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Daniel Westerman  
Chief Executive Officer  
Australian Energy Market Operator  
Via email: [ISP@aemo.com.au](mailto:ISP@aemo.com.au)

Dear Daniel

### **Identification of HumeLink as a staged actionable project in the draft 2022 Integrated System Plan**

Transgrid welcomes the opportunity to engage with AEMO to advance the 2022 Integrated System Plan (ISP).

Transgrid supports AEMO's process in consulting extensively with energy market stakeholders in developing the 2022 ISP. This should ensure that the final 2022 ISP provides a robust platform to move forward with the critical transmission investments needed to enable Australia's ongoing energy market transformation. As the owner and operator of the high voltage transmission network in NSW and the ACT, which lies at the heart of the National Electricity Market (NEM), we remain committed to playing our part in delivering the major transmission investments identified in the ISP in order to provide benefits to consumers.

This submission is limited to the following question on which AEMO has invited feedback in the draft ISP:

*Is the proposed staging for HumeLink [..], with early works as the first stage and then proceeding to implementation subject to conditions, appropriate?*

Transgrid strongly supports AEMO's decision not to treat HumeLink as a 'future project' in the draft ISP.

The draft ISP establishes the clear need for the HumeLink project to go ahead, with all four ISP scenarios including the development of HumeLink. The development of HumeLink has key strategic value for the NEM, which the ISP assessment demonstrates will provide benefits to consumers.

Further, AEMO's assessment in the draft ISP explicitly recognises the benefits to consumers of HumeLink continuing to be an actionable ISP project, with the presumption of a 2026/27 delivery date (ie, as soon as practicable). Continued presumption of a 2026/27 delivery date mitigates the risk of schedule slippage, which is particularly acute with such large infrastructure projects, and therefore provides greater assurance that the project will be in place by the date that it is needed in the most likely scenario (*Step Change*). It also provides insurance value against the risk of coal exiting faster than projected in NSW than assumed in other ISP scenarios (ie, *Progressive Change*). Indeed, AEMO notes that HumeLink is the *only* ISP project

that can provide this insurance value, and our observations of the accelerating speed of the energy transition highlight the very real prospect that such early exit may be the case.

AEMO's analysis also recognises that retaining HumeLink as an actionable ISP project with the presumption of a 2026/27 delivery date maintains the current momentum of the project, which is expected to benefit consumers through the activities currently underway aimed at further improving project design and putting downward pressure on project costs.

Notwithstanding our firm support for AEMO's continued identification of HumeLink as an actionable ISP project, we encourage AEMO to further consider its decision to identify HumeLink as a 'staged' actionable project subject to a decision rule. Transgrid considers that retaining the status of HumeLink as a fully actionable project in line with the 2020 ISP will deliver lower cost outcomes and reduce the risk of delay, and so will provide greater benefits to consumers.

Transgrid is supportive of the potential for AEMO to identify staging for ISP projects, where appropriate. However, in the specific case of HumeLink, which was identified as a fully actionable ISP project in the 2020 ISP, we are concerned that changing its status to a staged actionable project, and adding a decision rule, this late in the overall regulatory and investment process for the project may alter stakeholders' perceptions of the certainty and timing of the project. This will have a detrimental impact on both:

- consumer outcomes, as it is likely to impact our ability to achieve the presumptive 2026/27 delivery date and potentially increase overall project costs by more than 5%; and
- community outcomes, as it is likely to impact our ability to deliver social investment and social legacy initiatives.

Retaining identification of HumeLink as a fully actionable project will benefit consumers by ensuring this key project can be delivered at the most efficient cost and by the time it is required. Moreover, the staged contingent project application (CPA) process that will be followed for HumeLink will still provide a 'future checkpoint' for AEMO to confirm (via the feedback loop ahead of CPA2) that the need for the project remains, if costs increase or circumstances change materially. Transgrid actively supports the staged CPA process, which already provides checks and balances to ensure the prudence and efficiency of the proposed expenditure, which means that there is no incremental benefit in changing HumeLink's status to being a 'staged actionable project'. Indeed, changing the actionable status of the project will increase uncertainty for communities and landholders along the transmission corridors. Increased uncertainty could impact the level of community support for, and willingness to engage with, HumeLink, and ultimately impact our ability to acquire the required easements for HumeLink in time for construction.

