants were provided with adequate information ahead of each session and the opportunity to raise questions about anything they did not understand.
- The roles and responsibilities of representatives from Ausgrid and other authorities were explained, acknowledged, and continuously observed by the representatives.
- Participants consistently demonstrated a solid understanding of what they were being invited to do.
- Apart from some IT difficulties in the Port Stephens on-line Workshop 2, compounded by a storm passing through the area, all sessions proceeded smoothly and were productive.
- Participants were made aware and displayed a consciousness of the role of a range of agencies in contributing to improved resilience in their localities.
- Participants contributed to the deliberations in the sessions they were involved in.
- Participants were advised that they could recommend less than the envelope of $202m that Ausgrid proposed and less than the working budget proposed for their individual LGA.
- Ausgrid designed options for consideration by participants that reflected what they had heard in earlier sessions.
- Sessions generated informed feedback that we believe accurately reflected customer needs and preferences.
- Ausgrid adequately explained that the proposed investments would not decrease future unplanned outages to below current levels rather were intended to mitigate against things deteriorating.

[39] Both Central Coast and Lake Macquarie included optional requests for items that achieved strong majority support that fell below the 80% level.

We believe that the distinction sought by the AER between resilience and reliability and the need for delineation between the roles of the various resilience actors as articulated in its Resilience Note has been maintained and the following characteristics of the engagement are evidence of the distinction:

- We have ensured that the customer engagement remains focussed on customers' circumstances during prolonged outages rather than those times where supply is interrupted briefly. The regular reference by participants to the 2007 Pasha Bulker storm event demonstrated to us their focus was on relatively uncommon extreme events rather than more common storms.
- The recognition by participants of multiple resilience actors and the interconnectedness of service responsibilities demonstrates a mature understanding of resilience. By recognising that Ausgrid was not responsible for telecommunication service investment, for example, and requesting that Ausgrid have separate discussion with telecommunication providers about delivering separate network improvements, participants demonstrated to us their understanding of how resilience is a shared agency responsibility. This understanding is in contrast with what they understand to be Ausgrid's day to day network service responsibilities. The progress of these discussions is discussed in Appendix B of the resilience business case.
- Participant discussion occasionally reflected an innate appreciation of how nuanced investment, combined with active partnerships, can deliver a highly satisfactory outcome. The best example of this arose in Workshop 3 when Port Stephens customers considered the option of portable generators. Some discussion centred on the value of a small number of generators (10). When it was put to participants that the allocation of generators would be co-ordinated by an Ausgrid Liaison Officer, a shared resource across the three LGAs (another new investment) who would be able to also access the existing stock of portable generators (an existing asset), and that Ausgrid planned for the Liaison Officer to be integrated into the Port Stephens Council's Emergency Resilience Plan, their embrace of the initiative was immediately evident. The explanation of how old and new Ausgrid and non-Ausgrid investments would work to the benefit of the local community strongly resonated in the room, a reaction we have never seen previously in any conversation with customers about reliability.
- The breadth of participant recommended solutions in the three LGAs tells us the process and the ideas generated in those engagements respond directly to the preferences, needs and lived experiences of local communities. In this sense the tapestry of solutions which involves network and non-network solutions, is direct evidence of something different from a traditional conversation about reliability which would focus on network only solutions.
- The change in Government responsibility from Resilience NSW to the newly created NSW Reconstruction Authority was a challenge for Ausgrid, as an important co-ordination role was lacking during 2022 until the formation of the new body. The NSW Reconstruction Authority was an active participant in several of the LGA workshops and made critical and helpful contributions about the role of Councils and others in planning and preparing for natural disasters and emergency response.
- The critical role telecommunications play in keeping communities impacted by major climatic events informed and connected featured in early discussions with customers. Consideration was given to getting providers to participate actively in the engagement. However, by the end of Workshop 2 it was apparent to us that customers appreciated telecommunication providers had an obligation to improve the robustness of facilities exposed to major climatic events and this responsibility should not be transferred to, or accepted by Ausgrid. Customers were happy with Ausgrid's undertaking to seek constructive and updated partnership agreements

with telecommunication providers that fairly shared the responsibility for facility upgrades[40]. In this way the early focus on telecommunications did not manifest itself in the solutions developed by Ausgrid for customer consideration. Engagement with other resilience actors made a marked difference. Consumers gained a deeper understanding of other critical infrastructure and this helped inform their views on what they felt was Ausgrid's responsibility and the solutions they thought justified.

The risk of paying twice

While we are satisfied that Ausgrid provided an adequate explanation to customers of the 'paying twice' risk, we have subsequently reflected that in future a more instructive means of conveying that advice might be in the form of a case study that builds on lived experience for a localised severe weather event. The lived memory of protracted outages is a common denominator amongst customers participating in the trials and we think any local example that explains the funding of repairs to damaged assets might be more instructive. We also expect that Ausgrid's approach to this issue might take an increasing probabilistic approach to the risk of paying twice over subsequent regulatory periods. We will discuss this issue further in our December report. We did not anticipate that the LGA participants would be so mindful of the risk of paying twice that they were concerned not to waste individual investments behind the meter and investments by various community organisations. Our observation was that the local communities were generally determined to derive maximum value from the opportunity of investment in their communities to plug gaps in their unmet needs.

Other observations on issues arising in specific LGA workshops include:

- In Workshop 1 participants were introduced to the concept of investment before, during and after a severe weather event as they considered their unmet needs from their lived experience. We consider there would be merit in an initial deeper discussion on risks and trade-offs between investment before, during and after an event to strengthen affordability considerations in the LGA sessions.
- in the second round of customer engagement (held online), the forums conducted in that way needed to ensure a division of time that is conducive to participant engagement. An inherent difficulty of on-line engagement is the ability of participants being able to contribute spontaneously and equitably through normal meeting controls as well as the tendency of facilitators to unintentionally dominate proceedings. Where this happens, they need to be avoided. During the course of this engagement they occurred at times and were quickly rectified. As a general learning we believe that face to face discussions on solution design were superior as participants were able to access maps and other aids more easily during their discussions. As a rule, it seems to us that the more complex a subject is the more beneficial face to face discussion is.
- Ausgrid maintained a strong focus on affordability in Workshop 3 as the local communities finalised their package of solutions and prepared their detailed explanations to the VoC23 Panel as to why they believed it was fair for all customers to pay for targeted investments in their communities.
- In addition to the above points RCP observers were impressed by the way participating customers matured as a group over the course of their engagement. By Workshop 3 we were observing groups of customers increasingly relaxed and comfortable in each other's company, respectful of the opinions expressed throughout the day and collectively ambitious to reach

[40] See pp 71-72 of Appendix B to the resilience business case for details on progress of discussions between Ausgrid and NBN, Telstra and Optus about their critical infrastructure.

consensus positions in relation to the preferences they were being invited to select. We believe that allowing two of the workshops to be face-to-face exercises helped foster this collaborative spirit.

- One of the things we observed during Workshop 3 was that the discussion by the participants on the large dollar value network investment solutions focussed on how many customers would be targeted by the investment and the location of those customers. This reflected the fact that Ausgrid had designed network investment packages that it believed best responded to the outcome being sought by the LGA i.e. most customers in Central Coast, critical services in Port Stephens and customers in highly vegetated areas exposed to East Coast Lows in Lake Macquarie.
- Another feature of the engagement was the attention participants gave to all potential resilience investments, their interest at times disproportionate to the dollar value of the investment. The best example of this was during Workshop 3 when participants deliberated on the role that an additional 10-15 portable generators would make to their community during a prolonged outage. The initiative was costed at approximately $20,000, a small fraction of the total potential investment of around $20 million in Port Stephens. Nonetheless, it created a lengthy conversation amongst participants who spoke about their own experience of generators through long outages, the logistics of making more available, and the benefit they felt would arise if more were provided in future. The discussion resonated a shared lived experience during an extended period without supply, and demonstrated to us that the option had been built on their earlier expressed preferences. A similar interest was demonstrated in the Lake Macquarie Workshop 3 engagement in relation to the modestly costed two potential additional hubs at $85,000 each.

Whole of customer base engagement

C&I interviews (Stream 3)

Having observed each C&I hour discussion the RCP would make similar observations to what we say above on the LGA engagement – participants were provided with adequate information ahead of each session, they demonstrated a solid understanding of what they were being invited to do, they contributed well to the sessions and there was a clear explanation from Ausgrid on the risk of paying twice.

All customers involved in the one hour discussions very much appreciated the engagement. Some have made initial steps to develop their own resilience plans and the discussions provided ideas for how those plans might develop further. Ausgrid circulated the summary of their climate modelling presented to the AER for the customers to use in their internal discussions.

Ausgrid now has a range of information to assist in its resilience planning and may follow-up opportunities for more detailed engagement. Some examples:

- Sydney Trains has many connection points to the Ausgrid network - some relatively high voltage bulk supply and others normal small business commercial connections for local railway stations, level crossings and signals. Resilience is just as important for all their connections. Interruptions – even to non-bulk supply connections – can have significant impacts on the network.
- Shopping centres and supermarkets have to focus not only on the resilience of their assets but also the resilience of the local community. If residential consumers have an outage they may be prevented from going to these stores by downed powerlines or localised flooding.

- Business NSW has developed extensive experience in assisting businesses to recover from a climate event and improve their resilience for future climate events – following the 2019 bushfires they worked with state and Federal Governments to strengthen business resilience to bushfires, and following the 2022 Northern Rivers floods they provided a range of support for affected businesses including setting up a Business Recovery Hub in Lismore providing support and guidance to impacted businesses. They have 24 offices around NSW and have developed an expertise in resilience management that could lead to a range of co-operative arrangements with Ausgrid. They were very supportive of the direction Ausgrid is taking and saw opportunities for many further discussions on possible co-operation.

