



JEMENA ELECTRICITY NETWORK

*ENERGY REFERENCE GROUP –
2026 TO 2031 PRICE RESET*

What Was Said draft report
ERG Sessions 1 to 3

December 2023



Jemena Energy Reference Group

Themes & Questions - Sessions 1 to 3

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What have we heard so far?

One of the comments in our Like / Wish / Wonder (LWW) reflection activity at ERG # 3 was a query about:

‘Concrete take aways for the Jemena Group?’ (ERG # 3 LWW)

To demonstrate that we have heard your inputs please see your ERG inputs from ERG session #1, # 2 and # 3 reflected below under the broad themes of:

- ♦ Process
- ♦ Outcomes for Customers
- ♦ Customer – communication & engagement
- ♦ Where to act (Jemena’s role)
- ♦ Where to influence (Jemena advocacy)
- ♦ Distributor challenges (acknowledgement of)
- ♦ Topic specific advice (to respond to remit)
- ♦ Outstanding questions (derived from activities not from the Q and A sessions).

For each topic there is an ‘In summary’ comment that captures the overall intent of your feedback, with examples of some of the direct comments listed as bullet points to support that ‘in summary’ comment.

PROCESS

In summary, it is a good process, people are well engaged and would like more time to deep dive into the detail of topics with support from Jemena. There is deep curiosity about how ERG inputs will intersect with other engagement activities, and how they’ll influence Jemena’s proposal.

- ♦ Like:
 - Depth & focus of conversation vs pushing quickly through multiple detailed topics (ERG #3 LLW)
 - More customer centered / market outcome focused questions (ERG #3 LWW)
 - The challenging content and the diversity of views and voices within the group (ERG #2 LWW)
 - The level of conversation around the environment, the structure of the dialogue, and the people (ERG #2 LWW)

- ♦ Wish:
 - That we had more time to debate some of the comments (ERG #3 LWW)
 - Maybe some specific time with some JEN 'techsperts' to discuss and collaborate on a key issue (ERG #3 LWW)
 - Spend a bit more time with the JEN people to understand their perspectives (ERG #2 LWW)
 - We had more time to dig into these very meaty topics (ERG #2 LWW)
 - We had more time to discuss in the small work groups and we had access to quantitative, comparisons of these investment business cases (ERG #2 LWW)
- ♦ Wonder:
 - What other inputs will come from the Peoples' Panel and Customer Voice Groups, and how we integrate these into our discussions (ERG #3 LWW)
 - How all the various streams of feedback and information will be blended (ERG #2 LWW)
 - How our inputs will dovetail with People Panel inputs (and vice versa). (ERG #2 LWW)

OUTCOMES FOR CUSTOMERS

In summary, there is a strong ERG focus on the links between communication, information, service delivery and trust for Jemena to be able to provide good outcomes for customers; particularly the more vulnerable.

- ♦ I wonder if the questions could be more customer centered (or market, outcome focused), or that there are more customer centered questions - in our breakouts I find we tend to have quite technical discussions at times. (ERG #3 LWW)
- ♦ Recognition that there is increasing consumer interest in energy costs / energy transition. (ERG #3 Plenary)
- ♦ Real time pricing: There is trust for distribution networks and knowledge is increasing with customers. What are the opportunities for real time pricing? (ERG #3 Plenary)
- ♦ Understanding the electricity market and the cost is important - there is a demand for information and to make it accessible. (ERG #3 Plenary)
- ♦ How can Jemena forward plan, particularly communication is key and they need to be on the front foot. Critical for Jemena's brand. (ERG #3 ESS grp)
- ♦ I wish we could look at a variety of proposed billing models to address niche needs especially the vulnerable. (ERG #2 LWW)
- ♦ Social need to convey a warning to discretionary customers before cutting their load off supply. Less impact if cutting generation off export, but a warning would be appreciated. In house signal at the socket? (ERG# 3 Grid stability & flexibility grp)

CUSTOMER – COMMUNICATION / ENGAGEMENT

In summary ERG see effective customer communication and engagement as critical to a successful energy transition.

- ♦ Effective communication with customers. (ERG #2 – Network Perf grp)
- ♦ Communication is key to be a trusted voice to consumers to explain how they can benefit through this under Jemena. (ERG #3 ESS grp)
- ♦ Good role for Jemena to get on the front foot - communicate it out to business and customers. Raise up the trusted voice piece. (ERG# 3 Export / demand grp)
- ♦ Communication with customer re flexible exports / import and DPV backstop will be critical. Increasing use of these services will need good communication to customers. (ERG # 3 grid stability & flexibility grp)
- ♦ JEN can be a trusted voice providing information, data and clarification to consumers and business to aid their energy choices. (ERG #1)

WHERE TO ACT (JEMENA'S ROLE)

In summary Jemena has to determine its role in the supply chain, where it has control and where it can influence; and its focus should be on service design and delivery.

