6 June 2025

Powerlink PTI Expert Panel
Mark Grenning, Director Policy and Regulation, EUAA
Chris Hazzard, Social Justice Committee Member, St Vincent de Paul Society
Warren Males, Consultant, Queensland Cane Growers Organisation

To the PTI Expert Panel,

Thank You for Your Non-Confidential Submission on the Draft Assessment Report – Gladstone Project PTI

Powerlink Queensland thanks you for taking the time to provide your perspectives on our Draft Assessment Report for the Gladstone Project Priority Transmission Investment (PTI).

We appreciate the effort involved in preparing a submission and recognise the value of your contribution to this consultation process.

All submissions have been considered in the development of our Final Assessment Report. A snapshot of Powerlink's written response to the key matters raised by the PTI Expert Panel is included below and within the Final Assessment Report.

Issue	Powerlink response
Assessment direction The Panel recognises the constraints in the Assessment Direction, and that these constraints accordingly shape the analysis scope and options assessment.	
Compliance with the Assessment Direction The Panel suggested the Final Assessment Report: • use consistent terminology to present NPV analysis; • include more explanation to make clear that the Borumba PHES and Callide REZ are not relevant to the assessment; and • clarify the role of Option 1(b) and its interaction with the Assessment Direction and options analysis. The Panel also noted that, while paragraph 9(b) of the Assessment Direction referred to the anticipated date of completion of construction, Table 4-2 of the Draft Assessment Report outlined only a high-level delivery schedule.	• Powerlink has updated the NPV analysis to clearly focus on the credible options – Option 1(a) and 1(c). A separate section has been added to address the comparative analysis between the preferred option and staged delivery as required by the Assessment Direction. The separation of these analyses is designed to clarify the role of the staged delivery option in the Final Assessment Report. • Powerlink has added further explanation in section 6 as to why the Borumba PHES and Callide REZ timing assumptions do not affect the scope, timing or comparison of the credible options considered in the Final Assessment Report.
Cost estimation, prudency and efficiency The Panel indicated Powerlink's use of an Class 5 estimate with no contingency did not provide enough information to enable	• Powerlink notes that the cost estimates for the preferred option will continue to be refined with class 3 as the next estimate class for the Gladstone Project.

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Issue	Powerlink response

comment on the prudency and efficiency of expenditure.
The Panel welcomed Powerlink's commitment to regular reporting to the customer panel on Gladstone Project PTI costs.
The Panel recommended Powerlink:
• Make available updated cost estimates as they continue to be refined subsequent to the publication of the Final Assessment Report
The Panel recommended the Final Assessment Report could include
• a more accurate cost estimate
• including contingency in the cost estimate
• further explanation of the role of sensitivities where there is one credible option;
• commentary supporting Powerlink's view that the class estimate it provides to the AER is appropriate;
• more contemporary information on the operating cost context and an explanation of changes in project cost estimate from the 2020 ISP;
• a comprehensive risk analysis;
• a detailed project delivery schedule; and
• mitigants to the risk of cost / schedule overruns.
	• Powerlink has included in the Final Assessment Report:
	  ○ Additional explanation of Powerlink's cost estimation methodology, and its application to the Gladstone Project.
	  ○ Accuracy band of the class five estimate
	  ○ Estimate assumptions and exclusions
	  ○ Risk and contingency allowance; explanation for its level and how risk and contingency was determined
	  ○ Additional information detailing the estimate maturation process and class 3 requirements
	• Powerlink considers that a Class 5 estimate is sufficient for the purpose of ranking the options and identifying the preferred option for the Gladstone project – consistent with paragraph 9(b) of the Assessment Direction. Further refinement of the cost estimates is expected to similarly affect both options equally – and so not materially impact the selection of the preferred option – given the similarity in network components. Changes in the costs of the non-network element of Option 1(c) will not affect the selection of the preferred option because the project providing the non-network solution is a committed project and the network support payments are treated as a wealth transfer under the modified RIT-T framework.
	• Powerlink has added an additional credible option – Option 1(c) - to the Final Assessment Report. The purpose of the sensitivity analysis is to demonstrate that changes in key parameters do not change the ranking of the options and to present the magnitude of the change in the NPV associated with changes in each parameter. This analysis provides support to the robustness of the conclusion regarding the preferred option.
	• Powerlink has incorporated additional detail into section 8.3 to explain the increase in costs of the Gladstone project since the 2020 ISP. The principal drivers are change in scope and general cost pressures on transmission infrastructure.

Economic assessment The Panel recommended the Final Assessment Report: • could include a simpler and more comprehensive explanation of the cost-benefit assessment approach, including the use of negative NPVs;	• Powerlink has updated the NPV analysis section to focus solely on the credible options – simplifying the interpretation of the analysis for stakeholders. • Powerlink has added an additional paragraph explaining the use of negative NPVs, in that the

Issue	Powerlink response

• provide more explanation of the sensitivity testing; for example,
  ○ what determines the capital expenditure range
  ○ what does the term 'alternative risk cost estimates' mean
• include more justification for the use of only one scenario, and why the use of different scenarios would not change the relativity or ranking between the options.
	identified need is reliability corrective action and therefore permitted to have a negative NPV.
	• Section 7.2 of the report has been updated to improve explanation and add clarity to the assessment requirements and the immateriality of market benefits to this assessment. The section seeks to more clearly explain:
	  ○ the credible options do not involve investing beyond the minimum standard under Powerlink's Transmission Authority and, as such, involuntary load shedding does not need to be quantified; and
	  ○ the assessment documents do not require Powerlink to estimate market benefits since they would not contribute to identifying the preferred option.
	• Powerlink has updated the capital cost sensitivity to reflect the specific accuracy of the Class 5 estimates.
	• Powerlink has added additional clarification regarding avoided risk costs in section 9.1 and has conducted a sensitivity to show that changes in avoided risk cost assumptions do not change the ranking of the options.
	• Powerlink has added additional information to section 7 explaining the use of only one scenario.