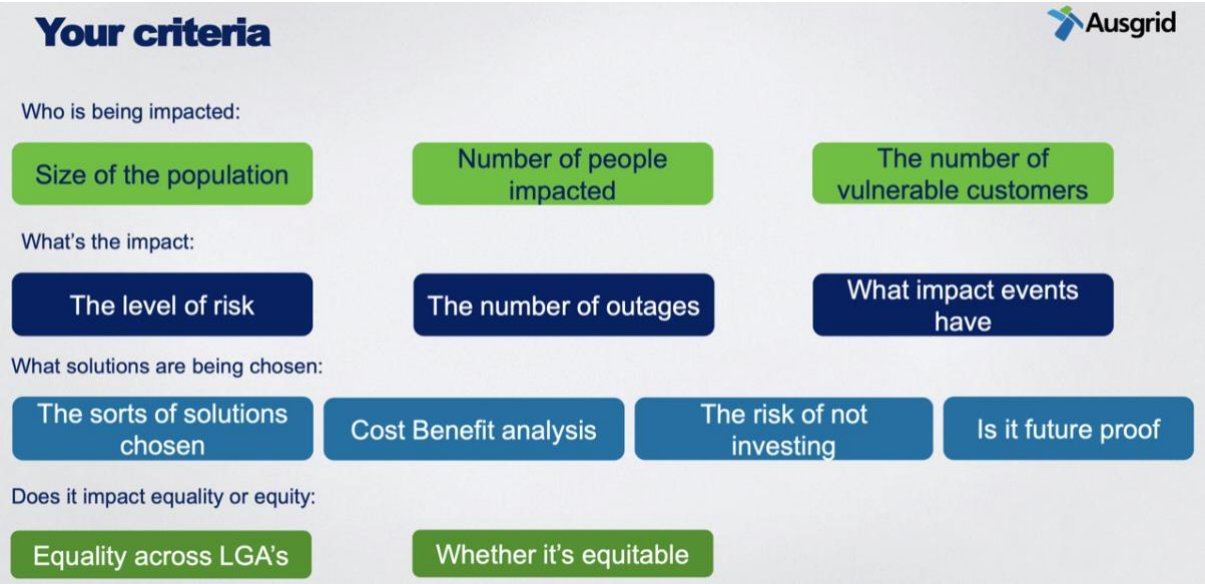
A key issue for C&I customers was their price impact of the $202m (now $176.5m). Initially Ausgrid was only able to present the tariff impact for residential consumers as an indicator of the likely relatively small impact on C&I customers. In the hour discussion Ausgrid sought approval from the C&I customer to use their confidential meter data to construct a bespoke price impact which was discussed with them at a subsequent meeting.

While this meant that the RCP was unable to observe a specific L scale response, our general observation was one of generally strong support for the need to spend additional funds on resilience. However, they were unable to provide any specific response that the proposed expenditure was the right mix and level, though there was perhaps more support for the specific network capex measures ('the impact is more visible') than the non-network measures. More specific support may have been provided in the subsequent discussion on specific tariff impacts that the RCP did not observe. That was seen as a matter for Ausgrid to build the business cases and seek AER approval.

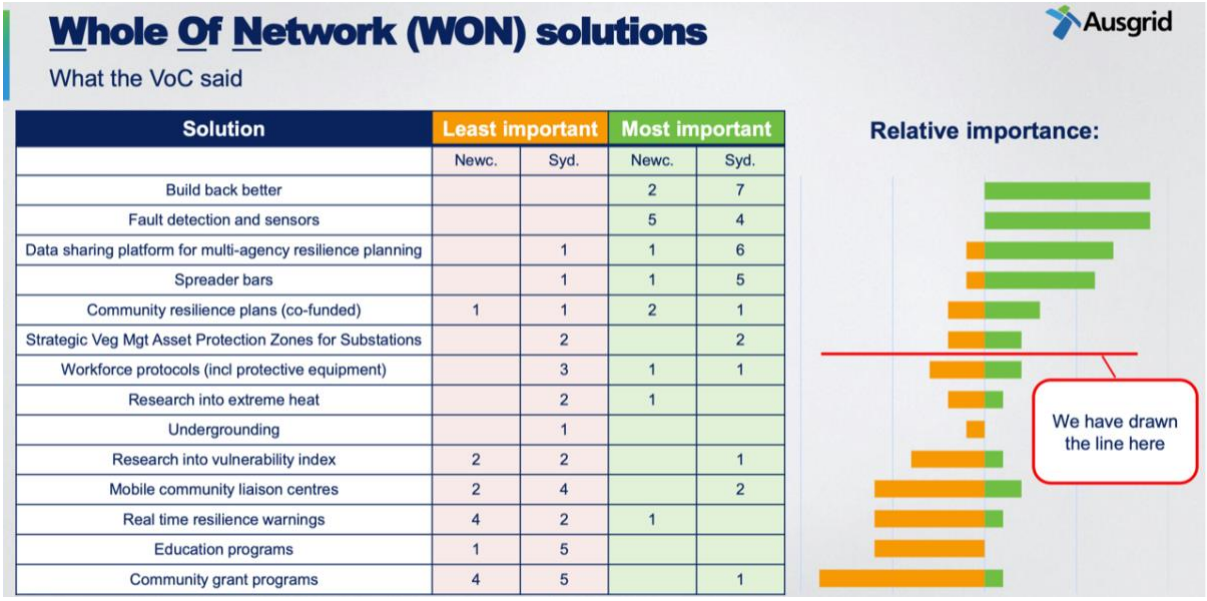
VoC23 Panel (Stream 2)

The role of the VoC23 Panel was to:

- decide the criteria for the split between local and WON investments, which resulted in the VoC criteria it would use to review the proposed local investments;



- shape the WON solutions , which resulted in strong alignment across the two regions on the WON solutions that they valued the most highly and that they wanted Ausgrid to bring back to them in the June Workshops:



Solution	Least important		Most important	
	Newc.	Syd.	Newc.	Syd.
Build back better			2	7
Fault detection and sensors			5	4
Data sharing platform for multi-agency resilience planning		1	1	6
Spreader bars		1	1	5
Community resilience plans (co-funded)	1	1	2	1
Strategic Veg Mgt Asset Protection Zones for Substations		2		2
Workforce protocols (incl protective equipment)		3	1	1
Research into extreme heat		2	1	
Undergrounding		1		
Research into vulnerability index	2	2		1
Mobile community liaison centres	2	4		2
Real time resilience warnings	4	2	1	
Education programs	1	5		
Community grant programs	4	5		1

- review the:
    - three local packages relying on each local community's explanation (in written and video form) as to how they had designed their solutions; why it would meet their unique needs and why they believed it was fair to ask all of Ausgrid's customers to pay for the solutions; and
    - WON package of solutions; and

- provide Ausgrid and the AER with rich and sophisticated evidence of their reasons why they believed all Ausgrid customers would be willing to pay for the resilience solutions in the four packages.

We believe that the VoC23 Panel understood its role and was equipped by Ausgrid with sufficient information to fulfil its role and that the VoC23 Panel sessions meet the expectations for broad, sincere and authentic engagement in Chapter three of the BRH and in the AER Resilience Note. We agree with Ausgrid's assessment of how its engagement program satisfied the AER's expectations in chapter Three of the BRH[41].

The actual wtp spend questions were presented with a slider from 0%-100% and it was made clear to participants that they did not need to spend anything on any of the packages. RCP is confident that the very strong focus on affordability and the risk of paying twice and other material meant that participants were empowered to make their individual wtp decisions and commentary without being led by Ausgrid to any particular outcome. MosaicLab and Gauge also used an additional L scale exercise at the end of the day to seek additional feedback from participants to maximise insights obtained from the VoC23 Panel. We discuss our impressions about the wtp evidence in detail in Section 4 below.

Our other impressions of the VoC23 Panel engagement are:

- the June Workshops were information heavy for the participants as they needed to review four packages in one day;

[41] See Table 3 at pp 65-67 in the Regulatory Stocktake Appendix A to the resilience business case.

- the issue of affordability was evident from the first minute of both June sessions as participants referred to 25+% price increase letters they had received that week from their retailers;
- the entire day was structured as a balance/juggle between costs and benefits and the VoC23 Panel understood that all customers would be paying for localised benefits to be enjoyed by only some customers;
- the detailed information collected from customers reveals that they understood the purpose of the investment was to mitigate deterioration; the risk of paying twice in these investments and that the cost pass through mechanism would be available to Ausgrid:

> ***"…….The best case scenario is not a reduction of outage downtime but keeping the status quo against possible future events which may or may not happen. In case of a major disaster Ausgrid will still need to fix the network anyway……."***[42]

Ausgrid sought feedback from the VoC23 Panel on every aspect of the $189m resilience program other than $500k for the climate assessment modelling in 2024-29. (Following the engagement with the VoC23 Panel Ausgrid removed the co-funded ABC program which has reduced the program to $176.5m.) Ausgrid and the RCP had agreed that only the climate impact modelling expenditure was needed to meet ongoing compliance with the AER Resilience Note and the Resilience Framework in 2024-29 and it is the only not-negotiable in the $176.5m program. The RCP congratulates Ausgrid for the very significant decision it reached with the RCP early in 2022 to empower its customers to shape its whole resilience investment program (other than the $500k for climate modelling). At every stage we have seen Ausgrid senior leadership team act consistently with this decision and genuinely support customers' to express their preferences and shape the resilience business case.

