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Select Committee on Energy Planning and Regulation in Australia
PO Box 6100
Parliament House
Canberra ACT 2600

Submitted online via www.aph.gov.au

Submission to Select Committee on Energy Planning and Regulation in Australia regarding HumeLink

Dear Committee Members,

The Centre for Independent Studies (CIS) welcomes the opportunity to make a submission to the Select Committee on Energy Planning and Regulation in Australia.

The CIS is a leading independent public policy think tank in Australia. It has been a strong advocate for free markets and limited government for more than 40 years. The CIS is independent and non-partisan in both its funding and research, does no commissioned research nor takes any government money to support its public policy work.

This submission uses the HumeLink transmission project as an instructive example of how the existing regulatory process for Australia's electricity system is failing to protect consumers through overvaluing transmission projects and approving projects imprudently. This is directly relevant to the role and function of AEMO, AEMC, and AER as outlined in the Terms of Reference. Specifically, the submission illustrates how the ISP and the regulatory processes that flow from it have been overly favourable to new transmission projects, even when they are not optimal from a consumer standpoint. Further, it highlights serious lapses in AER's regulatory oversight, resulting in higher costs to consumers.

Through examining the HumeLink project, this submission underscores how the rules and framework designed to safeguard consumer interests are not being properly followed, leading to premature and costly project approvals. This failure highlights the need for a thorough review of regulatory practices to ensure they truly serve the long-term interests of consumers.

Executive summary

- **HumeLink's approval despite repeated cost blowouts is symptomatic of serious lapses in Australia's energy planning and regulatory oversight.** The ease with which the project was approved, despite significant concerns about its economic justification and mounting costs, highlights flaws in the regulatory mechanisms intended to protect consumers from premature and unnecessary investments.

- Two major issues underpinning these concerns are the **flaws in the ISP's modelling** and the **moves by the energy regulators to push the project through**. The first relates to the unrealistic assumptions and biases embedded in the Integrated System Plan (ISP), which inflate HumeLink's perceived benefits. The second highlights that critical procedural checks were disregarded or manipulated by regulatory bodies, enabling the project to advance despite clear warning signs.

- **The ISP's unrealistic modelling, driven by a narrowly-constrained vision of how to decarbonise the grid, favours new large transmission projects like HumeLink over**

potentially more cost-effective solutions. In particular, the 2024 ISP forces all scenarios to meet the government's 82% renewable energy target by 2030, regardless of plausibility. This rigid adherence inflates the benefits of supporting transmission projects like HumeLink and ignores more cost-effective or balanced pathways to net zero that do not undermine consumer affordability.

- **AEMO 'cherrypicked' project timing in the ISP to justify HumeLink's premature approval**. AEMO's own modelling indicated that HumeLink should be delivered by 2030, but Transgrid pushed for an earlier 2026 delivery. AEMO introduced the "actionable window", allowing HumeLink to move forward despite its optimal delivery date being years later, exposing consumers to premature costs without commensurate benefits.

- **Fragmented assessment of HumeLink overstates its benefits**. AEMO's "Take One Out at a Time" (TOOT) methodology assessed HumeLink in isolation, inflating the project's value by ignoring its dependence on complementary projects like VNI West. This piecemeal evaluation skews the perceived benefits of HumeLink.

- **Regulatory shortcuts enabled HumeLink's approval at the consumer's expense**. Decision rules that would have protected consumers by halting HumeLink in the event of rising costs or delays were removed from the 2022 ISP, largely due to lobbying by Transgrid and Snowy Hydro. These rules were intended to act as safeguards, but their removal paved the way for HumeLink's approval despite escalating costs and risks.

- **Transgrid was aware of substantial cost increases for HumeLink but did not disclose them at critical points in the approval process**. Approvals were therefore granted based on outdated estimates.

- **Selective enforcement of regulatory requirements**. The AER failed to enforce its own Material Change in Circumstances (MCC) assessment requirement before approving additional funding for HumeLink. This lack of enforcement allowed the project to move forward without the necessary scrutiny.

Yours sincerely,

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Table of Contents

1 Introduction

Australia is in the midst of a historic energy transition, aiming to replace fossil fuels with renewable energy sources like wind and solar. A central part of the current strategy is expanding transmission infrastructure, particularly through Renewable Energy Zones (REZs), to connect remote renewable generation with urban centres and across vast regions.

The underlying assumption of the current policymakers' strategy is that connecting regions across the National Electricity Market (NEM) with differing weather patterns ensures renewables energy supply stability – relying on the idea that it is always sunny or windy somewhere. The belief that transmission will enable Australia's economy to be fully powered by renewables is crucial enough that energy minister Chris Bowen has repeatedly emphasised: "there's no transition without transmission." Thousands of kilometres of new transmission lines are now being greenlit in the bid to power the country with integrated renewables.

The capital-intensive and difficult-to-reverse nature of transmission infrastructure raises the critical question: are Australian consumers paying too much for these projects? Bad investment in energy infrastructure not only leads to higher electricity bills for consumers — particularly concerning during a cost-of-living crisis — but also jeopardises the overall sustainability of the energy transition. Poorly justified or inefficient transmission projects divert resources away from more cost-effective alternatives, slow down the progress of energy transition, and undermine public support for decarbonisation efforts.

The National Electricity Law (NEL) and the National Electricity Rules (NER) guiding the Regulatory Investment Test for Transmission (RIT-T) process are designed to ensure energy infrastructure investments serve the long-term interests of consumers. However, as this submission details,

energy regulatory bodies have increasingly prioritised expanding transmission networks, even if this means bending the regulatory process to accommodate these projects. Such non-compliant behaviour has weakened the RIT-T's ability to protect consumers from inefficient and costly transmission projects.

Transgrid's HumeLink project is one such example. Spanning approximately 365 km of 500 kV overhead transmission lines, HumeLink is designed to connect the controversial Snowy 2.0 pumped hydro to Sydney and Victoria via Wagga Wagga and Bannaby. The project's business case hinges on integrating renewable energy from the South West Renewable Energy Zone (REZ) and delivering power to major demand centres like Sydney, Wollongong, and Newcastle.

HumeLink's journey has been marked by significant cost blowouts. Initially estimated at $1.4 billion in 2019,[1] the project's costs ballooned to $3.3 billion in 2021,[2] and more recently, to $4.9 billion,[3] before the AER trimmed it back to $4.6 billion.[4] Each time costs surged, the projected net benefits for HumeLink at critical stages of economic scrutiny were revised just enough (as outlined below) to clear the regulatory approval process.

Despite significant concerns about its flawed business case, cost blowouts, and procedural compliance issues, as outlined below, HumeLink passed through the RIT-T with relative ease. As detailed in this submission, the approval of this nearly $5 billion project exploited critical loopholes allowed by the energy regulators, bypassing crucial scrutiny that would have protected consumers from imprudent infrastructure spending.

This submission begins in **Section 2** with an examination of how HumeLink is significantly overvalued by the Integrated System Plan, with further details available in CIS' separate submission on the ISP's flaws. **Section 3** outlines the factors behind HumeLink's approval despite major cost blowouts, including procedural shortcuts, selective enforcement of rules, and manipulated project timelines, which together set a concerning precedent for overinvestment in transmission infrastructure at the expense of consumers. Finally, **Appendix A** provides a detailed timeline of HumeLink's approval process, from the PSCR in 2019 through to the approval of Contingent Project Application Stage 2 in August 2024.

2 Critical flaws in the ISP overvalue HumeLink

The Integrated System Plan (ISP) was intended as a comprehensive blueprint for Australia's energy transition, aiming to identify the most efficient pathways for integrating clean energy and transmission infrastructure into the NEM grid. However, rather than providing objective, balanced planning, the ISP has become fixated on an overly-restrictive version of the energy transition, focused on deploying a specific mix of clean energy within an aggressive timeline.

As discussed in CIS' submission to the Committee on the ISP, AEMO has avoided considering broader pathways to achieve net zero that would better balance consumer affordability and environmental goals. This narrow focus risks creating a more expensive transition that unnecessarily burdens consumers with higher power bills. The flawed assumptions and methods in the ISP have skewed decision-making in favour of new transmission projects like HumeLink by inflating their perceived benefits, ultimately undermining the ISP's legitimacy as a reliable benchmark for assessing transmission projects. This submission highlights three key problems:

1. **82% Renewables Target**: The ISP's reliance on achieving the government's 82% renewable energy target by 2030 across all scenarios inflates the benefits of transmission projects dependent on rapid renewable deployment.

2. **Cherrypicking project timing**: AEMO introduces an "actionable window" that allows for arbitrary selection of project delivery dates, resulting in a cost-benefit analysis that is inconsistent with the original timing and obscuring the true economic assessment of projects.

3. **Fragmented project evaluation** — AEMO's "take one out at a time" analysis ignores the interconnected nature of the energy system, leading to inflated benefits for individual projects when assessed in isolation.