Inputs and assumptions, scenario, base case The Panel recommended the Final Assessment Report: • include more detail on why the Borumba PHES and Callide REZ timings, whilst included in the base case, are not relevant to the analysis. • Add further explanation to the selection inputs and assumptions (for those the panel identified would benefit from this)	• Powerlink has added recommended detail, refer Section 7.1 sub-section: *"Borumba PHES and Callide REZ assumptions have no impact*" • Section 7 has been further developed to strengthen input, assumption and scenario explanations and detail. • Section 8 includes additional detailed information and explanations pertaining to cost estimate accuracy, operating context, inputs and assumptions. It is supported by new Appendix F detailing key assumptions and exclusions.
Additional credible option The Panel recommended the Final Assessment Report include a detailed analysis of the anticipated network/non-network solution and how it compares to other options	• Powerlink confirms it has added a new credible option – Option 1(c) - that provides for the detailed analysis of a combined network/non-network solution and how it compares to the other options.

Issue	Powerlink response
Role of the comparative analysis The Panel recommended the Final Assessment Report • clarify the role of Option 1(b) and its interaction with the Direction and options analysis i.e. that it is for comparison only and is not a credible option and included 'for reference purposes only' • explore how Option 1(b) could be included as a credible option	• Option 1(b) no longer forms part of the comparative analysis. The comparative analysis now compares Option 1(d) to 1(c). • Powerlink has sought to more clearly characterise the scope of the comparative analysis and that option 1(d) is not a credible option. • Powerlink has also added additional commentary in sections 10 and 11 regarding the circumstances in which staged delivery could become viable.
Report accessibility, provision of additional information The Panel recommended the Final Assessment Report could be made more accessible to a wider reader audience by for example: • explain the definitions of commercial feasibility and technical feasibility, drawing on the RIT-T Application Guidelines; • Providing additional information or clearer explanations on various matters to support increased transparency and understanding of the assessment [nb. key matters as outlined in the other rows of this table]	• Powerlink has added additional detail to section 5.1 to more clearly explain commercial and technical feasibility. This includes adding the definitions and providing an overview of each option considered and whether or not it was assessed as being commercially and technically feasible. Further detail has also been added to sections 5.2 and 5.3 regarding why Options 1(a) and 1(c) are considered commercially and technically feasible. • Powerlink has substantively reviewed the report to identify opportunities to improve explanations, simplify technical language where suitable, use figures and tables to support understanding, define key terms, ensure comprehensive footnoting add provide more information.

Kind regards,

Wendy Miller
Customer Strategist
on behalf of the PTI Consultations Team
Powerlink Queensland

Gladstone Project: Candidate Priority Transmission Investment Assessment – Draft Assessment Report

Submission from the Powerlink PTI Expert Panel

Mark Grenning

Chris Hazzard

Warren Males

19th May 2025

Submission on Candidate Priority Transmission Investment – Draft Assessment Report – Gladstone Project

Introduction and Conclusions

This submission is made by the Powerlink PTI Expert Panel. Comprised of members drawn from the Powerlink Customer Panel, this Expert Panel has been established to advise Powerlink on how the consultation engagement aspects of the Priority Transmission Investment (PTI) process may best be implemented.

There were five eligible PTI projects set out by the previous Queensland Government in 2024 - Gladstone project, connections associated with the Borumba and Pioneer-Burdekin pumped hydro projects, Central Queensland connection and the Townsville to Hughenden connection. If the projects proceed, they are expected to have significant capital costs. These investments need to demonstrate long-term benefits for Queensland electricity consumers who will be paying for them for the life of the asset, spanning decades.

The Gladstone Project, the first PTI project, involves grid augmentation to ensure power supply to the Gladstone region were Gladstone Power Station to close in March 2029. Powerlink is making no prediction on when GPS may close down. It has a current 'indicative' capital cost of $1.812b.

In consideration of Powerlink's role within the PTI framework and the defined consultation scope, the PTI Expert Panel's role is to advise Powerlink on how the consultation engagement aspects of the PTI process may best be implemented in consideration of Powerlink's role scope, and to challenge the assumptions included in recommendations and advice made.

The panel apply their technical and regulatory expertise in the electricity sector to advise Powerlink in its PTI activity. As an independent body, the Panel's views are solely those of its members and must align with the long-term interests of consumers of electricity in accordance with the National Electricity Objective (NEO).

Expectations of the Panel include:

- Providing written submissions on consultations within the PTI Framework for both the submission and assessment consultation in accordance with the timeframes of each specific PTI
- Supporting Powerlink in realising each of the PTI engagement principles, through both the function of the PTI Expert Panel itself and advice from panel members on these principles
- Advising Powerlink of identified issues, opportunities and challenges to support the realisation of the PTI Engagement principles and overall effectiveness in the PTI Framework.