4. Testing customer sentiment (willingness to pay)

The Ausgrid process to collate evidence of its broader customers' willingness to pay (wtp) is an aggregation and collation of multiple strands of evidence from a wide range of stakeholders followed by an exploration of wtp sentiment. Ausgrid has undertaken both a qualitative and quantitative approach to explore the communities' attitudes and wtp for additional investments to improve resilience outcomes, particularly within the three targeted LGAs.

Through this iterative and bespoke process, strong themes have been identified by the community in support of additional resilience spending both at a whole of network and targeted local level.

We have confidence these views are reflections of the broader community as Ausgrid has repeatedly cast back to consumers with questions seeking their preferences. In addition, Ausgrid has tailored bespoke options with the local communities that are designed to meet local needs, capabilities and preferences. Ausgrid has then tested this with its broader customer base about their overall wtp for resilience expenditure to deliver these tailored packages to the three targeted communities and importantly has obtained their detailed reasoning for their support.

These propositions have been developed with and tested by customers multiple times over the past two years, and in numerous ways and are detailed in Appendix D to the resilience business case. This has included seeking their preferences, not just as individuals, but also reflecting their views as proxies for the broader community on wtp. Over time we have observed participants increasingly expressing

[42] The verbatim quotes from VoC23 Panel members in our report are taken from Appendix 1 to the bd Report.

concerns about all customers' capacity to pay for these investments in the current economic context. Ausgrid has re-committed to the VoC23 Panel to retest its revised proposal (including the resilience investment) in the October Workshops.

The approach adopted by Ausgrid to the development of its resilience business case has highlighted the importance of local communities partnering with Ausgrid and other resilience actors to develop bespoke, local packages of solutions to address the needs of the individual communities and deliver the best value to these communities.

We believe Ausgrid's individualised approach has underpinned the confidence of the broader communities in their proxy role, that the local proposals meet genuine local needs and are accepted by the local communities:

> ***"The Port Stephens customer group has worked hard to arrive at these recommendations and I believe it is our responsibility to accept these."***
>
> ***"I believe that the community approach and thought behind this proposal makes me believe that the management of small mobile generators will go to the most vulnerable areas versus trying to select 10 people to be given these."***
>
> ***"The local groups have the best knowledge and have spent a lot of time researching and the benefits outweigh the costs because Ausgrid will learn from these target areas."***
>
> ***"…I also think the desired community outcomes have been well considered by the people in the area and the package items they chose seem to fit."***

The wtp sentiment questions finally explored with the VoC23 Panel were the culmination of an ambitious and extensive sharing process conducted over two years that both elicited consumers' views and preferences as well as providing participants with the opportunity to understand the operation, constraints and opportunities of Ausgrid's business and thinking. We have consistently encouraged Ausgrid to collect and record both quantitative and qualitative results in the many consultations to help Ausgrid and the AER fully understand what it is that customers value. This process has led to the consistent customer support, qualitative and quantitative wtp evidence set out in Appendix D to the resilience business case. The RCP believes this represents strong evidence of customer support for the local investments and stronger support for the whole of network investments, although over time the impacts from the cost of living crisis and rise in electricity bills is reducing the capacity of customers to pay for the investment despite their overall support for investment in resilience.

Having reviewed the rich and extensive qualitative data from the VoC23 Panel we have seen the following two consistent themes result from the data:

1. Customers strongly accept:
    - there is a need for increased resilience (both individual, community and network resilience) to severe weather events;
    - the impacts from prolonged outages resulting from severe weather events are profound leaving lasting trauma amongst those impacted;
    - investment in local communities and the network is needed; and
    - investments by Ausgrid in the whole of network is valued more highly as it will also have some benefit for the most affected local areas.
2. Customers are unclear whose responsibility it is to make the investments that are needed to increase resilience in local areas. There are a range of views on where responsibility for this

localised investment should fall and who should bear the burden of that funding - stretching from Governments using taxation revenue; the local communities paying for it themselves through Council rates revenue; Ausgrid absorbing the costs by reallocating capex and opex from its other programs; and all electricity customers paying for investments by Ausgrid via their electricity bills.

Those who wanted to support the local investments did so out of a sense of community responsibility to assist those they perceived to be more vulnerable and some were comfortable with the way postage stamp pricing would extend from reliability investments into spreading the costs for local resilience investments:

> ***"Good power supply cost money. This group wants to spend it so let us do it. $5.34 is not a fortune."***

> ***"While this does add more $ to the customer overall energy bill it is a good use of the budget available to Ausgrid, these will benefit most if not all customers in some way."***

> ***"There is a careful balance of avoiding large cost increases and implementing long term benefits."***

> ***"Brings real benefits to communities."***

> ***"Outages are too long - we need to help others."***

> ***"Miniscule cost' compared to benefits for LGA's."***

> ***"I do not see us as 'Sydneysiders' or 'Port Stepheners', we are all NSW-ers, and should help each other, together, as one community."***

The broader context we discussed in the background above and in particular the pressure from cost of living issues (which are perceived by several participants to be much higher in Greater Sydney than in the regions) and the lack of control people feel over their own circumstances and their electricity bills is also underpinning these themes:

> ***"Due to current cost of living and inflation I do not agree where the overall landed."***

> ***"Ausgrid should re look at their current capex / opex spend and redirect some towards these areas instead if seeking approval for more."***

> ***"I believe many Australian families are already stretched to (or maybe even beyond) to the limit of their available finances due to recent cost of living increases but salaries have mostly remained unchanged."***

> ***"This spend is on top of the already increased bill. It may be a small amount but it will affect people a lot more than others."***

> ***"I am haemorrhaging money in Sydney - it is an expensive city' - LGA's have their challenges but we have got higher cost of living burden."***

Conversely some were aware of the cost-of-living pressure faced by people and communities but believed even in this context the resilience proposal was necessary:

"I am sensitive to cost of living but 'I do not think it is a good enough reason to withhold spending on resilience for vulnerable people - 'if we spend anywhere, it should be on things like this'."

The current context is leading some participants to reduce the amount of contribution that should be made by all energy customers by them seeking to shift more of the burden onto the locally affected communities. Others appear to have reached the same conclusion by highlighting that people choose to live in a location and must accept the responsibility to bear the consequences from increasing severe weather events[43]:

"Average spend 'strikes equitable balance' - LGAs have their challenges but so do we and we all chose to live where we live."

"LGA customers have chosen to live there - they need to accept consequences rather than asking other customers to pay."

The slightly higher negative sentiment expressed from the VoC23 Panel Greater Sydney participants may reflect that they have not had the same lived experience of the impacts from prolonged outages. This may also be a situation unique to the demographics of the Ausgrid network compared to Endeavour and Essential (in NSW) as the vast majority of Ausgrid's customers reside in Greater Sydney enjoying very high standards of reliability and generally very low levels of outages from severe weather events compared to the smaller number of Ausgrid's regional customers.

The qualitative data also reveals that participants expressed a strong preference for any resilience investments to be made by Ausgrid to be in network infrastructure:

"Ausgrid should only deliver solutions they are uniquely positioned to deliver (e.g. network upgrades)."

"Most valuable solutions were those that directly and immediately improved resilience but found community solutions less valuable (e.g. just 'feel good', 'nice to have')."

"Resilience - should be more government's responsibility. Ausgrid should more focus on pole wires enhancement and two way electricity supply."

Some participants are looking for Governments and Councils to invest in other community based non-network solutions. Again further engagement may reveal that it is harder for the VoC23 Panel participants as a whole to see the same value in the non -network solutions due to their lack of lived experience of prolonged outages:

"Resilience - should be more government's responsibility. Ausgrid should more focus on pole wires enhancement and two way electricity supply."

"I hoped and expected it would be higher but when reasons were given for lower levels of spend / costs, I understand why (e.g. already experiencing high costs, thinking government and other agencies should have more responsibility) therefore accept the compromise."

[43] Similar issues arose in response to the Lismore floods. See for example https://www.theguardian.com/australia-news/2022/mar/04/labor-calls-on-disaster-relief-boss-to-resign-for-criticising-flood-victims-who-want-to-live-among-the-gum-trees.

"I agree that the WON should be allocated with the highest amount. The results were pretty similar to my personal voting."

"I would reasonably spend more on WON where it benefits everyone. The only downside is not sufficient government funding in the 3 LGAs"

"To build better infrastructure for future. To test pilot stage. To have more resistant power supply to support vulnerable people. This spend today might save money in the long term, as this will protect form disasters like storms etc. Ask to cautiously spend and work with local government council to ask them to contribute."

"Outage costs are going to increase over time. Spending money now reduces overall costs over time. Avoiding this expenditure is a false economy - yes, more people will struggle to meet the costs but this will also put pressure on government to step up to help and government can fund through income based 'taxes' etc. which Ausgrid cannot do. Better that Ausgrid spends what it needs and government support the vulnerable."

"Ausgrid should be advocating to government for funding for these packages and provide their energy expertise."

"Agree government should pay more but Ausgrid's actions on this, even if it means extra costs for customers, because this will put more pressure on government to act - 'Our customers are paying to do this - you should too."

Others support Ausgrid making the investments but are urging Ausgrid to reallocate existing revenue so that there is no increased impact on customer bills:

" Support some resilience spend but prefer Ausgrid spent less than this average by reallocating some of its whole budget."

"We are already spending more on other aspects mentioned in previous session (i.e. innovation etc.). This one will add even more stress to all people. Reallocate funds from other budget."

