A comment on the HumeLink Submissions Report – part 1

HumeLink Alliance Incorporated
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We appreciate the opportunity to comment on Transgrid's HumeLink Submissions Report.

Transgrid's Submissions Report fails to address fundamental flaws in the HumeLink EIS. This comment by HumeLink Alliance Inc. focuses on one of the many failures of the Submissions Report, specifically the response by Transgrid to the use of input-output (I-O) analysis to assess the economic benefit of the HumeLink project for the region and the State of NSW as a whole.

1. Our submission

In our submission to the EIS (see relevant parts of our submission in Appendix A), we state that:

1.1. The key economic issue in the Planning Secretary's Environmental Assessment Requirements (SEARs) is to assess '*the benefits of the [HumeLink] project for the region and the State as a whole*';

1.2. The HumeLink Scoping Report Reference: 507179-160522-REP-NN-001 (the Scoping Report) says '*[t]he methodology for the economic impact assessment will be guided by the TPP17-03 NSW Government Guide to Cost-Benefit Analysis.*'

1.3. Instead of using cost-benefit analysis to assess the net benefit of HumeLink, as required under TPP17-03 NSW Government Guide CBA, the HumeLink EIS uses input-output analysis (I-O):

> '*HillPDA used input-output (I-O) modelling, to estimate the economic impacts at the regional, State and national level.'*

1.4. The NSW Government Guide CBA, states I-O is ***'not a tool to measure welfare in the appraisal of projects or programs'.***

1.5. The regulatory investment test for transmission (RIT-T) specifically excludes environmental externalities when assessing options, therefore it is critically important that these costs to communities and the environment are rigorously assessed and quantified in the EIS, to ensure the project will improve State welfare.

2. Transgrid's response to submissions

In response, Transgrid in the Submissions Report says:

7.4.5. Economic

7.4.5.1. Methodology

Submitter ID numbers

S-63249978, S-63250210, S-63233458

Summary of issues raised

Submitters raised concerns about the inadequacy of the economic assessment methodology. Specific comments included:

- the economic impact assessment does not adequately consider cumulative impacts from increased resource demand and business prices, which could offset some of the project's economic benefits
- the method used to determine the project's economic benefit for the region and State is incorrect and inconsistent with the NSW Government Guide to Cost-Benefit Analysis and ignores the non-market costs of overhead transmission lines.

Response

Technical Report 6 – Economic Impact Assessment was prepared for the EIS to address the SEARs for the project and was prepared in line with the QLD Government's *Economic Impact Assessment Guideline* (State of QLD, Department of State Development, 2017) in the absence of an equivalent NSW Government guideline applicable to the project. Additionally, the economic impact assessment considered a number of State and regional policies and local government strategies.

The net market benefits of project are estimated at more than $1 billion (Transgrid, 2024b). There may be some higher cost of resources if several competing projects are underway at the same time. However, these fluctuations are expected to be minor against the scale of net market benefits of the project.

Chapter 4 of *Technical Report 6 – Economic Impact Assessment* of the EIS details the methodology used to assess positive and negative economic impacts during the construction and operation of the project. The assessment was not intended to provide a cost-benefit analysis as per the *NSW Government Guide to Cost-Benefit Analysis*. Instead, an input-output (I-O) model using the *Australian National Accounts 2018-19 I-O tables* (ABS, 2021) was developed for the purposes of assessing the economic impacts of the project at the regional, State and national levels. Impacts on agriculture and forestry production because of the overhead transmission line were quantified. Although not quantified, other non-market impacts of overhead transmission lines were assessed in other technical reports developed as part of the EIS (eg visual and other environmental impacts).

Therefore, Transgrid says:

> '*Economic Impact Assessment was prepared for the EIS to address the SEARs for the project and was prepared in line with the* ***QLD Government's Economic Impact Assessment Guideline*** *(State of QLD, Department of State Development, 2017) in the absence of an equivalent NSW Government guideline applicable to the project.*'

This statement, that NSW government doesn't have a guideline for assessing the economic impact of a project, is completely false.

In fact, the HumeLink Scoping Report Reference: 507179-160522-REP-NN-001 (the Scoping Report) says '*[t]he methodology for the economic impact assessment will be guided by the TPP17-03 NSW Government Guide to Cost-Benefit Analysis.*'

We can only assume that the consultant, HillPDA Consulting, made a mistake when they decided to assess the economic merit of HumeLink with I-O analysis, not realising that NSW government policy states that I-O should NOT be used to assess the economic benefit of a project.