Given the limits on Powerlink's role, our key focus is on ensuring transparency around the information Powerlink provides at all stages of the PTI process so consumers can have confidence that the final decision made by Ministers meets the NEO that the investment and the allocation of capital expenditure (capex) to the Powerlink RAB, is in the long term interests of consumers. Ensuring transparency in the PTI process is critical to achieving this objective. We believe that for consumer

representatives to get that level of confidence, transparency should go beyond simply procedural compliance with the legislation[1]. Ideally consumers should have access to:

- Relevant information to be able to make informed submissions on the Consultation Paper and Draft Assessment Report stages
- Any additional information Powerlink provides to the AER as it exercises its Suitably Qualified Person role, ensuring transparency for consumers (we hope this is made available to the Panel for the Gladstone Project)
- the AER's report to the 'Responsible Ministers' ('Ministers') on the exercise of its role under Section 25 of the legislation (currently not proposed to be published)
- Any additional information Powerlink provides to the Ministers for their decision to construct the project and the level of capex that goes into the Powerlink RAB to be recovered from all Queensland electricity consumers (currently not proposed to be published).

Powerlink is undertaking its assessment of the Gladstone Project under the Section 24 Direction from the Ministers' delegates dated 24th September 2024. Our first submission in August 2024 on the Consultation Paper covered the identified need, the assessment documents, Powerlink's proposed modifications to the Regulatory Investment Test for Transmission (RIT-T) and potential credible non-network options to address the identified need. Given the legislation gives extensive discretion to the Ministers and prescribes much of the process Powerlink will follow, the focus of that submission was on the need for process transparency to support wide stakeholder engagement during the Draft Assessment phase and to enable effective regulatory oversight.

This second and final submission responds to the Draft Assessment Report ('Draft') published by Powerlink on 10th April 2025. This is the last formal opportunity within the PTI process for stakeholders to have input into the assessment of the Gladstone Project with the next steps being:

- consultation with the Queensland Energy System Advisory Board by 31st May
- Powerlink publishes the Final Assessment Report ('Final') in early June
- Australian Energy Regulator (AER) will undertake its role as the 'Suitably Qualified Person' under Clause 25 of the Act to address whether:
    - Powerlink has assessed the project as required by the Assessment Direction
    - The project expenditure would be incurred by an efficient and prudent operator in Powerlink's circumstances
- Direction by the Ministers to start construction and allocation capex to the Powerlink RAB, expected from December 2025.

The Draft Assessment Report sets out seven issues open for consultation. Interested parties are invited to respond to one or more of these aspects or raise other relevant issues. The table summarises our response on each. The Panel's overall conclusion is that, while we are able to comment on some of the issues, in the absence of additional information we were unable to provide a clear response on most. We provide examples of further information that could have allowed the Panel to express a clear response and recommend that they be provided in the Final.

[1] Energy (Renewable Transformation and Jobs) Act 2024
https://www.legislation.qld.gov.au/view/html/asmade/act-2024-015

Issue	Response
1. Does the Draft Assessment Report explain with sufficient clarity and detail: • whether the options are commercially and technically feasible and/or • whether the options can be implemented in sufficient time to meet the identified need?	In our view, additional information is needed to be able to express a view on whether any option is technically or commercially feasible and can be implemented in time to meet the identified need. The additional information that Powerlink could provide in the Final includes: • A more detailed delivery/commissioning schedule and delivery assumptions • Comprehensive risk analysis • Improve accessibility of the report including explaining the definitions of concepts of commercially feasible and technically feasible drawing on the AER Guideline and explaining why Powerlink considers Option 1(a) meets these criteria. Importantly, the Final should explore how Option 1(b) could be included as a credible option.
2. Has Powerlink assessed the Gladstone PTI in accordance with the Assessment Direction? Does the Draft Assessment Report address each element of the Assessment Direction?	Additional information is needed to be able to express a view on this issue. For example, a detailed delivery/commissioning schedule and delivery assumptions should be provided to enable a judgement to be made on the ability for Powerlink to deliver the project in the timeframe per Assessment Direction para 9 (b) relating to 'the anticipated date for completion of construction'. The additional information that Powerlink could provide in the Final includes: • Use consistent NPV terminology in presenting the NPV analysis and provide additional explanations eg sensitivity testing • include more explanation to make clear that that Borumba and the Callide REZ – whilst included in base case assumptions – are not relevant in this project's case • clarify the role of Option 1(b) and its interaction with the Direction and options analysis.
3. Do you have any perspectives on whether the expenditure on the investment (proposed or already made) by Powerlink, as outlined in the Draft Assessment report, is expenditure that would be required by an efficient and prudent operator in Powerlink's circumstances? Please provide reasoning for your perspective.	In our view, an AACE Class 5 estimate with no contingency does not provide enough information to enable comment on prudency and efficiency. The additional information that Powerlink could provide in the Final includes: • provision of an AACE Class 3 estimate • inclusion of contingency in the estimate • a comprehensive risk analysis • a detailed project delivery schedule, and • what Powerlink plans to do to mitigate the risk of large cost and schedule overruns in other jurisdictions like Project Energy Connect.

