



Transgrid Advisory Council

Meeting #4

Thursday 25 May 2023

People. Power. Possibilities.

Acknowledgement of Country

We would like to acknowledge the Gadigal people as the custodians of the lands and waters of the Eora Nation, on which we meet today.

We pay respect to Elders past and present.



Agenda



Please note: today's workshop is being recorded

No.	Time	Agenda item	Presenter
1.	10.30am	Welcome and Acknowledgement of Country	Maryanne Graham, Executive General Manager, Corporate and Stakeholder Affairs
2.	10.40am	Actions from last meeting	Maryanne Graham, Executive General Manager, Corporate and Stakeholder Affairs
3.	10.50am	Transgrid Community and Stakeholder Engagement Program	Maryanne Graham, Executive General Manager, Corporate and Stakeholder Affairs
4.	11.05am	Major Projects (PTT) update	Nathan Rhodes, General Manager of Major Projects Delivery
5.	11.15am	HumeLink Project engagement <i>HumeLink CPA1 part 2 update</i> <i>HumeLink CPA2 update</i>	Stephanie McDougall, General Manager of Regulation Jeremy Roberts, Project Director, HumeLink
6.	11.45am	Waratah Super Battery (WSB) Non-contestable Revenue Proposal	Stephanie McDougall, General Manager of Regulation
7.	11.55am	Regulatory Policy & Government Affairs update	David Feeney, General Manager of Regulatory Policy Nicole Ryan, General Manager of Community, Stakeholder and Government
8.	12.05pm	Summary and next steps	Maryanne Graham, Executive General Manager, Corporate and Stakeholder Affairs
	12.15pm	Close	Maryanne Graham, Executive General Manager, Corporate and Stakeholder Affairs

Actions from last meeting

Action	Status
Transgrid to organise a separate session with interested TAC members to further discuss the advantages and disadvantages of the South West REZ access scheme.	Invitation for follow up session sent to TAC members on 4 May 2023.
Next steps on AER final decision and consideration of rule change proposal to be further discussed with TAC members.	Further discussion with any interested TAC members
Transgrid to prepare and circulate a short summary of the pros and cons of the Capital Expenditure Sharing Scheme (CESS).	Update to be provided today.
Update on Transgrid's broader stakeholder engagement program to be provided at next TAC meeting.	Included on agenda for today's meeting.

Transgrid Community and Stakeholder Engagement Program

Maryanne Graham, Executive General Manager,
Corporate and Stakeholder Affairs



Diverse and integrated engagement approach

Vision

Lead the transition to a clean energy future

Purpose

Making a better power system for Australians

Strategic goal

Stakeholder survey trust score >90 by 2025



Community, Stakeholder and Government Team

Government relations

- Attend meetings with MPs, Ministers and government advisors
- Prepare newsletter for key stakeholders
- Host online webinar for government department audiences
- Prepare correspondence and schedule meetings



Stakeholder engagement

- Undertake stakeholder reputation research
- Briefing and speech notes for key meetings and presentations
- Support launch of Energy Charter social licence guidelines
- Draft engagement strategies
- Preparation and admin for TAC meetings



Major projects engagement

- Schedule and hold key stakeholder briefings
- Plan for community information sessions
- Workshops with delivery partners to align engagement processes
- Event to present engineering scholarships
- Recruit representatives for reference groups
- Workshop for Wagga Engagement Hub



Community and operational engagement

- Assess Community Partnerships Program applications
- Draft correspondence to landowners
- Community and social impact assessments
- Respond to EWON matter
- Prepare materials for community engagement training



Just a sample week!

2023 TAC engagement approach

Progress and improvements against our engagement principles



Collaboration point

What other changes or improvements would you like to see made to the way we engage with the TAC?

Genuine

- Increased CEO and Executive presence and involvement in TAC engagement program
- TAC members invited to participate in stakeholder reputation research

Inclusive

- TAC membership refresh underway

Accessible

- Meeting frequency increased from quarterly to monthly
- More timely provision of meeting materials and notes

Responsive

- More efficient response to action items
- Pulse survey to check in on performance
- Co-designed meeting agendas

Transparent

- Response to questions on HumeLink CPA1 part 2 shared openly amongst members
- HumeLink CPA2 Engagement Strategy shared for feedback

Major Projects Powering Tomorrow Together (PTT) update

Nathan Rhodes, General Manager of Major Projects Delivery

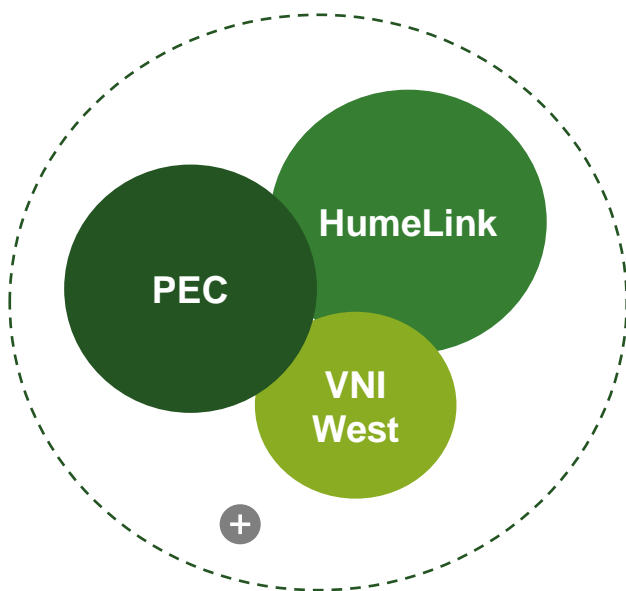


Powering Tomorrow Together

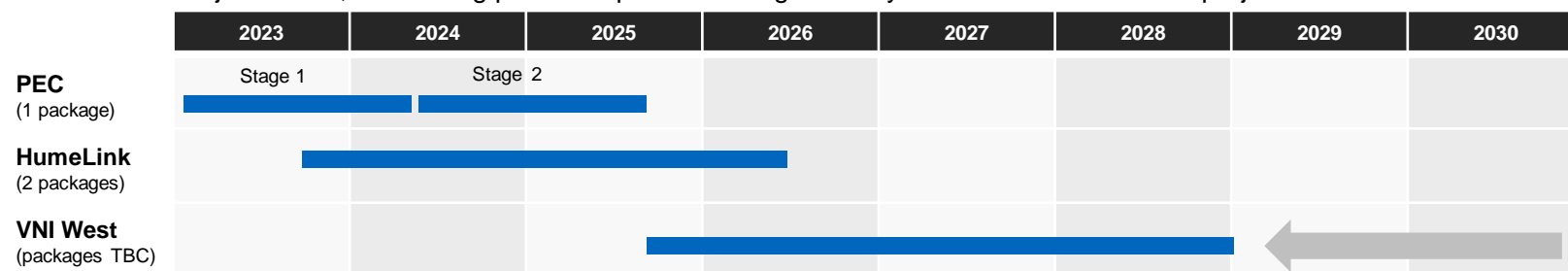
A programmatic approach to deliver projects sooner and at lowest sustainable cost