2.1 AEMO forces every ISP scenario to fulfil government renewables target

The business case for HumeLink largely hinges on the government's 82% renewables target, which is prescribed — not projected — by the 2024 ISP. Appendix 6 of the ISP explicitly affirms this dependence:

> The biggest driver for the need to deliver HumeLink is the inclusion of several policies such as the Powering Australia Plan which targets 82% VRE by 2030 and the modelled carbon budget which further limits coal generation.[5]

Modelling ambitious renewable buildouts without regard to their likelihood is out of step with both National Electricity Objective (NEO), the National Electricity Rules (NER), and AEMO's own guidelines for modelling. Specifically, under 5.22.5(e)(1), the AER is required to recognise risks to consumers from over-investment, under-investment, or premature investment when overseeing the ISP. By forcing the model to achieve the 82% target in every constructed scenario, AEMO disregards a more realistic range of outcomes, thus inflating the net benefits for HumeLink and exposing consumers to the risks of premature or overinvestment. If this target is missed or removed later, new transmission projects like HumeLink may result in excessive or unnecessary infrastructure, driving up consumer energy bills without delivering the expected benefits.

Moreover, the latest ISP prioritises certain policy targets, such as emissions reductions, over other essential components of the NEO, including price, quality, safety, reliability, and security of supply. This contradicts the clear guidance from energy ministers, as stated in the Second Reading Speech on 31 August 2023:

> The emissions reduction component is not intended to sit above, or be prioritised over, any other component within the [national electricity] objectives.[6]

By making emissions reduction targets an imperative without regard to the likelihood of those targets being achieved, the ISP elevates the emissions reduction objective above the reliability and cost objectives, which require testing for under-investment and over-investment. The AER should have regard to the ISP's failure to account for a realistic range of scenarios and resulting overvaluation of projects like HumeLink, and whether it is an appropriate basis for approving costly projects.

2.2 AEMO models HumeLink years after its delivery date

In the Draft 2024 ISP, the optimal timing for HumeLink was around 2030,[7] more than three years after Transgrid's July 2026 target. The ISP model delayed HumeLink's delivery so that consumers would only start paying for the project when its benefits began to materialise. However, Transgrid applied for revenues to begin immediately, aiming to fast-track the project by 2026. Their budgeted revenues are based on this accelerated delivery, thereby exposing consumers to the risk of paying for infrastructure long before it provides any tangible benefits.

There were two remedies available for this problem. Either the project itself be delayed so that it was delivered at the optimal time, or the feedback loop could check if the project was sufficiently beneficial at the intended delivery date. Neither remedy was applied. Instead, the project was approved for 2026 on an ISP model which assumed optimal delivery in 2030.

The project was not delayed because six months before the Draft 2024 ISP, AEMO changed the method for determining the "actionable window" for a project. This adjustment extended the HumeLink window from two years after the earliest in-service date (EISD) to six, allowing the project to remain actionable because the optimal delivery date was only three and a half years after the EISD. Of the ten submissions received during consultation on revising the ISP methodology, only Transgrid and the Clean Energy Council (an organisation Transgrid sponsors) were supportive of introducing the actionable window.

Introducing the actionable window allowed Transgrid to advance HumeLink at the earliest possible construction timeline, contradicting the original intent of staging and creating an 'option' to advance the project if necessary — an option to protect consumers that, as discussed below, was ultimately discarded by AEMO and Transgrid.

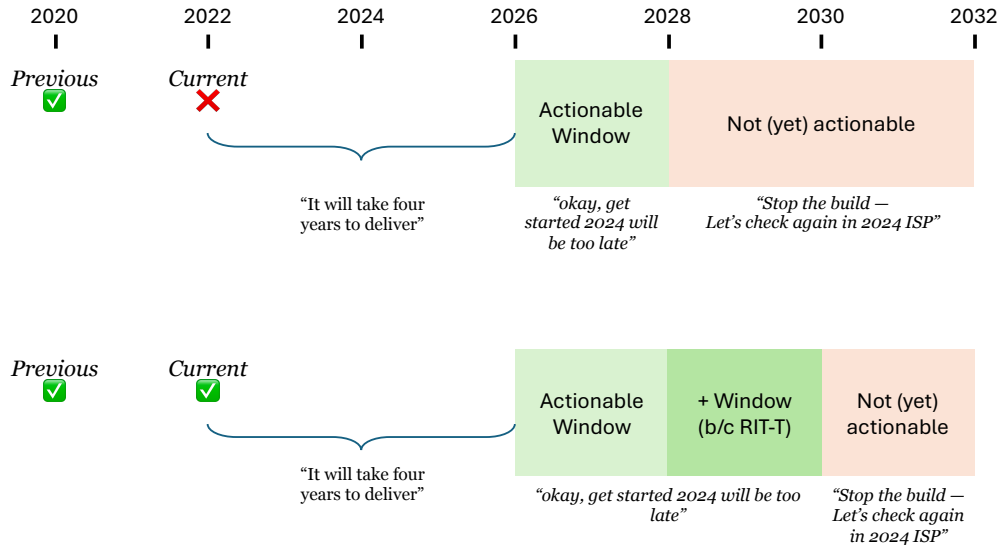


Figure 1: Illustration of actionable window concept.

By December 2023, it became clear that the project would not be delayed, prompting CIS and other consumer advocates to urge AEMO to model the costs and benefits based on Transgrid's advised timing. However, AEMO dismissed these requests and insisted to model the project at the optimal delivery date. While this was permitted by the relevant rules and guidelines, AEMO's decision reflects a tendency to sidestep material economic concerns raised by stakeholders regarding HumeLink.

The failure to delay the project or model it based on the intended delivery date means HumeLink was approved for delivery in July 2026 on the basis of a planning model that projected an optimal delivery time in 2030. In fact, CIS analysis indicates that modelling project costs according to Transgrid's advised timing (2026-27) would have greatly reduced HumeLink's net benefits.[8]

2.3 TOOT analysis double-counts benefits from HumeLink and VNI West.

AEMO's 'Take One Out at a Time' (TOOT) analysis overvalues HumeLink by double-counting the benefits of its connection with VNI West. This approach ignores the interconnected nature of network investments, which should be assessed as part of an integrated system rather than in

isolation. When evaluated separately, projects like HumeLink lose much of their justification because they rely on complementary counterparts to deliver their full value.

New network projects which are being considered derive almost all their benefits from connecting to other transmission. If other transmission projects are already built, then the costs of those projects are appropriately considered "sunk" or treated as zero in a cost benefit analysis. As a result, benefits arising from combining a new project with the existing network therefore appropriately accrues to the new project in a cost-benefit analysis. However, benefits which arise from combining a new project with another new project should be considered against the costs of both projects. TOOT analysis includes the benefits of the combination but the costs of only one, and does this for both projects. It therefore leads to double-counting, and overvaluation.

In other words, TOOT analysis means that the decision-making process in the ISP counts the "synergistic benefits" for new projects twice or more. This is illustrated in Figure 2, which shows the synergistic benefits, denoted as "superadditive", in light green.

For more information on the TOOT flaw, please see our Submission on ISP Flaws.

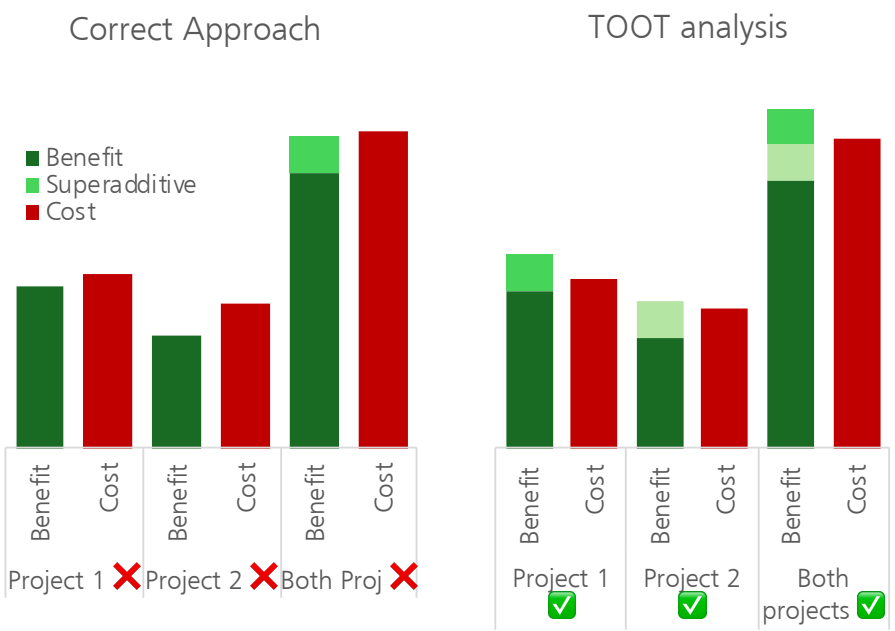


Figure 2: Illustrative example of how TOOT analysis effectively double-counts superadditive benefits. Different illustrative benefits could also lead to the projects being actionable, but only together.