	Given the level of cost accuracy will improve over 2025, we recommend that Powerlink provide transparency for any updated cost estimates they provide to the AER and the Ministers subsequent to publication of the Final. We welcome Powerlink's commitment to regular reporting to the Customer Panel on Gladstone PTI costs.
4. Does the economic assessment of options meet the AER's expectations in the RIT-T Application Guidelines, as modified by the Assessment Direction? Please provide reasoning for your perspective.	Powerlink is required to apply the modified RIT-T Guideline to this project. Our discussion with Powerlink has queried the benefit of doing a cost benefit analysis (CBA) on a project that has to be built and for which the constraint on delivery timing means there is only one credible option. We recommend a simpler and more comprehensive explanation of the CBA approach, including amongst other matters use of negative NPVs, in the Final. We leave the AER to express its view on this issue.
5. Does Powerlink's estimation of costs meet the AER's requirements in the RIT-T Application Guidelines? Please provide reasoning for your perspective.	We leave this to the AER to answer as the RTI-T Guideline is not prescriptive, relying on judgement. To strengthen transparency we recommend that Powerlink could usefully include in the Final: • A more accurate cost estimate including contingency and further explain the role of sensitivities when there is one credible option • Commentary supporting its view that the AACE Class estimate provides to the AER is appropriate for assessing prudency and efficiency and the investment and RAB allocation decisions made by the Minister.
6. If Powerlink departs from the base case assumptions in the Draft Assessment Report, Powerlink will request comment from stakeholders on whether the departure is justified and is explained with sufficient clarity and detail.	Powerlink has informed the Panel that the timing of Borumba and Callide REZ (base case assumptions per the Assessment Direction) are not relevant to the analysis. To strengthen the transparency of the assessment we recommend that Powerlink could provide more detail in the Final on why Borumba and the Callide REZ timings are not relevant.
7. Is the selection of inputs, assumptions and scenarios credible, and explained with sufficient clarity and detail?	Partly. We provide examples of where it is (eg demand forecast) and where it is not (eg cost accuracy class). We recommend that more explanation of the latter category be provided in the Final.

We acknowledge the constraints Powerlink is under regarding the technical and commercial aspects of the project:

- It is required to provide network capacity that reliably and securely meets forecast demand in the Gladstone region – a 'reliability corrective action' under its licence obligations
- This capacity must be complete by March 2029 in readiness for the closure of Gladstone Power Station, even though AEMO has a closure date of 2035[2].

So it is perhaps not surprising there is only one option that meets the identified need. Conducting a CBA on one option for a project that has to be built may seem counterintuitive, but this is the process required under the applicable RIT-T Guidelines. We also understand that the Final may consider a non-network solution as a variant of Option 1(a).

At this stage, Powerlink may have:

- delivered a technically and commercially feasible option (Issue #1)
- addressed each element of the Assessment Direction (Issue #2)
- proposed expenditure required by and efficient and prudent operator 'in Powerlink's circumstances' ie faced with a very tight timetable leading to a compressed evaluation timeline much shorter than the RIT-T (Issue #3)
- met the AER's expectations in the RIT Application Guidelines as modified by the Assessment Direction (Issue #4), and
- a cost estimate that meets the AER requirements (Issue #5).

However, this does not mean that Option 1(a) will be completed on time at a prudent and efficient cost and be in the long-term interests of Queensland electricity consumers.

Option 1(b) was introduced after the preferred option was identified, to enable a comparative analysis of the preferred option against a delivery timeframe of March 2031[3]. Both deliver Stage 1 at the same time. The difference is around staging of Stage 2. The Draft concludes (p.48):

- "… the comparative analysis required by the Assessment Direction shows there may be additional benefits to a staged delivery of option 1(a) as shown through option 1(b), as the revised timeframe creates an opportunity to reduce project delivery costs, such as easement acquisition and construction costs
- Powerlink considers there may be opportunities for potential cost savings associated with Option 1(b) under a revised generation closure schedule."

Accordingly, we recommend that the Final contains more explanation of:

- how Option 1(b) can become a credible option (we acknowledge it is outside of Powerlink's control for that to happen, but believe it is within Powerlink's control to explain how it might be achieved)

[2] See "2024 ISP Inputs and Assumptions workbook" https://aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2024-integrated-system-plan-isp

[3] Direction Clause 9(c)i1

- the timetable for cost estimate maturation – through the Final, additional information that could be provided to the AER during its deliberations and then to the Responsible Minister making their decisions
- more explanation of the approach that has been taken to applying a CBA to a reliability corrective action where there is only one credible option and NPVs are negative – including role of scenarios and sensitivity testing
- a detailed risk analysis which would serve as the basis for a contingency amount, and
- a detailed analysis of the anticipated additional credible option involving a combined network/non-network solution and how it compares to other options, and
- more detailed consideration of the comparative option, Option 1(b), given the revised closure schedule of Callide B.

We recognise the short time until the Final is published. If more detailed consideration of Option 1(b) is not possible in the Final, we recommend that the Final outline the process for that to occur. Will it require a change in the Direction and, if so, is that change is legally possible?

We also recognise that this is the first time the PTI process has been applied. Both Powerlink and the Panel are on a steep learning curve on how to effectively implement the process. This submission has benefitted greatly from the extensive and detailed engagement we have had with Powerlink staff. They have genuinely sought to engage with us and provide as much information as they have. We really appreciate Powerlink's decision to extend engagement with the Panel beyond this submission through the maturation of the cost estimates leading to the AER's review and the Ministers' decision. This will provide an opportunity to achieve our aim of increasing process and information transparency and strengthening consumer confidence in the assessment framework. The valuable learnings both Powerlink and the Panel have made from this first project will provide a strong basis for the evaluation of future PTI projects.

The Scope of Consultation

The Scope of Consultation document published on 10th April 2025 set out in detail the assessment parameters in the Final and the scope of consultation. We thank Powerlink for taking up our recommendation in our previous submission on this project to issue this type of document before publishing the Draft. It covered all the matters we suggested including eg what can or cannot be influenced by stakeholder submissions, what is in/out of scope and the level of consultation on the IAP2 spectrum. The scope for consultation covers the following issues:

- Credible option assessed to meet the identified need
- Adequacy of Powerlink's response to each element of the assessment scope
- Whether the proposed expenditure to deliver the preferred option would be incurred by an efficient and prudent operator in Powerlink's circumstances
- Approach to economic assessment of options
- Selection of the preferred option
- Cost estimation

- Justification for any departure to base case assumptions
- Selection of inputs, assumptions and scenarios.