Leverage projects

Capability, learning, experience, scale



Project teams, contracting partnerships and management systems established to run projects



*Indicative construction timetable



Safety

Having a robust approach to safety and performance



Reliability

Being informed, proactive and expert to reliably deliver our project pipeline



Resourcing

Being a partner and employer of choice with the capability, capacity and resilience to deliver for the long term



Scale and Efficiency

Leveraging economies of scale across business and industry to unlock efficiencies



Social Licence

Creating and protecting social licence through best practice community and stakeholder engagement

Outcomes



Supports efficient and consistent project delivery and reputation



Reliable program delivery



Workforce, equipment & material secured

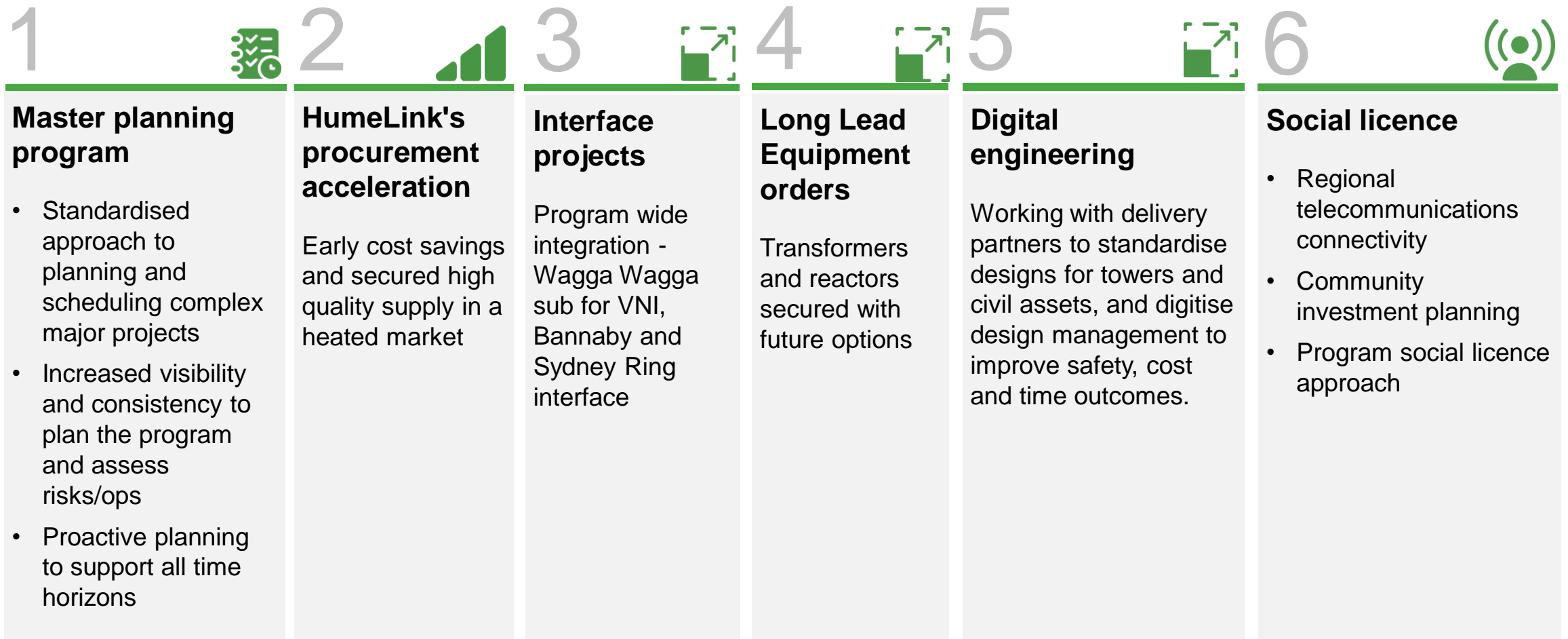


Cost & Time savings
Ability to deliver more projects



An informed community, agreed social outcomes, co-designed projects, streamlined project approvals

PTT has made early wins and positioned Transgrid for the long term



EnergyConnect

Transmission lines

- Erected first of more than 1,500 transmission towers required for the 700km alignment of EnergyConnect
- These were 330kV transmission towers on Line 1 from Buronga to SA Border
- Towers were a mix of traditional self-supporting towers and guyed towers (*top right*)
- Guyed towers comprise a centre mast supported by four steel cables, require about 15 per cent less steel and 25 per cent less concrete, achieving a reduced carbon footprint
- On Line 1, we have erected 15 towers and assembled a further 58 on ground for lifting, out of 291 towers on the line
- Erected 35 out of the 79 220kV steel monopoles (*bottom left*) on Line 4 to Red Cliffs to upgrade and replace existing line to Victoria (*also pictured*)

Buronga substation

- Completed the earthworks for the 16-hectare bench for the Buronga substation expansion and commenced foundations for substation plant
- First 330kV Phase Shifting Transformers from Hyosung in South Korea programmed for delivery to Buronga on 24 May

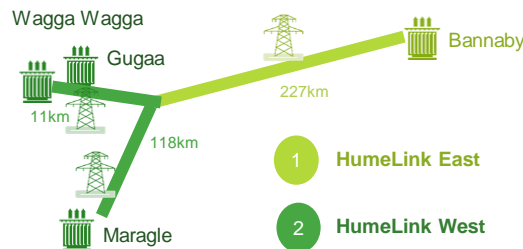


HumeLink– Status of CPA1 activities and spend

Technical

Reducing risk and uncertainty through well progressed design

- ✓ All preliminary geotechnical boreholes completed
- ✓ Concept Designs complete to enable tenders commence detailed designs
- ✓ Centre line finalised



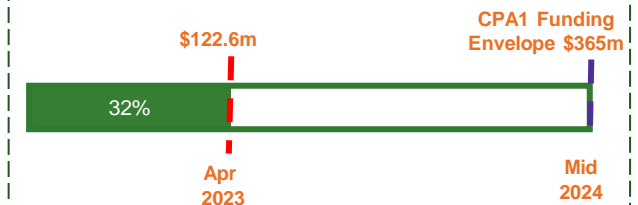
Procurement

Implementing a procurement strategy that provides certainty of equipment and optimises costs

- ✓ Successful delivery partners for East and West Package progressing through ECI-Stage 2 to further refine assumptions and final price submissions.
- ✓ Contract has been awarded for LLE to secure supply of Transformers and Reactors
- ✓ Procurement of other LLE such as conductors commenced

CPA1 Funding Status

Actuals to end of Aug-22 (Pre-CPA1 Approval)	\$66.4M
Total (since CPA1 approval)	\$56.2m
Total cost to date as at end April 2023	\$122.6m