We therefore encourage AEMO to continue to characterise HumeLink as a fully actionable project in the final 2022 ISP. This will send a clearer message about AEMO's intention for Transgrid to proceed based on the earliest possible delivery date and allows us to maintain the momentum to deliver this key project at least cost to consumers.

Alternatively, if AEMO decides to continue to characterise HumeLink as a 'staged actionable project', then we encourage AEMO to provide greater clarity to stakeholders in the final ISP that its presumption remains that HumeLink will be completed to the same target delivery date of 2026/27, unless there is a material change in circumstances. This would help to mitigate the impact on overall project costs and the potential for delay in project delivery.

The remainder of this letter provides further elaboration on these points.

## **The draft ISP recognises the benefits to consumers of HumeLink being an actionable ISP project, with continued presumption of a 2026/27 delivery date to provide insurance value and maintain the project's current momentum**

The draft ISP establishes the clear need for the HumeLink project to go ahead, with all four ISP scenarios presuming that HumeLink will be built.<sup>1</sup> In addition, AEMO's assessment in the draft ISP explicitly recognises the benefits to consumers of HumeLink continuing to be an actionable ISP project, with the presumption of a 2026/27 delivery date. AEMO points to the following benefits to consumers from continuing to treat HumeLink as an actionable project (rather than making it a future ISP project):<sup>2</sup>

- **option value** from preserving the ability to deliver the project as soon as possible if required in *Step Change* or *Hydrogen Superpower*, or allowing it to be deferred in the event of *Slow Change* or *Progressive Change*, if that would bring greater benefits to consumers;
- **insurance value** from mitigating the risk of schedule slippage in *Step Change* or *Hydrogen Superpower* and the risk of coal exiting faster than projected in *Progressive Change*; and
- the value of **maintaining momentum** that may further improve the design of the project, potentially reducing uncertainty around cost estimates, and ideally bring the project costs down.

The development of HumeLink has key strategic value for the NEM. The draft ISP highlights the risk that four or more coal-fired power stations in NSW may be retired by 2027/28.<sup>3</sup> If this risk does materialise, then HumeLink will be needed to contribute to maintaining power system reliability in NSW while reducing the required amount of investment in long-duration storage, both of which would deliver real benefits for consumers. Further, AEMO notes in the draft ISP that HumeLink:<sup>4</sup>

*is the only identified actionable ISP transmission project that could be delivered in that timeframe to help mitigate these risks.*

It is therefore critical to retain the ability to deliver HumeLink by 2026/27 in order to avoid higher costs being imposed on consumers and/or risking adverse reliability outcomes in NSW. AEMO concludes that HumeLink should continue to target delivery by 2026/27. This reflects the earliest possible delivery date for HumeLink and is consistent with the 2020 ISP, the recent RIT-T outcome and the delivery timeframes targeted under Transgrid's current project development activities.

Transgrid fully supports AEMO's recognition of the above factors that favour continuing to treat HumeLink as an actionable ISP project (rather than a future ISP project) and continuing to develop the project so that it can be delivered in 2026/27.

## **Changing the categorisation of HumeLink from fully actionable in the 2020 ISP to staged actionable in the 2022 ISP may affect stakeholders' perceptions of the certainty of the project proceeding**

Notwithstanding our support for HumeLink to continue to be identified as an actionable ISP project, we are concerned that characterising HumeLink as a 'staged actionable project' in the 2022 ISP and adding explicit decision rules risks a perception by stakeholders that there has been a change in the current status of the project. This could in turn affect stakeholders' views of project certainty, in a way that will make it

<sup>1</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p 73.

<sup>2</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p 80.

<sup>3</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, pp 64-65, 82.

<sup>4</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p 65.

more difficult for us to effectively engage with them. This includes key stakeholders such as potential contractors as well as the broader community.

Any perception that there has been a material change in the status and certainty of HumeLink risks negating the clear benefits identified by AEMO of continuing to work to delivering HumeLink by 2026/27. Further, it also risks increasing the costs of delivering the project (as discussed further below), which will ultimately be detrimental to consumers. This increase in costs associated with classification of HumeLink as a staged actionable project may result even where the project is delivered in 2026/27, and is on top of the additional costs that would be incurred from any subsequent decision in a future ISP or feedback loop process to delay the delivery date.

Transgrid therefore actively encourages AEMO to maintain the current status of HumeLink as a fully actionable project, rather than re-characterising it as a staged actionable project. This will send a clearer message about AEMO's intention for Transgrid to proceed based on the earliest possible delivery date and will benefit consumers by allowing us to maintain the momentum to deliver this key project at the most efficient cost.