"When the October group said they were prepared to spend '$40m pa on resilience' I am sure that they meant an extra $40m. Analysis of Ausgrid Jan -23 submission indicates that Ausgrid has reallocated its current capital expenditure budget to $293m in continuing priorities and $380 to increasing priorities. It looks like Ausgrid is stripping costs. I would be happier to spend $298 and not fund increasing priorities."

We make the following additional observations in order to assist the AER's analysis of Ausgrid's evidence of its customer's wtp for the resilience investments:

- There remains a variety of challenges with the use of averaging quantitative results obtained in wtp discussions and consultations – it is especially complex in this case given the bespoke nature of the three different LGA specific engagements and the inclusion within those engagements of the WON discussions. This means that the quantitative data whilst instructive is less meaningful and should not be used in a deterministic way to establish customers' wtp.
- We note that at pp 132-135 in Appendix B of the resilience business case Ausgrid has provided the AER with the quantitative results from the VoC23 Panel in several ways

including a raw bar chart, mean, median and mode form. Given that we do not believe that the AER will be using the data from 75 customers (with some evident numeric anomalies in the results) in a deterministic way to prescribe a specific conclusion on WTP, we have not discussed these various forms of presenting data. We note in passing the problem of averages including outliers, spread and bi-modal and multi-modal distributions.

- We **anticipated** and noted differences in quantitative measures of wtp between LGA specific engagement and engagement with the wider Ausgrid customer base.
- There have been clear demonstrations that the LGA specific participants have been able to regularly put themselves in 'whole of customer base' shoes in their engagement discussions. The result that there was less than 100% support for LGA specific resilience expenditure in the wtp quantitative results indicates this quite strongly as does the continued interrogation of the various resilience options by LGA participants following extensive engagement on the options around resilience.
- Specific and targeted wtp questions on resilience expenditure were the culmination of an extensive and comprehensive program of engagement over many months that have been well documented elsewhere in this report.
- A consistent and strong theme present within all these engagements is that consumers believe the broader community is willing to pay for some additional support to the worst served communities in the face of increased risk of severe weather events. Even several of those who voted for 0% wtp wrote about the value of the benefits but are saying no in the current affordability context.
- However, many customers' (including some of those who are willing for all customers' to pay 100% of all LGA investments) are not persuaded that the current regulatory framework that would lead to all customers paying for local investments under postage stamp pricing is the correct societal response to the shared problem of climate change impacting communities disproportionately. A consistent theme from the qualitative data is that Governments (both Federal and States) should be using taxation revenue and Councils should be using local levies through Council rates to pay for the targeted investments in these communities.
- Following the feedback received from the VoC23 Panel in June Ausgrid has reduced both the overall capex investment (by removing the ABC program) and the overall opex investment (by reducing the cost of the Lake Macquarie blackout plan see below) in its $176.5m resilience program. This will reduce the bill impacts that were tested with the broader customer base, which should increase the confidence the AER can have in the strength of the wtp evidence. Ausgrid highlights this reduction in bill impacts over 2024-29 in Appendix D at pp119-120.

We are aware that there is a short term priority for the AER to review Ausgrid's resilience business case in its current evolution and again in early 2024 as Ausgrid refines it further as part of its December revised proposal. We believe that the extensive work that Ausgrid has done on resilience over the last two years has revealed an urgent need for an integrated, whole of Government and community response to be developed in which the role of all resilience actors, including networks, is made much clearer. The RCP encourages the AER to facilitate this work alongside market bodies, Governments and Councils and other resilience actors to ensure that a clearer cohesive statement of responsibilities and funding for planning, preparing and recovering from severe weather events can be shared with the community and energy customers in order to build trust within the community for any funding that may be passed through to all customers as part of electricity bills.

5. RCP conclusions on engagement

As RCP members we are satisfied that Ausgrid has developed and executed a resilience engagement program consistent with the AER's Resilience Note, Chapter Three of the BRH and the Resilience Framework. We are further satisfied that Ausgrid repeatedly advised engagement participants that network solutions funded by customers represented part of a broad range of treatments, responses and solutions to the electricity supply difficulties arising from climatic events.

We also believe that customers at the LGA level, in the VoC23 Panel and in the C&I interviews were advised of the risks of paying twice (before and after an event), the timing and location of the proposed investments and the degree of uncertainty in the climate modelling.

We have been impressed with the genuine desire of Ausgrid staff to engage in a resilience engagement program notwithstanding its unprecedented nature and untested features. Ausgrid actively invited and welcomed RCP feedback as to how the program could be improved, and we believe it represents a thorough, well-resourced and comprehensive engagement program.

We are satisfied that the results of the engagement program indicate customers, both those in the three LGAs subject to the trial and more broadly in Ausgrid's wider customer base, continue to provide strong support for the resilience business case submitted by Ausgrid to the AER and that the proposed investments in the resilience business case have been shaped by customers to meet their needs and preferences.

6. Learnings

The novel nature of a resilience specific customer engagement provides valuable learning opportunities. One that we have reflected on is that the speed with which this engagement was designed and implemented, necessary because of the AER's regulatory reset deadlines, did not provide Ausgrid or us with as much time as we would have liked to consider alternative methods of garnering insights from customers. This is not to suggest that we are not confident about the results produced by the engagement we contributed to. Rather, any area of new customer engagement such as that focussed on resilience can be approached in a number of ways but time did not permit us and Ausgrid to evaluate the full range of options. One of our principal reflections at this stage is that in future iterations of the engagement program to meet the Resilience Framework there could be greater emphasis on the different complementary roles being played by the AER, Ausgrid, the RCP and the local and whole of customer participants.

That said, we do think some parts of the engagement Ausgrid undertook around resilience are worthy of retention, including:

- The critical need to have up to date LGA specific climate modelling to underpin the options presented to participants.
- The need for bespoke, face-to-face deliberative local engagement to design and develop local solutions to meet the outcomes sought by the local community to optimise any investments by a distributor in its network or in community resilience solutions. Extending the resilience engagement over multiple sessions is vital because it allows customers to grow more confident working together and expressing a range of views. It also lends itself to creating a desire amongst the group to reach a shared conclusion in respect of options presented to them.
- Providing participants with the opportunity to develop their understanding of technical matters pertinent to upcoming discussions.

- The utility of LGAs as a convenient and sound geographic unit for customer engagement, particularly as Councils play a key role in unifying those communities.
- Starting early enough in the reset cycle to enable other resilience actors to find room and acceptance in their own processes to participate meaningfully in the local engagement.
- The value of including senior local Ausgrid staff from local depots to support the community in their engagement.
- Allowing sufficient time (both duration and number of meetings) for local solutions to be shaped and tested by the local communities and opportunities explored with other resilience actors before whole of customer engagement.
- The value of qualitative evidence arising from lived experience of customers in areas more exposed to climate events.

Another valuable learning is that new engagement formats create risks as well as benefits. Any process that invites customers to share their lived experience of prolonged outages risks the revival of traumatic memories. Care needs to be taken to ensure that when trauma is apparent, support is available for participants who may require it. We commend Ausgrid for responding to the need for this support in the sessions we observed, and would recommend that other distributors in future engagement around resilience ensure appropriate resilience first aid support is always available in the workshops.

The role of the EWON Ombudsman and deputy Ombudsman in workshops was very important given the acute affordability context in which Ausgrid's engagement has occurred and we would recommend that EWON staff be present where possible.

Part 3 - Observation's on Ausgrid's resilience business case

1. Evolution of the resilience business case

The AER's Resilience Note says that resilience funding can take the form of operating and capital expenditure. The AER will assess a network's proposed expenditure under the rule for prudency and efficiency. The AER Resilience Note recognises that in the absence of WALDO values, networks can justify expenditure on the basis of VCR and consumer preferences shown though WTP studies. Given Ausgrid is the first network to utilise the AER Resilience Note's guidance, the RCP has recognised that it will require new methodologies and transparent analysis. It is novel but that is not an excuse to not be robust.

Our challenge to Ausgrid has been that it must demonstrate all the requirements in the AER Resilience Note and in particular the following three requirements:

1. a causal relationship between the proposed resilience expenditure and the expected increase in the extreme weather events;
2. the proposed expenditure is required to maintain service levels and is based on the option that likely achieves the greatest net benefit of the feasible options considered; and
3. consumers have been fully informed of different resilience expenditure options, including the implications stemming from these options, and that they are supportive of the proposed expenditure.

The discussion in the earlier parts of this report has focussed on requirement 3. This part of our report focusses on requirements 1 and 2. The RCP has been closely engaging with Ausgrid over the whole period of the engagement as the business case has been developed for the range of network and non-network options. Through this time we have provided continued challenge to Ausgrid on meeting the AER Resilience Note's business case requirements. There are many examples where Ausgrid has taken our views on board, most recently in respect of the exclusion of the co-funded ABC expenditure and the abandoning of a VCR based methodology to justify non-network expenditure for the updated business case. While we have not had the opportunity to review the final business case version in any detail – we received it at the same time as the AER – we provided extensive comments on the 4th July version. Ausgrid indicated that they were going to incorporate all our points in the final version.

Were those changes to be incorporated in the final version then we have confidence that it will provide a strong case under the Resilience Note guidelines for the prudency and efficiency of the proposed $176.5m totex.

2. Comments on modelling

2.1 The $202 million totex cap in the January 2023 Proposal

As explained in Attachment 5.5 to Ausgrid's Proposal[44], Ausgrid proposed what it described as a 'balanced risk mitigation' approach (Option 5) which is constrained to a totex cap of $202m. It would invest in the highest BCR projects up to the cap. It would allow Ausgrid to test, trial and pilot a diverse range of solutions. This compared to Option 1 where Ausgrid claimed an economically justified $319m capex based on its climate modelling and a longer term approach to climate risk mitigation.

