Submission to the HumeLink, Material Change in Circumstance Assessment, by HumeLink Alliance Inc., April 3, 2024

1. Introduction

The HumeLink material change in circumstance assessment (MCCA) fails to establish there has been no material change in circumstance (MCC) for the HumeLink project.

We have argued that there have been five MCC for the HumeLink project as follows:

i. **Cost blowout.** HumeLink is projected to cost $4.88 billion. This is an increase of close to 400% from the around $1 billion 500kV double circuit adjusted cost in the January 2020 Project Assessment Draft Report (PADR)[1], and 48% from the $3.3 billion cited in the July 2021 Project Assessment Conclusions Report (PACR);

ii. **Further delays**. Snowy 2.0 was included in the PACR from 1 July 2025, but is now not scheduled to be on-line for a further three-and-a-half years, not coming on-line until December 2028 at the earliest;

iii. **Reduction in capacity**. HumeLink's transfer capacity has been reduced from 2,570 MW (PACR) to 2,200 MW (Transmission Expansion Options Report, September 2023 (TEOR)), a 14% reduction;

iv. **Change in assumption about other generators**. At the time of the July 2021 PACR, the Kurri Kurri/Tallawarra B gas fired power stations were not committed - now they are; and

v. **Proven feasibility of undergrounding HumeLink**. Transgrid maintained that the cost of undergrounding HumeLink would be ten times higher than overhead lines but the Amplitude Consultants review of the GHD/Transgrid HumeLink undergrounding study shows that the project can be delivered underground for $5.46 billion to $7.3 billion, i.e., only 1.1 to 1.5 times the cost of the overhead option.[2]

However, the key changes to modelling assumptions presented in the MCCA, now represents a sixth MCC.

So different are the assumptions in the MCCA to the PACR, that this represents a MCC for the project. In particular, the limit on the capacity of Snowy 2.0 without HumeLink, makes clear that the base case has been mis-specified, and the remaining cost to construct Snowy 2.0, must be included as a cost in the assessment of the net benefit of HumeLink options.

[1] The $1.35 billion cost cited in the PADR is for 630 km of single-circuit 500 kV, which is equivalent to about $1 billion for 360 km of double-circuit 500kV.

[2] https://www.stophumelink.com.au/_files/ugd/805824_0e929837d10241e28e148cdfdaa30241.pdf

Rather than dismissing the MCC, the MCCA means the reapplication of the RIT-T to the HumeLink project is urgently required.

The limit on the capacity of Snowy 2.0 without HumeLink also makes a compelling case that HumeLink is a connection asset, the responsibility of Snowy Hydro, and not a shared asset, to be paid for by electricity consumers.

2. The feasibility of undergrounding

The feasibility of undergrounding is a fundamental MCC for the HumeLink project.

During consultation with the community Transgrid committed to reapply the RIT-T to HumeLink if undergrounding was feasible. As the Amplitude Consultants review shows that undergrounding is feasible, we demand that Transgrid honours this commitment. This is critical for the social licence of the project.

The assessment of undergrounding HumeLink is also necessary to comply with environmental protection legislation. There is a clear - and presently unmet - legal obligation for Transgrid to deliver the HumeLink project with the least impact on the environment.

Transgrid has said:

> *'The Department of Planning, Industry and Environment (DPIE) requires projects to avoid, minimize or offset environmental impacts and Transgrid is required to demonstrate that no other feasible options with lesser impact are available as part of the environmental planning approvals' (*Transgrid *response to Kyeamba Concerned Landowners Group,* October 2021)

This is a requirement under the NSW Environmental Planning and Assessment Regulation 2000.

The biodiversity offsets policy under the Environment Protection and Biodiversity Conservation Act (EPBC Act) also requires that all avoidance and mitigation measures be undertaken before offsets will be considered. The GHD/Transgrid HumeLink underground study, which compared impacts of overhead lines and underground cables, reported only positive environmental impacts for the underground option after the construction phase.

The environmental benefits of undergrounding are also supported by environmental awards for other projects. Murraylink, for instance, which runs between Berri in South Australia and Red Cliff in Victoria, was the longest underground HVDC line in the world for some years, at 180km, and won the 2002 Case EARTH Award for Environmental Excellence for best practice and innovation in the environmental management of civil construction projects.