AEMO acknowledged the interdependence between HumeLink and VNI West and noted that a combined analysis could have been performed, as it did for Gladstone Grid South and SuperGrid South "given the interaction between the two augmentations."[9] This would have solved the problem. However, AEMO decided against a combined analysis for HumeLink and VNI West, simply on the basis that it was not performed in the previous 2022 ISP:

> AEMO acknowledges the relationship between HumeLink and VNI West and could have performed TOOT analysis on these combined projects. Given the relationship was not

> assessed in previous ISPs, AEMO considers it prudent and transparent to assess the merits of each project in isolation.[10]

But by not conducting a combined analysis, AEMO effectively inflates the benefits of HumeLink, ignoring the need for complementary infrastructure to support its business case.

3 The process was adjusted to the project

Behind the complexity of the regulatory system is a presumption that the actors — particularly regulatory bodies — work towards the public interest, and that their relationship with one another is for this purpose.

However, in the case of HumeLink, evidence suggests that the process was adjusted to favour the project. On 2 August 2024, the AER chair commented that:

> We've made quite a number of concessions to try and support this project and to see Transgrid be able to invest in it and deliver the project, but we've absolutely been very, very focused in our assessment on making sure that consumers don't pay any more than they need to for this project.[11]

The evidence presented in this submission shows that rules were modified or simply not enforced, missing consumer protections were ignored, and that the AER possibly had a different posture toward Transgrid in private discussions than they did in public. It is unclear on what basis they found it necessary to make "concessions" to a regulated entity.

The regulator may have also acted in ways that prioritised industry benefit over consumer benefits.

On 20 July 2022 Brett Redman responded to a question about the not yet public cost blowout to $4.9 billion. He said that "... we are solving for a maximum to ensure it will pass the benefits test, then working with the AER on more detail."[12] Along with their confidence in the Draft CPA2 that the feedback loop would be approved following a blowout, this raises the concern that the AER and AEMO may have enabled Transgrid to do this more effectively and with less risk, particularly by allowing them to determine likely outcomes of AEMO modelling. This would have enabled them to maximise their cost base, minimising net benefits to consumers.

3.1 AEMO abandoned decision rules at Transgrid's request

In the Draft 2022 ISP, AEMO split HumeLink into stages and also added "decision rules" to the second stage to protect consumers, and prevent or delay the project if it proved uneconomic. However, in the Final 2022 ISP they dropped the decision rules at the suggestion of Transgrid and Snowy Hydro. Both rules would have been triggered had they not been removed.

The ISP guidelines recommend decision rules for staged projects to protect consumers from over-investment. The rules were introduced because the project was being advanced earlier than the model considered optimal, and to prevent the project going ahead if costs increased significantly.[13]

The rules state that HumeLink progresses to Stage 2 unless:

a) there are new commitments that increase the likelihood that either:
   i) material volumes of existing dispatchable capacity are retained in New South Wales; or
   ii) material volumes of new dispatchable capacity are developed in New South Wales beyond what is currently assumed in the Step Change scenario, or

b) the total project cost (including the cost of completed early works) has materially increased from the current cost estimate of $3.3 billion.[14]

Submissions either praised the decision rules or called for more clarity about when they would be triggered. The Consumer Panel asked for clear decision rules so it was clear what level of residual risk from early works consumers were bearing.

In the Final 2024 ISP, AEMO dropped the decision rules on the basis that they agreed "with stakeholder views that the draft decision rules for HumeLink would not add any additional consumer protections".[15] The stakeholders referred to were Transgrid and Snowy Hydro, direct beneficiaries of the project regardless of consumer benefit.

Since then, the lessened consumer protection has become clear because coal capacity has not retired as quickly as projected (e.g. Eraring) and there was a 33% real increase in costs. Both rules would have been triggered, yet HumeLink progressed regardless.

This was particularly problematic because the feedback loop did not provide the same level of protection, as AEMO argued it would: "the ISP Feedback Loop will provide the same level of consumer protection without the need for decision rules."[16] And as outlined in section 3.4, HumeLink was progressed without any plan to be able to delay it if needed. Staging ultimately provided no optionality, nor protection against overinvestment, only acceleration.

3.2 AEMO skipped consultation on ISP update and feedback loop

We conclude that, on the evidence outlined below, AEMO used its power to issue "updates" to the ISP with the effect of speeding up the investment approval process for HumeLink and providing it with higher modelled benefits. This was against the rules and yet given tacit approval by the AER both times it occurred. This meant AEMO and the AER arguably moved the regulatory targets, and the timing at which they must be hit, in a way that functioned to keep HumeLink actionable and progressing when it may have failed otherwise.

An update to the Integrated System Plan is published every two years, and generally remains the current plan for the next two years until the successor is released. Before the new version takes effect, AEMO is required by the NER to release a draft and put it through a public consultation process.

On 10 December 2021, the same day as releasing the Draft 2022 ISP, AEMO issued an "update" causing the Draft ISP to take immediate effect. No consultation had been done on either the Draft 2022 ISP or the ISP Update itself at the time. In the ISP Update notice, AEMO noted that "Clause 5.22.15(c) of the Rules specifies that an ISP update requires consultation"[17] and implied that consultation on the IASR and ISP Methodology satisfied this requirement. We do not believe that this is true, particularly because each explicitly requires consultation, and because the ODP is not in either the IASR or Methodology. This Draft ODP, immediately effective, was the first published mention of staging HumeLink.

As noted by the consumer panel, this action by AEMO "...appears to mean the approach to early works for HumeLink is now locked-in with no scope for AEMO to make changes based on stakeholder feedback to the Draft ISP."[18] Skipping the feedback loop was against the rules (which requires guidelines to be followed), allowed HumeLink to proceed on the basis of an unconsulted ODP, and demonstrated contempt from AEMO regarding the consultation process.

Applying the Draft 2024 ISP as an update to the 2022 ISP was critical to passing HumeLink's cost benefit assessment, considering the significant cost escalations that would have likely led to failure in passing the test if the 2022 ISP remained the benchmark for assessing HumeLink.

The previous feedback loop used the Draft 2024 ISP, because AEMO issued an update six days prior on the 15 December 2023, which nominally updated the ISP from the 2022 ISP to the Draft 2024 ISP. However, this update was invalid for the purposes of the feedback loop because it did not satisfy clause 5.22.15 of the NER:[19]

> If AEMO is required to publish an ISP update ... AEMO must consult on the new information and the impact on the optimal development path under the Integrated System Plan, in accordance with the consultation requirements set out in the Forecasting Best Practice Guidelines for an ISP update.

The Draft 2024 ISP was released on the same day AEMO issued the update to the ISP and the ODP, on 15 December 2023. This updated the ODP without consultation, thereby violating the NER, and invalidating the previous feedback loop confirmation issued on the basis of the update.

Instead of enforcing AEMO's obligation to consult on the ISP update, the AER waived the consultation requirement, allowing the previous feedback loop to proceed with an unconsulted ISP.

While before Senate Estimates on 12 February 2024, the AER Chair claimed that the AER had the discretion to waive the mandated consultation, stating, "it is within our right to do that [waiving the mandated consultation] under the law, and it is our guidelines that they would be needing to comply with."[20]

However, the assertion that the AER has the legal right to skip consultations because they are 'guidelines' and not rules is incorrect. To reiterate the assessment by James Glissan AM ESM KC in his Memorandum of Opinion (the Glissan Opinion, annexed):

> While the NER permits AER to specify those parts of the guidelines binding on AEMO, this is not on an ad hoc basis, but as set forth in the guidelines themselves and in precise detail. **No discretion to waive compliance is contemplated** in those parts of the FBPG that have been declared to be binding requirements or binding considerations... No discretion for AER to forgive such a breach can be found in the legislation — no rule is formulated to supersede the duty imposed on AER which was to enforce compliance by AEMO with the FBPG... it is clear that no discretion to waive this precise consultative process required to be undertaken by AEMO is afforded AER by the legislation or the FBPG. The duty of AER is to ensure that the Rules have been complied with both in spirit and in the letter of the law.[21] (emphasis added)

In fact, according to the AER Chair's own signed letter to AEMO on 4 October 2021 on the occasion of a previous ISP Update, the AER was content to allow AEMO to skip the requirements "set out in the NER":

> The AER notes AEMO's position to not undertake consultation to issue an ISP Update in the manner outlined above and, in accordance with the consultation requirements set out in the NER and AER's FBPG.[22]

By the Glissan Opinion, and by the regulator's own admission, it is apparent that the consultation process is legally required, and that the AER — prior to the rule change — had no discretion to

waive such process. Such discretion, the Glissan Opinion concludes, is not to be found in the legislative instruments and does not exist "other than in the mind of the regulator."[23]

The AER Chair asserted, before the Senate Estimates committee, that the consultation requirements for an ISP update are not as comprehensive as those for a Draft ISP,[24] and that it would have been "duplicative" to go through the consultation process again.[25]

The 'duplicative consultation' argument was also made in the formal correspondence between the Regulator and AEMO in 2021:

> ... there is likely to be limited value in undertaking a separate consultation process for the purposes of the ISP Update considering the recently completed consultation undertaken during the development of 2021 IASR and the ISP methodology.[26]

The AER repeatedly told the Senate hearing that the consultation processes were duplicative, and that the consultation process already completed for the Draft 2024 ISP exceeded what would have typically been required for an ISP update.[27]

However, examining the elements each process consults on reveals that this argument is incorrect. A Draft ODP is not consulted on during the development of an IASR or an ISP methodology and is only revealed in a Draft ISP. The Draft 2024 ISP had not undergone consultation at the time the feedback loop notice was published, meaning the Draft ODP had not been consulted on.