- ♦ What is Jemena's role in supply chain?
 - Is it Jemena job to disrupt? or is it the Local Gov of Energy (Essential Service Provider). (ERG # 3 Plenary)
- ♦ Jemena has a role in non-mandatory ESS (such as providing services) to ensure energy is provided in an efficient way to customers as we transition. (ERG 3 ESS group)
- ♦ Role in designing services Service Design?
- ♦ Relationship and the ability to enhance this with the customer. Unique place in the system chain. There is a role in designing more services for customers. This is important around data. Insights from smart meters - high potential and opportunity to help shape the market and deliver better services. (ERG # 3 Plenary)
- ♦ Service is not regulated and it might be a market to step into. Jemena could walk straight into this space. i.e. dynamic connection. (ERG #3 Plenary)
- ♦ Likely will need a range of offers to meet the different customer segmentations - there's a good ARENA report on customer segmentation that talked to this. There's probably others who are largely disengaged / low understanding. <https://arena.gov.au/knowledge-bank/customer-segmentation-research-and-design-for-orchestration-programs/> (ERG #3 Export / demand grp)

WHERE TO INFLUENCE (JEMENA'S ADVOCACY)

In summary Jemena has opportunities to influence customer behaviour, and how retailers engage with those same customers. Jemena also has a key advocacy role on behalf of customers in its interaction with the government and other market players.

- ♦ Retailers – opportunities for more direct relationships with customers – q is around how to effectively communicate.
 - Good idea for Jemena to consider retailer options. Jemena has a high industrial customer base and the cost of running a business is keeping business owners up at night. Be good to look at supporting them from a retail perspective. (ERG # 3 Plenary)
 - Opportunity to bundle and work with more dynamic retailers or is there anything stopping Jemena to become a retailer as well? It would allow you to play around and create options that help go to the problems. Opportunity to influence batteries. (ERG # 3 Plenary)
- ♦ Advocacy with Gov – Qu: Could government come into support the development of the market and reinvesting in the market - this could be a recommendation. (ERG #3 Group prep)
- ♦ Market – Qu: Service classification - we identify the services that are under mandate. Emerging markets have a number of parties coming in, they are non-mandated, but emerging and it is managing the changing market. (ERG#3 Group prep)
- ♦ Consumer behaviour - need to really lean into the behaviour change and understanding of what the different elements mean i.e. off peak. (ERG #3 group export /demand)

DISTRIBUTOR CHALLENGES

In summary Jemena may need to consider expanding its regulated role to provide good customer outcomes in a volatile market where consumer behaviour change is needed

- ♦ Volatility of wholesale market .
- ♦ Jemena may need to step in to provide services that are not mandated or regulated and Government needs to support this. (ERG #3 ESS Group prep)
- ♦ We (Jemena) don't think about networks as service providers, we are asset managers (Matt S). It will need to look at a change in service and for this to be backed up by policy.
- ♦ I wonder how easily it will be to educate consumers around what we spoke on today. (ERG #3 LWW)

- ♦ How do we ensure that we provide ESS efficiently and at low cost through industry incumbents, while balancing the need to develop competitive markets for new, innovative technologies to contribute to these services. Can the government step in to facilitating market development more/help ensure a smooth transition that is inclusive of regulated and non-regulated entities. (ERG #3 EES grp)
- ♦ Timeline tight initially - need to get the LV level DERMS equipment installed on all LV feeders by 1Jul 24 to support the mandated DPV timeline. (ERG #3 grid flex grp)
- ♦ Compliance of solar inverters (currently 80% not compliant). (ERG #3 ESS grp)
- ♦ Suggestions were around balancing cost available, costing cost of investment of storage and strategies to balance potential overload. (ERG #3 export / demand grp)

TOPIC SPECIFIC ADVICE

LEARNING FROM OTHERS

In summary, continue benchmarking what others have done; learning from what worked well and what hasn't worked so well.

- ♦ It would be valuable to understand what systems and tariffs have worked in other locations already (e.g. SA, California) and what hasn't worked. What can be imported into the Vic market? (ERG #3 export / demand)

NETWORK PERFORMANCE & RELIABILITY

In summary, in addition to risk mitigation, investment prioritisation to be based on reliability trends, awareness of impacts and consultation with affected customers.