In the referral to the EPBC Act it is stated that the HumeLink project is significantly impacting matters of national environmental significance, and therefore, as a feasible alternative with a lesser impact, undergrounding HumeLink must be assessed, to be comply with the Act.

The MCCA fails to address the now feasibility of undergrounding, and the legislative obligation to assess this option.

3. Assessment of the increase in capital cost

The cost of the preferred option for Humelink (Option 3C) has increased substantially, from $1 billion in January 2020 (PADR)[3] to $3.82b in July 2021 (PACR addendum, $June 2023) and to $4.88b in February 2024 (MCCA, $June 2023).

3.1. Underestimated capital cost

As noted in our submission to the CPA2, we have a number of questions about the accuracy of the stated capital cost, including whether:

- shifting from a fixed to a variable contract will "save" $237m, or end up costing much more?
- synergies with VNI West Project Energy Connect "saving" $787m, are not savings but rather a shifting of costs to other projects?
- the reduction in biodiversity offset costs of $498m are real? Biodiversity costs are difficult to predict. What happens if Transgrid has underestimated them and they end up $935m as per the PACR? At the recent CCG meeting, March 19, 2024, Transgrid admitted access track for the HumeLink project have been underestimated and this is part of the Transgrid EIS Amendment Report. The clearing of extra access tracks can be expected to have a significant impact on biodiversity offset costs.

These issues raise the question, should the HumeLink project cost be $6.4 billion when assessing MCC, rather than $4.88 billion ($4,880m + $237m (plus, plus) + $787m + $498m = $6,402m)?

NSW Treasury's *Economic Appraisal Principles and Procedures Simplified* states:

'International research on major infrastructure projects has found evidence of ***systemic bias in project appraisals****, ….*

The research suggests a tendency for the ***costs of major projects to be underestimated and for demand forecasts to be inflated****. These conclusions are based on case studies of several hundred major infrastructure projects in over 20 nations and 5 continents…..'*

Given systemic bias in assessing major infrastructure project with '*costs of major projects… underestimated',* the capital cost of HumeLink needs to be independently and expertly assessed.

[3] The $1.35 billion cost cited in the PADR is for 630km of single-circuit 500 kV, which is equivalent to about $1 billion for 360 km of double-circuit 500kV.

3.2. Assessment of the increase in the HumeLink capital cost

The October 2022 Rule change for MCC doesn't apply to the HumeLink project, as HumeLink completed the RIT-T in December 2021. However, it gives guidance to the costs that should be compared to assess MCC. The reopening triggers for project capital cost in the Rule change are set in the PADR. As such, to assess MCC for HumeLink the $1 billion PACR cost needs to be compared with the $4.88 billion. In four years, the project cost has blown out by nearly 400%. By any reasonable opinion, this is a significant MCC.

The Table B:3 below, showing the cost increase of Option 3C (incorrectly labelled Option 2C), is comparing the PACR cost to the MCCA. However, the relevant comparison is the MCCA to the PADR, as per guidance of the MCC Rule change.

Table B.3: The estimated capital costs for Option 2C

Cost estimate	Unit	Network capital costs	Biodiversity costs	Total
PACR addendum	Real 2021 dollars	$1,809 million	$845 million	$3,266 million
PACR addendum	Real 2023 dollars	$2,116 million	$988 million	$3,820 million
MCC	Real 2023 dollars	$4,372 million	$510 million	$4,881 million

3.3. Increase in lines and substation cost alone, without biodiversity

Also relevant is the increase in lines and substation cost alone, without biodiversity offset costs.

Table 1 below shows the increase in capital cost for lines and substation versus biodiversity offset costs from the PACR to the MCCA. The lines and substations have increase 87%, well above CPI for June 2021 to June 2023 of 12.5%.

Table 1: Biodiversity and Lines and substation capital costs of Option 3C

	Biodiversity offset costs	**Lines and substations**	**Total**
PACR (June 2021$)	937	2,380	3,317
MCCA (June 2023$)	437[1]	4,444	4,881
% change	-53%	87%	47%

Note 1: Biodiversity offset costs specified in the CPA2.

