23 April 2026

Responses via their online submission form

Submission from the WA Expert Consumer Panel on Western Power's Draft Transmission System Plan 2025

Thank you for the opportunity for members of the WA Expert Consumer Panel (ECP) [Anne Hill, Chris Alexander, Kathryn Thorburn, Luke Skinner, Noel Schubert, Rosh Ireland] to make a submission on the above consultation.

As a panel supported by the State Government's Western Australian Advocacy for Consumers of Energy (WA ACE) program, we are committed to improving consumer outcomes in the energy sector. We represent energy consumers on the Market Advisory Committee (MAC) and its working groups, and in other consultation processes relevant to consumers of energy in WA.

Initial Comments

The Transmission System Plan (TSP) is detailed and helpful. Annual releases such as this play an important role in providing transparency to consumers and other stakeholders, especially when considered alongside the Network Opportunities Map and Alternative Opportunities Strategy.

As consumer representatives, we are tasked with ensuring the long term interests of consumers are prioritised and protected. In the context of Western Power's TSP such interests include keeping costs to a minimum, reducing environmental impacts including emissions, and ensuring the safety, security and reliability of supply.

It is clear throughout the plan that Western Power (WP) has a strong focus on safety, and the security and reliability of supply. It is also clear that considerable effort is put in to determine 'least cost' development pathways, including pursuing alternative solutions and taking other actions to keep costs down. We support the intense efforts to ensure reliable supply during this highly volatile transition period in which we find ourselves, and it is encouraging to see WP taking an increasingly proactive approach toward alternative solutions and other such cost-avoiding and cost-delaying opportunities.

We also strongly support the clear intent in this TSP to prioritise network infrastructure which enables the connection of new, low-cost renewable energy generation.

On the other hand it is not clear that WP has focused on environmental impact or emissions outcomes during the drafting of this TSP. Aside from acknowledging that new generation projects must go through environmental approvals, there is not a single mention of the natural environment or emissions in the draft TSP document at all. While projects are named Clean Energy Link (CEL), and there are several mentions of enabling renewable generation to enter the grid, these are discussed in the context of being 'least cost' projects, and environmental impacts or emissions outcomes are not mentioned in association with these projects or at any other point in this draft TSP.

In order to meet State Electricity Objective 1(c) environmental consideration requirements, it is incumbent on Western Power to systematically identify and consider potential environmental outcomes throughout the planning process, and this should be transparently reflected in TSP documentation.

Introduction & Key Insights

We have no comments to make on the introduction or study scope and methodology.

The key insights summary provides useful insights into what WP views as the primary trends, challenges and opportunities facing the transmission and distribution networks over the next 5-10 years.

Of particular interest is the expectation of rapid changes to the way our 330kV system is utilised over the period of this plan. This system is moving from a single-direction network designed to provide energy flow from large generators to meet the peak demands of distributed customers, toward bi-directional flows which also enables the charging of grid-scale storage systems from diverse and distributed generation sources during lower demand periods. This is a positive development that will improve overall utilisation of the existing 330kV system.

We have concerns about forecasting accuracy for “System peak demand” and also “System minimum demand”, which is based on WP’s 2025 long term demand outlook and likely does not account for the massively increased rate of behind-the-meter battery uptake in late 2025 and 2026. Similarly, in response to the liquid fuels crisis, Australian EV sales in the month of March 2026 jumped a massive 42.3% month-on-month, or more than 88% compared to March 2025. It is unlikely that WP’s 2025 forecasts could have anticipated such a sudden and massive increase in the rate of EV uptake in 2026. As such, it will be important to keep a close eye on the impact these new EV’s, and behind-the-meter battery installs, have on minimum and maximum demand as well as on network congestion.

Project deliverability is also a key concern for ECP members, as this impacts costs, reliability of supply and emissions outcomes - all of which are key concerns for consumers.

We note that very-large-scale generation and transmission projects face significant challenges with supply chains, workforce security, social license, financing and environmental approvals. As such, we believe it is incumbent on Western Power and the proponents they work with to prioritise projects which have the highest likelihood of successful, on-time delivery. At this point in Western Australia’s transition it is potentially more important to deliver projects on-time and on-budget than it is to always prioritise “least-cost” projects, provided the difference in cost is reasonable.