Accordingly, we address these issues in the next section. As we noted in our earlier submission, while the 'who pays' question falls outside of the scope, we believe it is crucial that the Final provide as much detail as possible on costs and benefits. The $1.8b Gladstone Project is only the first of potentially many significant capital investments in PTI projects and consumers need to have a high level of transparency when the Ministers decide how much of the final cost is put in the Powerlink RAB and recovered from all Queensland electricity consumers. The information provided to the Minsters should also be publicly available to enable consumers to engage with the Government's decision-making process. The level of capex going into the Powerlink RAB should be capped at the level of benefits identified under the modified RIT-T analysis provided to Ministers later this year. Cost overruns should be borne by Government.

The Draft is a complex report, using technical language that we envisage is not easily accessible to many audiences. Preparing this submission required extensive discussions with Powerlink to fully understand the approach taken. Without the benefit of that engagement it would be very difficult for a consumer advocate to make a submission. The Draft was written assuming the reader has a foundational knowledge on the PTI process and a confident knowledge of the AER RIT-T Guideline. Without that consumer advocates would find it difficult to make a substantive submission.

We recognise that the consultation has included provision of additional information, such as background information on the PTI framework on Powerlink's website, invitations to arrange meetings with Powerlink, a public webinar to support information sharing and so forth. We also acknowledge part of the reason Powerlink has convened the PTI Expert Panel is to support deeper engagement and strengthen knowledge and information of the PTI process to enable consumer input from the panel.

Discussion of Issues

There are similar themes in our responses:

- Powerlink's obligation to build and the constraints in the Assessment Direction (has to be complete by March 2029) limits the scope of the analysis. It effectively limits the range of options to a single credible option, which is then the preferred option
- Additional information, beyond that included the Draft, is needed to provide a full response to the issues open for consultation. This means we are unable to express a view on most issues.

Issue 1

Does the Draft Assessment Report explain with sufficient clarity and detail:

- *whether the options are commercially and technically feasible and/or*
- *whether the options can be implemented in sufficient time to meet the identified need?*

Based on the AER Guideline[4] definitions of commercial and technical feasibility, we think this is how the identified options can be described:

Option	Technically feasible	Commercially feasible
1(a)	Yes	Yes
1(b)	Not an option given it cannot meet the identified need of completion by March 2029	
2(a)	No	Yes
2(b)	Yes	No

Options 1(a) and 2(b) are considered technically feasible because, if developed, they will provide the services that are necessary to meet the power demand in the Gladstone area from March 2029. We rely on the Powerlink's technical expertise to ensure that these two options can meet forecast power demand and comment below on the March 2029 timetable. Option 2(a) is not completed until 2031 and so is not considered technically feasible.

The term 'commercially feasible' is used several times in the Draft without Powerlink providing a clear definition. It seems to be assumed that the reader knows and can interpret the NER definition described in the AER Guideline as[5]:

> "An option is commercially feasible under NER clause 5.15.2(a)(2) if a reasonable and objective operator, acting rationally in accordance with the requirements of the RIT‑T, would be prepared to develop or provide the option in isolation of any substitute options."

Option 2(b) is an accelerated version of Option 2(a) designed to achieve completion by March 2029. It is not considered commercially feasible because of the additional costs from expediting construction are not expected to generate additional market benefits.

Given the Direction, Option 1(a) is the only option that is considered technically and commercially feasible. This conclusion requires two assumptions:

- option assessment based on a Class 5 estimate is a robust basis for option assessment, and
- Option 1(a) can be commissioned by March 2029.

The Draft does not specially address the former. On the latter, the Draft has a high level commissioning timetable in Table 4.2. Powerlink has also provided the Panel with a high level summary of the delivery assumptions but no assessment of the risks around the March 2029 delivery

[4] See Section 3.3.3 pp 19-20 https://www.aer.gov.au/system/files/2023-10/AER%20-%20RIT-T%20guidelines%20-%20final%20amendments%20%28marked%20up%29%20%20-%206%20October%202023_0.pdf

[5] See p. 19 https://www.aer.gov.au/system/files/2023-10/AER%20-%20RIT-T%20guidelines%20-%20final%20amendments%20%28marked%20up%29%20%20-%206%20October%202023_0.pdf

timetable. The information provided makes it difficult to assess the project deliverability or commercial feasibility of Option 1(a) vs Option 2(b).

In summary, with the information provided it is difficult to express a formal view on the technical and commercial feasibility of the options and delivery timeframes. Additional information that Powerlink could provide to enable the Panel to consider expressing a view include:

- A more detailed delivery/commissioning schedule and delivery assumptions
- Comprehensive risk analysis
- Improved accessibility of the report including explaining the definitions of concepts of commercially feasible and technically feasible drawing on the AER Guideline and explaining why Powerlink considers Option 1(a) meets these criteria.

Option 1(b) is not considered an option because it cannot be completed by March 2029, but that assumes Option 1(a) can be. So even though Option 1(b) is potentially commercially feasible and had a lower negative NPV it could not be considered. Given the Assessment Direction requirements, Powerlink is unable to consider Option 1(b) as a credible option to meet forecast demand despite:

- The Government recently announcing the extension of Callide B's operation from 2028 to 2031, and
- It having a potentially lower cost that option 1(a).

We recommend that Powerlink explore how further consideration of Option 1(b) could be included in the analysis.

Issue 2

Has Powerlink assessed the Gladstone PTI in accordance with the Assessment Direction? Does the Draft Assessment Report address each element of the Assessment Direction?

Appendix C of the Draft provides a compliance checklist against the Assessment Direction reflecting Powerlink's view that it has complied with Assessment Direction paragraph 9. We make three comments.