The *NSW Government Guide to Cost-Benefit Analysis* states:

'The purpose of this Treasury policy and guidelines paper is to provide guidance and promote a consistent approach to ***appraisal and evaluation of public projects,*** *programs and policies across the NSW Government. Agencies should use* ***this NSW Government Guide to Cost-Benefit Analysis (Guide) when assessing all significant government projects,*** *programs, policies and regulations.'*

There is no excuse for not using the *TPP17-03 NSW Government Guide to Cost-Benefit Analysis* as committed to in the Scoping Report for assessing the economic merit of the HumeLink project.

Again, we insist the assessment of the economic benefit of the project for the region and the State as a whole, as required by the SEARs, must be redone using the NSW government cost-benefit analysis method.

3. Failure of the RIT-T to assess the benefits of HumeLink for the region and the State as a whole

The need to assess all the first round direct and indirect costs and benefits of the HumeLink project, to assess '*the benefits of the [HumeLink] project for the region and the State as a whole*', is especially critical because of the RIT-T explicitly excludes environmental and community costs when assessing the project.

Despite the objective of the national electricity market being efficient outcomes, the net benefit of HumeLink and other projects in AEMO's 2024 Integrated System Plan (ISP), exclude large costs of transmission projects – environmental externalities. Environmental externalities are market failures and must be taken into account to ensure efficient outcomes.

The Australian Energy Regulator's (AER's) cost-benefit guidelines states:

- Exclude from its analysis, the costs (or negative benefits) of an ISP project's harm to the environment or to any party that is not prohibited under a law, regulation or other legal instrument.

AER, *Cost benefit analysis guidelines - Guidelines to make the Integrated System Plan actionable*, August 2020, p91.

This practice is inconsistent with government cost-benefit analysis and is leading to inefficient outcomes. See the following excerpt from the RIT-T cost-benefit analysis guidelines that illustrates the problem with omitted externalities for transmission lines.

Example 20: Externalities

Negative externality

Assume a credible option is a local gas-fired peaking generator, planned for development in close proximity to an existing hotel. The RIT–T proponent expects the development of the generator will reduce the nearby hotel's annual earnings (due to a loss of visual amenity). The present value of this loss is $15 million.

In this example, the $15 million cost borne by the hotel's proprietor is a negative externality. While the development of the gas-fired peaking generator drives this cost, the generator's developer will not incur the cost. It is therefore not part of the credible option's costs.

Source: AER, Application guidelines Regulatory investment test for transmission December 2018

A power station is at one point, spatially. A transmission line, like HumeLink, is impacting communities and the environment all along its 365 km length. If there is a $15m present value cost every kilometre, for the 365 km length, the cost would be $5.5 billion ($15m/km x 365km = $5.5 billion).

These and other costs, like increased risk of bushfires[1], increased risk in severe weather and reduced productive efficiency of agriculture as a result of overhead transmission lines, need to be taken into account when assessing projects.

4. Claimed net benefit of the HumeLink project

Transgrid, in the Submissions Report, says repeatedly, the net benefit of HumeLink is over $1 billion[2]. However this claimed net benefit is before taking into account major costs of the project and is therefore clearly incorrect and seriously misleading. The $1 billion net benefit is before accounting for billions of dollars in costs from environmental and community impacts along the 365km length, for the next 80 years. For example, using the numbers in 'Example 20: Externalities' above, rather than a $1 billion net benefit, HumeLink potentially has a net cost of $4.5 billion ($1 billion net benefit less $5.5 billion environmental externalities = $4.5 billion net cost).

[1] Particularly a project like HumeLink with over a third of the route in bushfire prone land.

[2] Reference to the updated net market benefits of over $1 billion is from HumeLink's Material change in circumstance assessment provided at: https://www.transgrid.com.au/media/q4snvvri/humelink-material-changecircumstance-mcc-assessment-report-feb-24.pdf

The $1 billion net benefit has also been disputed in submissions to the MCC assessment[3] because of:

- The assumption of opex of 0.5% of capex when Transgrid's current practice is 3.4%. An assumption of 3.4% opex, increases the present value of cost of HumeLink by around $1.1 billion, cancelling out the claimed $1 billion net benefit;
- Claiming all the benefits of VNI West and Sydney Ring in the HumeLink cost-benefit analysis but none of the costs. As the costs of VNI West and Sydney Ring are $3.256 billion and $1.55 billion, respectively, counting these costs in the cost-benefit of HumeLink can be expected to leave the HumeLink project with a net cost;
- Assuming the remaining $7 billion cost of Snowy 2.0 is a sunk cost, even though the $1 billion net benefit of HumeLink is largely from transmitting power to and from Snowy 2.0. Counting the remaining cost of Snowy 2.0 in the HumeLink cost-benefit analysis would mean a large net cost for HumeLink.
- An underestimation of the capital cost of the HumeLink project; and
- The sheer size of the difference in the gross benefits modelled in the material change in circumstance assessment compared to AEMO's Draft 2024 ISP.

