

Consumer Advisory Panel Meeting 28

Monday, 17 April 2023

Welcome

Leanne Muffet
Independent Facilitator

Acknowledgement of Country

We acknowledge the Traditional Owners of the land on which we meet and pay our respects to their Elders past and present. We extend that respect to other Aboriginal and Torres Strait Islander people who are present today.

Agenda Outline

1. Welcome + Acknowledgement of Country
2. General updates
3. CAP Operating Framework – [Workshop format](#)
4. Engagement in ElectraNet's Annual Planning Process
(Interactive presentation and discussion)
5. Other Business
6. Close

General Updates

Simon Appleby
Head of Corporate Affairs

General Update

Welcome to our new Panel Members:

Andrew Richards	Energy Users Association of Australia (EUAA)
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Georgina Morris	SA Council of Social Service (SACOSS)
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Kendall Crowe	Business SA
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Revenue Reset Update...



CAP Operating Framework

Leanne Muffet
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Item 3: OUR TASK

- a) Operating Principles + Practices (preliminary findings for vetting)
- b) Important **Consumer + / or Relationship Issues** for the CAP and ElectraNet over
 - coming 12 months
 - coming 5 years
- c) Important **Investment + / or Infrastructure Issues** for the CAP ElectraNet over
 - coming 12 months
 - coming 5 years
- d) Feedback

Key findings from CAP SURVEY



1. The need for an Energy transition road map

- What does the ideal transmission network look like by 2050?
- Affordability, accessibility, reliability of supply, strength of supply, trade-offs

2. Transition to net zero and renewable energy future

3. Early engagement and communication with and to users

- New infrastructure, identification of potential problems, ensure all aspects of the community benefit from efficient energy provision, equity and access... investment for the future

4. Engagement and planning with others

- The public, relevant associations and businesses e.g.: SAPN, electric vehicles council, universities

5. Cost of power for both businesses and the broader community

6. More specific items

- Cybersecurity, transmission lines across private land, understanding cost + benefits of hydrogen, role of AI, insurance costs



Operating PRINCIPLES + PRACTICES

(preliminary findings for vetting)



1. Trust (both ways)
2. Transparency of process, influences and decisions
3. Inclusivity and/ or a range of views to inform decisions
4. Respect (people's time, expertise, perspective, energy and effort)
5. Clarity
6. Integrity
7. Ability to speak freely/ ask questions/ challenge
8. Sincerity
9. Impartiality
10. **Curiosity + Generosity**

DESIRED CAP OUTCOMES



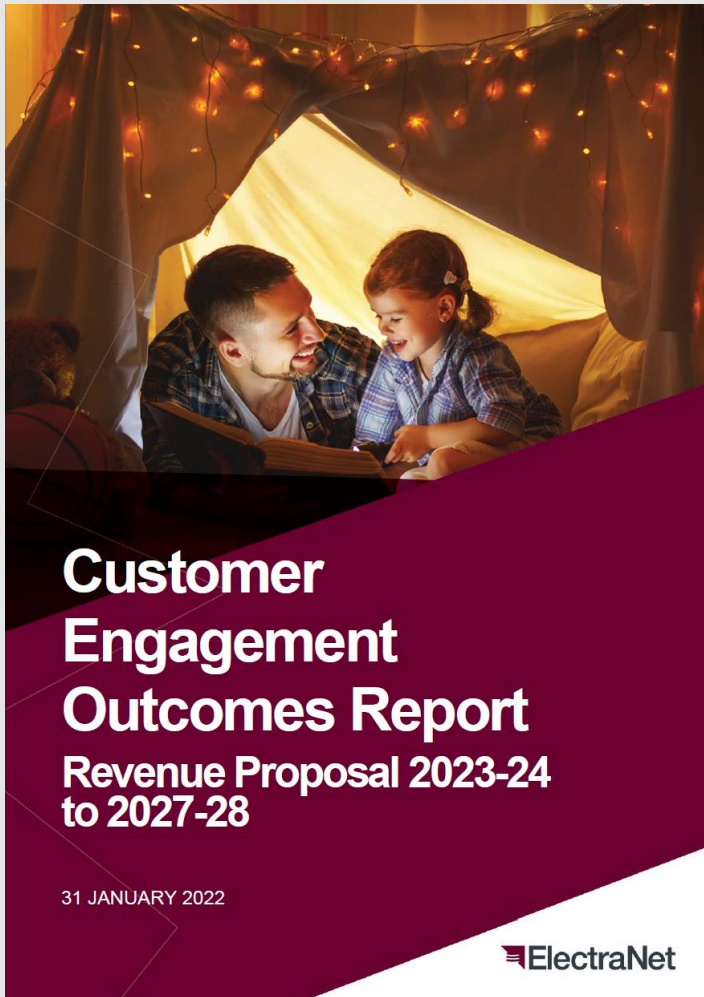
- Productive dialogue (without prejudice)
- Equity, accessibility and affordability underpin decisions
- Robust decision making
- Short and long term decisions
- Lifecycle assessment considered
- SA community interests supported
- Public interest needs to rank highly
- Clear communication with
 - CAP, Consumers, SA community, other entities
- Innovative outcomes
- Know sphere(s) of influence