Consultation on the inputs, assumptions, scenarios and methodology is not a substitute for consultation on outputs. Outputs contain entirely new determinants of the ODP. For example, "insurance" arguments for HumeLink or the staging decision.

In response to our concern that the ISP Update was invalid, The AER said that:

> The National Electricity Law does create a presumption of validity in relation to statutory instruments including ISP updates.

It is unclear what the presumption of validity means here, particularly where the NER rules explicitly require consultation on both ISP Updates and on ODPs before they become effective.[28]

3.3 The AER publicly condemned behaviour while privately condoning it

The AER did not enforce the rules and their own requests that HumeLink's MCC assessment to be submitted as soon as possible and prior to the CPA-2. This raises serious concerns about the transparency and fairness of the process from the consumers' perspective.

A week after the CEO of Transgrid testified before the NSW Parliament about HumeLink's cost escalation, Transgrid wrote to the AER on 25 July 2023 asking if Transgrid needed to assess if a 'material change in circumstances' had occurred because of the cost escalation. This was noted in the AER's correspondence to Transgrid, but the letter itself is not publicly available.[29]

In the AER's response to Transgrid's inquiry on 22 August 2023, AER confirmed that such an assessment was necessary, and confirmed Transgrid should do so promptly, and publish the results prior to CPA-2:

> Transgrid should determine whether there has been a material change in circumstances **as soon as possible**. We consider it necessary that Transgrid make the 'material change

in circumstances' assessment available to the AER and stakeholders, **before it submits a further contingent project application to** the **AER**.[30] (emphases added)

Despite this directive, Transgrid completed their MCC assessment on 29 February 2024, nearly six months later. In addition, they submitted their Stage 2 CPA on 21 December 2023, 70 days prior to completing the MCC assessment, directly contradicting the AER's directive that the NER required Transgrid to supply evidence of the MCC assessment prior to a CPA. This led the AER to issue another public notice to Transgrid on 19 January 2024, warning that the CPA was at risk of being non-compliant for not lodging the MCC assessment before submitting the Stage 2 application.[31] This is despite the AER stating in the August 2023 Determination that "it is our expectation that Transgrid will more consistently, transparently and meaningfully engage with its stakeholders and the wider community for the remainder of the HumeLink project."[32]

However, Transgrid disclosed in a private correspondence with the CIS that while the AER publicly required the MCC assessment to be completed as soon as possible, during private meetings with Transgrid the AER tacitly approved its delay until the Draft 2024 ISP was released. As Transgrid stated:

> Whilst Transgrid confirms receipt of the AER's 22 August 2023 letter, there were further meetings that were held between the AER and Transgrid following this letter and the parties discussed that doing a complete MCC assessment at that time was not practical given that the draft ISP was due to be released in December 2024 which may have updated certain assumptions used in the MCC. As such, the MCC was only carried out after the release of the draft ISP.[33]

This highlights the gap between the private behaviour of the AER toward industry and their public communications. It is particularly misleading given that the AER, in their 19 January 2024 letter to Transgrid, warned again:

> TransGrid's contingent project application might not be compliant with clause 6A.8.2(b)(1) because it may not have met the requirement that it provide an explanation that substantiates the occurrence of the trigger event.[34]

This apparently conflicting advice from the AER is, at best, confusing and, at worst, misleading to the public. Such discrepancies in communication and enforcement undermine the regulatory process, create confusion, and above all fail to protect consumer interests.

The AER responded to these concerns with the following:

> "Although we asked Transgrid to submit its MCCA prior to its CPA submission, this was to ensure that we could consult with stakeholders concurrently on both the MCCA and Transgrid's CPA."[35]

3.4 The AER knew staging would not provide optionality

The AER did not act when their independent consultancy firm told them that the plan in the early works application did not provide any optionality. Optionality was an express purpose of both staging and early works according to AEMO. But EMCa advised that "Transgrid has not defined optionality or option value as an objective"[36] and that their plan assumed they would proceed immediately and gain approval at each stage.

EMCa elaborated that:

> The plan largely precludes meaningful 'optionality' on completion of Stage 1, by assuming that AEMO's feedback loop and AER's Stage 2 determination take place before Stage 1 is complete and before a new ISP is available. The plan does not consider outcomes from the AEMO feedback loop, AER determination processes and Final Investment Decision (FID) other than in each case to assume that it provides endorsement to proceed immediately into Stage 2 at the (then-estimated) total HumeLink cost.

AEMO claimed its staging of HumeLink would protect consumers in three main ways. Of these, only cost determination was partly realised in the plan at CPA1:[37]

1. **Optionality**: Staging would allow flexibility to delay the project if the optimal timing required it. However, Transgrid did not build optionality into the plan.
2. **Cost determination**: Staging was intended to iteratively establish an accurate project cost. This was compromised by delays, and that the next feedback loop would occur 9 months before the stage was completed.
3. **Decision rules** would protect consumers against cost increases or delayed coal closure. But they were removed in the Final 2022 ISP at Transgrid's request (see 3.1)

Optionality was the critical protection, since the option to delay or accelerate was the mechanism through which consumers would be protected by cost determination and decision rules. In 2022, EMCa warned the AER that Transgrid did not plan for optionality in Stage 1 of the project, and that Transgrid's plan assumed automatic approval would be given, locking the project into "a 'single path' transition to Stage 2, with limited contribution to AEMO's optionality objective."[38] This was contrary to AEMO's argument that staging would provide flexibility.

The AER acknowledged concerns over the lack of optionality, but nevertheless approved Transgrid's CPA1 as "reasonable, prudent and efficient", prioritising the need to maintain the project's target delivery date of 2026-27.[39] Such a decision suggests a focus on delivering projects even when it exposes consumers to premature or uneconomical investment risk.

In CPA Stage 2, both the EMCa and AER cite that the project had momentum, and that delays would increase costs as reasons not to delay the project to optimal delivery time.[40] [41] We note that this was the direct result of the AER's own decision to approve CPA1 in the knowledge that it did not provide optionality. Indeed, EMCa advised the AER in response to CPA1 that "the limited optionality offered under Transgrid's Stage 1 plan could be considered to increase the risk of 'regret'".[42]

And it is also clear that Transgrid never intended to allow for delays. Notes obtained under FOI show Transgrid told the AEMC: "in practice the final investment decision is at or before CPA 1." Long-term benefits to consumers are assumed without considering the regulatory process involved in determining those benefits. The intent of the proponent was clearly for the project to proceed, because of requirements of investors.

3.5 The AER did not act appropriately on a delay probability of 99%

Transgrid claims that the revenue request in CPA2 reflects what's "required to deliver HumeLink on time and within budget." However, EMCa pointed out that this is "disingenuous" because: if "on time" is defined as the July/December 2026 target, then Transgrid's CPA2 submission does not align with this for a budget that corresponds with this delivery date, as it includes $272 million in risk costs for delays that would not be necessary if the project were truly on track.[43]

While the AER did exclude some of these risk costs from the capex forecast, it explicitly declined to change its view on the likely completion date:

> We consider that Transgrid has at least partly contributed to some costs associated with a delayed project commencement, and these should be excluded from the capex forecast. However, this does not change our view on the likely completion date.[44]

This is despite Transgrid's own risk analysis and its consultants' advice placing an extremely low probability — less than 1% — on achieving the July/December 2026 completion target.[45] It's clear to everyone involved in HumeLink's regulatory approval process that the base date is highly unlikely to be met.

What this practically means is that the AER has approved Transgrid to begin earning returns on HumeLink significantly earlier, despite the project being repeatedly subject to cost blowouts and almost certain delays, and despite its optimal timing, as identified in the ISP, being years later. The AER's decision effectively allows Transgrid to capitalise on a timeline that everyone involved knows is highly unlikely to be met, forcing consumers to start paying for a project that won't deliver meaningful benefits until several years after the currently proposed base date.

In effect, consumers are exposed to premature and escalating costs for a transmission project that is being railroaded through regulatory hurdles. This is clearly not in the best interest of consumers, who will bear the financial burden long before they experience any improvements in energy reliability or access to renewable generation that HumeLink's supposed to provide.