- ♦ Consider prioritisation of investment in areas with poor supply reliability based on historic trends, and on the highest impact per capita.
- ♦ Increased mitigation strategies, flexible resourcing, critical spares, operational plans etc.
- ♦ Jemena should inform customers of the impact of Jemena's investment in network reliability and emissions mitigation so they are aware of the cost implications and be part of the decision-making process of the price reset.
- ♦ JEN can look at mitigating some of the worst served customers as a matter of being a good corporate citizen, even if AER does not allow funding.
- ♦ Re HILP (high impact / low probability) events, it's appropriate to look widely at. (ERG #2 Speed dialogue)
- ♦ Providing dynamic or more granular tariffs that allow DER sources / customers to be able to make export / stop / import decisions (either dynamically or "set

and forget" under a control system) would allow consumers the option to address their own import/exports. (ERG 3 Demand/ export group)

- ♦ Need to have flexible load and flexible generation that can be responsive. (ERG 3 grid flex grp)

ENVIRONMENTAL FACTORS

In summary promote sustainability using commercially viable products

- ♦ Consider thinking of SF6 as equivalent to PFAS replacement - be on the front foot and create market demand for alternative product supply in Australia.
- ♦ Learn from overseas alternatives, and legislative changes.
- ♦ Plan over next 5 years to implement commercially viable products as they become available. (ERG #2 Speed dialogue)

CYBER SECURITY & DATA ACCESS

In summary, allocate budget to improve cyber-security and consider how to balance customer needs for access to information within a well-coordinated and flexible risk management framework.

- ♦ Clear budgeting for Cyber security in terms of assets and also for customer systems IT infrastructure.
- ♦ Risks and threats, and ways to manage them, are changing continuously.
- ♦ How is Jemena performing with regards to Cybersecurity relative to other DNSPs in Australia? Where is Jemena performing on the cyber maturity scale and where does it make the most impact to invest to improve?
- ♦ Need a focus on how cyber security is managed with new parties emerging in the energy transition. JEN needs to be agile and very sensitive to new investment needs.
- ♦ How do we create clarity and transparency in the industry wide risk frameworks needed to balance cyber security and data access? There are numerous parties involved in developing the specific risks and measurements from federal and state to community level stakeholders. This needs to be coordinated and clearly communicated.
- ♦ Understanding where the highest risks vs reward for cybersecurity risks to inform the strategy and investment required.
- ♦ Use the data from the smart meters and previous events that have affected network security and reliability to project and forecast future trends, positioning Jemena to implement proper Cyber security measures in place to tackle potential threats and risks to Jemena's network stability.
- ♦ Customer discretion to respond to signals (with rewards) rather than central control - minimize information kept centrally. (ERG #2 Speed dialogue)

BUSHFIRE RISK & MITIGATION (INCL. INSURANCE)

