

Submission to the Draft 2023 Transmission Expansion Options Report

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About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is leading social justice law and policy centre. Established in 1982, we are an independent, non-profit organisation that works with people and communities who are marginalised and facing disadvantage.

PIAC builds a fairer, stronger society by helping to change laws, policies and practices that cause injustice and inequality. Our work combines:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change and public interest outcomes.

Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program works for better regulatory and policy outcomes so people's needs are met by clean, resilient and efficient energy and water systems. We ensure consumer protections and assistance limit disadvantage, and people can make meaningful choices in effective markets without experiencing detriment if they cannot participate. PIAC receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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1. Introduction

PIAC welcomes the opportunity to respond to the AEMO Draft 2023 Transmission Expansion Options Report (the draft report). In this submission PIAC provides comments in response to the consultation process and details of the draft report. We have also made observations on the role of the report in the Integrated System Plan (ISP) process, and how improvements could be made to benefit consumers.

The ISP plays a crucial role in ensuring the energy system transitions rapidly and efficiently, promoting the long-term interests of consumers. The methodology underpinning the ISP must continue to evolve to ensure it is fit for purpose. Ongoing transformational changes to the supply and demand sides of the energy system mean continuing with a narrow focus on transmission in isolation will not drive efficient infrastructure spending in the long-term interests of consumers.

The ISP must seek to co-optimize all aspects of energy system augmentation. Currently, the ISP takes a pro-active, scenario-creating approach to the transmission build, while in the other areas, it takes a reactive approach. Developments impacting generation investment, such as jurisdictional policies, the take-up and design of storage and firming options, and the take-up of various demand-side technologies, are currently regarded as inputs over which AEMO has no influence. This failure to fully consider and co-optimize the different aspects of transformation in the energy system means proposed transmission development paths are unlikely to be optimal in terms of efficiency and consumer benefit.

Two further options reports should be developed to accompany the Transmission Options Expansion Report: a Generation and Storage Options Report and a Distributed Energy Resources (DER) Options Report. The ISP will continue to fall short as a 'whole of system' planning mechanism until these or similar instruments are added.

All three Expansion Reports should be adjusted to facilitate more meaningful stakeholder input. Specifically, they should be geared towards respondents providing their ordered values and preferences with respect to system expansion across different time horizons. As the draft report currently sits, the scope for stakeholders (particularly consumers) providing meaningful input is very limited.

PIAC supports many of the additions and updates in the draft report, including those related to lead times, inverter-based resources and offshore connections. We have provided detailed comments with respect to several areas where we recommend a different approach be taken.

We support the inclusion of **risk allowances** in the baseline estimates for options in the development stages. However, these should be updated in line with the historical experience of similar projects. For example, the risk allowances should be adjusted according to the size of the project, reflecting the experience that larger projects see proportionally larger divergences in estimates to final costs than smaller projects.

The treatment of **social license sensitivities** in the 2024 ISP modelling process should be reversed. The baseline model should assume that substantive and effective engagement creates

some delays and added costs to transmission projects. Sensitivities in the ISP modelling at various stages should then include scenarios where these delays and added costs are lower or higher than expected. PIAC recommends that the modeling of social license costs take as independent variables the size of land holdings and prevailing land use on the most likely route.

Additional information should be included in the final report **identifying when options are dedicated assets**, in particular those that have limited and non-domestic load uses. That is, where an option exists for the primary purpose of servicing a proposed hydrogen production project, or facilitating a mine expansion, this should be noted and the proposed option should be described as a dedicated asset.

PIAC disagrees with the expectation in the draft report that **input prices**, particularly steel, will stabilise in the long term. This is not likely, as competition for large infrastructure projects both within Australia and internationally is expected to persist well into the 2030s.

2. Orchestration

As we have previously argued,¹ the ISP needs to go beyond the narrow confines of defining the optimal development path (ODP) for energy transmission and consider energy generation, storage, and efficient consumption.

The ISP is notionally a whole of system plan. It is not meaningful to consider transmission options without reference to the (co)optimal pathways throughout the electricity supply chain.

Two further options reports should be added alongside the Transmission Expansion Options report: a Generation and Storage Options Expansion Report and a Distributed Energy Resources (DER) Options Expansion Report.

The DER Options would engage with augmentation dynamics and options including, but not limited to:

- the take-up of electric vehicles (EVs);
- behind the meter, community, and network batteries;
- consumer energy resources;
- smart appliances;
- rates of household and business electrification;
- improvements in thermal efficiency of buildings;
- more energy-efficient town planning; and
- increases in volume and sensitivity of demand-side response.