Engagement in ElectraNet's Annual Planning Process

Rainer Korte
Chief Operating Officer

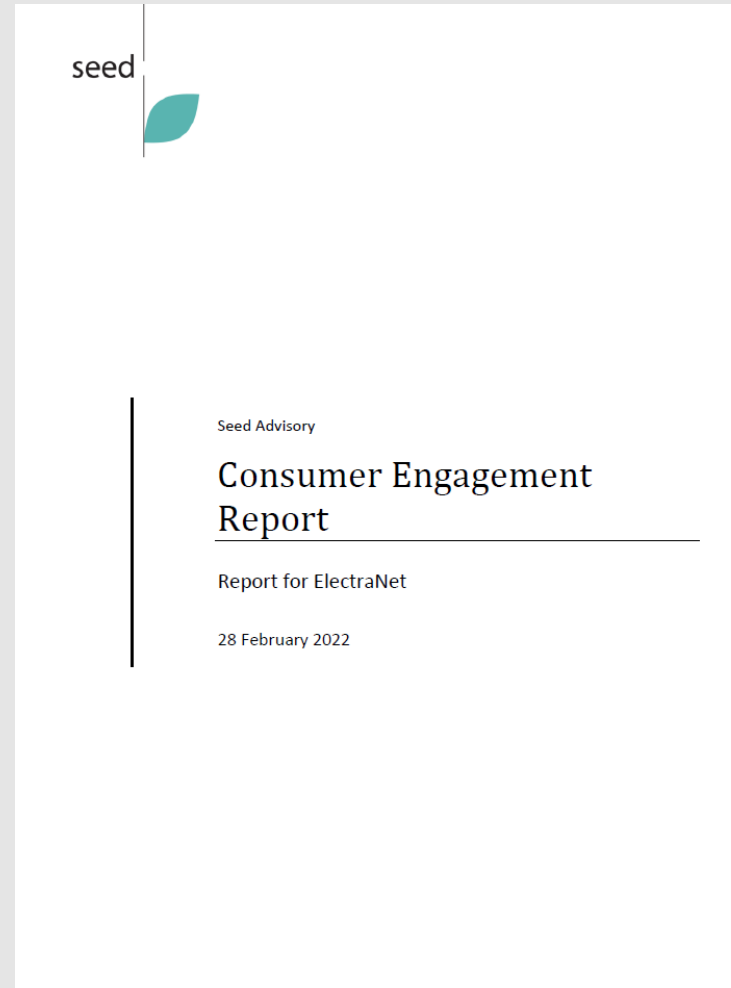
Brad Harrison
Network Planning Manager

Engagement improvement opportunity



Opportunity:

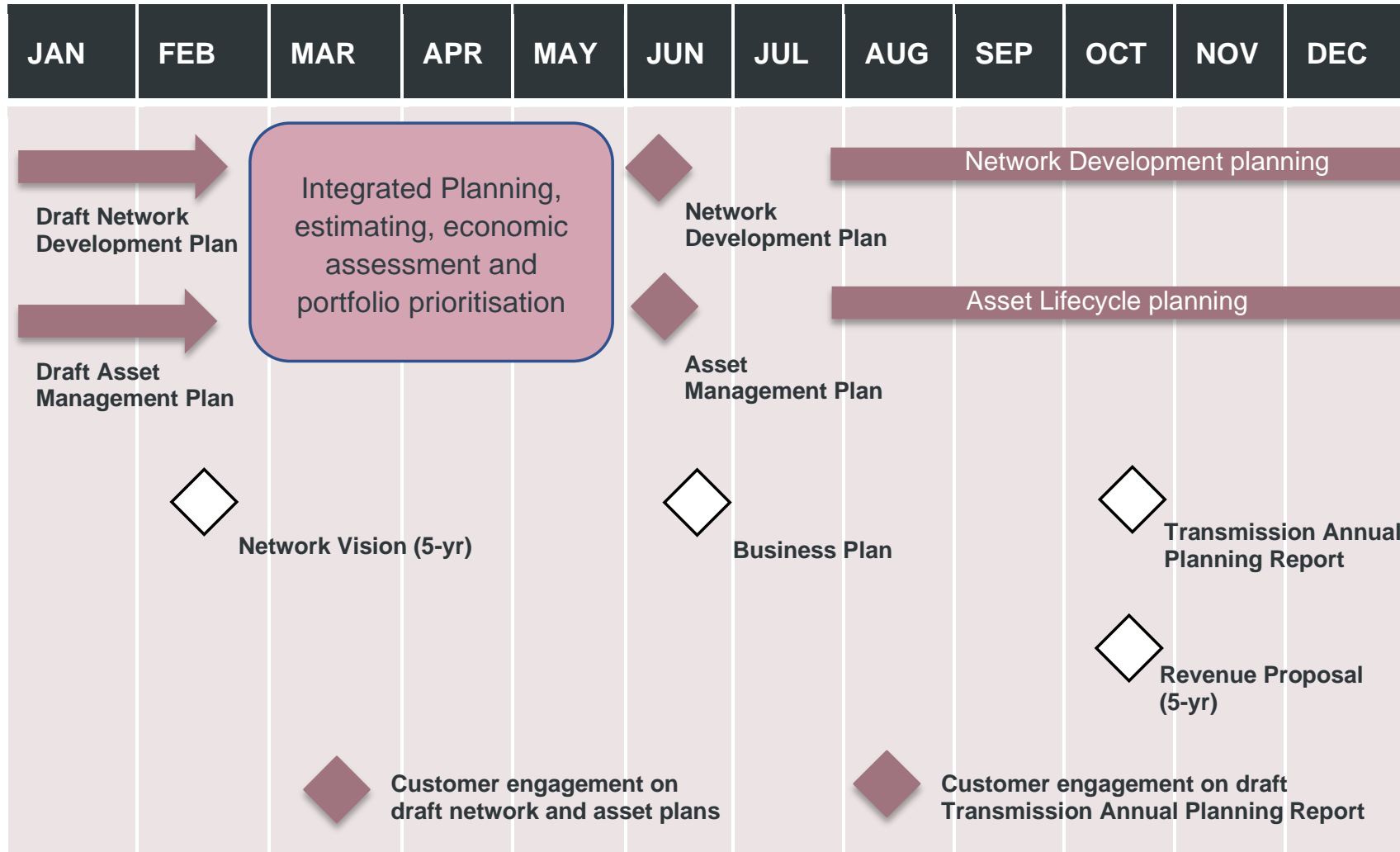
“Ongoing engagement of the CAP in our annual planning process with the introduction of twice-yearly sessions in say March and September that would provide insight and opportunity for input on the development of network and asset plans, including the Transmission Annual Planning Report.”



CAP Report:

“This learning has strong support, including suggestions that the CAP is involved with twice yearly considerations of the development of network and asset plans, including the Transmission Annual Planning Report (TAPR).”

ElectraNet Annual Planning Cycle



Network Development Plan

20 year horizon. Focus is on capability of the transmission network and regulated connection points to meet customer and regulatory needs

Asset Management Plan

A plan for the maintenance, refurbishment, and replacement of physical and information assets

Transmission annual Planning Report (TAPR)

Public report with 10 year horizon that provides information on the current capacity and emerging limitations of the South Australian transmission network

REVENUE PROPOSAL

- 5-yearly process
- Determines the maximum allowable revenue ElectraNet can receive from customers

Where are the opportunities for CAP engagement?

- Emerging pressure points for the network (e.g. electricity demand growth, rise of renewable energy, hydrogen development, electrification, bushfire risk)
- New infrastructure investments
- Replacement of infrastructure... what are the triggers?
- Trade-off discussions – consideration of options
- What communication with consumers could look like
- What are the key network development issues the CAP is keen to hear about and engage on?
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Capital Program 2023-2028