### **Characterising HumeLink as a 'staged actionable project' may increase the overall project delivery cost to consumers and puts at risk our ability to deliver by 2026/27**

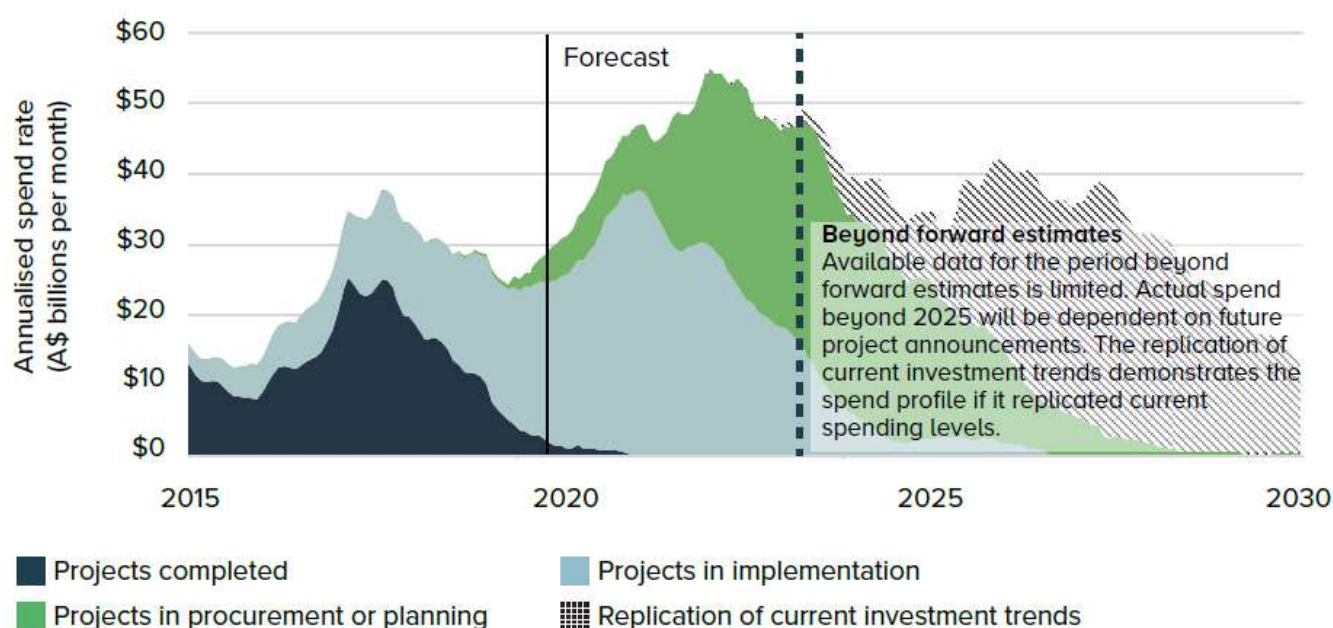
Transgrid is well advanced with its project procurement planning and will soon be close to the point of engaging with potential contractors. This engagement will occur as part of Stage 1 for the project.

Any change in contractors' perceptions of the certainty of the project going ahead, and the expected timeframe, will affect their appetite to incur resources to participate in Stage 1 of the project. Fewer contractors may be willing to participate in the procurement process. Those that do participate will likely include a premium in their bids to compensate for the risk that the project may not proceed according to schedule. This will increase the costs of the project to consumers.

Similarly, we need to book production slots for steel and the new towers and conductors as part of our Stage 1 activities. Any uncertainty about our commitment to utilise those slots will increase the costs we are required to pay, and will have to be recovered from consumers through higher prices.

A reduction in contractor interest arising from any perception of increased project uncertainty and the cost of booking production slots are both likely to be exacerbated by the current tight infrastructure resource market. As seen in Figure 1, Infrastructure Australia forecasts that infrastructure spending is likely to increase substantially over the next few years, as a range of investment in major projects (both within the electricity sector and across other infrastructure sectors) proceeds.

Figure 1: Investment in infrastructure



Source: Infrastructure Australia, *Infrastructure Market Capacity*, October 2021, p 27 Figure 5.