- ✓ Notice to Proceed payments for transformers and reactors expected to occur in May
- ✓ Large payments expected in June-23 with ECI payments post contract award. This is expected to accelerate spend in FY24.
- ✓ Delivery Contractors requested higher upfront cashflows in CPA1 than anticipated in order to secure resources, plant and materials in the current high demand market

Land Acquisition

Focusing on progressing activities on the critical path to achieve completion as planned

- ✓ Consent to enter: 68.94% of line length
- ✓ 99.63% offers of compensation issued to land holdings
- ✓ 36.36% compensation agreed in principle (inclusive of below)
- ✓ 9.2% Option Deed fully executed

Environmental Approval

Ongoing biodiversity risk assessment to drive down Project costs

- ✓ All technical reports for EIS have been reviewed
- ✓ EIS is continuing to be drafted ahead of soft lodgement to DPE in June
- ✓ Biodiversity offsets are being revised based on the latest route and survey information

Community & Stakeholder

Strong and early to ensure positive social, community and Project delivery outcomes

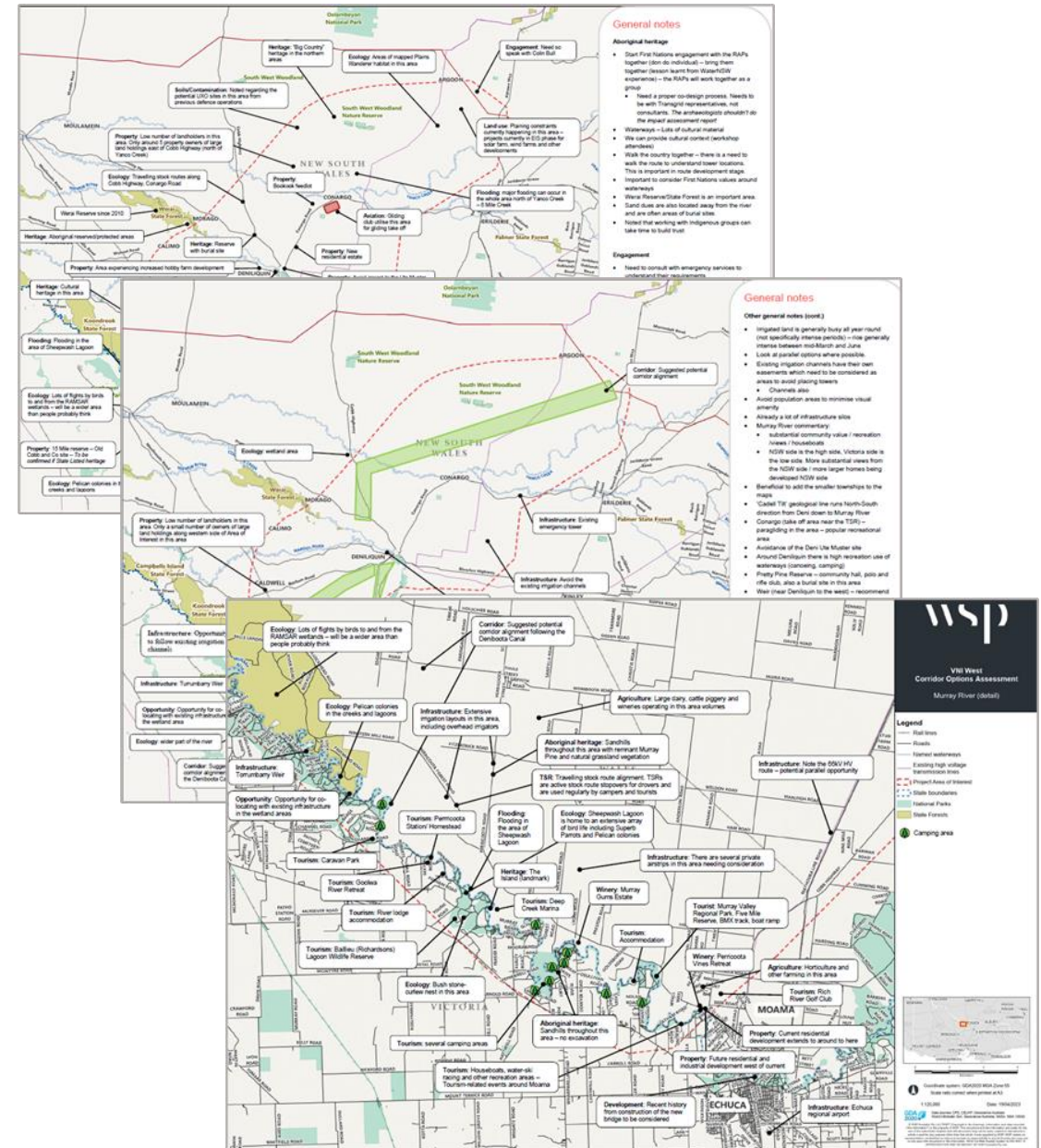
- ✓ Greenhills community request being analysed
- ✓ Community Partnership Programs have closed with highest nomination rate to date.
- ✓ Media sentiment: 94% Neutral, 4% Negative, 2% Positive

Regional Reference Group (RRG) engagement

- Broad spectrum of stakeholders representing Councils LALCs, agricultural organisations, regional development, land services and community groups
- First RRG workshop held in early April
- Detailed feedback on regional constraints gathered to assist with the development of viable corridors
- Post workshop regional tour to gather further detail around the Murray River
- Next workshop planned for late May

Additional Consultation Report

- 533 submissions received in response to the Additional Consultation Report on alternative Victorian network options
- 491 submissions from individual community members or landowners focused on impacts to Victorian agricultural communities, with many submissions calling for the lines to be placed underground
- Publication of the Report has triggered a high-profile public debate on the need for new transmission in the Victorian grid and the role of interconnectors
- PACR and Submissions Report planned for publication in May



Regional Reference Group constraints feedback

Hunter Transmission Project

- In project initiation and early development works with the Energy Corporation of NSW (EnergyCo).
- Completed joint network planning work with EnergyCo in identifying the overall future network needs and an initial network option.
- Continue technical development and early planning work with EnergyCo to ensure alignment on project objectives and outcomes, and project roles and responsibilities
- Preparatory works progress on a draft proposal for the development and delivery of the project as a Priority Transmission Infrastructure Project (PTIP)

Hunter Transmission indicative project location



Source: EnergyCo Network Infrastructure Strategy

HumeLink Project CPA1 (part 2) update

Stephanie McDougall, General Manager of Regulation



HumeLink CPA-1 Part 2 - AEMO feedback loop confirmation

- In collaboration with the Commonwealth Government we have established Powering Tomorrow Together (PTT) program, which involves the integrated delivery of EnergyConnect, HumeLink and VNI West.
- Through PTT we are securing the lowest risk-adjusted price for long lead equipment (LLE) for HumeLink:
 - in February 2023, we entered into agreements with suppliers to purchase transformers and reactors, and
 - we are currently progressing similar procurement activities for conductor and steel.
- This is our response to rapidly evolving external factors including inflationary pressure, a heated construction market, increasing demand for capital and an extremely competitive global supply chain.
- On 6 April 2023, we requested feedback loop confirmation from AEMO for our Stage 1 (Part 2) costs of \$249.6 million for purchasing LLE for transformers, reactors, conductor and steel.
- On 19 May 2023, AEMO provided written feedback loop confirmation, because our total Stage 1 costs do 'not change the status of the actionable ISP project as part of the optimal development path specified in the 2022 ISP'.
- Our total Stage 1 costs are \$632.9 million (\$Real 2022-23), comprising:
 - the AER's CPA Stage 1 (Part 1) Decision – which approved forecast capex of \$383.3 million, and
 - our Stage 1 (Part 2) feedback loop request for \$249.6 million for LLE.