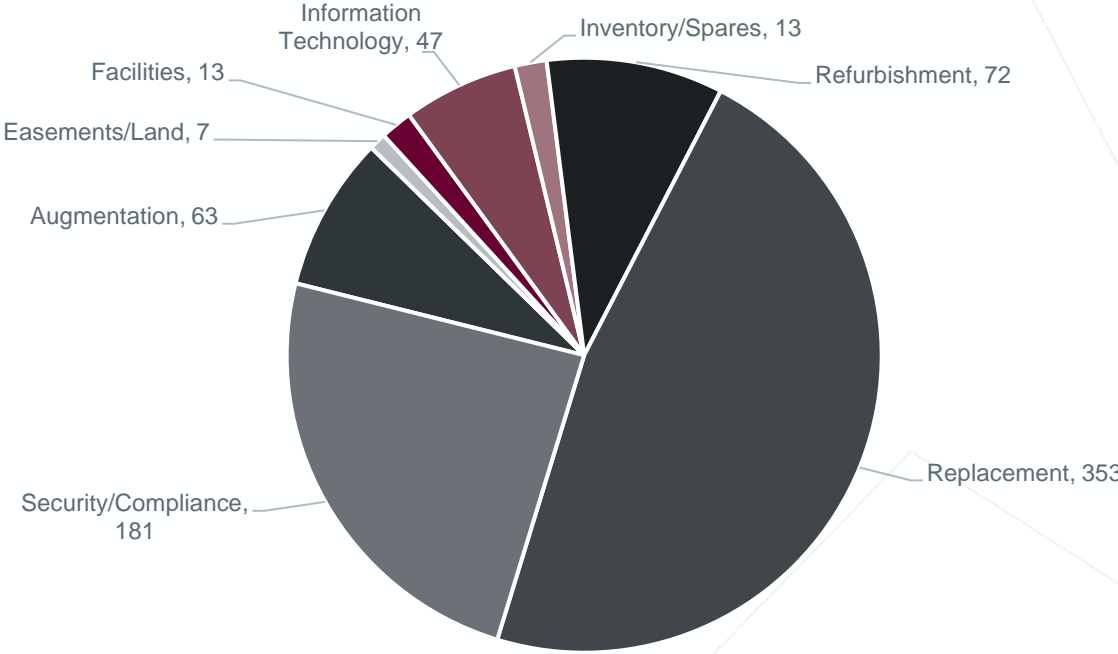
Annual network and asset planning leads to changes in capital and operating requirements and programs.

The five-year capital program ‘approved’ by the AER comprises 115 projects in total, largely driven by replacement and refurbishment (57%) and security/ compliance (24%) requirements.

Capital expenditure forecast (\$m FY23)

Category	FY24-FY28
Augmentation	63
Connection	0
Easements/ Land	7
Replacement	353
Refurbishment	72
Security / Compliance	181
Information Technology	47
Inventory/ Spares	13
Facilities	13
Total	749

Capital expenditure forecast FY24-FY28 (\$m FY23)



Capital Program 2023-2028 – major network projects

1 Project EnergyConnect – \$59m

This is the final phase of Project EnergyConnect, which will connect South Australia's transmission network to New South Wales, paving the way for reduced wholesale electricity prices due to increased competition and also enabling increases in the use of renewable generation in South Australia.

2 Hummocks to Ardrossan West Line Rebuild – \$32m

Our routine condition assessment indicates that the transmission line between Hummocks and Ardrossan West is in need of substantial work. The most efficient option is to replace the line.

5 Transmission Tower Anti-Climb Installation – \$22m

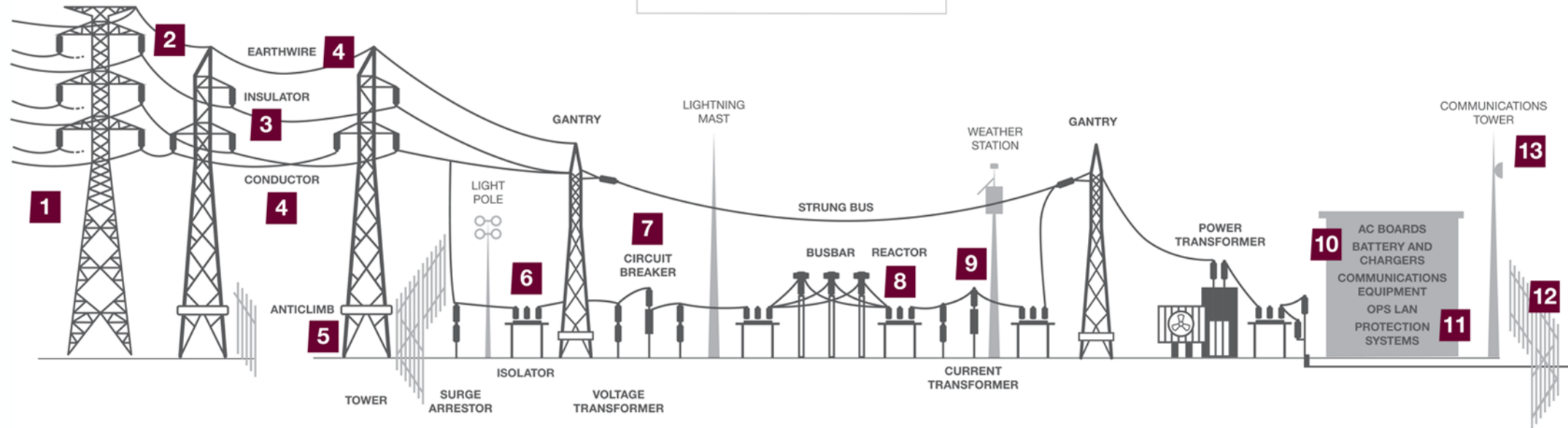
Many of our older transmission towers are not fitted with anti climb equipment that is now standard. For public safety reasons we propose to install this equipment on towers in locations most at risk of unauthorised climbing. We are taking a phased approach over multiple regulatory periods.