Transgrid has cited a number of reasons for this cost increase, including increases in costs from increased global demand, supply chain disruptions, and fluctuations in global commodity market prices for raw materials, but this falls well short of explaining an 87% increase in costs.

4. Benefits of HumeLink

Defying logic the quantified benefits from Humelink have increased much, much more than the costs. This is inconsistent with expectations given that:

- Snowy 2.0 was included in the PACR from 1 July 2025, and is now delayed until at least December 2028.
- HumeLink's transfer capacity has been reduced from 2,570 MW (PACR) to 2,200 MW (TEOR), a 14% reduction; and
- The Kurri Kurri/Tallawarra B gas fired power stations were not committed at the time of the PACR, and now they are.

In the PACR, Transgrid (and its consultants Ernst & Young (EY) and HoustonKemp) identified that Option 3C would generate:

- $2.175 billion of gross benefits excluding competition benefits, resulting in a net benefit of $39.365m
- $2.626 billion of gross benefits including competition benefits, resulting in a net benefit of $490.60m

(NPV under the 'weighted' scenario at June 2021, assuming discount rate of 5.9%)

Adjusting the PACR results for a 7% discount rate, Option 3C has a net benefit (excluding competition benefits) of -$182m.[4]

In the MCCA the weighted net benefit (excluding competition benefits) of HumeLink is $4.19 billion (7% discount rate), while the PACR weighted net benefit (excluding competition benefits) was -$182m (7$ discount rate). This is a massive unbelievable $4.4 billion increase in net benefits in two and a half years, when the project cost has increased $1 billion in real terms.

This massive increase in net benefits, is explained by the even more astounding increase in gross benefits. In the MCCA, the estimated gross benefits has increased significantly, by $5.682 billion, to

[4] See the HumeLink Alliance Inc. submission to CPA2, Table 2,

Table 2: Sensitivity analysis of the PACR net benefit (excluding competition benefits) to discount rate

	Net Benefit (excluding competition benefits)		
	Option		
Discount rate	**1C-new**	**2C**	**3C**
	$m	**$m**	**$m**
5.90%	-11.0	-44.1	39.4
7.90%	-290.5	-398.2	-324.5
7.00%	-180.7	-259.4	-181.5

$7.857 billion excluding competition benefits (NPV under the 'weighted' scenario at June 2023, assuming a discount rate of 7%).

The results are implausible given the sheer size of the increase in benefits from the PACR to the MCCA (more than 3.5 times).

5. Bias in assumptions for options considered

5.1. Bias in costs

The costs and assumptions applied to the Options 1C-new, 2C and 3C in the MCCA are biased in favour of Option 3C.

Illogically Option 1C-new has more biodiversity costs than 3C, even though it is part of 3C following **exactly** the same route from Maragle to Bannaby, but shorter – without the section from the tee-off point to Wagga Wagga (see Table 5 below).

Table 5: MCCA transmission lines and biodiversity costs for Options 1C-new and 3C

Option	Length	Biodiversity offsets lines	Biodiversity offsets lines	Capital cost lines	Capital cost lines	Total biodiversity & line costs
	km	$m	$m/km	$m	$m/km	$m/km
1C-new	272	656	2.41	2,818	10.36	12.77
3C	365	499	1.37	3,251	8.91	10.27
Tee-off to Wagga	93	-159	-1.71	433	4.65	2.95
Higher cost applied to 1C-new than to WaggaWagga			4.12		5.71	9.83
Higher %					123%	333%

Also the line cost of 1C-new is more than double the line cost of the segment from the tee-off point to Wagga Wagga. This is inconsistent with landowners' assessments of the terrain and vegetation differences along the two route, and needs to be independently and expertly reviewed. Combining the line and biodiversity costs, the cost per kilometre applied to Option 1C-new is $12.77/km whereas the cost of the tee-off to Wagga Wagga is $2.95/km. This is an over 300% difference, and defies logic.