3.6 Transgrid was able to hide HumeLink cost blowouts

The NER requires total project costs to be continuously reassessed at key regulatory stages for actionable ISP projects like HumeLink. The rules mandate that any material increase in total project costs would trigger a reassessment to ensure that the project remains viable and in the long-term interest of consumers.[46] This provision is crucial for protecting consumers from bearing the financial burden of unexpected cost blowouts without proper regulatory oversight. AEMO and the AER are responsible for upholding these rules and ensuring transparency in cost assessments.

However, in the case of HumeLink, Transgrid did not tell regulators about expected cost increases, and regulators did not ask. The AER effectively allowed Transgrid to withhold cost information and pass HumeLink through regulatory processes based on outdated information, evading the necessary scrutiny of total project costs.

This section discusses how Transgrid delayed cost increases. The ways in which they obscured cost increases are in section 3.8. The regulator's behaviour is discussed in section 3.7.

It seems clear that Transgrid knew about the real cost escalation by the end of 2022, because their schedules show they received a Class 3 cost estimate from independent estimator Fission in December 2022.[47] By the end of February 2023 they would have received tenders with market estimates as well.

Despite this, Transgrid proceeded as though the $3.3 billion cost estimate was still valid: On 6 April 2023 Transgrid asked AEMO for a feedback loop check,[48] and did not disclose the updated cost figures to AEMO. The Draft Transmission Expansion Options Report (TEOR) on 2 May 2023 was another missed opportunity to update costs.[49]

On the 18 July 2023, when Transgrid's CEO Brett Redman was asked about the cost of HumeLink during a NSW parliamentary inquiry, he claimed that the cost estimates were about "three or four

years old" and implied rises would be attributable to "inflation and cost of construction [which] have gone up."[50] He further implied that the updated costing would not be available for several more months, creating the impression that Transgrid was still finalising its numbers.

Redman's statements significantly downplayed the real magnitude of the cost escalation that Transgrid already knew and created the impression that inflation was the primary driver. The actual increase (from $3.3 billion to $4.9 billion) represented a nominal 50% rise over just two years. This exceeded the inflation that Redman presented as the cause by 33%.

Transgrid finally notified AEMO of the cost blowout for the final version of the TEOR at some point during July before the final TEOR was published on 28 July 2024.[51]

Transgrid avoided acknowledging the true cost escalations at critical moments when these increases would have affected the project's status, creating an obstacle to AEMO and the AER acting on the escalating costs when it would have mattered most for consumers.

Ultimately, the AER and AEMO allowed Transgrid to proceed on outdated cost figures and receive several approvals based on incomplete and misleading information. See section 3.7 below for more information on the AER's failures.

3.7 The AER did not act appropriately on known cost increases.

The regulator did not act appropriately when advised of cost increases. They ignored a published cost blowout to $4.9 billion when approving CPA1 Part 2, and ignored advice from their independent assessors on Part 1 in the previous year that costs increases were "inevitable".[52]

A month after AEMO published the TEOR showing that HumeLink had increased in real terms by 33% to $4.9 billion (FY23),[53] the AER approved HumeLink CPA1 Stage 1 Part 2 on the basis that the total costs remained $3.9 billion (FY23). The approval notice on 22 August states that:

> "HumeLink is an estimated $3.9 billion ($2022-23) transmission update"[54]

On the same day the AER wrote a letter to Transgrid confirming they knew about the cost increase to $4.9 billion (FY23):

> "We also observe that [The TEOR] has provided an updated estimate of the costs of the preferred option in the RIT-T of $4.9 billion (June $2023), or a nominal increase of $1.6 billion ... 5.16A.4(n)[55]

We believe that if the AER had considered the cost increase in their determination, CPA1 S1 P2 may have been rejected on the basis that net benefits were no longer positive. Indeed, a year earlier their own independent engineering firm EMCa had tested Transgrid's benefits model with a capital cost increase of 50% and found the weighted net benefits of the project to be -$756 billion *including competition benefits* (approx. -$1.2 billion without) using the 2022 ISP.[56] The AER was aware of this analysis. (The EMCa sensitivity analysis did not account for inflation to benefits, however it indicates that a real increase of 33% would likely still send the project into the red.)

A year earlier in July 2022, the AER received the following advice in an independent assessment of the first HumeLink CPA:

> [Transgrid] has not included provision for real cost escalation ... It is reasonable to expect that the project may be subject to material increases in cost from Transgrid's current

> estimate ... It appears inevitable that the HumeLink cost will be higher than Transgrid's current estimate.[57]

The independent assessment also found that Transgrid knew six of their key material input costs had already risen in February 2022 (four months prior) by anywhere from 15%–100%.[58] The AER nonetheless approved the application as if total costs had remained unchanged.

Both of these oversights were consequential and allowed Transgrid to begin receiving revenue for early works on the project while costs rose well above what the existing ISP would have contemplated as acceptable. In turn, this allowed Transgrid to build momentum that was critical to making HumeLink essentially un-delayable even when optimal timing was found to be 2029-30.

3.8 Transgrid repeatedly obscured cost increases by misusing inflation.

Throughout the regulatory approval process, Transgrid repeatedly obscured cost increases by confusing real and nominal figures, and incorrectly inflating cost estimates. Both of these served to muddy public debate, and in some cases led to the regulator and independent engineering assessors repeating the errors.

The Transgrid Stage 2 CPA justifies the increase to $4.92 billion by referring to reports showing the industry as a whole experienced significant inflation in 2022 of nearly 30% in that year alone.[59] However, these increases were in nominal terms, and the nominal increase of HumeLink was 48–49%. These industry figures were also based on industry surveys rather than price data.[60]

Notably, the first finding of the Infrastructure Australia report referred to by Transgrid is that Australia should be reducing demand by either sequencing projects, or delaying those that have not yet started construction.[61]

Transgrid's MCCA understated the *real* cost increase by $147 million (FY23), erroneously claiming the cost had increased in real terms by $1.06 billion (FY23) when it had in fact grown by $1.2 billion.

This error in the MCCA allowed them to understate the real increase as "28 per cent"[62] when it was in fact 33%. This error was made by inflating the PACR estimate by 17% instead of 12.5%.[63] It is unclear how Transgrid arrived at an escalation factor of 1.17, and they do not state that this deviates from headline inflation as reported by the ABS and RBA. It is possible Transgrid inflated the term as if it were a June 2020 (or June 2019) figure when in fact it was a June 2021 figure.

Transgrid also incorrectly informed EMCa, whose independent assessment of proposed expenditure on CPA2 states that the $3.3 billion estimate is in 2020 terms rather than FY21 terms. They also repeat Transgrid's finding that the real increase was 29%.[64]

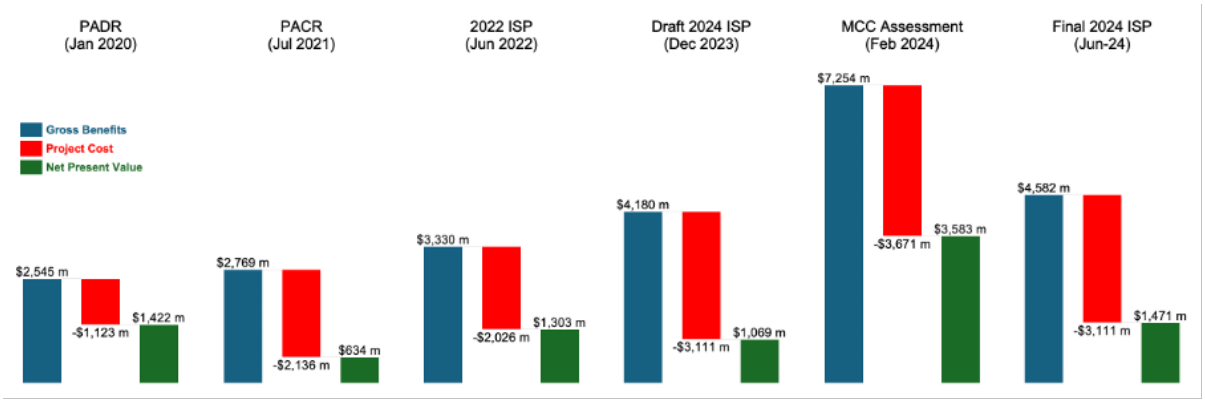
Appendix A HumeLink Approval Timeline

The HumeLink timeline below aims to put three sets of facts alongside one another in chronological order:

1. Milestones, reports, and approvals in the RIT-T process.
2. Public statements from regulators and proponents.
3. Estimated net benefits of the project, including estimated costs and benefits

It is not exhaustive, but provides a reference for the problems outlined in the main body of the submission.

Figure A.1 depicts the development of HumeLink's net benefits (green), which is the sum of the build costs (red) and gross benefits to the system (blue), in net present value terms.



2019–2020: PSCR and PADR

On 25 June 2019, the Project Specification Consultation Report (PSCR) found the indicative capital cost of HumeLink option 3C (HumeLink 3C) to be $1.35 billion (assumed to be FY19 AUD).[65] The PSCR did not estimate benefits and was not required to.