CPA-1 Part 2 lodged with AER on 23 May 2023

- On 23 May 2023, we lodged our CPA-1 (Part 2) with the AER to enable us to recover the costs of purchasing LLE as part of early works.
- Purchasing LLE as part of our Stage 1 activities maximises benefits to customers by:
 - providing greater cost certainty for customers by locking in prices now
 - protecting against future inflationary pressure to ensure the Project is delivered at lowest sustainable cost, and
 - securing supply-chain availability, in a competitive global market, in order to meet AEMO’s target delivery date of July 2026.

LLE	Booking fee CPA-1 Part 1	Full cost of LLE	CPA-1 Part 2	Basis of forecast
	(A)	(B)	(B)-(A)	
Transformers and Reactors	27.2	253.9	226.7	Agreements with suppliers, which contain the number of transformers and reactors as well as the associated unit rates
Steel and Conductors				Rates and quantities contained in a report from Fission, who has been appointed as the independent estimator for the Project during the ECI process

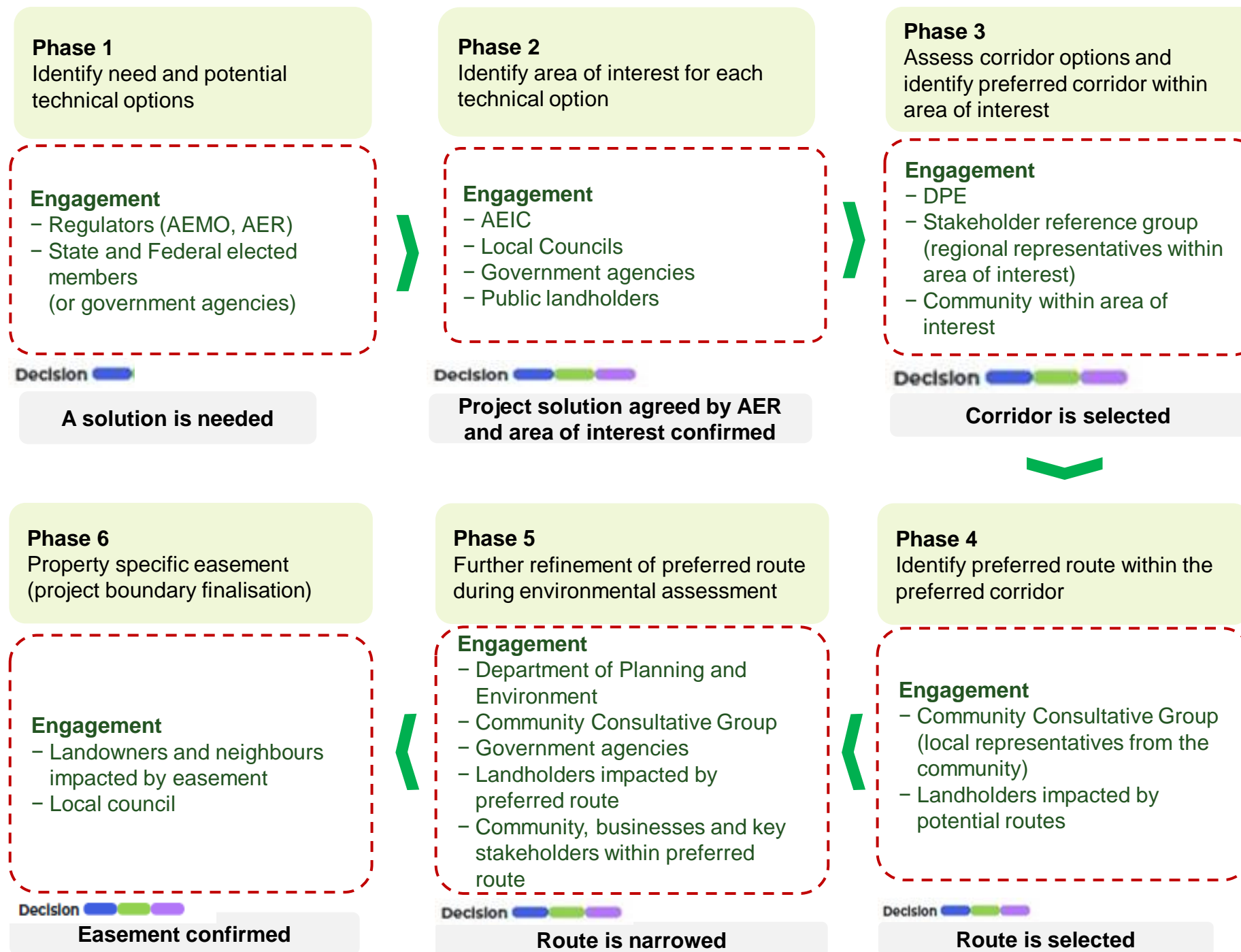
We are on track to submit our Stage 2 CPA in September 2023

HumeLink CPA2 route alignment, land and property update

Jeremy Roberts, Project Director, HumeLink



Mitigating downstream delivery issues with strong stakeholder engagement across all route selection phases