10 Substation Technology System Cybersecurity Uplift – \$16m

With the rising risk of cyber attack this project is to upgrade computer systems in our substations as part of a broader program of upgrading substation security.

11 Wide Area Monitoring Scheme – \$14m

We will install phasor measurement units at various sites around the network as AEMO requires. These devices will increase the speed with which we and AEMO receive network information and, in turn, allow us to manage the network more efficiently.



3 Transmission Line Insulation System Replacement – \$33m

4 Line Conductor and Earthwire Refurbishment – \$27m

6 Isolator Unit Asset Replacement – \$43m

7 Circuit Breakers Unit Asset Replacement – \$15m

9 Instrument Transformer Unit Asset Replacement – \$18m

We have several replacement programs to replace key asset components, based on asset condition and risk. These are staged asset replacement programs conducted over multiple regulatory periods.

8 Transmission Network Voltage Control – \$54m

Increased use of electronic devices and falling minimum demand levels due to increased use of solar is causing dynamic and static reactive power devices on the network to reach the limit of their ability to keep voltage levels within applicable limits. We propose to install several reactors to rectify this problem.

12 Substation Perimeter Intrusion and Motion Detection Security – \$12m

This project forms part of a broader program of improving the physical and cyber security of our substations.

13 Telecommunications Asset Replacement – \$11m

ElectraNet operates a substantial telecommunications network which is used to operate the transmission network efficiently and to ensure substations and other assets can be accessed for maintenance safely. This project is the next stage in the ongoing replacement of end of life assets in this broader network.

Capital Program changing requirements

There has been minimal change in capital requirements since the AER Draft Decision in September 2022.

Following are examples of new requirements that ElectraNet needs to manage within the overall AER capital allowance.

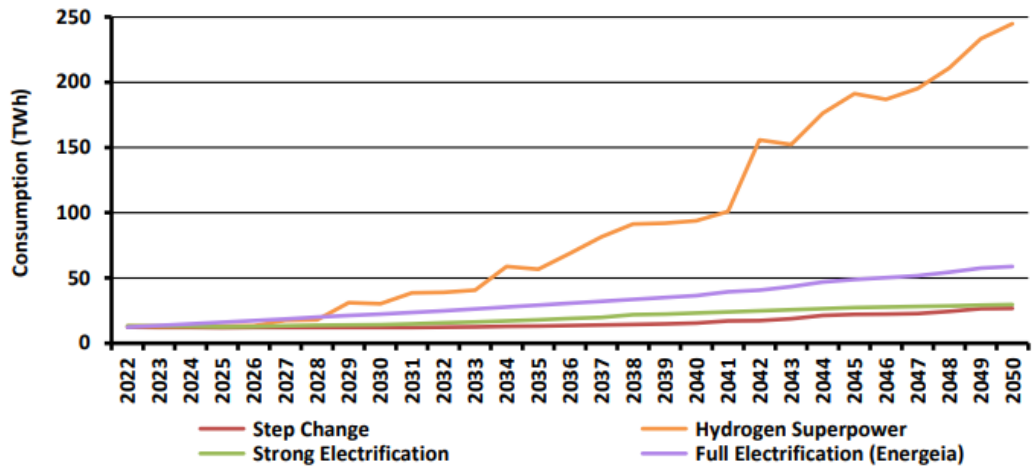
Project	Description of new requirement	Indicative Cost Impact (\$m)
Torrens Island IMB300 CT replacement	Replacing all identified high failure risk current transformers at TIPS A and B switchyards as a matter of urgency following several failures to mitigate both safety and operational risk	10.3
Northfield Transformer 7, 8 and 9 Interface Connection	Scope and cost increase driven by SA Power Networks requirements	9.7
Emergency Transmission Network Voltage Control	Required to manage forecast high voltages at times of low or negative grid demand by installing a 275 kV 50 Mvar reactor at Cherry Gardens substation	4.8
Tailem Bend Tower Emergency Replacement	Replacement of a transmission tower on the Tailem Bend – South East 275 kV transmission line that was damaged by a storm event on 12 November 2022	1.8
Davenport - Pimba Damaged Section Replacement	Replacement of transmission towers and infrastructure on a section of the Davenport-Pimba 132 kV transmission line damaged by a storm event on 20 December 2022	1.2
Wide Area Protection Scheme (WAPS)	Scope and cost increase driven by AEMO changing requirements	1.1