On 10 January 2020, the Project Assessment Draft Report (PADR) estimated the capital cost of HumeLink 3C to be unchanged at 1.35 billion (FY19 AUD), and the net benefits (FY20 AUD) to be $1.42 billion in the *Step Change* scenario.[66]

30 July 2020: Final 2020 ISP is released

AEMO released the Final 2020 ISP on 30 July 2020. It did not include project-specific cost-benefit analysis on HumeLink or other projects.

July 2021: PACR and PACR Addendum

On 29 July 2021 the Project Assessment Conclusions Report (PACR) reported the project's undiscounted capital cost as $3.32 billion (FY21 AUD). Net benefits weighted across scenarios were only $0.04 billion (FY21 AUD).[67]

Transgrid issued an addendum on 17 December 2021 confirming these estimates.

December 2021: Draft ISP released

On 10 December 2021, AEMO released the Draft 2022 ISP, and made HumeLink a 'staged' project, allowing approval and funding for the project to be sought in two separate stages. It included *decision rules* that would pause the second stage if costs materially increased or more dispatchable generation is kept than expected.

On 10 December 2021. AEMO also issued an 'ISP update' that made the ODP in the draft ISP the official ODP effective immediately. Neither the ODP nor the ISP update itself were consulted on as required by the NER 5.22.15(c).[68]

January 2022: Stage one approved on draft ISP

On 25 January 2022, Transgrid requested a feedback loop assessment for first stage of HumeLink, estimating the total project cost to be $3.32 billion (FY21).

On 27 January 2022, AEMO published a notice that the feedback loop requirements had been satisfied, allowing Transgrid to proceed with a CPA for stage 1 (CPA1). The notice included a footnote citing the incorrect financial year for total project cost (see section 3.8).

April 2022: Transgrid applies for CPA1

In April 2022, Transgrid applied for $321.9 million in funding for the first stage of HumeLink (CPA1) requesting for early works.

June 2022: Final 2022 ISP removes decision rules

On 30 June 2022, the 2022 Integrated System Plan estimated net benefits for HumeLink 3C to be $1.3 billion. The 2022 ISP cited HumeLink's project cost in the PACR.

The net benefits under the *Step Change* were estimated to be $1.3 billion.

AEMO dropped the decision rules for the second stage of HumeLink at the request of Transgrid. Decision rules require the second stage to be paused if costs increased materially or if more dispatchable (coal) capacity is kept than expected.

17 August 2022: The AER approves CPA1 after advice on increased project cost

On 17 August, the AER approved the funding based on unchanged total project costs of $3.317 billion (FY21 AUD), despite receiving an independent report from EMCa stating that costs were materially higher:

> Transgrid has not yet taken regard to the current and expected market conditions in preparing its full project cost forecast to date. The current project cost estimate of $3.317bn was developed in 2021, is expressed in $2020-21 and has not included provision for real cost escalation ... It is reasonable to expect that the project may be subject to material increases in cost from Transgrid's current estimate ... It appears inevitable that the HumeLink cost will be higher than Transgrid's current estimate.[69]

EMCa also informed the AER that Transgrid's plans for stage 1 aimed to accelerate the project, but did not take key cost-finding steps, and did not allow for meaningful optionality for stage 2:

> Transgrid did not explicitly identify optionality for future (Stage 2) decisions, or option value from Stage 1, as intended outcomes or objectives ... The plan largely precludes meaningful 'optionality' on completion of Stage 1.[70]

The report also informed the AER that the July 2026 delivery date is highly ambitious.

27-28 November 2022: AEMC asks Transgrid to be rule change proponent to fit with HumeLink timing

FOI documents from the AEMC show the AEMC asking Transgrid when rule changes would need to be completed to apply to HumeLink "taking into consideration the likely time for the feedback loop and the CPA for stage 2"[71] and requesting Transgrid submit the *Improving the workability of the feedback loop* rule change request.[72] The AEMC said they would reach out to "the other potential proponent" but asserted that Trangrid submitting the request would give them more control if they had "a specific time the rule change needs to be in".[73] In correspondence with DCCEEW, the AEMC stated:

> Transgrid have demonstrated interest in submitting a feedback loop rule change but I think would be happy to take a back seat if the Commonwealth were able to move reasonably quickly. We met with them last week to understand the timing of the Humelink CPA 2 better as they would like all of the concessional finance, financeability and feedback loop rule changes made by July-Aug next year to fit with their timing.[74]

DCCEEW planned to liaise with Transgrid to "determine between us who is best placed to submit the request" and the AEMC confirmed the plan was to "have resources available in Feb [2023] which would allow the rule change to be in place by approx. July next year [2023] which would satisfy the HumeLink timing requirements".[75]

1 December 2022: AEMC discusses new government policies with Transgrid

An AEMC employee references a call with Transgrid that discussed how "the issue of new government policies etc affecting the optimal development path is a broader ISP-level consideration and not directly related to the recommendations for the feedback loop".[76]

February 2023: Transgrid scheduled to receive cost estimates

Transgrid planning documents show that Transgrid completed the stage 1 Early Contractor Involvement (ECI) process in February 2023. They would have received Class 3 quotes from competing contractors on the likely cost of HumeLink.[77]

24 February 2023: AEMC confirms final investment decision for transmission projects occurs prior to CPA 2

In notes from a meeting with Transgrid (presumably taken by an AEMC employee), one of the "principles" is listed as:

> In practice the final investment decision is at or before CPA 1 — not realistic for a TNSP to decide to not proceed with a project at the end of CPA 2. Too much reputational risk for a project to not proceed. Investors need to commit capital much earlier in the process.[78]

6 April 2023: Transgrid requests feedback loop

On 6 April 2023, Transgrid began asking the AER to approve charging consumers to purchase long lead time items such as transformers as an additional part of the first stage of HumeLink, at an additional cost of $220.4 million (FY21 AUD) bringing total expenditure for the first stage to $559 million (FY21 AUD).[79]

8 May 2023: AEMC requests AEMO's view on rule change request deadline

The AEMC asked AEMO for their views on when the feedback loop rule change request needed to be completed, understanding "it won't likely be in place for the HumeLink feedback loop".[80]

19 May 2023: Feedback Loop finds HumeLink actionable at $3.32bn

On 19 May 2023, AEMO published a notice that feedback loop requirements had been satisfied, and did so on a total cost of $3.32 billion (FY21 AUD) which was unchanged from the PACR published in 2021. AEMO states:

> AEMO also had regard to the total cost of the project ($3.32 billion) and considers that the status of the project as actionable remains unchanged.[81]

23 May 2023: Transgrid submits CPA1 (Part 2)

Transgrid submitted Stage 1 Part 2 CPA for HumeLink on 23 May 2023, with an estimated undiscounted total project cost of $3.91 billion (FY23 AUD). A footnote incorrectly stated that this was equivalent to $3.28 billion in FY18 dollars but it was an FY21 figure.[82] See section 3.8 for further discussion.

Transgrid stated that "We are on schedule to submit our Stage 2 Application by September 2023" both in the Stage 1 Part 2 CPA and a month later in their June 2023 TAC meeting.[83]

29 June 2023: AEMO publishes ISP method with new "actionable window"

AEMO released an update to the ISP methodology that modified the "actionable window" so that two years were added for every ISP in which the project has been found to be actionable. Previously, actionable projects had a two year window following the EISD advised by proponents.[84]

This change allowed HumeLink to remain actionable in the 2024 ISP. The optimal timing was now three years later than previously modelled, outside the previous window for HumeLink, but within the new window. Without the change, it would have been cancelled.

13 July 2023: AEMC confirms rule change won't be in place for HumeLink

AEMC asked AEMO when the feedback loop rule change needed to be in place, given necessary amendments to the AER guidelines meant that "it won't be in place in time for HumeLink". AEMO responded:

> Neither the rules nor guidelines [will be] in place for any upcoming feedback loop requests that we can foresee, so I think the urgency is low from an AEMO perspective.[85]

18 July 2023: NSW Parliamentary Inquiry

On 18 July 2023, two months later, Brett Redman appeared before the NSW Standing Committee on State Development's Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects. Three things happened:

1. He said costings would be finished "in the next few months";
2. He said the $3.3 billion cost estimate was 3–4 years old; and
3. He said HumeLink would see a cost increase of 30%.