Firstly, the Direction para 9(b) – the preferred option maximises the net economic benefit. Given the constraint in the Direction to have the project completed by March 2029, the Draft presents only one creditable option. So, by definition Powerlink has complied with the Assessment Direction. To improve the clarity in understanding the assessment, the following improvements are recommended for the Final:

- Make it clearer that Option 1(b) is for comparison only and is not a credible option. There is only one option that can meet the Direction's technical and commercial feasibility requirement - so the higher NPV Option 1(b) is excluded from being a real option and included 'for reference purposes only'
- Use consistent NPV terminology in presenting the NPV analysis and provide additional explanations. There is use of terms such as 'comparative cost benefit analysis' and 'the option that maximises the net economic benefit' (p.47) but the results are presented in terms of the lowest negative NPV

- Provide more explanation of the sensitivity testing eg why is a capex range of 75% to 125% used for the capex sensitivity when it is a Class 5 estimate that has a nominal range up to -50% to +100%; what does the term 'alternative risk cost estimates' mean when that term is not used in the AER RIT-T Guideline.

Secondly, the Direction paragraph 9 (b) refer to 'the anticipated date of completion of construction…' but there is only a high level delivery schedule in Table 4.2.

Thirdly, the Direction paragraph 9(c)v requires Powerlink to use base case assumption regarding Borumba first power in 2030 and the Callide REZ declared in 2024-25 and:

> "…if these assumptions are not used by Powerlink as part of the base case assumptions, the report must include a justification for this departure"

It is reasonable to expect that these base case assumptions would be applied consistently across each option analysed, with sensitivity testing on those assumptions. While these are used in the base case (p. 34), discussions with Powerlink have established that both are not relevant to the identification of options or selection of credible options. That is also the case with the updated timing of Borumba full commercial operation by 2035 contained in the January 2025 AEMO NEM Generation Information (p.45). There was no sensitivity testing on Borumba or Callide REZ timing because (p. 45):

> "The modelling assumes that sufficient generation and storage will be maintained or made available in the system to meet generation reliability standards. The Gladstone Project develops transmission capacity that is diversified to ensure the Gladstone area has the required system level reliability."

In this case Powerlink has complied with the Direction as it did not change the base case assumptions so no explanation is required. We recommend that the Final includes more explanation to make clear that while the timing of Borumba and the Callide REZ are included as base case assumptions, they are not relevant to the options analysis.

Issue 3

Do you have any perspectives on whether the expenditure on the investment (proposed or already made) by Powerlink, as outlined in the Draft Assessment report, is expenditure that would be required by an efficient and prudent operator in Powerlink's circumstances? Please provide reasoning for your perspective.

The indicative (p.6) cost estimate of $1.812b is an AACE Class 5 estimate. Under the AACE methodology, a Class 5 estimate has a range of -50% to +100% ie the cost could vary between $0.906b and $3.624b. This estimated cost of this project has increased significantly over time. The following table summarises the change in costs for the 'Gladstone Grid Reinforcement' project over three AEMO Integrated System Plans. It would be very helpful for Powerlink to provide an explanation in the Final on why the project cost has increased so significantly eg how much due to scope change and how much due to general cost pressures? Also, it would be helpful to understand why greater confidence can be placed in the Draft estimates than the earlier estimates.

Source	Capex estimate

2020 ISP	$300-560m
2022 ISP[6]	$408m
2024 ISP (Class 5b ie ± 50%)[7]	$1.3b
Draft Assessment Report (Class 5)	$('25)1.8b

In discussions with the Panel, Powerlink have provided the following reasons for using a Class 5 estimate:

- The phrase '…in Powerlink's circumstances' reflects the very tight timetable compared with a normal RIT-T process, to develop the cost estimate; more time would have resulted in a more accurate forecast
- this approach is appropriate at this stage of the analysis which is an economic ranking exercise to identify the preferred option rather than a final project costing of the preferred option recommended for implementation
- it includes only the direct costs and excludes contingency as the cost estimate is designed to rank options against the base case as is required under the RIT-T Guideline
- applying the Powerlink Cost Estimation Methodology[8] means that the estimate range is smaller than the AACE -50% to +100% boundaries so the cost estimate is more accurate, though no revised accuracy bands have been provided. The Panel has been briefed on the estimate maturity matrix showing a detailed breakdown on accuracy level within cost category with greater maturity (ie higher level of accuracy) for Stage 1 than Stage 2. We were also provided with a high level summary of key technical and delivery assumptions eg contracting strategy, labour force operating arrangements and weather allowance
- The Final will still have a Class 5 estimate but cost estimates will continue to be matured over time with future estimates including contingency; Powerlink is focussing on Stage 1 with the aim, subsequent to the Final, of providing the AER with additional data supporting perhaps a combination of Class 3 (Stage 1) and Class 5 (Stage 2) and the direction to construct and recover costs in December 2025 perhaps based on Class 2 (Stage 1) and Class 4 (Stage 2)

	Class 3	Class 2 (FID)
Stage 1	early Q3 2025	Q4 2025
Stage 2	Q1-Q2 2026	Q3 2026
Gladstone West	Q1 2026	Late Q2 2026

The Panel fully recognises that obtaining a more accurate cost estimate is a complex, difficult and time consuming task and acknowledge Powerlink is refining its estimate as quickly as it can.

[6] See p. 32 https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/a5-network-investments.pdf?la=en
[7] See p. 33 https://aemo.com.au/-/media/files/major-publications/isp/2024/appendices/a5-network-investments.pdf?la=en
[8] https://www.powerlink.com.au/sites/default/files/2024-02/Powerlink%20Cost%20Estimating%20Methodology.pdf

We sought advice from the AER staff on how they propose to assess prudency and efficiency based on a Class 5 estimate and staff indicated that the AER is yet to consider the matter in relation to the Gladstone project."