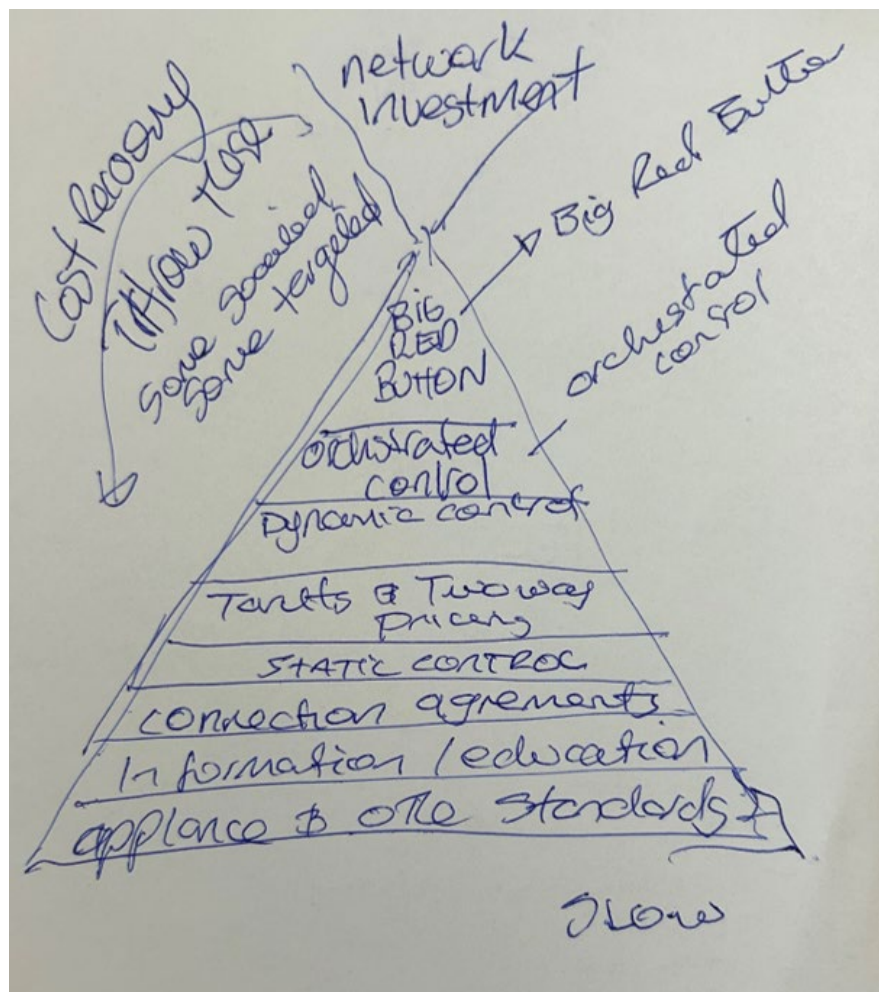
In summary bushfire recovery costs should be spread equitably and the focus should be more on mitigating the risks of electricity infrastructure as ignition sources through affordable, and where possible shared cost solutions; recognising this will occur in the context of competing priorities at a local government level to balance bushfire protection and increased canopy cover.

- ♦ Comment - equity in terms of spreading the cost of bushfire prevention to all customers. If there is a bushfire, there is an economy wide impact, this flows through to all, particularly in insurance premiums. By investing to reduce the probability, has broader community benefits beyond the immediate customers impacted.
- ♦ Community Value Stacking. Value stacking with others - community / councils etc.
- ♦ Consideration for an affordable solution to reducing the risk of electricity assets commencing bushfires.
- ♦ Council to add money to pay for ABC (HV & LV).
- ♦ Councils want more canopy cover.
- ♦ Excellent use of learnings from other Victorian DNSPs - what could be learned from other states?
- ♦ JEN should continue their current strategies with incremental expenditure replacing assets when required in HBRA (Hazardous Bushfire Risk Areas) areas with bushfire hardened' assets, i.e. concrete poles in lieu of wood poles. Increased use of REFCL's can be justified.
- ♦ Maybe some assistance (financial or informative) for landowners around tree plantation or strategies to mitigate risk.
- ♦ Risk of paying twice - what actually reduces the insurance overheads?
- ♦ Suggest Jemena should mirror data of other DNSP's prone to dealing with bushfires and understand the cost of recovery. Then utilise the information to determine the cost to Jemena to mitigate the risk of bushfire. But generally, we see Jemena investing more in the mitigation part as opposed to recovery.
- ♦ T2 User pay system. (ERG 2 Speed dialogue)

GRID STABILITY

In summary, at a network level, consider learning from and working with other DNSPs and EV suppliers. Also consider the benefits of customer level solutions to grid stability through battery storage technology and time of day use.

- ♦ Resolve Grid issues at customer level through technology, building kits on the transmission system to enable stability through battery technology.
- ♦ What can Jemena learn from South Australian DNSP to address this issue?
- ♦ Battery Options. What role could Jemena play in community batteries investments to soak rooftop solar? Have the neighbourhood communities with high levels of rooftop solar been identified as best locations for community batteries? How could Jemena leverage the community battery investments program offered by ARENA?
- ♦ Consider working with EV charging network suppliers like Evie Networks, Ampol, Chargefox etc? Potential to work with.
- ♦ Customers playing a role in using the load at a particular time of day.
- ♦ Encourage Jemena to look into Load shading. (shedding?)
- ♦ Important that all DNSP's are seen to be collaborating on efficient measures to meet AEMO system obligations.
- ♦ Jemena should invest in battery technology.
- ♦ Movement of controlled load where possible (e.g. hot water, pool pumps).
(ERG #2 Speed dialogue)
- ♦ Issue of storage - it is going to keep increasing as an issue and to get worse. Investing in storage is an investment, not a loss. (ERG #1) group export/demand)
- ♦ Investment now in 'no regrets' investments. (ERG #1)
- ♦ Suggestions were around balancing cost available, costing cost of investment of storage and strategies to balance potential overload. (ERG 3 Demand/ export group)
- ♦ LV level control required to fine tune any load shedding proportional to AEMO request. (ERG #3 grid stability & flexibility grp)



PRIORITISING RISK MITIGATION

In summary, address risks wholistically and proportionally, with consideration of unique customer goals; focusing on improving social licence through an opportunity and value adding lens rather than a risk lens. Acknowledge the tension of balancing ideal (moral) outcome vs operational risk management, especially in relation environmental risks.