Transmission Line Route Criteria Assessment Guidelines

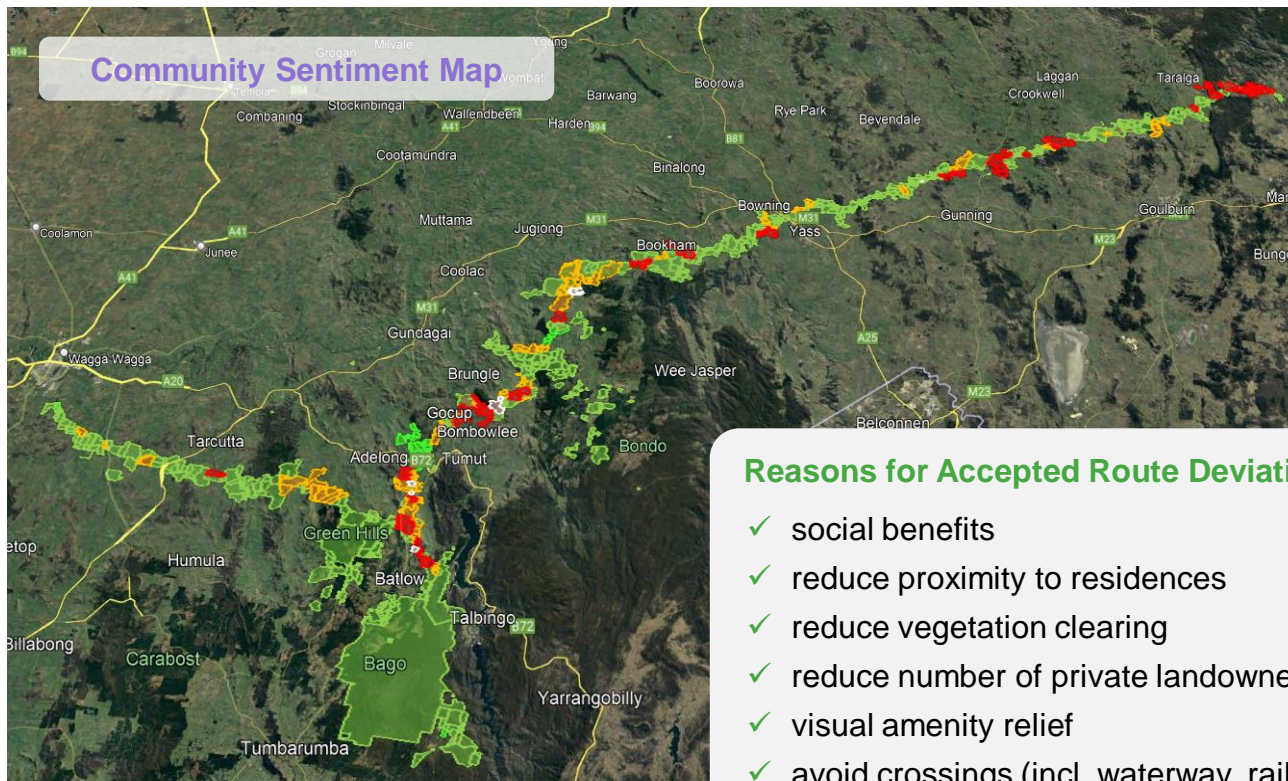
Key Principles

- ✓ Well-communicated and timely messages to build trust and bring stakeholders on the journey
- ✓ Consideration of community and landholder feedback at each stage

Driving a “triple bottom line” approach to route selection

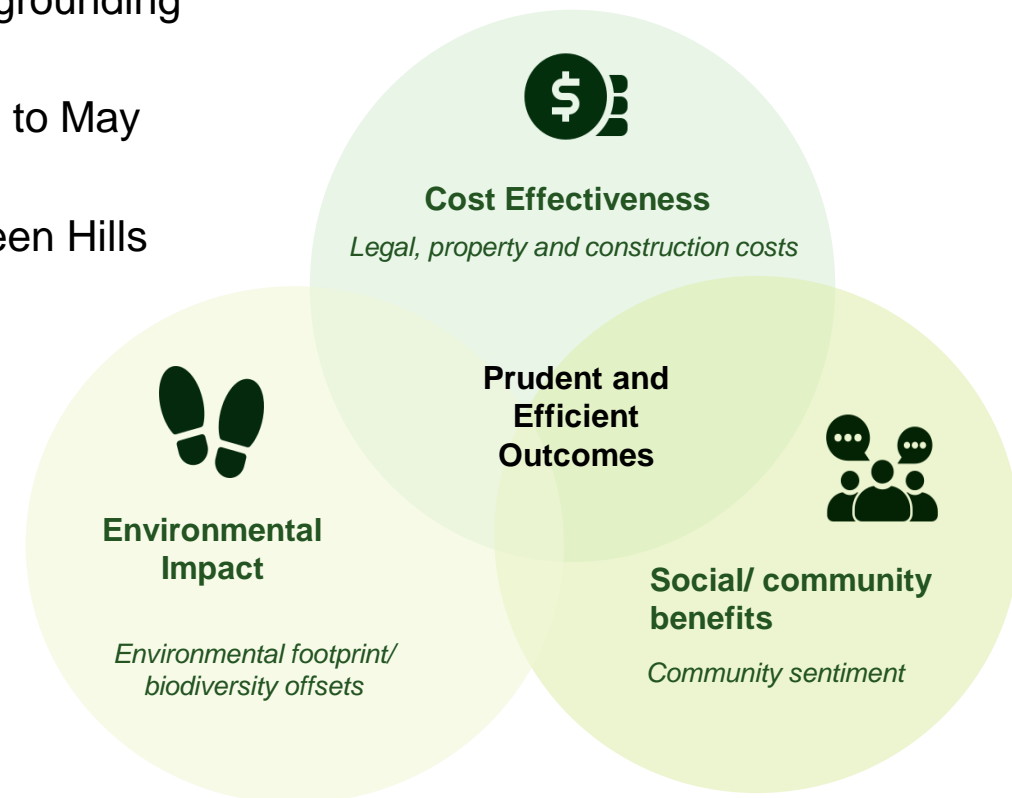
Transgrid has made a number of route refinements following comprehensive technical studies and engagement with the community.

- An independent engineering study in August 2022 concluded that undergrounding would be prohibitively expensive and therefore not a credit option
- 76% of the route deviation requests (18/22) raised from November 2022 to May 2023 have been accepted
- Feasibility assessment of one further route amendment (through the Green Hills State Forest) is currently underway



Reasons for Accepted Route Deviation Requests

- ✓ social benefits
- ✓ reduce proximity to residences
- ✓ reduce vegetation clearing
- ✓ reduce number of private landowners
- ✓ visual amenity relief
- ✓ avoid crossings (incl. waterway, rail)
- ✓ avoid agricultural / cultural heritage sites