[44] See Attachment 5.5 https://www.aer.gov.au/system/files/Ausgrid%20-%20Att.%205.5%20-%20Climate%20resilience%20program%20-%2031%20Jan%202023%20-%20Public.pdf

The RCP has received a briefing on that model on two occasions:

- On 17 November 2022 RCP attended a deep dive on the resilience model with Ausgrid and Cutler Merz. Ausgrid and Cutler Merz highlighted several of the factors they believe contribute to the conservative nature of the model including the overall ~$200m cap.
- In June and July 2023 some RCP members reviewed the response Ausgrid provided in response to the AER Information Requests on the model. The model seemed to be a reasonable approach to a robust analysis but the RCP did not have the time to be able to interrogate it in detail.

We look forward to the AER and its consultant Energy Market Consulting Associates analysis of the model and whether the $202m (and now the lower $176.5m) meets the AER's requirements.

2.2 The LGA and whole of network budgets

In February 2023 Ausgrid informed the RCP that its initial budgets for the LGA/WON split suggested the following investment assuming a $202m resilience program:

- Port Stephens $10m
- Lake Macquarie $30m
- Central Coast $95m
- Whole of network $65m.

In May 2023 Ausgrid informed the RCP that it had revised those indicative budgets in line with the VoC23 Panel criteria discussed above as follows:

- Port Stephens $20m
- Lake Macquarie $40m
- Central Coast $70m
- Whole of network $72m (with climate modelling of $500k as non-negotiable).

In short, the working budgets given to each of the LGAs were a function of Ausgrid's process and we are unsure of the precise basis for selecting the budgets other than Ausgrid staff references to the 'number of customers in the LGA' and 'the number of minutes of outages per customer from major weather events in the LGA' and compliance with the VoC23 Panel criteria. This was a major comment we made on the 4th July draft so we look forward to reading the analysis underpinning the expenditure break-up in the final version of the resilience business case.

Ausgrid also advised the RCP in May 2023 that it was reducing the 2029 indicative bill impact for the resilience investment from ~$5-6 to ~$3. This was a result of AER advice to remove the increased storm allowance from the bill impact presented in the Proposal as this cost should be included in the opex base year.

2.3 Approach to modelling costs and benefits

Ausgrid argues several features of its approach to calculating cost benefit ratios (CBR) support their claim that the modelling is conservative – or 'least regrets':

- the top down totex constraint;
- use of VCR to calculate customer benefit, which understates customer's experience of long duration outages;

- the use of a cut-off BCR of 1.2 for included capex to account for uncertainty in the modelling, using the wtp evidence to establish customers' preferences consistent with the AER Resilience Note; and
- collaborative design of solutions with the local communities and other stakeholders.

Our discussion with Ausgrid on the 4th July draft focussed on their justification for the non-network expenditure. This was based on an economic model driven by an implicit WALDO valuation calculated by a goal seek. It is very difficult to build an economic model to justify expenditure on things like a resilience hub. For example how many consumers is it expected to help? How long is it assumed to operate? What is the value of being able to recharge your mobile when you don't have power to your house? What is the value of a community resilience plan? RCP members raised concerns with this modelling approach and recommended that Ausgrid emphasise instead the LGA/VoC23 Panel engagement as the prime support for this expenditure.

The RCP considers this 'engagement' approach is consistent with the AER Resilience Note's acknowledgement that VCR may not fully represent the value local communities place on these solutions and is consistent with the Resilience Note's discussion of community resilience (p.14):

> "*There is an emerging body of work around community resilience – inquiries, research, local and empirical studies – looking at different aspects of community resilience. A consistent theme in much of this work has been the importance of community-led approaches to disaster preparedness to move the focus for planning, decision-making and action from a top-down to a more collaborative approach*."

These non-network solutions have a strong 'community' aspect where Ausgrid will be collaborating with Local Government and various emergency services providers.

While we support this method of justification for non-network solutions, the RCP will continue to challenge Ausgrid to ensure the expenditure is prudent and efficient. We support Ausgrid's approach reflected at p.110 of Appendix C to the resilience business case:

> "*With the local LGA proposed investment packages now finalised, Ausgrid will undertake the detailed scoping and modelling for each of the chosen solutions, including a quantitative assessment of benefits to confirm indicative cost benefit analysis. This process will support identification of efficiencies and streamlined delivery opportunities for solutions that appear in multiple packages and those that require similar inputs despite different targeting (for example, communications targeting vulnerable customers). This will take place Jul-Sept 2023 and is expected to deliver a refinement in costings and a clearer view of how these linkages and efficiencies can increase benefits to communities, including quantitative cost-benefit analysis."*

3. Incentive schemes

In the RCP Second Report[45] and in our submission to the AER Issues Paper[46] the RCP outlined why we believed the Capital Expenditure Sharing Scheme (CESS) and Efficiency Benefit Sharing Scheme (EBSS) do not lend themselves in a straightforward way to the new resilience category of expenditure. On 2 June 2023 RCP had a meeting with senior members of the AER's expenditure staff to discuss the AER's views on potential consequences of excluding the resilience expenditure from the incentive schemes.

[45] RCP Second Report Appendix E at pp 121-136.
[46] Ausgrid Submission to the AER's Issues paper 11 May 2023 at pp 8-9.

RCP has reflected on the issues we discussed with the AER and we acknowledge that we found this meeting very helpful.

Our revised view is that the resilience expenditure can be subject to the CESS and EBSS schemes and we acknowledge that it is in customers' interests for Ausgrid to be incentivised to deliver the outcomes it has promised its customers in the resilience business case as efficiently as possible. One example of a significant capital efficiency improvement we are aware of is the possible change from Covered Conductor Thick (CCT) to covered conductor thin during 2024-29. We understand that Ausgrid is about to trial covered conductor thin in the Hawksbury area. If the trial is successful then Ausgrid will look to change its network standards from CCT to covered conductor thin[47]. In that case we understand that there might be a welcome improvement in unit rates of 15%+. This example reinforces the critical role that innovation and the supervision of NIAC plays to deliver better outcomes for customers through innovation and particularly in the resilience area.

However, what is less clear to us is what the local communities would expect Ausgrid to do with any underspend of allowed resilience investment for their LGA. We remain concerned that customers should have a tangible mechanism for monitoring the delivery of the solutions that Ausgrid has proposed and have the ability to provide feedback to Ausgrid, particularly on the non-network solutions. We believe that with appropriate local and global accountability that this concern can be addressed. We discuss this further below in Part 4. We look forward to working with Ausgrid and its customers as it develops this accountability for the revised proposal in December as well as the new governance role for NIAC.

4. RCP observations on solutions in the four investment packages

We acknowledge that the Ausgrid resilience business case includes significant investment in network upgrades that would normally be part of a program to improve electricity supply reliability. We see this as the inevitable 'reliability dividend' that these works will deliver.

We have observed Ausgrid present these options to community members and we also present our own views on these components.

Our review of Appendix C of the resilience business case reveals that the various network solutions proposed by Ausgrid involve standard BAU network investments that also feature in Ausgrid's repex and augex programs. These include CCT and reclosers in the LGAs; some targeted undergrounding of HV feeders in Port Stephens; fault detectors in regional and rural parts of the network and spreader bars across the network. The build back better program aims to ensure that network rebuilding after major events is to the highest resilient standard for that specific area.

We have asked Ausgrid to cross check for any overlap with its repex forecasts and the proposed resilience network investments. Ausgrid has advised the RCP that only the uplift from BAU repex programs has been included in the local and WON network resilience solutions. We encourage the AER to carefully check for this issue within Ausgrid's models.

[47] See p.78 of Appendix C to the resilience business case where Ausgrid notes: "*At the lower voltage construction uses conductor known as aerial bundle conductor (ABC) and at the high voltages the Ausgrid selected product is typically covered conductor (CC). Ausgrid currently use a version of CC called covered conductor thick (CCT) at 11kV. This is used in highly vegetated areas and primarily in urban areas. This will be discontinued in favour of CC*."

4.1 Observations on the whole of network solutions (WON)

The dollar value of the WON package has been reducing since January 2023. In Workshop 3 in May the LGAs were advised that the indicative budget for the WON package was $72m. In June the VoC23 Panel were advised that the WON package was $59.7m. Ausgrid has subsequently reduced this to the current $47.7m by removing the ABC program.

The RCP acknowledges that the replacement of bare LV conductors with ABC reduces the risk of outages and bushfire ignition, and lowers the cost of vegetation management. However, in June we advised Ausgrid that we had concluded that Ausgrid's proposed co-funded Council ABC program could not be justified as an element of Ausgrid's resilience business case[48]. Our reasons for rejecting the co-funded ABC program are set out in Appendix B below.

We are very pleased that Ausgrid responded to our advice by removing the $12.2m co-funded ABC solution from the WON package – even after engagement with the VoC23 Panel. The RCP believes that ABC will continue to play an important role in the future operation of the network and we support Ausgrid's continued application of it. We encourage Ausgrid to consider how any future co-funding program with Councils might be restructured to a business case within an existing capex/opex expenditure category.