5.2. Bias in other assumptions

There are a number of other assumptions made about Options which appear to be unfairly favouring Option 3C, including:

5.2.1. Assuming Option 1C-new will be delivered later than Option 3C because of additional "early works", when Option 1C-new follows exactly the same route as Option 3C, but

exclude the section of Option 3C from the tee-off point to Wagga Wagga. As it's 93km shorter it could reasonably be expected to be delivered sooner;

5.2.2. Applying sunk costs of Option 3C to Options 1C-new and 2C; and

5.2.3. Applying a "contingency" to Option 1C-new for risks when it's part of Option 3C.

6. Significant modelling differences between PACR, MCCA and AEMO

The benefit calculations from the PACR and the MCCA are not directly comparable, due to differences in a number of factors, as follows:

- **Time period** – the PACR estimates benefits beginning in FY2022 while the MCCA estimates benefits beginning in FY2025. The PACR suggests that benefits start to be realised before Humelink is built – indeed, before construction for Humelink even begins – which is questionable.

- **Discount rate** – in accordance with the RIT-T guidance, Transgrid has updated the discount rate to be in line with the latest IASR from AEMO. The increase in the discount rate has the effect of reducing the PV of net benefits, all else constant, since future costs and benefits are discounted by a larger amount (see footnote 2).

- **Scenarios** – the PACR adopted the scenarios in the 2020 ISP, while the MCCA adopted the scenarios in the Draft 2024 ISP. The PACR and the MCCA also adopt different assumptions regarding the capacity of Snowy 2.0 if Humelink does not proceed. This key change, and the implications of this are discussed below.

In the MCCA, the largest benefit category is the 'avoided costs for non-RIT-T proponent parties.' This benefit category captures the generation and storage costs in the base case that are avoided from building Humelink. Transgrid is saying that Humelink unlocks capacity from Snowy 2.0 and unlocks areas where additional wind generation can be developed, which avoids the cost of building (more expensive) solar and batteries that would have been required in the base case to meet our emissions reduction targets. In the MCCA, the avoided cost for non-RIT-T proponents accounted for gross benefits of $7.26b (more than 90% of the total gross benefits). In contrast, this benefit category was around $1.32b in the PACR. The differences in time period and discount rate identified above do not by themselves account for this difference.

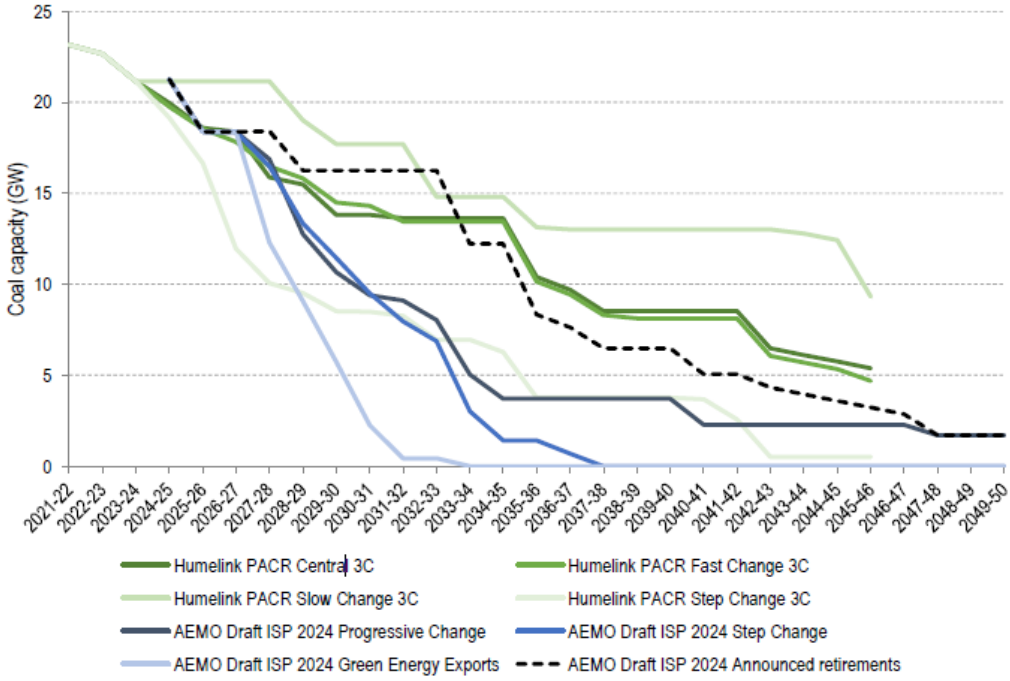
There appear to be two key reasons for the substantial growth in this benefit category:

- Emissions reduction policies; and
- EY modelling assumptions,

as discussed below.