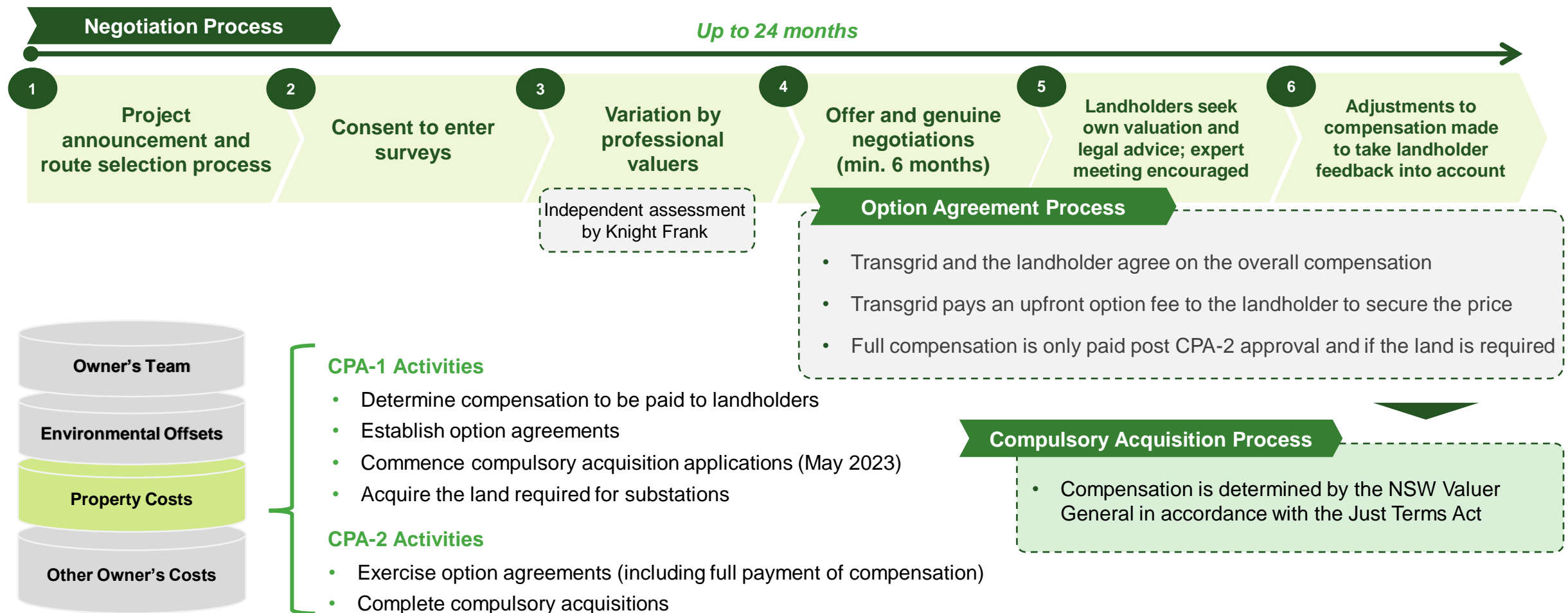
Frontloading the acquisition process to drive cost certainty and secure preferred outcomes

Transgrid targets

- Improving landholder sentiment from adverse to neutral/positive
- > 90% of the corridor (308/342 holdings) is acquired through option agreements
- Total forecast costs of route acquisition for CPA-2 are better than the PACR forecast

Value for money outcomes for energy consumers

- ✓ Improving social licence
- ✓ Compulsory acquisition as a last result (driving down legal costs)



Waratah Super Battery (WSB) Non-contestable Revenue Proposal

Stephanie McDougall, General Manager of Regulation



Overview of WSB project and regulatory timeline

Background

- On 14 October 2022, the Minister published an Order directing Transgrid as the Network Operator to carry out the WSB project.
- WSB non- contestable works:
 - involves increasing the thermal ratings of specific transmission lines, allowing existing generation to transmit more energy to meet demand in the Sydney, Newcastle, Wollongong region, following the reduction in supply within that region due to the potential early retirement of the Eraring power station.
 - will form an integral part of our existing transmission network once operational
- Our WSB non-contestable Revenue Proposal is subject to the EII Regulatory Framework
 - Our draft Revenue Proposal is due to EnergyCo by 26 May, and
 - Our initial Revenue Proposal is due to the AER by 30 June 2023

WSB regulatory timeline:



Days means business days from submission of IRP to AER on 30 June 2023

Forecast opex [**not final and subject to change**]

This shows our total forecast opex of c. \$27 million [**not final and subject to change**] by category and overviews the approach we have used to forecast it.

Opex category	\$ Million Real 2022-23	Basis for Opex forecast
Maintenance costs (excluding labour escalation)	2.1	Current and proposed maintenance activity unit rates multiplied by projected volumes of activities
Operating costs (excluding labour escalation)	22.2	Projected labour requirements multiplied by labour rates for each resource type and expected annual external audit expenses
Insurance	1.7	Based on independent report from Aon
Real input cost escalation	0.6	Labour escalators as set out in the AER's 2023-28 Revenue Determination
Debt raising costs	0.6	These costs are calculated in the EII PTRM by multiplying the opening RAB value for each year by a debt raising cost benchmark
Total forecast opex	27.1	

Based on a bottom-up build and reflects:

- (a) the number and cost of permanent and casual staff needed to operate and/or maintain the assets
- (b) the cost of external contractors, consultants and other service providers providing operating and/or maintenance services
- (c) insurance and other ongoing expenses exclusively associated with the regulated network assets.

Forecast capex [not final and subject to change]

- This shows our total forecast capex of c. \$250 million [not final and subject to change] by category and overviews the approach we have used to forecast it.
- We expect that at least 70.9 per cent of the capex for WSB will be based on market prices obtained through competitive tender processes