We get some indication of the AER's approach to cost accuracy in assessing network investment prudency and efficiency in its consideration of the proposed Marinus capex. In November 2024 the AER decided that it required 'market tested' Class 2 (-15% to +20%) costs before it could consider approving the 'prudent and efficient' costs for Marinus Stage 1 Part B construction costs[9]. This has led to a two-step process for AER revenue determinations extending the approval timeline. The AER commented that:

> "The main reason for our revised timelines is that the majority of Marinus Link's costings are not yet fully market tested and are subject to significant change." (p.4)
>
> "We can assess the AACE Class 2 elements once the initial regulatory proposal has been lodged. However, we consider the costings for other elements are subject to too much uncertainty to meaningfully consult on and assess until they are market tested. For this reason, we are adopting a staged approach. We will assess the AACE Class 2 elements and provide an initial draft decision on these. The initial draft decision will include the balance of costs as placeholder figures. However, these costs will not be assessed." (p.5)
>
> "We consider that the additional (supplementary draft decision) step is required to provide stakeholders with an opportunity to comment on the full scope of works and the more accurate costings to be provided in July 2025. To move directly from a revised proposal to a final decision, as proposed by Marinus Link, limits the capacity for consumers and other stakeholders to inform our final decision." (p.5)

Step 1 capex, based on Class 2 costs for undersea cable and installation and converter station equipment, was approved in a decision released on 16th May 2025[10]. Marinus is now due to submit a revised total cost proposal on 15th July 2025 covering all components at a 'market tested' Class 2 level - the just approved and the balance of plant that was at Class 3 last November. The timetable for the AER making its decision depends:

- If Marinus meets the 15th July submission date then the decision will be by 19th December, up to ~110 business days
- If the 15th July submission shows the Class 2 estimate for the just approved undersea cable and installation and converter station equipment is >15% above the Class 2 estimate provided in November 2024 or the revised submission is delayed for two weeks or more from the 15th July, then the decision will be made by 6th February 2026, up to 140 business days.

We understand that time available to the AER to make its advice to the Minister will be set by the Minister when he sends his request to the AER sometime around mid- June. Given the tight timetable to meet the March 2029 completion date we expect that the Minister's direction to

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[9] https://www.aer.gov.au/system/files/2024-12/Marinus%20Link%20-%20Revised%20Commencement%20and%20Process%20Paper%20-%20December%202024.pdf

[10] https://www.aer.gov.au/system/files/2025-05/AER%20Initial%20Draft%20Decision%20-%20Marinus%20Link%20Stage%201%2C%20Part%20B%20%28Construction%20costs%29%20Transmission%20Determination%202025-30.pdf

construct would need to be made by some time in December 2025. If the mid-June date is followed, this suggests the AER will have at most ~130 business days to prepare its advice.

The discussion of cost pressures on pp 40-41 is relatively short when it has been a central issue across the NEM, particularly in the context of Project Energy Connect (PEC). In May 2021 the AER assessed $2.28b as prudent and efficient for both the NSW and SA parts of Project Energy Connect based on considerable project cost detail[11]. The latest published estimate is $4.1b[12] and the AER is to assess the prudency and efficiency of $3.6b for the NSW part (previously $2.1b)[13]. In the Final we would recommend a fuller discussion of the cost pressures that Powerlink is facing and the actions Powerlink is taking to mitigate those risks.

Our final comment is on Powerlink's exclusion of escalation in the capex estimate (Tables 4.2 and 7.1) The $1.812b cost is presented in 2024/25 prices ie in real terms. This implicitly includes CPI escalation. Apply the CPI forecast would allow the nominal cost to be easily calculated. We presume the exclusion of escalation means the exclusion of real price escalation i.e. no price escalation above forecast CPI. The approach to escalation should be discussed in the Final.

In summary, based on the provision of a class 5 estimate with no contingency, we do not have the information to comment on prudency and efficiency. We would be better placed to provide a view with:

- Provision of an AACE Class 3 estimate
- inclusion of contingency in the estimate,
- a comprehensive risk analysis, and
- a detailed project delivery schedule

Given the level of cost accuracy will improve over 2025, we recommend that Powerlink provide transparency for any updated cost estimates (including the AACE Class) they provide to the AER and the Ministers subsequent to publication of the Final.

We welcome Powerlink's commitment to regular reporting to the Customer Panel on Gladstone PTI costs.

Issue 4

Does the economic assessment of options meet the AER's expectations in the RIT-T Application Guidelines, as modified by the Assessment Direction? Please provide reasoning for your perspective.

Powerlink is required to apply the modified RIT-T Guideline to the project set out in Appendix B. As noted above, our discussions with Powerlink has queried the benefit of doing a CBA on a project that has to be built and when the timing constraint on delivery means there is only one credible option.

[11] https://www.aer.gov.au/news/articles/news-releases/aer-approves-costs-project-energyconnect
[12] https://reneweconomy.com.au/deja-vu-on-transmission-project-cost-blowouts-as-price-of-energyconnect-doubles/#:~:text=Project%20Energy%20Connect.,Source%3A%20Transgrid%20corporate%20video.&text=The%20cost%20of%20Project%20EnergyConnect,%242.28%20billion%20to%20%244.1%20billion.
[13] https://www.transgrid.com.au/media-publications/news-articles/energyconnect-update/

We also recommend a simpler and more comprehensive explanation of the CBA used in Chapter 8 of the Draft, in particular the use of negative NPVs to compare the one credible option with another non-credible option. As there is only one credible option for a project that Powerlink is required to build we are not in a position to provide a definitive view on the application of the RIT-T Guidelines. We leave the AER to express its view on this issue.