Network planning outlook – Increasing customer demand

- The network electricity demand landscape has changed significantly in the past 12 months
- We are seeing the potential for very large increases in demand within the next 10 years
 - AEMO’s 2022 Integrated System Plan ‘Hydrogen Superpower’ scenario remains plausible with three gigawatt scale precincts’ identified around Cape Hardy, Port Bonython and Elliston
- Consultancy study advice from Energeia indicates electrification could be much higher than forecast in AEMO’s 2022 ‘Step Change’ scenario
- We currently have 12 large customers exploring transmission connected demand increases
 - 3 existing customers increasing demand
 - New connections driven by 100% renewable electrical supply
- SA Power Network connection point demands are increasing again

Electrification potential

Figure E2 – Scenarios for Future Electricity Consumption in South Australia



Source: Energeia, AEMO (2022)

Customer load activity

Category	Number of customers	Total load (MW)
Advanced activity	6	676
Prefeasibility	5 (Inc Govt)	1,180
Expected to commence prefeasibility imminently	2 (inc Govt)	391

Options to address future network constraints

1. Mid North (Southern) REZ

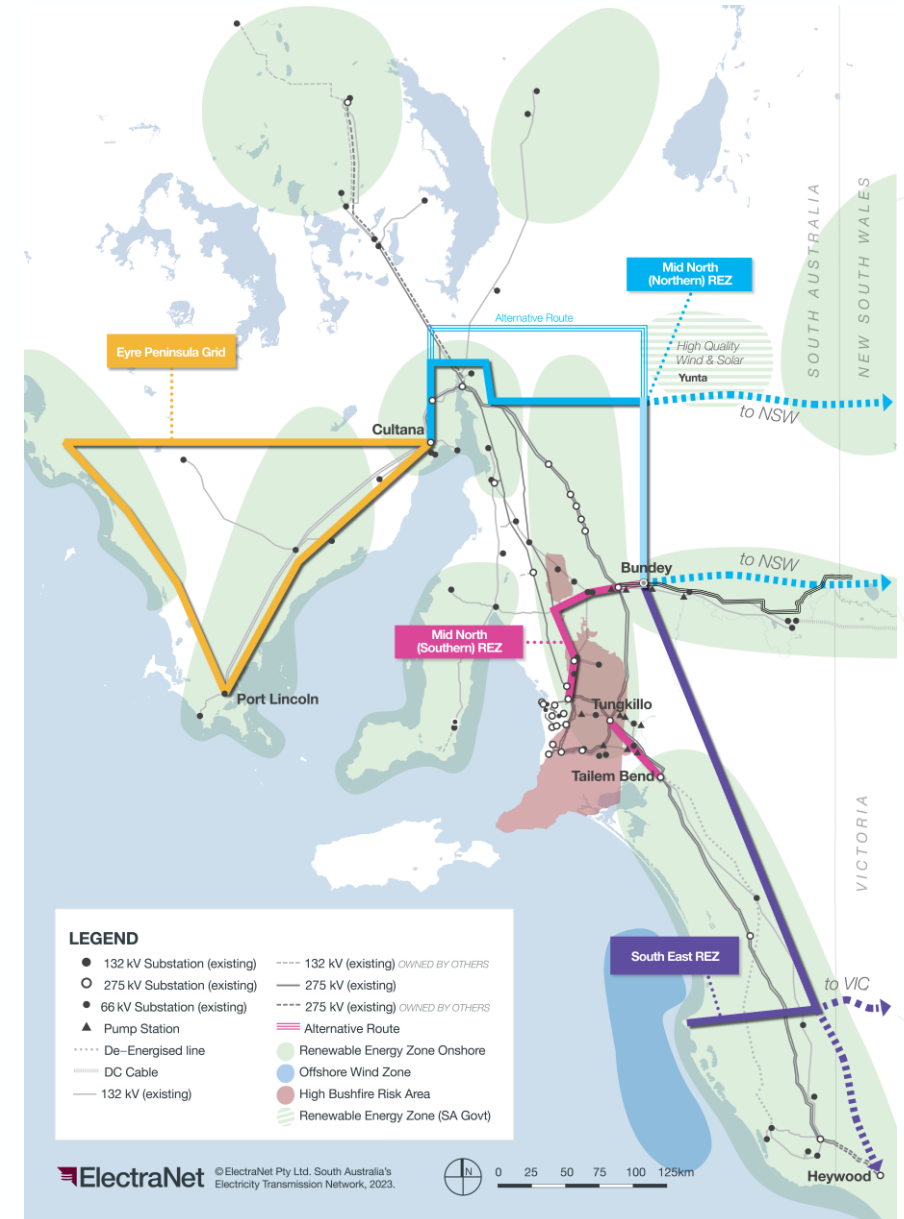
- AEMO's 2022 ISP has signalled the need for these developments
- Scope increase likely in the southern mid-north option as we consider additional benefits beyond those considered by AEMO
- Increased demand expected to bring these forward, evidenced by AEMO's rapid timing in the 'Hydrogen Superpower' scenario