An excerpt of the transcript follows:

> Brett Redman: The current official number is about $3.3 billion to build HumeLink
>
> The Hon. Wes Fang: We know from the Commonwealth Games that probably there's a figure and then there is an actual figure. Are we still expecting around $3.3 billion or are we expecting somewhere closer to five or six?
>
> Brett Redman: So that number is now a bit out of date. That was the last time it was loaded up with the market operator. It's about three or four years old. Since then inflation and cost of construction have gone up. I would use it as a marker. I expect broadly the **cost of infrastructure and transmission has gone up about 30 per cent. We're going to see that when we finish the costing in the next few months**.
>
> The Hon. Wes Fang: So $3.3 billion, 30 per cent, **about $5 billion**—and you say that $11½ billion was generated last year by the thing?
>
> Brett Redman: Yes.[86]

25-28 July 2023: Letter to the AER and TEOR published

On 25 July 2023, seven days after Redman's statement to the parliamentary inquiry, Transgrid wrote a letter to the AER asking whether a "material change in circumstances" relevant to the HumeLink project had occurred.[87] See below (22 August 2023) for the AER's response.

On 28 July 2023, ten days after Redman's statement, the Transmission Expansion Options Report was published with an updated undiscounted capital cost for HumeLink 3C of $4.89 billion, a 49% increase on the existing estimate first published in the PACR.[88]

The TEOR Consultation Summary Report notes "An updated cost estimate for HumeLink was provided by Transgrid in July 2023."[89]

22 August 2023: The AER requests MCC as soon as possible because of blowout

The AER wrote a letter to Transgrid confirming they had observed the cost increase to $4.9 billion (FY23) nearly a month before in the TEOR.

> We also observe that [The TEOR] has provided an updated estimate of the costs of the preferred option in the RIT-T of $4.9 billion (June $2023), or a nominal increase of $1.6 billion ... 5.16A.4(n) creates an obligation on Transgrid to consider whether a 'material change in circumstances' has occurred.[90]

The letter asked Transgrid to do an MCCA and publish it as soon as possible, and required them to publish it prior to submitting the next CPA (for Stage 2).

> We consider that Transgrid should determine whether there has been a material change in circumstances as soon as possible. We consider it necessary that Transgrid make available to the AER and stakeholders, Transgrid's 'material change in circumstances' assessment before it submits a further contingent project application to the AER.[91]

25 August 2023: The AER approves CPA1 Part 2 on old costing

Three days later (25 August 2023), the AER approved Transgrid's CPA Stage 1 Part 2 for an additional $228 million (FY23 AUD) for long lead time items, bringing the stage one total to $609 million (FY23), and the total undiscounted project cost to $3.9 billion (FY23). The approval notice states that "HumeLink is an estimated $3.9 billion ($2022-23) transmission update".[92]

22 September 2023: Transgrid unsupportive of rule change from Minister

AEMC employees discussed escalating an issue that arose from a meeting with Transgrid on the Minister Bowen-led feedback loop rule change in which Trangrid was "not supportive at this point".[93]

28 November 2023: Transgrid commissions EY to do modelling for MCCA

The Final MCCA documents (published February 2024) disclosed that Transgrid commissioned EY to do market modelling for the MCCA three months and six days later (27 November 2023). [94] EY began work the next day.[95]

8 December 2023: Transgrid submits Draft CPA2

3 months and 17 days later, Transgrid submitted a Draft CPA for Stage 2 (CPA2) of HumeLink. The Draft CPA2 said the undiscounted total project cost was $4.92 billion (FY23).[96]

15 December 2023: Draft 2024 ISP and ISP Update

The Draft 2024 ISP was released showing HumeLink with an undiscounted capital cost of $4.89 billion (FY23 AUD), and net benefits of $1.07 billion (FY23 AUD).[97] The optimal delivery date was pushed out to FY30.

Net benefits increased in part because all scenarios are required to reach or exceed the 82% renewable energy target and because the *Slow Change* scenario is removed following the introduction of the emissions reduction NEO objective.

21 December 2023: Feedback Loop Approval

On 18 December 2023, three days after Draft 2024 ISP was published, Transgrid requested a feedback loop assessment for CPA S2.

Three days after that (21 December), AEMO published a notice that feedback loop requirements had been satisfied at a total cost of $4.88 billion (FY23 AUD).

On the same day (21 December), Transgrid submitted the CPA S2 to the AER.

19 January 2024: The AER requests MCCA

The AER wrote to Transgrid informing them that CPA2 might not be compliant because they had not yet made an MCCA available either to the AER or the public.[98]

6 February 2024: EY completes MCCA modelling

The Final MCCA documents (published February 2024) disclosed that while the EY report was dated to 28 February, EY completed their work 22 days earlier (6 February 2024).[99]

29 February 2024: Transgrid publishes MCCA

Six months and seven days after the AER requested it, and three months after submitting a Draft CPA S2, Transgrid published their MCCA on 29 February 2024.

The MCCA reported a net benefit of $4.19 billion (FY23) on a weighted basis for HumeLink, more than four times the project's net benefit in Draft 2024 ISP.[100]

The report incorrectly stated that there was a real cost increase of $1.06 billion (FY23) from $3.27 billion (FY21) to $4.88 (FY23). Adjusting with CPI results in a real increase of $1.2 billion ($140 million more). See section 3.8 for further analysis.

25 June 2024: ACIL Allen finds MCCA benefits include VNI West

ACIL Allen informed the AER in a memo that the EY model included the benefits of the VNI West transmission project in HumeLink's benefits, and in fact the gross benefits were only "$4,740 million, which is $2,514 million (or 35%) lower than the MCCA's estimate of $7,254 million."[101]

26 June 2024: AEMO releases Final 2024 ISP and fourth feedback loop approval

AEMO released the Final 2024 ISP.

On 3 July 2024, Transgrid requested a feedback loop check, with cost, scope and timing unchanged since the December 2023 feedback loop check. The total cost was $4.88 billion (FY23). They did this because they "considered that it would be prudent for AEMO to assess the HumeLink project against this most recent ISP".

On 8 July 2024, AEMO published a notice that fourth feedback loop check had been satisfied.

2 August 2024: The AER grants approval for CPA2

The AER approved CPA2 for $3.9 billion, resulting in a total project cost of $4.6 billion (FY23 AUD). The net benefit of HumeLink 3C is $1.52 billion (FY23).

The approved costs are less than in Transgrid's application because the AER lowered the risk-costs in line with advice from EMCa.

On the same day, the EMCa report is released and finds that "Transgrid's proposed cost allowance for CPA2 is overstated" and that this is the result of both the risk-cost allowance, and a rushed timeline. Transgrid knew there was a 1% chance of delivery on schedule, a schedule found to be justified by circular logic and misleading claims about timing.

The EMCa report said that evidence suggests "significant risk of delay costs that have a high likelihood of occurring" in July 2023, possibly of six months, but the figure showing this evidence, and the increased cost, is redacted.

Advice from EMCa regarding the unrealistic timeline and the costs that may entail (other than risk-costs) were ignored.

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[1] Transgrid, *Reinforcing the New South Wales Southern Shared Network to increase transfer capacity to the state's demand centres: Project Specification Consultation Report*, 25 June 2019, p 21.

[2] Transgrid, *Reinforcing the NSW Southern Shared Network to increase transfer capacity to demand centres (HumeLink): Project Assessment Conclusions Report*, 29 July 2021, p 29

[3] AEMO, *2023 Transmission Expansion Options Report*, September 2023, p 61

[4] AER, *Determination: Transgrid's HumeLink Stage 2 Delivery Contingent Project Application*, 2 August 2024, p v

[5] AEMO, *2024 ISP: Appendix 6 Cost Benefit Analysis*, 26 June 2024, p 61.

[6] Hansard, South Australian Legislative Council, 31 August 2023, p 3545.

[7] AEMO found in the Draft 2024 ISP that the optimal delivery for Humelink was 2029-30 in the *Step Change* and *Green Energy Export* scenarios, or 2030-31 in *Progressive Change*.

[8] CIS, Six Flaws, p 20.

[9] AEMO, *2024 ISP Appendix 6. Cost-Benefit Analysis,* 26 June 2024, p 98

[10] AEMO, *2024 ISP Consultation Summary*, 26 June 2024, p 58.

[11] Angela Macdonald-Smith, *Humelink budget trimmed but cost worries persist, AFR,* 2 August 2024.

[12] Transgrid Advisory Council, *Meeting summary and actions 20 July 2023*, Transgrid website, August 2023. p 3.

[13] AEMO, *Addendum to the Draft 2022 ISP*, 11 March 2022, p 15

[14] AEMO, *Draft 2022 ISP*, 10 December 2021, p 66

[15] AEMO, *2022 ISP Consultation Summary Report*, 30 June 2022, p 22.

[16] AEMO, *2022 ISP Consultation Summary Report*, 30 June 2022, p 22.

[17] AEMO, *Update to the 2020 Integrated System Plan (ISP)*, 10 December 2021, p 2.

[18] ISP 2022 Consumer Panel, *ISP Consumer Panel Report on Draft 2022 ISP*, 10 February 2022, p 43–44.

[19] NER v204, 5.22.15(c)

[20] Commonwealth of Australia, Environment and Communications Legislation Committee Senate Estimates, 12 February 2024, p 101.

[21] James Glissan, Memorandum of Opinion, 27 February 2024, p 11.

[22] Clare Savage, letter to Daniel Westerman dated 4 October 2021, obtained through FOI request.