- ♦ Customer ambitions - what are their goals regarding energy usage & this will shape infrastructure spend & priorities.
- ♦ Key priorities: how to prioritise? Different customer & stakeholder risks - not just corporate e.g. large customers / vulnerable customers - factor in and overlay with corporate risks.
- ♦ Relationship between the risks - address across the board so, one is not amplified over another.
- ♦ Shareholder risk - eco /social /safety perspectives – values.
- ♦ Vulnerable cohorts with unique risks - link to how customers use the network (cater for different uses & this relates to how they use the network - e.g. Metro Tunnel - use now & future.
- ♦ You can't implement everything!!! (How prioritise when not \$ for everything) It is not an innovative industry in general!
- ♦ Focus on GHG - what will be the cost to Jemena - either now or later .investment has to happen at some point (and no set budget in place).
- ♦ Focus on SF6 - need to put in context relative to footprint (rest of footprint for JEN) - GHG & Ozone protocols - phase out proactively vs reactively - balance tension of ideal (moral) vs operational?
- ♦ Reframing the question - look at "Opportunity' vs risk language as DMSPs will manage risk:) What is the opportunity that can be achieved? May give more social licence more quickly - i.e. value that mitigates risk (Opposite to risk :). (ERG #2 Risk Mitigation discussion)

MARKET TRENDS

In summary, market trends can influence decisions; how can the market be influenced to support: emission reductions, low voltage distribution, orchestration and battery storage?

- ♦ How do we create a system that enables emissions reductions and what is Jemena's role here?
- ♦ Jemena should be a technology agnostic enabler of consumer and technology choices.
- ♦ The system is moving towards LV distribution and away from HV therefore DNSP flexibility and orchestration to enable system stability, reliability and security of supply.
- ♦ Increased CER/ P V etc but limited orchestration.

- ♦ How to get many rooftops to operate as a coordinated single resource?
- ♦ How can orchestration benefit vulnerable cohorts or those who can't participate?
- ♦ How can orchestration enable better demand management to avoid / manage demand peaks (e.g. EV / EV charging).
- ♦ How can the market support / enable better use of batteries to manage demand and move effectively distribute energy?
- ♦ Commercial and industrial (C&I) customers have different ability to be flexible with demand - need to time shift orchestration & demand input. DNSPs can enable through data metering etc to understand demand and potential for flexibility. Will also maximise / optimise utilisation of the network.
- ♦ Use of appropriate technology for rooftop solar to maximise/maintain system strength / stability e.g. grid farming as opposed to grid following investors.
- ♦ How much more demand will there be with gas substitution? How can orchestration assist? (ERG #1)
- ♦ Energy transition - Rooftop solar PV is the ONLY element of renewable investments that is on track to achieve targets needed for the energy transition - constraining or stopping PV exports is wasteful and will slow investments in rooftop solar. It is the last resort. (ERG #3 GroupMap 1)
- ♦ Short term vs long term:
 - Long-term strategies include standards around inverters etc, education about grid stability generation and distribution, static controls, new tariffs that allow investments and extract value, dynamic controls, and orchestrated controls around supply change. Short-term strategies will be built around emergency features.
 - Long term outlook for more rooftop solar PV - so need to work with it, rather than use the blunt instrument of STOPPING the export. (ERG #3 group export/demand)
- ♦ Role: Perhaps provide aggressive transparency on the ring-fencing waiver for discretionary ESS, publicise data on how much your ESS has been needed versus how the capacity of emerging competitors on the market is growing, perhaps with a predeclared threshold of handover to the free market. (ERG #3 Plenary)

FORECASTING

In summary, forecasting requires consideration of well-informed assumptions about consumer behaviour and adoption of new technology in an ever-shifting policy context.