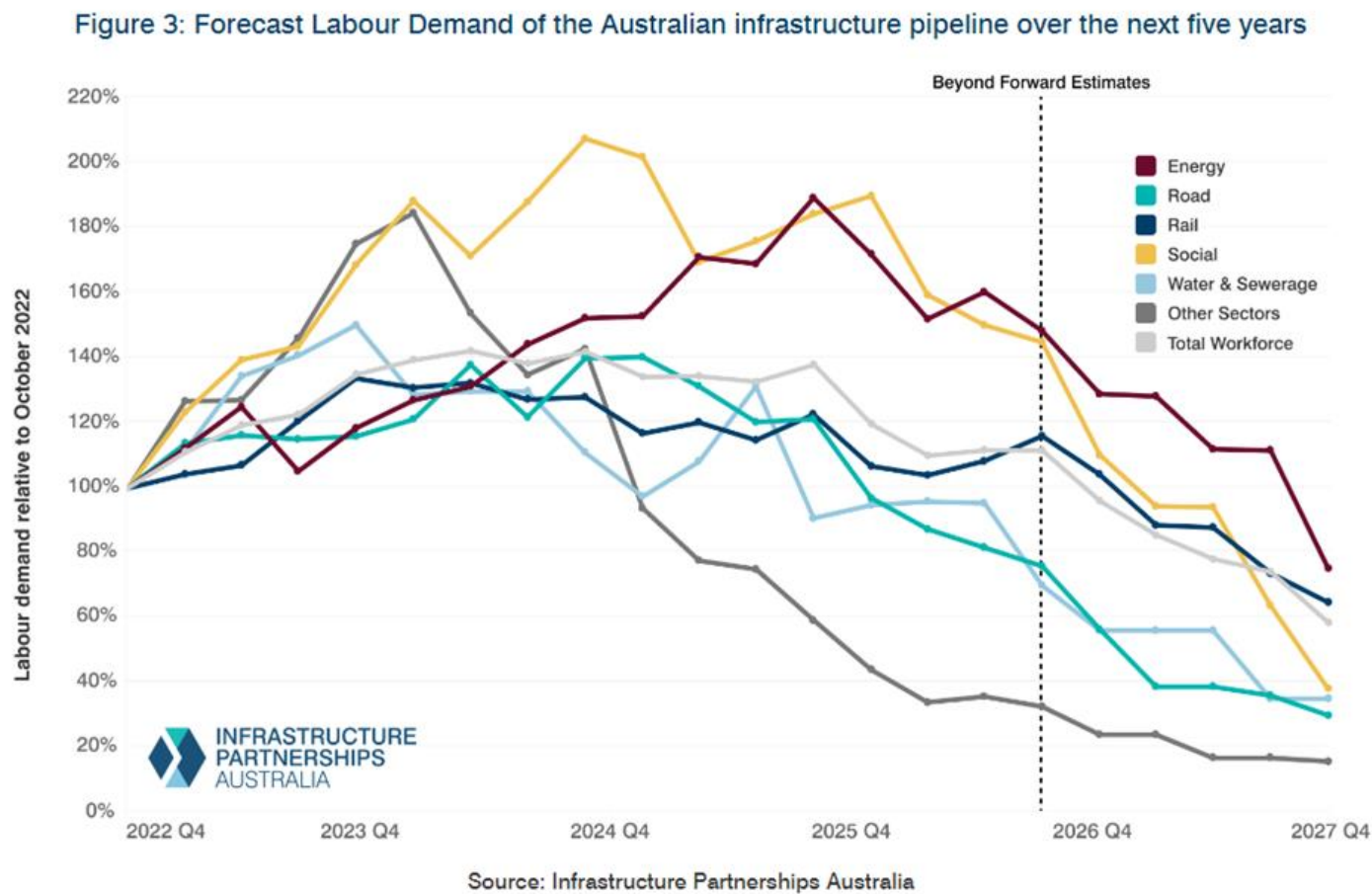
Capex category	Forecasting method	Market tested	% of total capex
Transmission lines	Design & Construct contract	Yes	26.8%
	Rates from our procurement panels for key equipment	Yes	0.6%
Substations	Design & Construct contract	Yes	38.3%
	Rates from our procurement panels for key equipment	Yes	3.8%
SIPS control	Forecast capex internal bottom-up build	No	3.2%
	Quotation from communications service provider for new fibre optic link	Yes	1.7%
	Rates from our procurement panels for key equipment	Yes	2.2%
	Future Paired Generation	No	1.4%
Labour and indirect costs	Actual capex reflects records in Ellipse.	No	21.0%
	Forecast capex internal bottom-up build.	No	0.1%
Real input costs	Internal bottom-up build using AER's forecast real labour cost escalators	No	1.0%
Other Construction Costs	Internal assessment of expected costs	No	100.0%

Application of the CESS

- Capex for NSW Roadmap and ISP projects is extremely challenging to accurately forecast due to the scale, complexity of each project
- Probability of overspending against the AER's allowance is greater than the probability of underspending – risk is asymmetric
- With NSW projects, no ability to reprioritise capex – this means the CESS penalties could be large
- If faced with large CESS penalties, the project would generate less than the return that investors would reasonably require to invest
- The characteristics of ISP projects and the current market conditions that give rise to the asymmetric risk are
 1. **Increasing labour costs** – labour costs are increasing due to the surge in construction activities / demand for construction workers,
 2. **Increasing materials costs** – the cost of materials required to build ISP projects are also soaring and volatile due to surge in construction activity globally, supply chain disruptions resulting in materials shortages, the war in Ukraine driving up fuel costs, and fluctuations in global commodity market prices for raw materials.
 3. **The inflation outlook remains uncertain** - actual inflation over the 12 months ending June 2022 –
 - headline CPI increased by 6.1% **highest year-ended CPI inflation since early 1990s.**
 - RBA forecasts CPI inflation of 6.3% for 12 months to June 2023, **which is even higher.**
 - **Producer Price Index (PPI)** for the manufacturing sector increased by **17.7% over 12 months to June 2022.**
 3. **Contractors are unwilling or unable to offer fixed price contracts** – They are presently offering contracts with flexible pricing and risk-sharing arrangements to accommodate changes and unforeseen circumstances and safeguard against potential losses

Application of the CESS, continued

The IPA forecasts that the infrastructure labour force in NSW will be required to grow by 56 per cent by 2024 to deliver the pipeline of infrastructure projects across NSW and Australia.



labour costs are increasing due to the surge in construction activities

Commonwealth and State Government infrastructure programs - hospitals, roads, bridges and water infrastructure projects

- large transmission projects on AEMO's ODP, NSW Roadmap and state government agendas:
 - > Project EnergyConnect, VNI West, Marinus Link, Sydney Ring
 - > NSW Government's REZs such as Central-West Orana REZ, New England REZ or Hunter-Central Coast REZ, and
 - > CopperString which is which is supported by the Queensland Government and is being built by Powerlink in north Queensland

Source: Infrastructure Partnerships Australia (IPA), Infrastructure Election Monitor NSW – Red Book, Figure 3

Application of the CESS, continued

Collaboration point

Which of these three options do you support and why? Are there alternative solutions to address the problem, if yes could you please elaborate on these?

- There is currently no provision in the NER to adjust the capex allowance to address the difference between forecast and actual labour, materials and other price costs.
- We would need to fund the gap in financing the investment for the remainder of the period and would be penalised under the CESS for any overspend (net of that financing cost), even when the higher levels of expenditure are prudent and efficient.
- *This means that we may not have a reasonable opportunity to recover the efficient costs of delivering the project*

Three options to address this problem:

1. a fixed price contract that protects investors against the risk of cost overruns and therefore the CESS penalty. No contractor is currently willing to offer this without building in a 'premium' for the risk of cost overruns, which would be passed through to the TNSP,
 2. a sufficiently high-risk cost allowance that restores the symmetry between over and underspending against the AER's allowance. This is not possible under the AER's 2022 RoRI and the AER has not previously allowed general contingency or risk cost allowances.
 3. the CESS to be removed during the construction phase of ISP projects—which the AER has stated it is willing to consider.
- *We recommend removing the CESS as a means of providing investors with appropriate incentives to commit capital to ISP projects that would promote the long-term interests of consumers by allowing us to invest in these Projects which are required for the urgent energy transition.*

Revenue Adjustments

Collaboration point

Do you support these adjustments? If not, could you please elaborate on why you do not support them? Are there other adjustments that we should consider?