2. Mid North (Northern) REZ

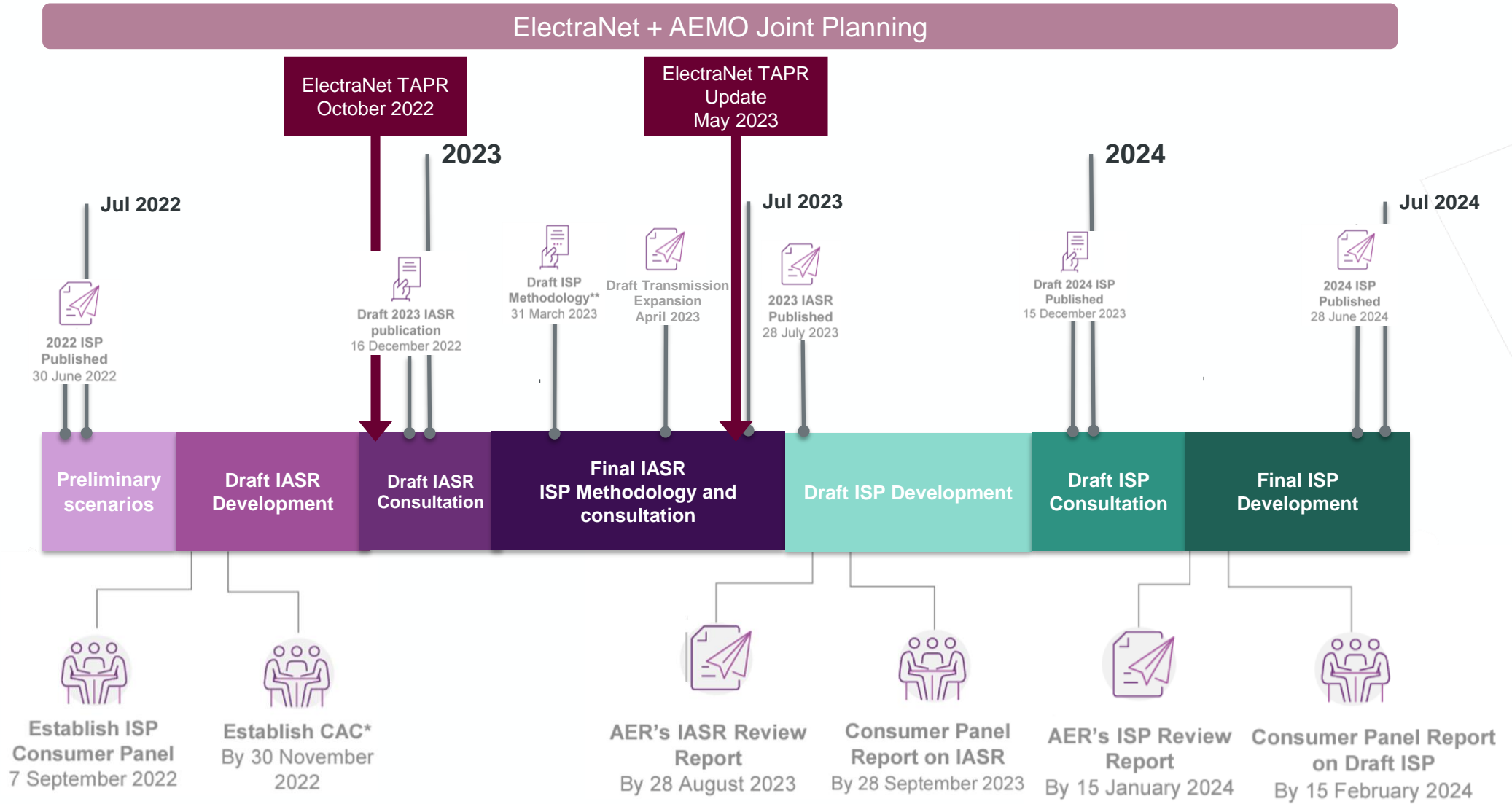
- To support renewables development as demand growth increases, unlocking high quality renewables through connection to the network
- Supports very large mining loads around Yunta ~ 700 MW
- Supports large expansion of Port Bonython Hydrogen Hub