These would be major undertakings and additions to the ISP process, but would not extend the remit of AEMO, as laid out in clause 5.22.2 of the NER:

The purpose of the Integrated System Plan is to establish a whole of system plan for the efficient development of the power system that achieves power system needs for a planning horizon of at least 20 years for the long term interests of the consumers of electricity.

¹ [PIAC Submission to the Update to the ISP Methodology](#), 1 May 2023.

The power system is defined as:

The electricity system of the national grid including associated generation and transmission and distribution networks for the supply of electricity, operated as an integrated arrangement.

3. The options reports should allow stakeholders to provide their preferences on the aims of system expansion

The purpose of stakeholder engagement in energy planning, and regulatory and reform processes is to ensure the quality of the evidence base for a process. In the context of this report, that should entail accurately understanding stakeholder preferences – particularly those of consumers - and to indicate how they have been considered. Engagement processes need to be accessible, timely, and focused on areas where stakeholders can have meaningful input. It requires provision of adequate information to respondents to enable them to choose between clearly defined, meaningful alternatives and so communicate their values and preferences. The draft report and process as they are currently laid out do not achieve this.

The draft report provides options that are poorly defined, with extremely uncertain costs and build times, and attached to aims or outcomes which are only suggestions or possibilities. This is not a failing by AEMO; it is simply a result of most options being at very early stages of planning. However, instead of enabling respondents to provide their preferences from their particular perspectives – as consumers, energy consuming business owners, generators, and so on – as good stakeholder engagement should, the report requires stakeholders to act as system planners, and system planners working with poor quality information at that. As a result there is very limited possibility of providing meaningful input into the ISP at this stage.

The primary purpose of the Transmission Options Expansion Report, and alongside it the Generation and Storage Options Expansion Report and the DER Expansion Options Report, should be to define the aims of expansion in these different areas over different time frames. Specifically, the aim should be to ascertain the ordered values and preferences of a range of stakeholders on the aims of system expansion in the short, medium, and long term.

4. Lead times, inverter-based resources, offshore connections

PIAC supports the:

- updates to the treatment of transmission project lead times.
- addition of system strength service cost estimates in the ISP to estimate the requirement to support stable operation of inverter-based resources (IBR) in the National Energy Market (NEM), consistent with the system strength standard.

5. Risk allowances

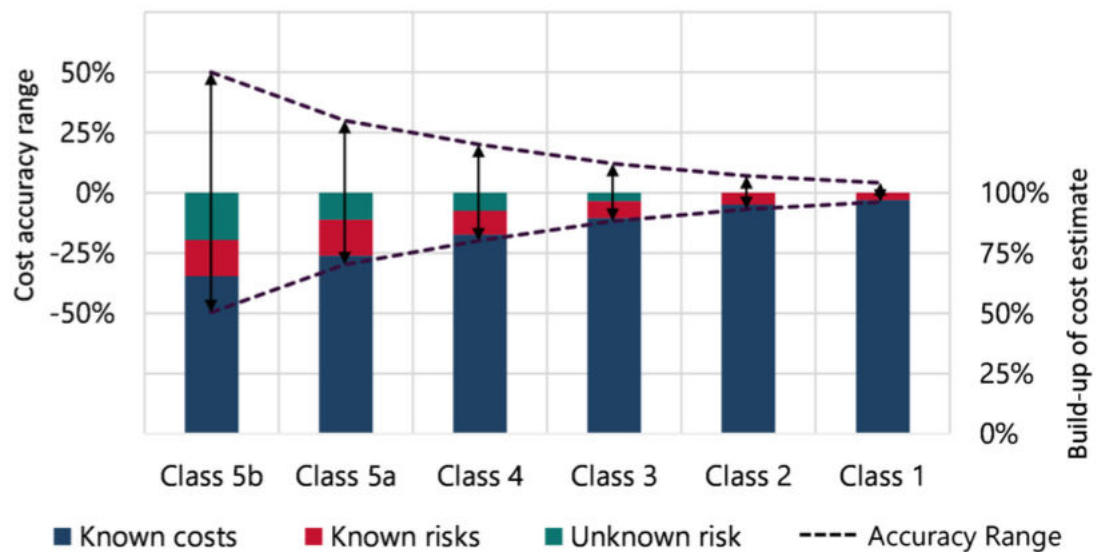
PIAC supports the inclusion of risk allowances in the baseline estimates for options in the early stages of development. However, given the consistent underestimation of project costs, there is a real risk of the estimates losing credibility. The point is underlined by cost and time over-runs on projects like PEC and Humelink, and higher revealed costs for projects like the CWO REZ.