The 7 remaining solutions in the WON package are:

1. Build Back Better Program
2. Fault Detector & Location sensors
3. Data Sharing Program for Multi-Agency Response
4. Spreader Bars
5. Vegetation Management for Major Substations
6. Climate Impact Assessments
7. Assessment and Evaluation Framework

4.1.1 **Build Back Better Program** ($22.42m)

We welcome the inclusion of the Build Back Better Program and strongly support this resilience solution. This is an initiative that the RCP has been challenging Ausgrid to embrace since the beginning of resilience discussions with Ausgrid[49]. We acknowledge that this is a difficult area for Ausgrid. In the heat of repairing a damaged network and restoring supply, time is of the essence, and replacing 'like with like' is almost always the most efficient (and quickest) approach to the repairs. However, we have continually encouraged Ausgrid to investigate how a longer-term view, particularly of areas prone to climate risks, can be rebuilt at the time in a more resilient form.

This may impact restoration times; however we view this as an important longer-term strategy that will ultimately better meet customer needs in particular locations. Build back better was also supported by the VoC23 Panel when it considered its criteria for assessing the LGA packages.

Ausgrid have also been challenged to update their business-as-usual designs, technical standards and materials to better reflect the community resilience needs.

[48] We previously raised concerns about the co-funded ABC program in our RCP Second Report at p.32 and p.36.

[49] Build back better is a key concept in the Resilience Framework see pp 7, 32, 33, 35 and 40 and was also discussed in the RCP Second Report at pp 36-37.

4.1.2 Fault Detection & Location Sensors ($11.8m)

We have been supportive of this approach as an efficient way to respond to the risk of fallen wires, by allowing faster identification, isolation and restoration, particularly in regional and rural areas. This is consistent with the major climate event risk where efficient safety isolation and fault management at times where thousands of faults may have occurred in one event. We also believe that smart meters will also be able to assist in remote diagnosis of faults and that over time smart meters may assist in faster restoration times.

4.1.3 Data sharing Program for Multi-agency Response ($4m)

In almost every engagement the RCP has observed between Ausgrid, its customers and stakeholders in the last 18 months, there has been a universal plea for better co-ordination between Governments, agencies and suppliers of essential services such as networks, to deliver a cohesive response during natural disasters. Local communication and safety messaging and updates are common requests followed by the community seeking an understanding of who will take responsibility for the provision of essential services during the aftermath of severe weather events. We can confirm that the data sharing program for multi-agency response is seen as a critical investment by both the local and broader customer base and is highly valued by them.

The RCP is aware that there is an opportunity for the recently established NSW Reconstruction Authority to lead in multi-agency disaster planning and co-ordination. During engagement with Councils it has become apparent that there are important opportunities for Ausgrid to participate regularly in various district and local emergency management committees and other planning and co-ordination initiatives, which we understand is to be met by the proposed Resilience Liaison Officer described in this solution. As Appendix B to the resilience business case sets out Ausgrid has diligently pursued discussions first with Resilience NSW and more recently with the NSW Reconstruction Authority. We believe that the Letter of Intent[50] process Ausgrid has put in place with other agencies will assist in customers and the AER being comfortable that Ausgrid is not overstepping its role by investing in this important solution.

4.1.4 Spreader bars ($7.57m)

Again, we view this investment in how to reduce the number of localised faults that generally are responded to last in a major climate event. Analysis shows that low voltage clashing events are the last network faults to be attended to, and it is these customers with the longest power interruptions (often days, sometimes weeks). Ausgrid advised customers that historically it can attribute 21% of interruptions to adverse weather causing conductors to clash.

With many services (water, sewerage, telecommunications) being directly connected to low voltage networks, we acknowledge the importance of reducing likelihood and extent of localised low voltage interruptions. However, we have some reservations about the cost effectiveness of the program given Ausgrid's estimates that it will only assist around 19,000 customers, even though it intends to instal the spreader bars widely across its network area.

4.1.5 Vegetation Management for Major Substations ($0.49m)

Whilst this initiative is highly effective we do not discount the difficulty in obtaining the social licence to address this risk. During the LGA workshops, particularly in the Central Coast, there were several quite passionate discussions about the potential for more aggressive vegetation management practices to reduce the impacts of severe weather events. The clear majority view was that a chainsaw

[50] This is discussed at p.69 in Appendix B of the resilience business case.

should not be the answer to increasing climate change other than in a very targeted way as proposed by this solution.

4.1.6 Climate Impact Assessments ($0.5m)

We agree with Ausgrid that it needs to continue investing in the latest climate modelling at a granular level and that this is essential to meet the requirements in the AER Resilience Note and the Resilience Framework. We strongly support this solution.

4.1.7 Assessment & Evaluation Framework ($0.9m)

The RCP strongly supports this investment and we see this evaluation and community accountability program as a critical underpinning to the pilot. It is also needed to enable Ausgrid to honour the commitments it made to the LGAs and the VoC23 Panel during the recent engagement to review the effectiveness of the solutions. We discuss this in detail in part 4 below.

4.2 RCP recommendations on the WON solutions

The RCP recommends that the AER review each of the WON solutions. The RCP strongly supports the build back better protocols; the data sharing for multi-agency response; the assessment & evaluation back to the community and ongoing climate impact assessment modelling. Whilst we support the creation of greater asset zones around major substations we have some concerns about the feasibility of implementing this vegetation management asset protection program given community resistance to the removal of trees. We support in principle the fault detection program and spreader bar programs however, we are unsure of the long term cost effectiveness of the spreader bar program, given that Ausgrid's standard is to gradually replace its LV network with ABC.

4.3 Observations on the local solutions

Introduction

As discussed above the design of the LGA engagement was to ensure as far as possible that solutions proposed by Ausgrid to the community were valued by them, would plug gaps in existing support and were ones that the community believed were appropriate to come within Ausgrid's responsibility. Each LGA built their package individually and then reviewed it as a cohesive whole before prioritising the solutions to be presented to the VoC23 Panel. As a result of this process RCP can confirm that the package of solutions proposed by each LGA was shaped by them, includes solutions with strong community support and was designed to complement existing community infrastructure in each LGA.

The resilience business case sets out the detail of the final packages which included the following split of network and community resilience solutions:

Central Coast total package $68.7m:

- $66.7m network investments (97%); and
- $ 2.0m community resilience investments (3%).

Port Stephens total package $19.7m:

- $19.02m network investments (96.5%); and
- $ 0.68m community resilience investments (3.5%)

Lake Macquarie total package $40.4m:

- $39.61m network investments (98%); and

- $ 0.83m community resilience investments (2%).

Local network solutions

Each of the LGAs have very significantly prioritised ex ante network investments in their tailored packages to deliver outcomes aimed at reducing reduce outage times and frequency of outages.

The commitments given by Ausgrid to the LGAs about the potential benefits of the network investments focussed on the potential reach of those investments on specific numbers, location and type of customers (as at today) who would potentially be assisted from the solutions. In the case of Port Stephens Ausgrid made an additional commitment for a minimum of 3kms of undergrounding of HV feeders. We are aware that Ausgrid's planners are continuing to refine and optimise these network solutions to improve their efficiency. As efficiencies are found by the Ausgrid network planners between now and December the RCP believes that the LGAs would expect the network solutions to reach at least a similar number of customers.

Local community resilience solutions

The community resilience solutions chosen by each LGA share some commonality but are intended to work differently in each LGA depending on the unique circumstances of their community infrastructure (high in Port Stephens and low in Central Coast), geography and vulnerability of their populations (large, aged population in Lake Macquarie, transient tourism population in Port Stephens and high population of families and workers in the Central Coast commuting to Sydney.) We agree with Ausgrid's observation at p.108 in Appendix C:

> *"There is a growing body of evidence that shows non-infrastructure solutions can deliver benefits complementary to infrastructure solutions and they are more responsive and adaptable to rapidly changing contexts. Ausgrid is uniquely positioned to support energy resilience, with specialist and trusted expertise and experience in energy distribution and outage management. There are few, if any, other organisations in our network area with the equivalent skills and expertise to deliver on energy-related community resilience."*

We make the following brief observations about the community resilience solutions.

4.3.1 Shared Ausgrid Liaison Officer ($1m)

There was very strong support in each LGA for a dedicated resource to work across the three LGAs to ensure effective delivery of the local solutions. A key benefit seen by the local communities was the planning function of this role that should strive to integrate Ausgrid's disaster responses with existing community resources during major events. Several participants were concerned that the need for detailed and coordinated planning across the three LGAs would be too much for this single role. For example during Workshop 3 in Lake Macquarie participants were discussing the possibility of having a dedicated Ausgrid Liaison Officer just for their LGA. RCP members took the opportunity to remind the Lake Macquarie community that this was a pilot program, there was no guarantee that the AER would approve this type of community resilience expenditure and that there would be benefit in trialling a shared Ausgrid Liaison Officer and reviewing their effectiveness during the evaluation in 2024-29. RCP strongly supports this solution and we believe that a key benefit of the shared resource will be the opportunity to share learnings about planning and preparation (particularly for the benefit of the Central Coast) and share resources in these LGAs (such as small mobile generators and equipment in hubs) during severe weather events impacting only one of the LGAs. We recommend

that Ausgrid work with the communities and Councils on developing a detailed job description for this role for consideration by the LGAs and the VoC23 Panel in October.

4.3.2 **Small mobile generators** ($.04m)

The local communities had mixed views about the benefit of a fleet of 10-15 small generators and agreed that Ausgrid could not know to whom to allocate these generators in the event of a prolonged outage. Identifying the need of who was most vulnerable was a role that the community needed to fulfil. However, many participants recognised that this locally dedicated small fleet of generators would provide some important relief for vulnerable customers who had not been able to make their own arrangements and who found themselves at the end of a long LV restoration tail. Port Stephens and Lake Macquarie could see the synergy between the resilience hub and the dedicated Ausgrid Liaison Officer. The Central Coast response to the small generators was not as strong reflecting the huge size of the LGA and the fact that in the absence of a community resilience plan and dedicated community infrastructure it would be hard for Ausgrid to know the best way to allocate them.