- ♦ Step change is never quick enough however understand that a lot of strategic planning needs to be in place for that to happen.
- ♦ Future forecasting:
 - 1 uptake of retail consumption of renewables – solar
 - 2. increase in battery installations. (However cost will be a factor to be considered by customers)
 - 3. customers will like to see return on investment for solar
 - 4. customer behaviour is changing how do you keep innovating

- 5.more opportunity for sharing energy technologically and community
- ♦ Network Op.
- ♦ Forecasting maximum demand - key assumptions - AEMO has very broad key assumptions and what's the relevance to Jemena?
- ♦ Flexible Demand - Convenience vs Incentive for customers to modify behaviour (level of flexibility assumed is variable unknown?).
- ♦ Rate of adoption of electric vehicles (EVs) could be different to what is assumed - business convenience.
- ♦ Adoption of CER assumptions - impacted by incentives faced by landlords versus tenants to adopt.
- ♦ Government support for increasing adoption of CER (and energy efficiency investment) by business and consumers - will it continue?
- ♦ Energy of heritage buildings assumed compromised by planning rules
- ♦ Consumers may cause backlash against AEMO backstop measure to stop household solar PV.
- ♦ Assumptions around orchestration of customers CER by third parties is yet to be proven, versus convenience for each customer (ERG #1)

POTENTIALLY OUTSTANDING QUESTIONS

In summary, there is much for Jemena to consider:

ROLE RELATED QUESTIONS

- ♦ How we can delineate between Jemena's operational responsibility and the broader regulatory and policy opportunities for impact. (ERG #2)

INVESTMENT AND FUNDING RELATED QUESTIONS

- ♦ Can we have ERG members more detail re scale of “investment” - \$ (ERG #3 LWW)
- ♦ What is the competitive advantage of Jemena moving to SF6 alternatives and how can you take advantage of this (how can Jemena use this change to promote your ESG position and maybe customers might understand a slight cost increase. (ERG #2)
- ♦ How is the strategy funded and who pays? Funding will shape potential solutions. (ERG #3 GroupMap 1)

GOVERNMENT AND STAKEHOLDER RELATED QUESTIONS

- ♦ How can government and industry support the market scale required to make the shift towards alternatives? (ERG 2)

NETWORK OPERATION & PERFORMANCE RELATED QUESTIONS

- ♦ Can we look at applying SAIDI, SAIFI, CAIDI at more localised levels to understand these metrics for consumers? (ERG #2)
- ♦ (Split benefits) Up and down supply chain - difficult concepts - what would this look like? (ERG #3 Plenary) and who will lead it?
- ♦ Jemena q - electricity is an essential service and there is an expectation that it will go on. Does flexible imports support this? Customers need to have a personal decision on this and they are in control. (ERG #3 Grid stability & flexibility grp)
- ♦ With the Volt Var control Roadmap, will there still be a good degree of load sensitivity to voltage changes in the future with new appliance technologies? i.e. is it worth the investment? (ERG #3 grid stability & flexibility grp)

RISK MANAGEMENT RELATED QUESTIONS

- ♦ Can we use moving to the SF6 equivalent as a test case for the new NEO rule change? (ERG #2)
- ♦ Could increasing demand for SF6 alternatives bring down in Australian DNSPs bring down the cost of these alternatives in the longer term, as supply increases? (ERG #2)
- ♦ If we could have clearer insight into the overarching corporate risk register / matrix as to where these risks currently lay - vs where stakeholders risks lay. (ERG #2)

INCENTIVES & TARIFFS RELATED QUESTIONS

- ♦ What will opt in programs look like, and how will tariffs play a role in incentivising / signaling to customers? (ERG #3 grid stability & flexibility grp)

EQUITY & FAIRNESS RELATED QUESTIONS

- ♦ Will the backstop measures be equitable and fair? (ERG #3 grid flex grp)
- ♦ Group Topic = Essential System Services (ERG #3 prep for presentation) Q - waivers only last 5 years to manage it from a distributor - can we work this with a 5-year timeframe that then considers a handover process? Recommendation. (ERG #3 ESSS group)

MARKET TREND RELATED QUESTIONS

- ♦ Are markets coming online quick enough to address critical needs of society (i.e. climate targets) Can Jemena serve to provide non-mandatory ESS as the market is developing to assist in transition? (ERG #3 ESS group)
- ♦ How can quickly test other options in the market through trials? Can you engage technology startups or innovators to provide dynamic systems? e.g. put

a problem statement out via an RfP? Work with organisations like Start up Bootcamp? (ERG #3 Group export / demand)

- ♦ How much can this be allocated / supported through energy retailer offers? e.g. Tesla is seeking to enter the retail market - this would be an example of being opportunity to work with retailers to manage DER to the benefit of both customers and the network. (ERG #3 Export / Demand)

PLEASE NOTE:

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