Infrastructure Australia identifies that risks of cost escalations and project delays are increasing across sectors, due to an increasingly complex risk environment for project delivery, constraints in the supply of skills and resources and market volatility.<sup>5</sup> It also flags a shortage of transmission line workers in Australia, and a heavy reliance on international recruitment.<sup>6</sup>

The tight resource market raises opportunity costs for potential bidders for the contracts for delivery of HumeLink. With several alternative infrastructure projects to bid on, contractors may be less willing to engage with us on a project they perceive as being less certain. They may submit bids with less competitive pricing or with longer project durations. Given that we need to engage with the market immediately in order to achieve 2026/27 delivery, any suggestion that there is uncertainty around the 2026/27 delivery date will make it difficult for us to secure contracting services at competitive prices and to complete the project on time.

Similarly, the costs to us of obtaining scarce slots for major components, which are in demand worldwide, will increase if we are not able to credibly commit to expecting to utilise those slots.

The departure from the current 'fully actionable' status for HumeLink may also undermine our engagement with the broader community on the project, by shifting the focus onto peripheral issues associated with the potential for delay. This detracts from the necessary engagement required to achieve an outcome that is acceptable to all the parties involved, risking delays that prevent the project from being completed by 2026/27. In particular, we note that our ability to obtain easements that are critical to completing the project may be substantially delayed if there is a perception that completion of the project is uncertain. Such delays would be detrimental to consumers in circumstances where HumeLink is needed in 2026/27 to maintain reliability in NSW and avoid more costly investments, or in the most likely Step Change scenario if the delay threatens our ability to achieve a 2028/29 delivery date.

<sup>5</sup> Infrastructure Australia, *Infrastructure Market Capacity*, October 2021, p 16.

<sup>6</sup> Infrastructure Australia, *Infrastructure Market Capacity*, October 2021, p 77.

## The Draft ISP confirms that there is a high likelihood that HumeLink is needed by or before 2028/29

Transgrid notes that if there remains sufficient dispatchable capacity and storage in NSW, AEMO's analysis still shows that HumeLink is needed by 2028/29 in the most likely *Step Change* scenario (50% weighting), and a year earlier in the *Hydrogen Superpower* scenario (17% weighting).<sup>7</sup>

The nature of major projects is that project delivery activities have long lead-times and can be subject to delay due to multiple factors. As a result, optimising for 'just in time' delivery is not realistic, and raises substantial risks for consumers that projects cannot be delivered in time.

In order to not be prohibited from being able to deliver HumeLink by 2026/27, the Stage 1 activities Transgrid will have to undertake go beyond 'planning' and into delivery, and need to proceed on the presumption that the 2026/27 delivery date remains. Stage 1 will include activities such as:

- early equipment procurement and contractor pre-construction project development:
  - obtaining steel and tower production slots;
  - booking production slots for conductors;
  - contractor pre-construction development work for transmission lines & substations, including detailed resource scheduling and obtaining all necessary permits, including work permits for international labour; and
- mobilising project team resources, consisting of more than 200 roles across categories such as project management, engineering, transaction procurement support, community stakeholder engagement, land and environment, and other support and corporate roles.

These Stage 1 activities are costly and difficult to credibly pause with the intention of resuming after a one- or two-year window. As a consequence, any decision to delay Stage 2 will incur additional costs to consumers. This is especially problematic in the current economic environment of rising inflation,<sup>8</sup> where project delays will have even larger cost impacts to end consumers.

The tight infrastructure resource market means that it is likely to be difficult to simply 'shift' all activities by one or two years, without incurring substantially higher costs to undertake the same activities as those currently planned. Transgrid provided AEMO with a top-down estimate that delaying project development will likely cost an additional \$50 million, which we understand has been reflected in AEMO's draft ISP assessment.<sup>9</sup> However, in reality this cost could be much higher. Recent analysis by Arcadis<sup>10</sup> predicts future infrastructure construction inflation at 5-6% p.a. in current market conditions. Increased project uncertainty and delays would incur these higher inflationary costs, as construction contractors price uncertainty-driven delays and resulting inflation into tender proposals.

<sup>7</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p 73 [Table 9].

<sup>8</sup> Year-on-year CPI growth as at December 2021 is 3.5 per cent. See: ABS Cat No 6401.0.

<sup>9</sup> AEMO, *Appendix 6. Cost benefit analysis | Appendix to Draft 2022 ISP for the National Electricity Market*, December 2021, p 59.