Risk allowances should be based on historical experiences of cost inflation between early stage planning and final costs of projects in the NEM. This would result in an average risk allowance more in the vicinity of 100% of early cost estimates.

Risk allowances should not be a uniform rate across all projects (ie. 30% for 5b estimates and 15% for 5a estimates). Rather they should be scaled in line with the size of the projects. This would reflect the experience of larger projects seeing proportionally larger divergences between estimates and final costs than smaller projects.

The accuracy bands around the estimates should be skewed to the positive side, in keeping with the AACE International methodology cited in the paper on page 25. The accuracy bands are currently non-skewed, per Figure 6 on page 24 of the report (below).

Figure 6 Cost estimate summary breakdown from Class 5b to Class 1



It is possible that methodology in the draft report is to produce skewed accuracy bands taken from a reference point of the known costs estimate. If this is the case, the practice should be changed as it produces two cost estimates for each project: one as the estimate of all known costs and one as the estimate of all known costs plus an estimate of the cost of known risks plus a risk allowance. Having two cost estimates per project creates unnecessary confusion. The accuracy bands should be positively skewed from the final estimate inclusive of all three elements.

6. Social license sensitivities

Regulators should assume that acquiring social license for any transmission project will require material costs and time. Regulators must also recognise that social license issues follow on from the proposal of projects. It cannot be assumed that the absence of community organisation in areas where projects have not been proposed indicates that social license is likely to be less of an issue in the event of a project being proposed in that location.

In estimating the additional costs and lead times for acquisition of social license, we support the proposal in the Draft Inputs, Assumptions and Scenarios Report (IASR) for a land use penalty factor (p.121-122). This reflects the fact that (except in cases of high environmental value land) projects acquiring or impacting land used more productively will, in general, encounter more community and landholder opposition than projects acquiring or impacting land used less productively (for example, for grazing).

We suggest a second penalty factor is added based on the average lot size or number of residences of the land being acquired or impacted. The smaller the average land holding size, the greater the penalty factor should be. The relationship between lot sizes and social license is less clear cut than the land use-social license relationship. There are occasions where landholders on very large holdings wield substantial capacity to delay projects and are incentivised financially to try to prevent easements – for example in situations where easements may lessen the possibility of subdividing the lot. However, a strong enough negative relationship between lot size and landholder opposition to easements and visual impacts exists to warrant the inclusion of a second penalty factor.

We support the proposed inclusion of sensitivities in the 2024 ISP to consider the impact of variables relating to social license on the ISP outcomes and to help inform selection of the ODP. However, the baseline estimates of project lead times and overall costs must include positive and material additions for the acquisition of social license. The sensitivity analyses should be for these costs being above or below these baseline estimates.

7. Identifying options as dedicated assets

A number of the REZ and transmission line options that appear in the report have identified purposes in terms of the use of load, and that these are for commercial uses. This includes:

- the Roxby Downs REZ, where the summary notes that the “only significant load in the area is the Olympic Dam and Carrapateena mines”; and
- the Northern SA REZ, where the summary notes that it “forms a candidate for a hydrogen electrolyser facility in South Australia.”

Where an option will benefit a discrete set of commercial beneficiaries, for example, to enable the planned expansion of the Olympic Dam mine, the cost of the associated infrastructure should be borne solely by those beneficiaries.

While the Transmission Expansion Options Report does not aim to engage with the question of how costs are allocated for options, the information is pertinent to the evaluation of the options. In instances where options are canvassed for exclusive or near-exclusive use by commercial

interests, this should be made explicit in the final report. Where possible, an indication of the expected composition of interested commercial parties should also be provided.

8. Offshore REZ connections

Due to the steep continental shelf that surrounds most of Australia, offshore wind projects are likely to be non-viable. An exceptional case is the Bass Strait. It is incumbent upon AEMO to ensure that the projects are viable, and that consumers are not hit with transmission and connection costs without receiving the benefits of new generation.

9. Input prices

PIAC takes issue with the expectation in the report that input prices, particularly things including steel, will stabilise in the long term. This is not likely, as supply chain constraints and competition for large infrastructure projects, both within Australia and internationally, are expected to persist well into the 2030s. Absent any strong evidence to the contrary, a prudent approach to managing the risk of future input prices would be to expect current input prices to remain at current levels or higher for the foreseeable future.

Continued engagement

We welcome the opportunity to meet with AEMO and other stakeholders to discuss these issues in more depth. Please contact Michael Lynch at mlynch@piac.asn.au regarding any further follow up.