4.3.3 **Resilience hubs** ($0.17m)

RCP has observed this solution evolving over the workshops and it is continuing to be refined. The current description of the solution as one of the flexible energy resource investment at p.115 in Appendix C of the resilience business case is for Ausgrid to make modest investment in an existing local neighbourhood centre operated by a third party community organisation. The nature of the investments is to provide support for these hubs to provide charging and battery pack services to the vulnerable. This is a solution chosen by Port Stephens and Lake Macquarie. It was not suitable for the Central Coast given its large geography and the lack of existing hubs that can be used. There was strong feedback in the Port Stephens engagement that Ausgrid didn't need to come in and tell the community who their vulnerable were. Rather Ausgrid should partner with them. The Port Stephens Wahroonga hub was very strongly endorsed and prioritised by the local community as being an established successful community support service that already focusses on supporting the vulnerable and that this should be their resilience hub.

Lake Macquarie strongly valued the resilience hub as a support for those who did not need to evacuate their homes and who needed support during prolonged outages. Examples given were of places to charge phones and wheel chairs and other medical equipment. The main discussion in Lake Macquarie was about the best location for the hub given that the lake and the many single access roads would restrict access during severe weather events depending on whether residents were in the West, North or East of the LGA. Ultimately with one hub only being supported by the super majority of 80% the community prioritised the western side of the lake. This was seen to optimise the value from the hub given that the main network solutions chosen were focussed on the East side of the lake. We believe that there is an opportunity for Ausgrid to refine the explanations and planning for these hubs between now and October.

4.3.4 **Community resilience plan** ($0.4m)

This is a solution unique to the Central Coast package. It arose from a comparison by Ausgrid of the relative lack of preparedness planning of the Central Coast administrators compared to the detailed community resilience plans of Port Stephens and Lake Macquarie Councils. It was evident to the RCP from our discussions with the various Councill staff and the community that there were serious concerns amongst Central Coast residents about the lack of planning and lack of community infrastructure to support the local residents during natural disasters. The RCP and Ausgrid recognises

that ordinarily it would not be Ausgrid's role to support the development of a local community resilience plan.

The RCP supports this solution as a pilot in the Central Coast with the following caveat. We believe that Ausgrid needs to take a supportive role in the development of this plan as it is not the best placed entity to drive the development of an integrated community resilience plan. We are encouraged by the partnership being developed between Ausgrid, the Central Coast council staff and the Minderoo Foundation. We are aware that the Minderoo Foundation has a detailed blue print and approach for working with local areas to develop a natural disaster preparedness plan for bushfires and floods and we see an opportunity for Ausgrid and the Council to tap into this work to extend it into windstorm and East Coast Low planning to support this solution. We encourage Ausgrid to develop a proposal jointly with the Minderoo Foundation, the Central Coast Council and the telco providers between now and October for the delivery of this solution.

4.3.5 **Blackout plans** ($0.35m)

There are different versions of blackout and communications plans being proposed in the community resilience solutions of the LGAs. Port Stephens chose a simple low cost blackout plan similar to a bushfire preparedness plan as it wanted to prioritise investment in communications targeting vulnerable customers. The most comprehensive and detailed blackout plan emerged from the discussions in Lake Macquarie.

Lake Macquarie's vision for its granular blackout plan was for Ausgrid to develop a rating system of vulnerability to severe weather events based on an individual household's or business's location, network strength (undergrounded HV assets, one feeder in/out and location on the peninsula) and relative risk of exposure to severe weather based on Ausgrid's climate modelling. The participants were open to how Ausgrid would efficiently communicate this to individual customers and businesses and suggested partnering with the Council for distribution of the information. The objective of the information was to encourage efficient responses from individuals and communities to assist in maximising their investments in their self-resilience. Ausgrid has advised the RCP that it has the information about the strength of its assets at a feeder level to support this solution and if this approach is effective it can be used in other LGAs with high levels of exposure and vulnerability in future regulatory periods.

This level of detail and nuance for this solution was not available to the VoC23 Panel and they correctly raised questions about why there were two types of blackout plans and if Ausgrid could look for savings between now and October as they fine-tuned these solutions. Ausgrid has already responded to this customer feedback by reducing the Lake Macquarie granular Blackout Plan by $500k from the $750k considered by the VoC23 Panel to $250k included in the resilience business case. The RCP strongly supports this solution and we recognise that this is one of the key insights from local engagement that would otherwise not have been developed by Ausgrid or the RCP. We also support Ausgrid's collaborative approach reflected at p.112 of Appendix C: *"This investment will be more effective if created in consultation and collaboration with other resilience actors like telcos, councils and other utilities.*" We see that it may well be useful in future regulatory periods for other LGAs, particularly those who are exposed to increasing temperatures and heat.

4.3.6 **Community awareness and education program** ($0.5m)

The Central Coast did not specifically choose a black out plan instead preferring to prioritise investment in a broader widescale pre-storm season awareness and education campaign which would

also include elements of a simple blackout plan. The simple black out plan being developed in Port Stephens should work for the Central Coast so there may well be savings here. The widescale education campaign was seen as an important plank to assist the Central Coast to increase their own self resilience as they felt that they needed to take charge of their own situation feeling less supported by their Council.

4.3.7 Communications targeting vulnerable customers ($0.5m)

Both Port Stephens and Lake Macquarie chose this solution given Lake Macquarie's concern for their aged population and Port Stephens' concern for their more vulnerable customers (including their indigenous residents and their transient tourist populations). The Central Coast did not prioritise this solution as they felt that all customers were vulnerable in their LGA in light of their recent experiences from multiple and widespread severe weather events. Again, we believe that savings may be available here as the content of the communications can be largely common between the two LGAs with the form of communication being tailored to leverage existing community support channels in each LGA.

4.3.8 Local safety and outage messaging ($0.75m)

This solution is unique to the Central Coast and emerged from their concerns about the lack of information available from disaster agencies during severe events. There was widespread acknowledgment in the workshops that Ausgrid has greatly improved its communications to customers before and during planned outages and during unplanned outages. Several customers referred to recent SMS messages from Ausgrid on their phones and others mentioned the value of the outages section on the Ausgrid website. Ausgrid will need to do more scoping of this solution between now and October to demonstrate the key uplift in functionality between BAU, SMS and website outages communications and the proposed local and safety outage messaging. The CALD participants urged Ausgrid to extend this solution to include languages other than English given the significant CALD representation in the Central Coast. The participants expressed a strong desire to co-design the program and functionality with Ausgrid. The RCP can see that this is a solution that would be able to be rolled out in future regulatory periods to other LGAs and we support the further development of this solution.

4.4 RCP recommendations on the LGA solutions

We encourage the AER to review the local network solutions to ensure as far as possible a similar degree of discipline and optimisation is brought to the resilience investments that Ausgrid brings to its repex and augex programs.

The RCP expects that the AER will carefully review all of the local community resilience solutions as this is the first time that these type of investments are being proposed by a network. We confirm that there are very high levels of community value for the community resilience solutions and for that reason the RCP supports them with the caveats expressed above. Our support is based on the deep local engagement that Ausgrid has done with the local communities to understand unmet needs and individual discussions with the Councils to ensure that the solutions would integrate with and complement existing community support services. In the absence of this local, bespoke engagement and the accountability and evaluation of the pilot discussed in the next part of this report, we would not have supported these largely opex based community resilience solutions.

We believe that there is scope for Ausgrid to improve the efficiency of the solutions by responding to the commentary from the LGAs as they described the objectives and their hopes for the solutions in Workshops 3 as well the detailed feedback from the VoC23 Panel. The broader customer base has

given clear direction to Ausgrid of ways it can increase the perceived value in these local community solutions from its perspective without second guessing the needs of those communities. Some suggestions include:

- looking for further savings now that Ausgrid is aware of more than one LGA choosing the same or a similar solution;
- finding ways to optimise community resilience across the three LGAs; and
- developing the solutions further by increasing the descriptions for these solutions particularly the Ausgrid Liaison Officer, the granular blackout plan and communication solutions.

We encourage Ausgrid to continue the development of these solutions alongside the local Councils and as part of the Letters of Intent process with other resilience actors to have a more optimised package of community resilience solutions in time for the engagement in October. This will create greater accountability to the local communities. The identification of partnering opportunities with Councils and others should assist in the broader customer base's concerns that disaster response and support should be a shared responsibility between Ausgrid and others.

Part 4 – Accountability framework for implementation in 2024-29

We believe that Ausgrid's final resilience proposal in December should focus on the following four accountability and evaluation metrics[51]. The RCP will be working with Ausgrid over the next months on the details which will be presented in the revised proposal in December. The metrics include:

1. **Accountability to local communities**

Ausgrid has committed to developing local mechanisms to support its investments in the three LGAs. We understand these mechanisms will be used to report back to the three local areas on progress and effectiveness of Ausgrid's investments as well as seek the community's input as part of the broader evaluation of its resilience program. Ausgrid will develop this mechanism in conjunction with the RCP in the next few months. Ausgrid has committed to the three local areas to seek their input and endorsement of the local accountability program in the final October Workshop. Funding to support this local accountability is included in the Assessment & Evaluation program in the WON solutions, which we strongly support.

2. **Role of NIAC**

At this stage Ausgrid has not excluded any of the programs in the resilience business case from the additional oversight of NIAC. NIAC's oversight may also extend to the operation of the incentive schemes and how Ausgrid wishes to manage any over or underspend and any potential CESS or EBSS reward or penalty.