Concluding remarks

Transgrid's Submissions Report is an entirely inadequate response to the failure of the HumeLink EIS to assess the economic benefit of the HumeLink project for the State as a whole. Cost -benefit analysis, consistent with NSW government policy, is the method that must be used. Until a full cost-benefit analysis of the HumeLink project is undertaken, combined with an assessment of distributional equity impacts, the project must not be approved.

[3] https://www.cis.org.au/wp-content/uploads/2024/06/Nuclear-MCC.pdf, https://www.aer.gov.au/system/files/2024-04/HumeLink%20Alliance%20%28MCC%29%20-%20HumeLink%20CPA%20stage%202%20submission%20-%2003%20April%202024.pdf, https://www.aer.gov.au/system/files/2024-04/Ted%20Woodley%20-%20HumeLink%20CPA%20stage%202%20submission%20-%2003%20April%202024.pdf

Appendix A - Excerpts from the HumeLink Alliance Inc. submission to the HumeLink EIS

See below excerpts from the HumeLink Alliance Inc. submission to the HumeLink EIS, pages 1 to 12.

1. Flawed economic assessment of the State benefit of HumeLink

The method used to assess the economic benefit of the HumeLink project is entirely unsound, as it uses a method described by NSW Treasury as **not a tool to assess State benefit of projects**.

The key economic issue in the Planning Secretary's Environmental Assessment Requirements (SEARs) is to assess 'the benefits of the [HumeLink] project for the region and the State as a whole.'

The HumeLink Scoping Report Reference: 507179-160522-REP-NN-001 (the Scoping Report) says '*[t]he methodology for the economic impact assessment will be guided by the TPP17-03 NSW Government Guide to Cost-Benefit Analysis.*'

Instead of using cost-benefit analysis as required under NSW Government Guide CBA, the EIS uses input-output analysis (I-O):

> '*HillPDA used input-output (I-O) modelling, to estimate the economic impacts at the regional, State and national level.'*

As such the economic analysis undertaken in the EIS is inconsistent with the TPP17-03 NSW Government Guide to Cost-Benefit Analysis (NSW Government Guide CBA) and needs to be redone.

NSW Government Guide CBA says in relation to I-O modelling:

> I-O analysis is *'of limited usefulness in assessing the net social benefit of proposals.'*
>
> And
>
> *'I-O analysis is subject to* ***significant limitations****, and* ***extreme care should be taken in its interpretation****. I-O analysis is concerned with simply measuring economic activity.* ***It is not a tool to measure welfare in the appraisal of projects or programs, nor does it take account of the alternative uses (opportunity costs) of resources. I-O analysis does not necessarily measure net benefits****.*
>
> *Multipliers are often inappropriate for assessing impacts associated with additional (marginal) investment. Published multipliers measure the overall linkages between an industry and the remainder of the economy, and therefore represent average rather than marginal impacts.*
>
> *Other limitations include:*
> *♣ Often poor quality of the data on which regional input-output models are based.*
> *♣ Potential double counting of impacts – Value added, income and employment impacts are alternative measures of the level of activity, and should not be added together.*

♣ Lack of supply-side constraints – Multipliers assume that extra output can be produced in one area of activity without reducing resources for other activities. This would not apply, for instance, where resources are fully employed.
♣ The assumption that prices are fixed and that relative price changes have no impact on the allocation of scarce resources between activities, which may not always be true.
♣ The assumption of fixed production technology, which can lead to erroneous conclusions, particularly when technology is changing rapidly.
♣ Absence of budget constraints – As a result changes in consumption occur without reducing demand elsewhere. When in reality most consumption expenditure by households and government are budget constrained. p
♣ Multiplier impacts are based on a theoretical relationship. They cannot be considered as literal or precise, and any flow-on impacts (i.e. impacts beyond the first round effects) cannot be directly observed, measured or verified after the fact' (some emphasis added), p65-66.

Therefore I-O is wholly the wrong method for assessing the benefits of the HumeLink project for the region and the State as a whole.

……..

4.1. NSW Government Cost-Benefit Analysis is required to determine State benefit

The NSW Government Guide CBA states:

'Agencies should use this NSW Government Guide to Cost-Benefit Analysis (Guide) when assessing all significant government projects, programs, policies and regulations.