Section reference: Planned Developments, Demand, Existing and Projected Limitations

Comment:

Planned Developments, Demand, Existing and Projected Limitations

Planned Developments

The identified Planned Developments seem well targeted to deal with historical constraints and meet expected future limitations as or before they cause problems.

It is encouraging to see WP progressing efficient network enhancements including through the use of dynamic line ratings and thermal uprating, and we encourage WP to continue pursuing such

enhancements across the network. Increasing the use of dynamic line ratings can help to increase availability of capacity and to improve utilisation of existing transmission infrastructure.

Demand

As noted in our comments on the “key insights” section, we expect both peak and minimum demand are likely to be significantly impacted by the unanticipated and exponential increase in the rate of EV and behind-the-meter battery uptake experienced in late 2025 and 2026. This could materially influence demand outcomes and it will therefore be important to closely monitor the impact that new EV’s, and behind-the-meter battery installs, have on minimum and maximum demand over time.

Existing and Projected Limitations

This section is very thorough and we appreciate the explanation of existing and projected network limitations, the contingencies which exist or are likely to emerge in the system, and the concise explanations of their relation to prioritisation of specific transmission projects. Similarly, the provision of a detailed appendix (B) with specific information about each of key projects and their intended benefits is also helpful. This information helps consumers understand the specific ‘why’ behind the need for particular projects and is a positive contribution toward achieving social license.

Given the significant levels of uncertainty around demand, consumption, decarbonisation, construction times and the uptake of Distributed Energy Resources, such as EV’s, behind the meter batteries, and PV systems, it is increasingly important to provide this kind of transparent information yearly. We commend WP for the excellent work and high level of transparency provided around existing and projected limitations on both the transmission and distribution systems.

Section reference: System Strength, Non-Network Opportunities and Additional Comments

Comment:

System Strength, Non-Network Opportunities and Additional Comments

On system strength, ECP Members are encouraged to see WP recognising the potential for inverter-based generation resources (IBR) which use Grid Forming (GFM) technology to provide inertial response and contribute to system strength by helping maintain a stable voltage waveform. However, we note that on page 33 it is mentioned that “no IBR of any type is assumed to contribute inertia” when modelling the minimum inertia requirements to avoid the Rate of Change of Frequency (RoCoF) exceeding the safe limit. As it is acknowledged that GFM can contribute to inertia, we question why it is not included when modelling inertia requirements?

In relation to RoCoF, ECP members support the increase in RoCoF Safe Limit to 0.75 Hz per second adopted as part of the Essential System Services Framework Review, and note that other jurisdictions operate fine with a RoCoF Safe Limit of 1 Hz per second (eg. EirGrid and SONI operate Ireland and Northern Ireland power systems with a RoCoF limit of 1 Hz/s, AEMC Frequency Operating Standard). This will enable greater penetration of low-cost renewables at low additional cost.

Non-Network Opportunities

ECP members strongly support WPs ongoing work to procure alternative solutions and Network Support Services (NSS) and encourage the ongoing expansion of this work stream. We are also encouraged to see Western Power continuing to make progress on the streamlining of the NSS Procurement and Engagement process, and we support the goal for all opportunities in the Network Opportunities Map to be made visible and open for tender through an ‘always-on’ platform by 2028.

Additional comments:

ECP members strongly encourage Western Power to pursue opportunities to reduce line losses, to ensure we get the most out of existing and new transmission system infrastructure, and to reduce scope 1 emissions across WPs own network.

Solutions that WP may wish to further consider include:

- Reconductoring to reduce line losses and increase capacity
- Use of high-efficiency transformers
- Raising poles to safely increase sag and enable increased rated capacity
- Procuring the installation of modular storage systems capable of providing both system strength and energy storage capacity, to level out transmission loads and reduce losses associated with higher current draw at times of high demand.

Final comments

Thank you for considering this submission, and please do not hesitate to contact us to discuss it further.

Sincerely,
WA Expert Consumer Panel members
Anne Hill, Chris Alexander, Kathryn Thorburn, Luke Skinner, Noel Schubert, Rosh Ireland