3. **Engagement with Ausgrid's wider customer base on the pilot during 2024-29**

As we have noted throughout this report, Ausgrid is implementing a pilot for 2024-29. While we believe it has set a high bar for expenditure justification, evidenced for example by the decision to exclude ABC from the resilience business case, there are likely to be other approaches to meeting the requirements of the AER's Resilience Note. Ausgrid's engagement with its wider customer base outside of the three LGAs will test the pilot approach.

It is clear from the VoC23 Panel feedback that evaluating the effectiveness of the pilot approach was essential to their wtp for the local investments:

> ***"I believe that these programs have to be done sooner or later, and there is no better testing ground for them than areas that are most affected by potential climate events. If the solutions can work in the most extreme circumstances, surely it would be easier to adopt them to other LGAs."***
>
> ***"I see the pilots in these LGAs as pilots and opportunity for testing grounds. We will have to pay for climate change eventually so I see getting this right earlier rather than later as an investment in our future and children and the generations that are to come after. I'd be willing to vote on behalf of my demographic to pay for 100% of the pilot costs as it is such a small % compared to power bill in 2029. Our regions are not separate from us, we rely on each other. Sydney is bursting at the seams, my parents might retire in regional areas. I might in 40 years, driving people because of harsh weather events into Sydney may happen if we don't invest in resilience."***

[51] Some of these are discussed in Chapter 10 of the Resilience Framework.

"Pilots would enable us to work with councils to improve their response."

"To build better infrastructure for future. To test pilot stage. To have more resistant power supply to support vulnerable people. This spend today might save money in the long term, as this will protect form disasters like storms etc. Ask to cautiously spend and work with local government council to ask them to contribute."

"Vulnerable people hit by natural disasters should be supported. These are also towards get aways that Sydney siders visit."

"The solutions are well thought through and these pilots could help future developments. We all should chip in more to help our extended community."

"Limited support as pilot studies probably worthwhile. Expenditure is minimal compared to overall budget."

The RCP plans to share detailed observations on the lessons learned to date from the pilot in our final report in December 2023.

4. Review of the Resilience Framework

This is in two stages:

- review of the pilot following the AER's Draft and Final Decisions on 2024-29; and
- drawing on the outputs from 1, 2 and 3 above to inform a complete review of the pilot (including the Resilience Framework and Implementation Plan) with the findings reflected in Ausgrid's engagement and spending proposals for the 2029-34 period.

Ausgrid is seeking an approach that can become scalable and repeatable in future regulatory periods and will share these findings with other networks. The RCP has indicated to Ausgrid that we are happy to continue to work with Ausgrid and the AER in 2024 following the AER's Final decision on any refinements to Ausgrid's approach to ensure that it is as robust as possible.

5. Review of the AER Resilience Note

When the AER makes its Final Decision on Ausgrid's 2024-29 proposal in April 2024 Ausgrid, the RCP and its local and broader customer base will have invested thousands of hours and dollars in responding to the AER Resilience Note and in particular to developing approaches and tools to the four foundational concepts discussed at length in this report. We would encourage the AER to publish a revised version of its Resilience Note in 2024 for the benefit of all networks incorporating the learnings from the intensive work that Ausgrid has done to develop its resilience business case and Resilience Framework for future iterations of its resilience program.

6. Next steps

Ausgrid's resilience business case is continuing to evolve. The RCP will continue to challenge Ausgrid on all aspects of the resilience business case including:

- development of more detailed accountability measures;
- implications of the AER's Draft Decision on all allowed expenditure and implications for the resilience business case modelling;
- the LGA and VoC23 Panel engagement in October; and
- refinement and optimisation of each of the network and community resilience solutions in the LGA and WON packages in the revised proposal in December.

APPENDIX A – CUSTOMER ENGAGEMENT ACTIVITY IN 2023 INVOLVING RCP

Engagement with Lake Macquarie (LM), Central Coast (CC) and Port Stephens (PS)

LGA engagement Workshop 1 (in person):

25 February (LM), 4 March (CC), 5 March (PS)

LGA engagement Workshop 2 (on-line):

22 March (PS), 29 March (CC), 30 March (LM)

Pre-Workshop 3 undergrounding, vegetation management and community battery information session (on-line):

16 May

LGA engagement Workshop 3 (in person):

May 20 (PS), May 27 (CC), May 28 (LM)

VoCP23

Meet and Greet with customer participants (on-line):

22 March

Engagement Session 1 (in person):

1 April (Newcastle), April 29 (Sydney)

Engagement Session 2 (in person):

17 June (Newcastle), 24 June (Sydney)

C&I Interviews (online):

Coles 5 June and 3 July; Woolworths 6 June; NSW Education Department 7 June, Scentre Group 14 June; Sydney Trains/Transport NSW 7 and 29 June; NSW Treasury 23 June; Ampol 23 June and 4 July; Business NSW on 28 June and 5 July

Engagement discussion/feedback sessions with Ausgrid (some also with bd, Mosaic and Gauge):

5, 10, 16, 19 and 24 January; 8, 9, 14, 15 and 23 February; 3, 7, 13, 15, 21, 28 and 29 March; 4, 5 and 18 April; 2, 4, 15, 17, 23 and 25 May; 14, 15 and 23 June

Engagement Stakeholder Working Group meetings:

13, 20 and 27 February; 6, 20 and 24 March; 3, 18 and 27 April; 1, 8, 15 and 22 May; 5, 19 and 26 June

SteerCo meetings:

15 February, 1 and 15 March, 24 May, 7 and 21 June

Council staff meetings:

2 February, 3 March (PS), 3 March (CC)

Business case presentation:

14 and 30 June, 4 and 6 July

Other:

Telco resilience briefing on 1 February

2 June meeting with AER and Ausgrid re application of incentive schemes to resilience expenditure

APPENDIX B – RCP FEEDBACK TO AUSGRID ON THE PROPOSED ABC SOLUTION

The following is the advice that the RCP gave to Ausgrid in late June.

While the RCP acknowledges that the replacement of bare LV conductors with aerial bundled cable (ABC) reduces the risk of outages and bushfire ignition, and lowers the cost of vegetation management, we have come to the conclusion that Ausgrid's proposed co-funded council package is not justified as an element of Ausgrid's resilience business case[52]. Our rejection of the $12.2 million ABC program is based on the following concerns:

- Ausgrid has consistently informed the RCP that as it is not yet able to show how the modelled increase in temperature in its climate modelling, including in urban areas, will impact its network assets. Since Ausgrid cannot meet the requirement in either the AER Resilience Note or the Resilience Framework to demonstrate the causal link required between increased heat and impact on its network assets, Ausgrid advised the RCP it would not include investments in its resilience business case in 2024-29 to respond to increased consecutive hot days despite the higher confidence levels of its climate modellers in forecasting consecutive hot days to 2050[53]. Whilst metropolitan Councils may have obligations to reduce the impact of urban heat through increased tree canopy, we see no justification for Ausgrid 's revenue to be used to assist Councils to meet their obligations in circumstances where Ausgrid cannot meet the regulatory hurdles itself for this direct investment.
- The program is selective insofar as Ausgrid has designed it in accordance with an urban heat index. We do not believe replacing LV conductors with ABC is an effective means of achieving a canopy cover target given the multiple opportunities available to Councils to generate additional canopy coverage well away from power lines. The estimated cost per span of installing ABC is around $11,000. (TR notebook ref 2.119). Savings in avoided future pruning costs may arise, but this benefit may not arise quickly, particularly where low and slow growing vegetation is situated near power lines or trees are chosen that require intensive directional pruning in their formative years.
- Ausgrid has proposed a subsidy to Councils of up to 75%. We find this difficult to justify, particularly when some councils have previously chosen to provide very limited funding themselves: in 2021/22, for example, the City of Ryde budgeted $57,000 for tree planting out of annual revenue of around $150 million.
- We cannot discern any guarantee that Ausgrid's contribution leads to a definite improvement in canopy cover. Coverage ultimately is a product of the amount of vegetation planted the survival rate of plantings and the canopy cover growth rate. In the absence of a participating Council commitment to a canopy coverage target, Ausgrid's funding may not achieve the sought objective.
- It is not clear to us what consultation has been undertaken by Councils with their ratepayers about the rollout of ABC. While we appreciate that Councils have expressed support for a co-funded opportunity, it does not automatically follow that ratepayers share this enthusiasm, particularly those who might find the thicker ABC more visually intrusive than thin bare

[52] We raised our concerns about the co-funded ABC program in our RCP Second Report at p.32 and p.36.
[53] RCP supports Ausgrid's intention to use NIAC revenue during 2024-29 to research the impact of increased heat on its network assets.

conductors. For the ABC to be part of the resilience business case we believe Councils need to demonstrate, at a minimum, that they have consulted with ratepayers[54].

- The program is not aligned to the whole of network package nor the three LGAs chosen for the pilot. As an established program it has typically been used by suburban Councils. Its proposed reiteration would lead it to again mainly being used by metropolitan councils that do not fit the criteria used to select the trial LGAs, namely their exposure to major outages and population vulnerability nor other LGAs in Ausgrid's network exposed to major outages from windstorm and East Coast lows.

We believe that ABC will continue to play an important role in the future operation of the network and we support Ausgrid's continued application of it. We encourage Ausgrid to consider how a future co-funding program with Councils might better align itself with the principles that have been used in developing the resilience business case or be restructured to a business case within an existing capex/opex expenditure category.

[54] In the Newcastle VoC23 June workshop some participants raised concerns about ratepayers being asked to fund up to 50% of this program.