Cost-benefit analysis (CBA) is an evidence based method for systematically organising and presenting information to help government understand ***all the impacts of*** *policies and* ***projects, including economic, social and environmental impacts'****.*

Also

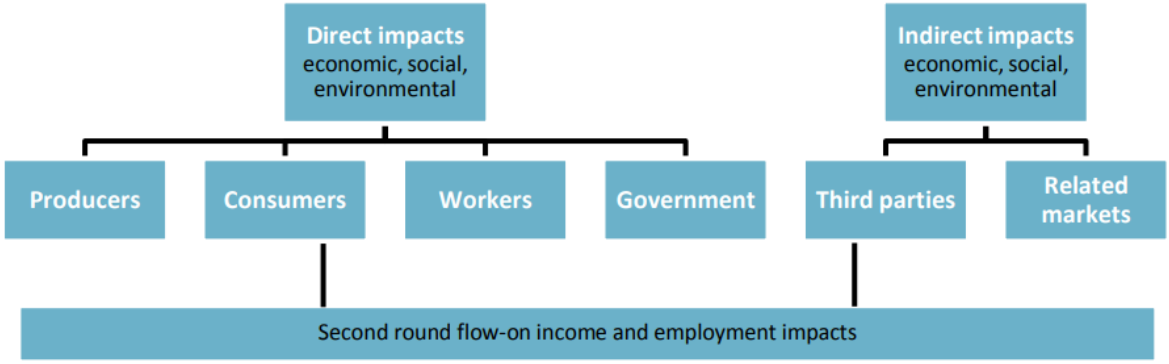
'The government should act only if there is a net improvement to social welfare. In this Guide, social welfare refers to the wellbeing of the entire society or community (in this case the people of New South Wales)'.

A 'net improvement to social welfare' means a net benefit to all in society – a net benefit to the State. To ensure a net benefit to the people of NSW, from a program or project, the NSW Government Guide CBA requires all first round direct and indirect costs of projects to be factored in to the cost-benefit analysis:

'The general valuation principle is that all first round impacts should be valued as changes relative to the base case regardless of whether the impacts are direct or indirect. The secondround flow-on or multiplier effects are generally not included in CBA' (p12).

See below the definition of direct and indirect impacts – economic, social and environmental (a triple bottom line assessment).

Figure 2.3: Possible costs and benefits – classifying impacts



In NSW these impacts are required for projects costing $10 million.

> *Generally, this Guide recommends that a CBA should be completed and submitted to Treasury for any new programs or changes to existing programs that meet the following value thresholds:*
> ♣ *For capital expenditure: Estimated total capital cost of $10 million or more,* (p3).

As a $4.892 billion project, with significant, widespread and enduring negative environmental impacts, it is critical that the benefit of HumeLink for the State as a whole is determined with NSW Government Guide CBA.

The NSW Government Guide CBA states:

> *'A CBA is an essential part of both a preliminary business case and a final business case'* (p6).

Transgrid have failed to undertake this ***essential*** part of the preliminary and final business case for the HumeLink project.

…..as stated in the NSW Government Guide CBA, I-O is ***'not a tool to measure welfare in the appraisal of projects or programs'.***

Further I-O analyses:

♣ *Lack of supply-side constraints – Multipliers assume that extra output can be produced in one area of activity without reducing resources for other activities. This would not apply, for instance, where resources are fully employed.*

As such, in the current macroeconomic environment, with unemployment currently at record low levels, it can be expected that instead of increasing employment, the HumeLink project will increase inflation and so interest rates.

4.2. Commitment to NSW Government Guide CBA in HumeLink scoping report

The community has been repeatedly told by Transgrid that environmental and community costs would be assessed in the EIS. Transgrid, in the HumeLink - Scoping Report, reinforced this understanding, saying:

The economic impact assessment will:

> *'• Identify and **quantify** the potential significant impacts (costs and benefits)….*
>
> *The methodology for the economic impact assessment will be guided by the TPP17-03 NSW Government Guide to Cost-Benefit Analysis'* (Transgrid, HumeLink - Scoping Report, p91).

Methods to quantify environmental and community impacts are discussed in Appendix 3A: Valuation principles and methods of NSW Government Guide CBA. This Appendix discusses Non-market valuation methods such as "stated preference methods" including "contingent valuation" which is described as '*widely used mainly to value environmental programs'.* These methods could have been used to quantify the visual amenity costs of HumeLink as an overhead line.

Why hasn't quantifying environmental and community impacts been done?

Until this is done, it cannot be determined that there is a benefit to the State with the HumeLink project.