# Values of Customer Reliability

AER public forums 5 and 6 December 2018

Energy Networks Australia

# Agenda

- Principles for the VCR Review
- The primary role for VCR
- Delivering on the Integrated System Plan, connecting more renewables
- Potential Additional Roles for VCR
- Methodologies to Derive VCR
- High Impact Low Probability (HILP) Events
- VCR Customer Segments
- Certainty and consistency of VCR for investment is crucial

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# Principles for VCR Review

- Values and methodology should be fit for purpose – the costs to the community from an incorrect VCR far outweigh the cost of the investment to get the data and methodology right;
- The new review should build on and improve previous work;
- It should be forward looking, assessing the likely implications of new generation (DER) and load technology (Electric Vehicles); and greater impacts on reliability from increasingly hot summers;
- The Value may trend over time but should be relatively stable;
- Transition process to apply so as to not disrupt efficient planning processes

# The primary Role for the VCR

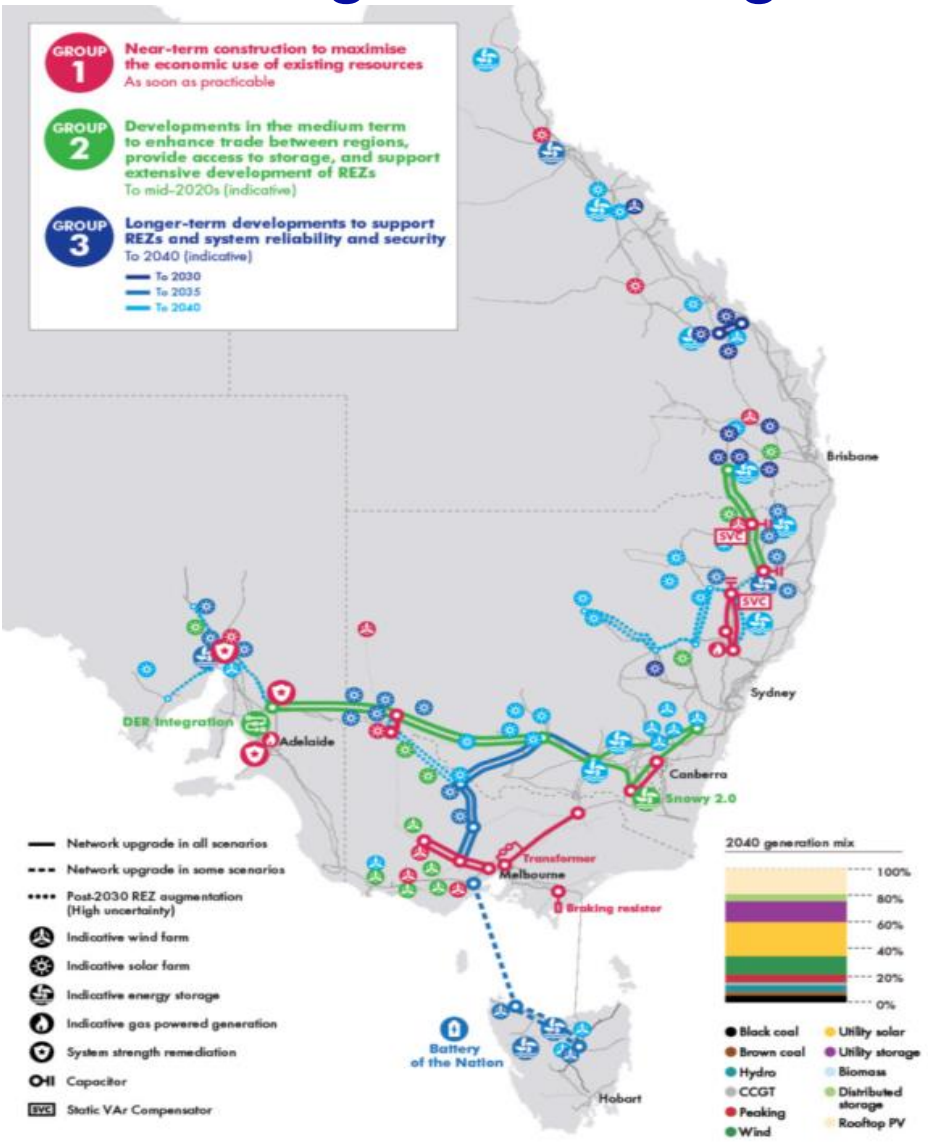
The VCR balances the customer expectations that:

- Energy is available when and where they want;
- At a reasonable and proportionate cost.