3. Eyre Peninsula Grid and South East REZ

- Potentially very large increase in demand
- EP Grid development would support hydrogen
- Offshore collector and faster and higher levels of electrification



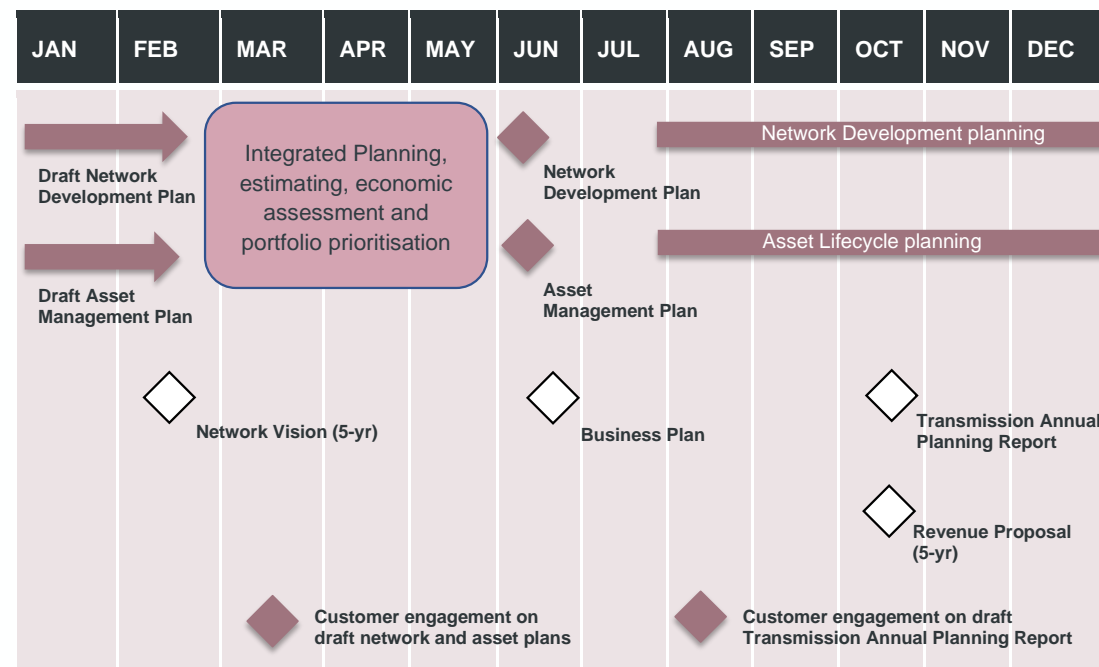
ElectraNet input to AEMO Integrated System Plan (ISP)



Discussion

Where are the opportunities for CAP engagement?

- Emerging pressure points for the network (e.g. electricity demand growth, rise of renewable energy, hydrogen development, electrification, bushfire risk)
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Other Business

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CAP 2023 – Indicative Meeting Schedule

Proposed Meeting Dates 2023

- 25 May 2023 (9:30am to 12:30pm)
- 24 August 2023 (9:30am to 12:30pm)
- 9 November 2023 (9:30am to 12:30pm)

Demand Management Innovation Allowance Mechanism

- Incentive scheme that provides TNSPs with funding for R&D in demand management projects with potential to reduce long-term network costs
- Supported by the CAP, it was included in ElectraNet's Revenue Proposal and approved in the AER's Draft Decision
- Provides funding of up to \$1.6m (0.1% of revenue) plus \$200k for independent assessment of eligible projects
- Key role for the CAP in assessment of proposed projects prior to commencement (together with an independent engineer)
- Annual reporting to the AER on projects undertaken
- Any unspent amounts refunded to customers at the end of the Regulatory Period