6.1. Emissions reduction policies: Transgrid say that the scenarios in the Draft 2024 ISP, that have been applied in the MCCA, include more stringent emissions reduction policies than

those in the 2020 ISP, which underpinned the PACR. They argue that the impact of these policies is to accelerate the exit of coal-fired generation from the NEM and accelerate the transition to renewable energy and storage (see the figure below from EY's market modelling).



What this appears to mean is that, in the base case, more solar and batteries are needed sooner in time to meet the more aggressive emissions reductions targets and so the cost that is avoided by connecting Humelink is commensurately larger. In principle, this argument seems valid, however there are serious questions about whether:

- EY's market model is robust, and is predicting accurate numbers; and
- The assumed scenarios weightings are correct, and not overly optimistic, given the lack of social licence, significant supply side constraints in the economy, and the on-ground delays in meeting targets.

6.2. EY modelling

Results from EY modelling in comparison to AEMO modelling are like night and day. The fact that both EY and AEMO modelled Humelink under the same scenarios and reached very difficult results, casts considerable doubt on EY's modelling.

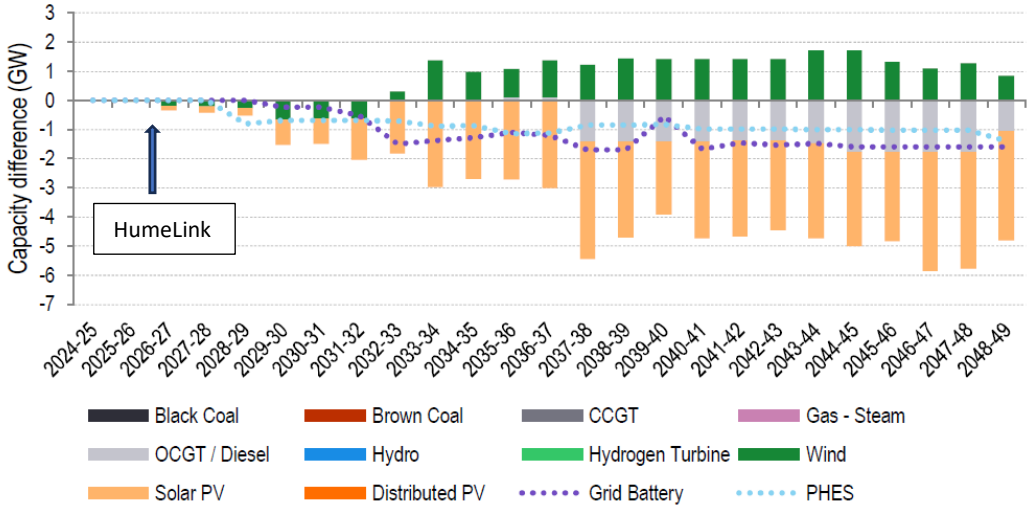
AEMO estimate that Humelink is expected to contribute approximately $0.95 billion in market benefits (under the weighted scenario) whereas EY finds net benefits (excluding competition benefits) of $4.19 billion, close to 4.5 times more. As AEMO's modelling involves take-one-out-

at-a-time (TOOT) analysis, that has bias in overestimating net benefits, if anything, AEMO's $0.95 billion can be expected to be an overestimate of the net benefit of HumeLink.[5]

A cause for this disparity can be seen from the figures below, which shows that EY are estimating that significantly more solar is displaced from connecting Humelink than AEMO.