Therefore, it is a Critical input to network investment decision making processes including:

- Distribution and transmission planning assessments and reports;
- Regulatory investment tests for both augmentation and replacement;
- Distribution Service Target Performance Incentives;
- Distribution Demand Management Incentives and Innovation Funding
- Benchmarking
- To inform/sense check the reliability standards and whole market settings – eg reliability standard and market price cap

# Delivering on the Integrated System Plan




- The cost of running a best practice statistical approach is significantly less than basing reliability and investment decisions on sub standard estimates, particularly given the level of transformation of networks that is necessary to connect more renewables

AEMO, Integrated System Plan- renewable Energy Zones, ESB forum, Oct 2018



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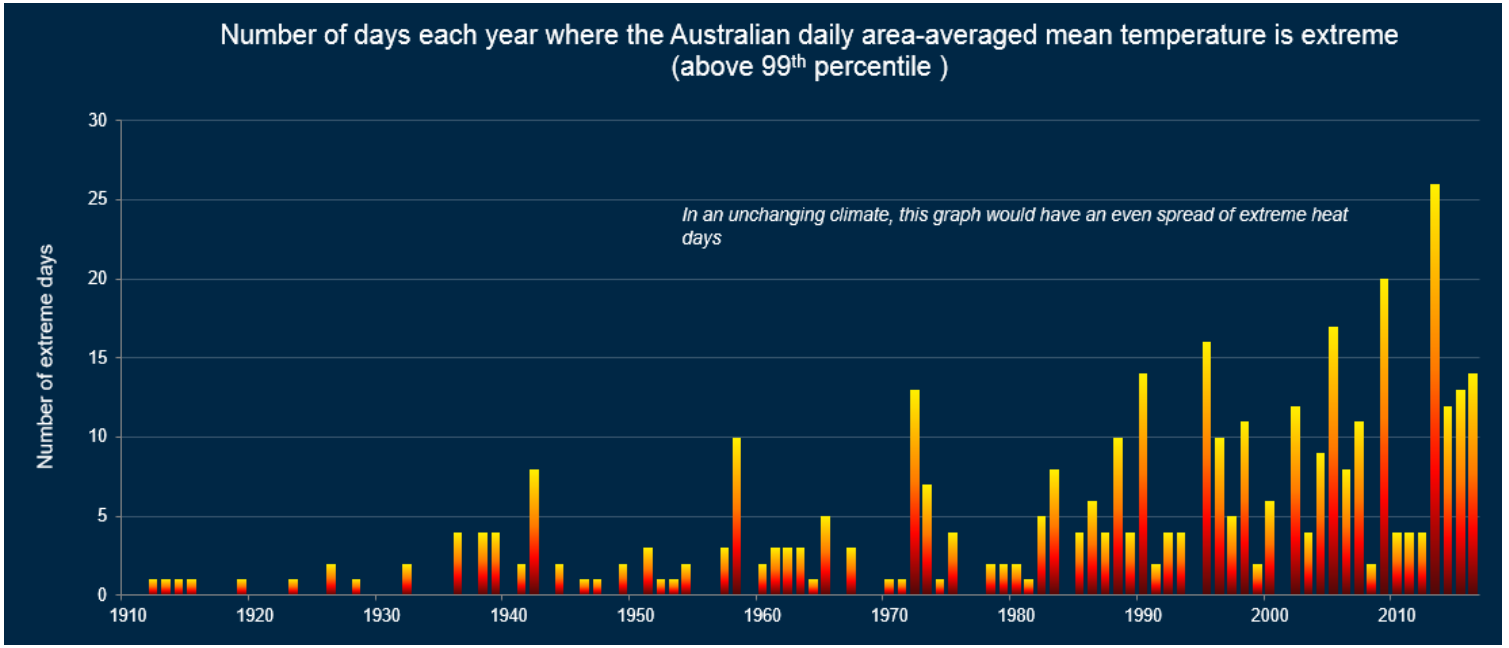
# Potential Additional Roles for VCR