- The EII regulatory framework provides that a revenue determination may include provision for the adjustment
- These adjustment mechanisms are additional to the pass-through provisions.
 - In some cases these are automatic, AER not be required to review them – annual debt and inflation updates
 - In other cases, these are not automatic, AER would be required to review them

Automatic adjustments

We propose three non-automatic adjustments

1. Actual inflation,
2. Return of debt update to the allowed rate of return
3. Additional contractual payments to EnergyCo

Non-automatic adjustments

We propose three non-automatic adjustments:

- Paired Generation Cost – actual costs for future rounds of paired generation
- Unavoidable Contract Variations including:
 - Changes in the final design of the Project
 - Changes in civil works costs, which result in the contractor incurring higher costs than those reflected in the construction contract
- Contractor Force Majeure event - which disrupt the contractor during construction phase and result in additional construction costs

Regulatory Policy and Government Affairs update

David Feeney, General Manager of Regulatory Policy

Nicole Ryan, General Manager of Community,
Stakeholder and Government



AER transmission ring-fencing framework

- The AER released a consultation paper seeking feedback on whether changes to the National Electricity Rules (NER) are required to limit Transmission Network Service Providers' (TNSP) ability to discriminate in favour of themselves or an affiliate when providing connection services.
- The AER is seeking views on the following key issues:
 - Evidence of TNSPs using their monopoly power to discriminate in favour of themselves or an affiliate in providing contestable connections services.
 - The materiality of this discriminatory behaviour – to what extent has it influenced outcomes in the market for the contestable elements of a connection.
- The AER has listed two options that may address discrimination:
 - Option 1 – Introduce compliance reporting requirements within chapter five of the NER
 - Option 2 – Expand the ring-fencing framework in clause 6A.21.2(A) of the NER to include the ability to ring-fence negotiated transmission services, in addition to prescribed transmission services
- The AER has also published a survey for connection proponents to collect data on their experience with the connection process.

Collaboration point

What are your thoughts on the AER's consultation and proposed options to address discrimination?

AEMC TPIR Stage 3 Final Report

Economic Assessment Process (EAP)

The AEMC recommended a rule change to encourage TNSPs to undertake more planning activities earlier in the EAP for ISP projects.

- Enables TNSPs to submit a separate CPA for early works
- Introduces a Rules definition of early works
- Clarify that AEMO can specify, in the ISP, examples of preparatory activities and early works for actionable ISP projects.

Targeted ex-post review for ISP projects

Recommends introducing a targeted ex-post review mechanism for ISP projects and separate this from an ex-post review mechanism for non-ISP projects.

- The AER would undertake an ex-post review of total capital expenditure on an ISP project at the completion of the project and would consider all project costs.
- The amount of expenditure that the AER could exclude from the RAB would be limited to the level of capital expenditure on that project, above the AER's capital expenditure allowance for that project.
- The existing ex-post review provisions would continue to apply for non-ISP projects.

Incorporating emissions reductions into the NEO

Recommends a rule change process to harmonise the energy rules, including the transmission planning framework, with the revised national electricity objective once emissions reduction is included.

Changes to the rules would result in changes to AEMO and AER guidelines and processes.

Collaboration point

What is your view on the stage three recommendations?

Government Relations update

Federal Budget

Energy transition remains a high priority for the Government:

- National Net Zero Authority
- Hydrogen Head Start

Rewiring the Nation

\$12 billion of the Government's \$20 billion investment in Rewiring the Nation including:

- \$1 billion in Tasmania's Battery of the Nation projects
- \$1.5 billion towards Renewable Energy Zones and offshore wind in Victoria
- \$4.7 billion to unlock critical transmission in New South Wales.



Summary and next steps

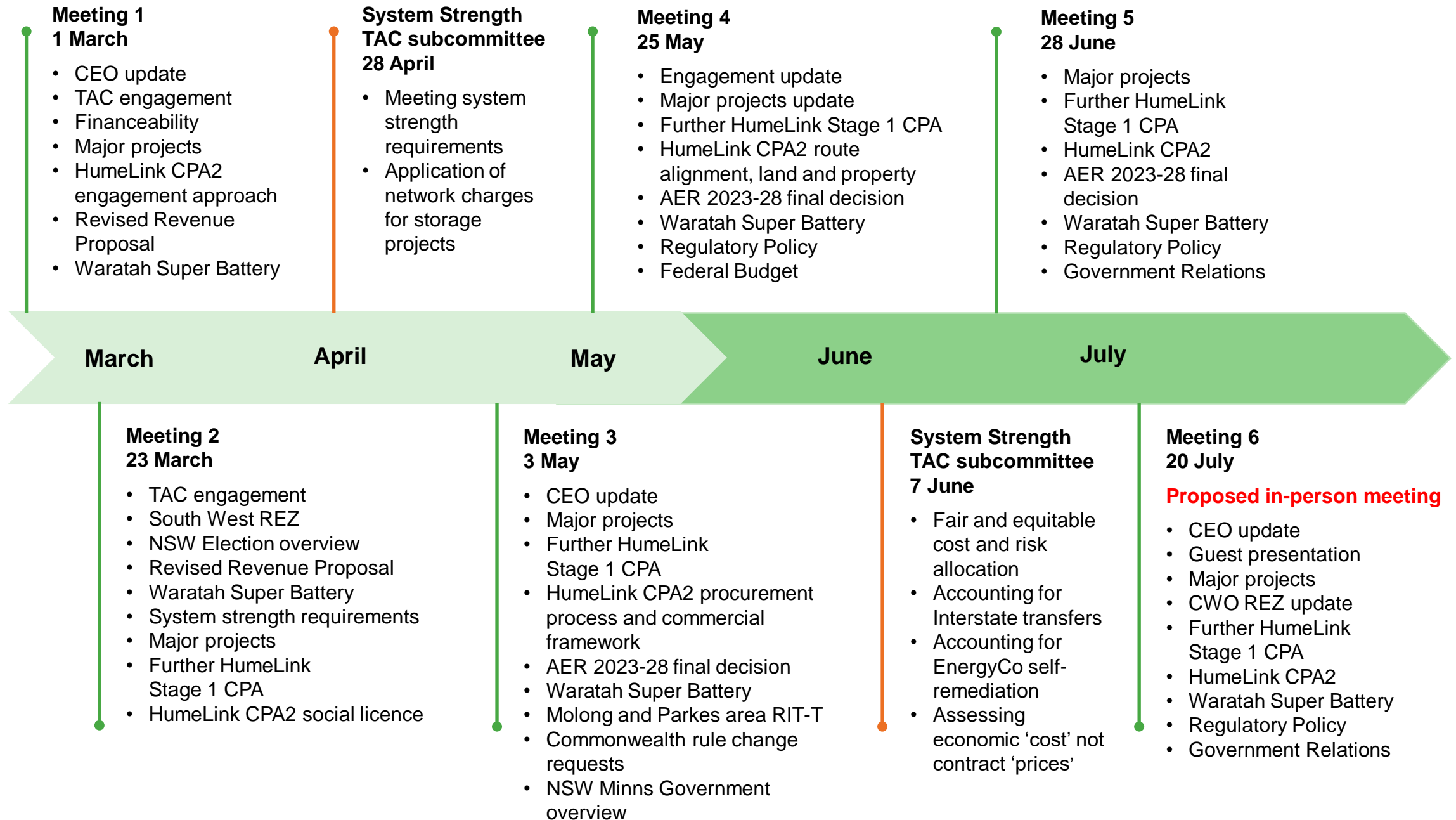
Maryanne Graham,
Executive General Manager,
Corporate and Stakeholder Affairs



TAC meeting program

Collaboration point:

Is our approach to working with the TAC meeting your needs? How can we improve?



Thank you

Contact details

For further information or discussion, please contact:



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