<sup>10</sup> <https://www.arcadis.com/en-gb/news/europe/united-kingdom/2021/12/high-construction-price-inflation-set-to-continue-into-2022>



Figure 2: Forecast Inflation – Infrastructure Construction (Source: Arcadis)

	Queensland	Victoria	New South Wales
2021	3.0% (3.0%)	4.5% (4.0%)	5.0% (5.0%)
2022	4.5% (4.5%)	5.5% (5.0%)	6.0% (6.0%)
2023	5.0% (5.0%)	6.0% (5.0%)	6.5% (6.0%)
2024	6.0% (4.0%)	6.5% (5.0%)	6.0% (5.0%)
2025	5.0% (3.0%)	6.0% (4.0%)	5.5% (5.0%)
<b>Total</b>	<b>24.0% (19.5%)</b>	<b>28.5% (24.5%)</b>	<b>29.0% (27.0%)</b>

A study submitted to Federal Government found that for large, complicated projects, if staging the project requires the planning stage to be repeated, including organising new contracting RFPs, then the project costs will likely blow out, to the detriment of consumers.<sup>11</sup> Given that AEMO's analysis shows that HumeLink will most likely be needed on or before 2028/29, and the increased costs to consumers associated with a delay, Transgrid considers that HumeLink should continue along the current path of being a fully actionable project delivered by 2026/27.

### **If HumeLink remains fully actionable, the staged CPA process still provides a 'future checkpoint' for AEMO if circumstances change materially**

AEMO describes the value of staging projects is that they can be delivered when needed under all scenarios, with an 'additional checkpoint' before construction to reconfirm that need.<sup>12</sup> AEMO further describes this checkpoint as being desirable should there be a material change in circumstances that warrant a deferral.

As set out above, Transgrid is not against the introduction of the staging of ISP projects in general. However, Transgrid is concerned that changing the status of HumeLink at this late stage in the process to being a 'staged actionable project' may put at risk the ability to deliver the project by 2026/27 without generating a corresponding incremental benefit.

There is already an 'additional checkpoint' built into the CPA process agreed with the Australian Energy Regulator (AER) for HumeLink. Transgrid and the AER have agreed to adopt a staged CPA process for HumeLink, even where HumeLink is a fully actionable project.<sup>13</sup> Transgrid will shortly submit CPA1 (covering stage 1 costs). Prior to CPA2, if the costs of the overall project increase or if there is a material change in circumstance, Transgrid will seek feedback loop confirmation from AEMO that HumeLink remains on the Optimal Development Path (ODP).

Transgrid therefore considers that there is little value in changing the categorisation of HumeLink to a staged actionable project, when the staged CPA process already provides the 'future checkpoint' under

<sup>11</sup> Independent Project Analysis, Inc, *submission to House of Representatives Standing Committee on Infrastructure and Communications*, 10 July 2015, p. 7-8.

<sup>12</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p. 12.

<sup>13</sup> <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/contingent-projects/transgrid-humelink-contingent-project>

which AEMO could delay the project if there was a material change in circumstance which means that it is no longer on the ODP.

Further, in characterising HumeLink as a staged project, AEMO is also proposing some explicit decision rules.<sup>14</sup> These decision rules would apply in addition to the feedback loop.

Transgrid observes that the decision rules codify specific considerations. This introduces new rigidities into the arrangements, with the risk that these tests may not be relevant at the time at which AEMO is considering Stage 2 of HumeLink. AEMO's feedback loop confirmation ahead of Stage 2 is a more fit-for-purpose test which should be sufficient to evaluate whether proceeding with HumeLink is expected to generate net market benefits and be in the long-term interests of consumers.

In our view, the optimal approach that will ensure that the project can be delivered at least cost to consumers at the time when it is needed, is to continue to characterise it as a fully actionable project with a targeted 2026/27 delivery date.

Alternatively, if AEMO decides to continue to characterise HumeLink as a 'staged actionable project', then we encourage AEMO to provide greater clarity to stakeholders in the final ISP that its presumption remains that HumeLink will be completed to the same target delivery date of 2026/27, unless there is a material change in circumstances.

Transgrid would like to reiterate our strong support for AEMO's process in consulting with stakeholders, and we look forward to our continued engagement with AEMO to advance the 2022 ISP.

Yours faithfully



Craig Stellan  
Executive Manager, Delivery

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<sup>14</sup> AEMO, *Draft 2022 Integrated System Plan*, December 2021, p 66.