- Networks primary responsibility is delivering efficient, safe, reliable and secure electricity.
- Imposing additional uses of VCR:
  - Not the determining factor for some suggested uses, would increase complexity of the operating environment;
  - Is unlikely to improve decision making and may create uncertainties;
- VCR could be used to inform RERT and ancillary services procurement
  - Ideally prices paid for RERT should not be higher than VCR
- VCR should not be formally used in network operational activities or pricing
  - Networks already actively manage load shedding according to priorities agreed with other industry and government bodies
  - Planned outages are managed based on type of work, number and local knowledge of types of customers impacted, day of week, time of day and weather conditions
  - Use of VCR in setting tariffs unlikely to align with pricing principles including cost reflectivity. Key engagement consultation on the development of tariff structure statements (and compliance with jurisdictional policies)

# Methodologies to Derive VCR

- Development of AER VCR methodology and values should build on and improve on previous customer surveys
- Methodology should be sufficiently rigorous and provide a statistically robust result
- AER has outlined a number of different approaches to developing VCR's
  - Broadly agree with Contingent Value Surveys and Choice Modelling for residential and business customers
  - Support Direct Cost Approach for directed connected customers
  - Direct transmission connected customers and C&I customers need to be considered separately
- Separate consideration must be given to High Impact Low Probability (HILP) Events. For example, use least regrets theory and ensure VCRs for these types of events are consistent with community expectations and economic theory

# High Impact Low Probability (HILP) Events




- There is a need to take into account risks that were previously considered too unlikely to warrant expenditure
- For example, climate change means that the power systems is more exposed to unprecedented conditions with increasing frequency
- Our view is that COAG EC and AEMO support appropriate consideration of HILP in the reliability framework

Bureau of Meteorology, Severe Weather Impact, 3 Oct 2018



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# High Impact Low Probability (HILP) Events



- Impacts on large scale, real time services go well beyond the area of the outage and to many people beyond the businesses who have lost supply
- Where customer surveys are used and customers have not experienced or can't imagine HILP events, may not be able to make useful judgements
- Some means of capturing both direct and indirect impacts of HILP events is needed

Bureau of Meteorology, Severe Weather Impact, 3 Oct 2018



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# VCR Customer Segments

Networks Support Consideration of:

- CBD, urban, rural and remote, including outage impacts and ability to access alternative fuel/ substitution options eg gas, with the exception of socio-economic breakdowns and dwelling breakdowns;
- Peak impacts and capacity based outages due to seasonality (eg Tas has winter peak and Vic summer peak);
- Weighting by customer load and type;
- Weighting VCRs varying by outage length;
- Prosumer/consumer differences – suggest that solar, storage and EVs may have different VCRs;
  - Where battery release can be controlled, consumer may have alternative supply;
  - Similarly EV's charge and release implications should be considered in future segmentation.

# Certainty and consistency of VCR for investment is crucial

- Unpredictable changes impact customer engagement and delivery of network plans approved in revenue submissions
- Timing misalignment of AER updated VCRs and price review submissions is inevitable in a nationally consistent approach
- Similar issues for any Regulatory Investment Test underway, significant number in progress
- AER will undertake consultation and has also established a VCR Consultative Committee, active engagement with retail customer advocacy groups will mean these impacts will not come as a surprise
- Annual adjustments limited to a known escalator that can be consistently applied and maintain VCRs in real terms and minimize/avoid step changes in the 5 yearly review
- Whilst very important, apart from the above broad observations on the impact of changing values, It is too early to comment on transition or step change to initial AER VCRs