Issue 5

Does Powerlink's estimation of costs meet the AER's requirements in the RIT-T Application Guidelines? Please provide reasoning for your perspective.

Powerlink sets out its view that it has met the requirements in Section 7.3. The sections of the Guidelines[14] that we focus on are those that came as a result of the AEMC decision on the material costs rule change proposed by the EUAA and others in 2021[15]. The Panel considers that the AER is best placed to assess whether Powerlink has met the requirements in the RIT-T Guidelines. Our comments here focus on what information we consider Powerlink should provide to ensure confidence that the long term interests of consumers are being considered. These may go beyond what is required under the AER Guidelines.

Cost estimation accuracy

The AER Guideline is not prescriptive in this area, leaving it up to the proponent. Under Section 3.5A.1, Powerlink has the option of using the AACE cost classification. If it does it must set out the level of accuracy used and justify why the cost estimate falls within that category. It can choose the level of cost accuracy, provided it provides an appropriate basis for ranking the credible options under the RIT-T.

Section 7.3 of the Draft provides sufficient detail on the 'how' the Class 5 estimate was completed. Powerlink states that its Class 5 is appropriate for this stage given the short time period available for project analysis and approval '…in Powerlink's circumstances'. We recommend that Powerlink include in the Final:

- a more a robust explanation of why its Class 5 estimate is appropriate for ranking credible options
- what Class estimate will be provided to the AER and the Ministers (if different from that in the Final/Draft) and why that Class is appropriate to determine whether the proposed expenditure to deliver the preferred option would be incurred by an efficient and prudent operator in Powerlink's circumstances, the final investment decision and the allocation of capex into the Powerlink RAB.

Contingency

Powerlink has not included contingency within the current estimate. Costs presented in Tables 4.2 and 7.1 of the draft assessment are labelled as 'excluding contingency'. The AER Guideline does not require an explanation for why contingency is not included and so Powerlink does not provide any

[14] https://www.aer.gov.au/system/files/2024-11/AER%20-%20RIT-T%20application%20guideline%20%28clean%29%20-%2021%20November%202024.pdf
[15] https://www.aemc.gov.au/rule-changes/material-change-network-infrastructure-project-costs

explanation for its exclusion. To provide greater confidence to consumers, we would recommend the inclusion of contingency, given that the Final cost will be the basis for the AER's advice to the Ministers.. All costs should be included to enable a transparent net benefits calculation, a transparent investment decision and transparency on the Ministers' decision on what level of costs go into the Powerlink RAB.

The risk is that the less accurate the cost estimate in December 2025, the higher the chance of a material change and the higher the chance of inefficient costs being included in the Powerlink RAB.

Scenarios and sensitivities

Sections 3.7.1 and 3.8 of the RIT-T Guideline quoted in Table B-2 refer to the development of more than one scenario. The detail in the Draft is brief in Section 7.4 (p.43):

> "Powerlink has considered a central scenario. This involves:
>
> - Powerlink's central demand forecast (refer to Figure 3-2);
> - closure of Callide B by 2028; and
> - the need to prepare for the closure of Gladstone Power Station by 2029.
>
> Any differences of additional reasonable scenarios will not change the relativity or ranking between the options and therefore are not included in the assessment."

The Panel's consideration and understanding of the application of scenarios in the report was substantively aided by detailed discussions with Powerlink. We recommend the Final include more justification for the use of only one scenario and the opinion that the us of different scenarios would not change the relativity or ranking between the options.

The Draft does three sensitivities - capex, discount rate and risk costs. The scope and level of sensitivities needs to reflect the AACE cost class eg it is not clear why the capex sensitivity should be 75% to 125% when the potential range of a Class 5 is -50% to +100%. It is not clear what 'alternative risk cost' refers to when it is not a terms used in the RIT-T Guideline. Again, we query the need for sensitivities to be done when there is only one credible option.

We recommend that the Final contains a much more comprehensive discussion that:

- explains the role of sensitivities when there is only one credible option
- provides more explanation on scenario analysis and how it has/has not been applied, and
- ensures terminology is consistent, where possible, with the AER RIT-T and if not used in the Guideline eg 'alternative risk cost', is fully explained

as the basis for providing a more accurate cost estimate. We recommend the Final include commentary supporting Powerlink's view that the AACE Class estimate it provides to the AER is appropriate for assessing prudency and efficiency and the investment decision and RAB allocation by the Minister.

Issue 6

If Powerlink departs from the base case assumptions in the Draft Assessment Report, Powerlink will request comment from stakeholders on whether the departure is justified, and is explained with sufficient clarity and detail.

The base case assumptions are:

- compliance with key regulatory obligations
- Borumba PHES with first power by 2030; and
- Callide REZ declared in 2024/25 financial year.

We have addressed regulatory compliance elsewhere in this submission. Powerlink has informed the Panel that the timing of Borumba and Callide REZ is not relevant to option selection. We recommend that Powerlink provide additional explanation to support understanding on this in the Final.

Issue 7

Is the selection of inputs, assumptions and scenarios credible, and explained with sufficient clarity and detail?

Based on the stage of assessment, some elements meet our expectations, while others lack clarity and recommend more explanation in the Final. Examples of the former are demand forecasts (Section 3.2) and assessment of market benefits (Table 6.1). Examples of the latter include the AACE cost accuracy class, the role of contingency and the role of base case assumptions on Borumba and Callide REZ, updated assumptions and the exclusion of alternative scenarios. All of these have been discussed above and inclusion of additional justification in the Final, recommended.