EY Model:

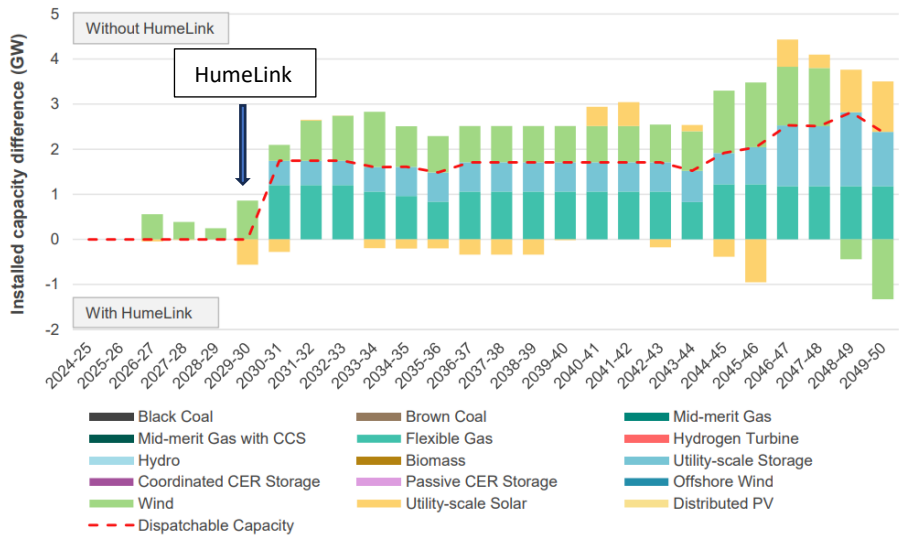
Figure 12: Forecast capacity difference with and without HumeLink Option 3C, commissioned 2026-27 for the Step Change scenario



[5] https://www.parliament.nsw.gov.au/lcdocs/submissions/80679/0029b%20Prof%20Simon%20Bartlett.pdf

AEMO Model:

Figure 8 Comparison of capacity with and without HumeLink in *Step Change* (2029-30)



However, the sheer size of the disparity between the benefits estimated by EY and AEMO brings into question the veracity of EY's market model.

EY attempt to explain these differences in their report (section 7). However, EY note even accounting for differences in assumed commissioning date, the gross benefits computed by EY are higher than those computed by AEMO.

EY provide three unconvincing reasons to explain the difference:

- Differences in **network detail** – EY and AEMO have applied different network limits and losses in the NEM regions. The implication is that EY has done a better job at modelling network constraints in the Southern NSW region. While some differences in network modelling between EY and AEMO would be expected due to the complexity in accurately modelling network configuration, it would be a serious concern, if AEMO's approach to network modelling did not accurately capture network limits and losses that would explain an almost $3.7 billion difference in benefits.

- Differences in **timing of certain transmission projects** – EY say that, based on timing advised by proponents, it has assumed '*later commissioning dates for Central West Orana REZ Transmission Link (Aug 2028 instead of Sep 2027), New England REZ Transmission Link 1 (Sep 2028 instead of Jul 2028), Project Marinus Stage 1 (July 2030 instead of July 2029) and VNI West (Dec 2029 instead of Jul 2029).*' While this may explain some of the differences between the EY and AEMO modelling in the earlier part of the assessment period, it seems unlikely to explain the quite significant differences later in the period after all of these projects are commissioned. EY also state that there are '*other future ISP projects that are fixed in the Draft 2024 ISP TOOT analysis that are*

optional REZ transmission upgrades in this Report (and therefore able to vary with and without HumeLink).' The rationale for making these projects optional is not made clear.

- Differences in **REZ transmission** – In reference to AEMO's analysis, EY say '*In the without HumeLink case, it locks in any REZ transmission in these two REZs [i.e., the South-West NSW and Wagga Wagga REZs] that is built at least-cost in the with HumeLink case post-HumeLink. In contrast, the modelling in this Report does not allow additional build of transmission to connect to those two REZs in the Base Case or HumeLink case.*' This it appears to suggest that AEMO have included additional transmission build in the base case related to the South-West NSW and Wagga Wagga REZs on the basis that some of the benefits associated with these REZ's can be realised without Humelink. If this interpretation is true, it would suggest that EY have overstated the benefits.