[23] James Glissan, *Memorandum of Opinion*, 27 February 2024, p 11.

[24] Commonwealth of Australia, Environment and Communications Legislation Committee Senate Estimates, 12 February 2024, p 102.

[25] Commonwealth of Australia, Environment and Communications Legislation Committee Senate Estimates, 12 February 2024, p 107.

[26] Clare Savage, letter to Daniel Westerman dated 4 October 2021, obtained through FOI request.

[27] Commonwealth of Australia, Environment and Communications Legislation Committee Senate Estimates, 12 February 2024, pp 102, 107.

[28] NER v204, 5.22.15(c)

[29] We note that this inquiry is not publicly available and request AER to make Transgrid's inquiry available to the public.

[30] AER, *Advice to Transgrid in relation to material change in circumstances provisions*, letter dated 22 August 2023.

[31] AER, *RE: Notice under clause 6A.8.2(h1) of the National Electricity Rules,* letter to Transgrid dated 19 January 2024.

[32] AER, *AER Determination: HumeLink Early Works Contingent Project*, August 2023, p vi.

[33] Transgrid, Private correspondence with CIS, 9 July 2024.

[34] AER, RE: Notice under clause 6A.8.2(h1) of the National Electricity Rules, letter to Transgrid dated 19 January 2024.

[35] AER, *Determination: Transgrid's HumeLink Stage 2 Delivery Contingent Project Application*, p 8.

[36] EMCa, *Review of the aspects of the CPA for HumeLink Stage 1 (Early Works)*, July 2022, p viii–ix.

[37] AEMO, *Draft 2022 ISP*, December 2021, p 80.

[38] EMCa, *Review of the aspects of the CPA for HumeLink Stage 1 (Early Works)*, July 2022, p 19.

[39] AER, *Determination: HumeLink Early Works Contingent Project*, August 2022, p vi.

[40] AER, *Determination: Transgrid's HumeLink Stage 2 Delivery Contingent Project Application*, p 12.

[41] *Ibid. p 12.*

[42] EMCa, *Review of the aspects of the CPA for HumeLink Stage 1 (Early Works)*, July 2022, p 19.

[43] EMCa, *Assessment of proposed expenditure for CPA2*, June 2024, p 25.

[44] AER, *Determination: Transgrid's HumeLink Stage 2 Delivery Contingent Project Application*, p 12.

[45] EMCa, Assessment of proposed expenditure for CPA2, June 2024, p 26.

[46] AER, *Guidance Note: Regulation of actionable ISP projects*, March 2021.

[47] Transgrid, *TAC Meeting #3 Presentation*, 3 May 2023, p 22.

[48] AEMO, *Integrated System Plan Feedback Loop Notice – HumeLink (Early Works)*, 19 May 2023, p 2.

[49] AEMO, *Draft 2023 Transmission Expansion Options Report*, 2 May 2023.

[50] Hansard, Legislative Council, 18 July 2023, p 29

[51] AEMO, *2023 Transmission Expansion Options Report*, 28 July 2023, p 61.

[52] EMCa, *Review of the aspects of the CPA for HumeLink Stage 1 (Early Works)*, July 2022, p

[53] AEMO, *2023 Transmission Expansion Options Report*, 28 July 2023, p 61.

[54] AER, *Determination: HumeLink Early Works Stage 1 (Part 2) Contingent Project*, 25 August 2023, p iii.

[55] AER, *Letter to TransGrid*, 22 August 2023, p 1.

[56] EMCa, *Review of the aspects of the CPA for HumeLink Stage 1 (Early Works)*, July 2022, p 5.

[57] Ibid. p 20.

[58] *Ibid*. p 21.

[59] Transgrid, *A.1 HumeLink — Stage 2 (Delivery) — Contingent Project Application*, 21 December 2023, p 10.

[60] The CPA2 p 10, footnote 9, refers to an IA report which says: "... construction materials has risen by an average of 24 per cent in in the last 12 months and labour demand is more than double the projected available supply"; Infrastructure Australia, 2022 Infrastructure Market Capacity Report, December 2022.

[61] Infrastructure Australia, *2022 Infrastructure Market Capacity Report*, December 2022

[62] Transgrid, *Material change in circumstance assessment*, 29 February 2024.

[63] Transgrid states in footnotes 18 and 30 that the escalation factor was 1.17, while the correct factor was 1.125 (using the quarterly CPI) or 1.118 (using the annual CPI). Source: Australian Bureau of Statistics. Consumer Price Index, June Quarter 2024, Canberra; Transgrid, HumeLink Material Change in Circumstances MCC Assessment Report, 29 February 2024, p 1, 18, and 30.

[64] EMCa, *Assessment of Proposed Expenditure for CPA2*, June 2024, p 10.

[65] Transgrid, Project Specification Consultation Report – Reinforcing the New South Wales Southern Shared Network to increase transfer capacity to the state's demand centres, 25 June 2019, p 21.

[66] This report generally presents "weighted net benefits," however the the PSCR and PADR only present the benefits from the most likely scenario. Also, while the "Step Change" scenario has remained broadly comparable across ISPs, in 2020 it referred to the most ambitious of five scenarios modelled and was considered relatively unlikely. Net benefits under the "Central" scenario were closer to $1 billion, but still positive.

[67] Or $39 million. This excludes $452 million in "competition benefits", a class of benefits which were later rejected by the AEMO, and were not included when making decisions about whether to go ahead with the project. Note that these are sometimes included when discussing the net benefits PACR. This error is where the inflated $491 million figure comes from.

[68] AEMO, *Update to the 2020 Integrated System Plan (ISP)*, 10 December 2021.

[69] EMCa, Report to AER on Transgrid HumeLink *CPA1*, July 2022, p 20.

[70] EMCa, Report to AER on Transgrid HumeLink *CPA1*, July 2022, pp 8–9.

[71] Document "009. AEM.001.001.3936 Email to Transgrid 7.11.22". Annexed to submission.

[72] Document "010. AEM.001.001.4039 Email to Transgrid 16.11.22". Annexed to submission.

[73] Document "011. AEM.001.001.4225 Email to Transgrid 28.11.22." Annexed to submission.

[74] Document "012. AEM.001.001.4255 Email to DCCEEW 28.11.22". Annexed to submission.

[75] *Ibid.*

[76] Document "014. AEM.001.001.4316 Email to Transgrid 1.12.22". Annexed to submission.

[77] Transgrid, *TAC Meeting #3 Presentation*, 3 May 2023, p 22.

[78] Document "225. AEM.001.003.3052 Notes on Transgrid meeting reputational risk 24.2.23. Annexed to submission.

[79] AEMO, HumeLink Feedback Loop Analysis, 19 May 2023, p 6.

[80] Document "096. AEM.001.001.7769 Email to AEMO 8.5.23". Annexed to submission.

[81] AEMO, Integrated System Plan Feedback Loop Notice HumeLink (Early Works) 19 May 2023, p 3.

[82] Transgrid, HumeLink — Stage 1 (Part 2) Contingent Project Application, 23 May 2023, p 11

[83] Transgrid Advisory Council, Meeting Summary and actions 28 June 2023, Transgrid, 28 June 2023, p 2.

[84] AEMO, Consultation summary report - Update to the ISP Methodology, 23 June 2023, p 20.

[85] Document "129. AEM.001.001.9029 Email to AEMO 18.7.23". Annexed to submission.

[86] Transcript, "Report on proceedings before Standing Committee on State Development: Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects", pp 28–29.

[87] AER, *Letter to Transgrid*, 22 August 2023. Note: this letter is a response to Transgrid's query, which is not itself public.

[88] AEMO, *2023 Transmission Expansion Options Report*, 28 July 2023, p 61.

[89] AEMO, *2023 Transmission Expansion Options – Consultation Summary Report*, July 2023, p 39.

[90] AER, *Letter to Transgrid*, 22 August 2023.

[91] *Ibid.*

[92] AER, Determination – HumeLink Early Works Stage 1 (Part 2) Contingent Project, August 2023, p iii.

[93] Document "223. AEM.001.003.3037 Teams message Transgrid not supportive 22.9.23". Annexed to submission.

[94] EY, Gross Market Benefit Assessment of HumeLink Report, 28 February 2024, p i

[95] *Ibid.*

[96] Transgrid, Stage 2 (Delivery) Draft Contingent Project Application, 8 December 2023, p 6.

[97] AEMO, *Draft 2024 ISP: Appendix 5*, December 2024, p 23.

[98] AER, Letter to Transgrid Re: Notice under clause 6A.8.2(h1) of the National Electricity Rules, 19 January 2024.

[99] EY, Gross Market Benefit Assessment of HumeLink Report, 28 February 2024, p i

[100] Transgrid, Material change in circumstance assessment for HumeLink, 29 February 2024, p 3.

[101] ACIL Allen, *Memorandum: Humelink gross market benefits - Draft 2024 ISP and 2022 ISP*, 25 June 2024, p 3.