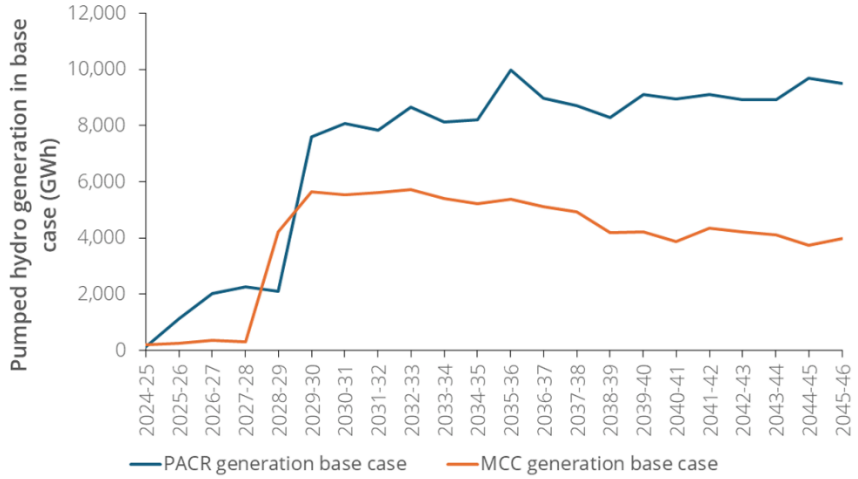
None of these reasons are sufficient to explain the night and day differences in the modelling outcomes of EY and AEMO.

7. The fundamental change in modelling assumption

The key reason for the change appears to be the assumption about the operation of Snowy 2.0.

In the MCCA, Transgrid has assumed that generation capacity at Snowy 2.0 will be limited to 660MW in the absence of Humelink. This is based on an equivalent assumption made by AEMO in the 2023 IASR. This is a key change from the PACR where this constraint was not applied. Transgrid notes that this '*constraint has a material effect on the market benefits estimated for each of the credible options in this MCC assessment, as they can each unlock the material levels of generation and long duration energy storage capacity that is provided by Snowy 2.0.*' Figure 1 below shows a clear drop in pumped hydro generation in the base case between the PACR and the MCCA. (Figure 1 is indicative only, given the differences in the scenario descriptions).

Figure 1: Comparison of PACR and MCCA pumped hydro generation in the base case



This change raises serious questions about the MCCA for several reasons, as follows:

- Little **evidence to support the change** – The MCCA only refers vaguely to '*Further in-depth studies performed by Transgrid*' and that the *'constraint arises from network congestion in the southern part of Transgrid's transmission network and limited line capacity between Lower Tumut and Upper Tumut*.' There is no independent validation of the 660MW export constraint. Given that this export constraint on Snowy 2.0 has a significant impact on the market benefits estimate, Transgrid must provide further information on how it was derived.

- It is a **fundamental change to the base case** – a key objective of the RIT-T is to assess credible options against a consistent base case. By introducing a constraint on Snowy 2.0's generation capacity without Humelink, it means that the base case used for the purposes of the PACR (and the PADR before it) is different to the base case used for the MCCA. This means that the credible options identified in the PADR/PACR have been assessed on a different basis to the credible options in the MCCA. This raises the question of whether some of the options that were previously discarded at the PACR stage should now be reassessed against the new base case, or indeed whether there are other options that have not been previously identified that should be considered.

- It raises the question of **whether the base case has been mis-specified,** with Snowy 2.0 a sunk cost **-** This has been raised repeated by the Victoria Energy Policy Centre.[6] AEMO classifies Snowy 2.0 as a 'committed project' and Transgrid considers it a 'sunk cost', assuming that the project will proceed whether or not Humelink is built. Transgrid has assumed that if they decide to stop Humelink today, Snowy 2.0 will continue to be built to its full capacity, but most of this capacity will never be utilised. This is an implausible outcome.

  The question that should be asked is, if Humelink is not built, would Snowy 2.0 be built to its current specifications? If the answer to this question is no, then the base case in the RIT-T has been mis-specified.

The fundamental changes in the modelling assumptions, including the limit on the transfer capacity of without Snowy 2.0, is yet another MCC for the HumeLink project. There is a compelling argument that the base case has been mis-specified.

Also the limit on the capacity of Snowy 2.0 without HumeLink, makes a strong case that HumeLink is a connection asset, the responsibility of Snowy Hydro, and not a shared asset, to be paid for by electricity consumers.

[6] Mountain, B.R., Woodley, T. and Outhred, H. 2021. "A review of the HumeLink Project Assessment Conclusions Report". VEPC Working Paper 2109. Victoria Energy Policy Centre, Victoria University, Melbourne.

8. Sensitivity analysis

Sensitivity analysis undertaken in the MCCA looked at opex as 3.4% of capex (Transgrid's current performance). Opex 0.5% of capex, with a PV of -189.7m, was the base scenario. Therefore, opex as 3.4% of capex would mean a PV opex of -$1,290 million. This assumption reduces the PV of net benefits of Option 3C to around $3.09 billion, see Table 6 below.

Interestingly if this assumption is applied to the AEMO feedback loop assessment, HumeLink has a net benefit of $42 million, and casts doubt on whether HumeLink satisfies the feedback loop requirement.

Table 6: Impact of 3.4% opex on net benefit results

	Present value net benefits and opex costs		
	Present value	**Increase in PV costs assuming opex 3.4%**	**Scenario with opex 3.4%**
	$m	**$m**	**$m**
AEMO Draft 2024 ISP net benefit (1% opex)	953	-911	42
MCCA net benefit (0.5% opex)	4190	-1100	3090
PV opex 0.5%	-190		
PV opex 1%	-379		
PV opex 3.4%	-1290		

Additional critical sensitivity analysis needs to be undertaken to test the robustness of the HumeLink net benefit results, including:

1. Snowy 2.0 not being completed;
2. Snowy 2.0 being delayed;
3. VNI West and Sydney Ring not completed; and
4. VNI West and Sydney Ring delayed.

9. Conclusion

The Rule for MCC applying to the HumeLink project states:

> *'NER Clause 5.16A.4:* ***Reapplication of regulatory investment test for transmission***
> *(n) If: …*
> *(2) there has been…:*
> *(i)* ***a material change in circumstances which, in the reasonable opinion of the RIT-T proponent means that the preferred option identified in the project assessment conclusions report is no longer the preferred option****;'*

This rule states if *'a material change in circumstances… means that the preferred option identified in the project assessment conclusions report is no longer the preferred option.'*

The Rule therefore **doesn't** say:

> *'preferred option identified in the project assessment conclusions report is no longer the preferred option,* ***relative to the other options considered in the PACR****'*

So the Rule doesn't confine the consideration of options, to just those options considered in the PACR. Rather it says if the preferred option in the PACR, is no longer the preferred option.

We are arguing that as it has been established that undergrounding HumeLink is feasible, this option is now preferred.

We argue that undergrounding is the option consistent with the NEO as it is the **least cost** triple bottom line (financial, environment and social) option, that must be undertaken to achieve efficient outcomes in the NEM.

There are also significant benefits to the grid with putting HumeLink HVDC underground. It would enable the start of an HVDC backbone, with significant economies of scale possible, by using the same convertors at Bannaby for Sydney Ring, and those at Gugga for VNI West. Also it would provide important inertia and stability benefits to the grid. Not considering a HVDC underground option for HumeLink is missing an important opportunity to start a HVDC backbone, realise inertia and stability benefits, realise resilience and security benefits, and minimise harm to the environment and communities.

The MCCA analysis is highly questionable for the following reasons:

1. There are compelling reasons for considering the stated HumeLink capital cost $4.88 billion is an underestimate;
2. The sheer size of the difference in gross benefits modelled in the MCCA compared to AEMO's Draft 2024 ISP;
3. Bias in the costs applied to other options, favouring Option 3C;
4. A fundamental change in modelling assumptions which limits Snowy 2.0 capacity without HumeLink, that haven't been independently verified, and mean that the remaining cost of Snowy 2.0 is a cost for HumeLink options; and
5. The need for further sensitivity analysis of options.

Further, the MCCA sensitivity analysis presented on opex of 3.4%, Transgrid's current performance, suggests that AEMO's net benefit is only $42 million with this assumption, indicating the AEMO net benefit result is not robust.

For the reasons outlined above, Transgrid has failed to confirm that the PACR preferred option is still the preferred option for the HumeLink project. Therefore the RIT-T must be reapplied to the HumeLink project.