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AEMO Victorian Planning (AVP) and Transgrid

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Victoria to New South Wales Interconnector West (VNI West) Regulatory Investment Test for Transmission (RIT-T) process. Project Assessment Draft Report (PADR) Consultation.

Energy Grid Alliance Submission on the PADR.

Dear Sir/Madam

Thank you for the opportunity to respond to the VNI West, RIT-T, PADR, consultation process. In this submission, Energy Grid Alliance has responded to matters of importance in respect to the VNI West RIT-T as well as broader policy objectives that should be considered beyond the energy system. EGA note while you do not ask for this broader policy response, it is of critical importance that a holistic view of the current and future state of the world be taken in this once-in-a-lifetime transition.

Background

Australia is on the brink of a massive energy market transformation with the construction of new wind and solar power, coupled with the potential for thousands of kilometres of new transmission lines. The creation of Renewable Energy Zones (REZs) and offshore wind zones introduces abundant opportunities for regional Australians, businesses, manufacturers, and industries to create new jobs, and profit from new technologies, demand for new materials, and new export markets. While meeting climate change objectives and future economic prosperity is important, this needs to be reasonably balanced with cumulative impacts on regional landowners and communities who will, for the most part, carry the burden of new infrastructure.

Energy Grid Alliance sees this once-in-a-lifetime transition as an opportunity to develop best practice policies and framework that better integrate land use considerations, environment, emissions, economic opportunities, and community into the planning process. Increased policy certainty is in the interests of stakeholders across all sectors of the economy and moving towards a net zero economy by 2050 will generate substantial opportunities and employment. It is critical to ensure we transition to renewables in the most orderly and strategic way that delivers the best outcomes for Australians and provides more certainty to investors, industry, business, the transitioning workforce, and local communities.

Energy Grid Alliance was established with the purpose of engaging with electricity transmission companies, industry regulators, market operators, relevant peak bodies, government, and communities to establish best planning practices for new electricity transmission projects and to advocate the critical importance of policy, planning and engaging with communities early to acquire and maintain social licence.

Social licence starts with credible, legitimate, and trust-worthy assessment. In this submission, Energy Grid Alliance has responded to matters that relate to this objective.

Key points of this submission

- The PADR has not assumed a realistic counter-factual without the Western Renewables Link
- The PADR has counted benefits but not appropriately counted costs
- The PADR has not adequately defined the options
- The PADR has not counted the cost of the North Ballarat terminal station (NBTS), 500 kV dual circuit lines from NBTS to Sydenham (SYD) or upgrading of SYD. These components are required for this project, yet costs have not been counted (at least not after 2035) in Western Victorian Regulatory Investment Test for Transmission (Western Victorian RIT–T) Project Assessment Conclusions Report (PACR) in July 2019.
- Instruments and mechanisms are required for monitoring and regulating avoided or deferred investment benefits
- Credibility, legitimacy, and trust (social licence) has been recognised but not accounted for in the ISP-first framework
- The PADR does not effectively consider state-level roadmaps, transitioning workforces, society and Victoria’s economic future

1. Degree of likelihood and consideration of realistic counter-factual scenarios

The VNI West PADR indicates the preferred investment set out in the Western Victorian RIT–T PACR is now being progressed through the Western Renewables Link (WRL), formerly Western Victoria Transmission Network Project (WVTNP), and is currently under development. The RIT–T (2020) guidelines require that reasonable scenarios include a set of variables or parameters that **are not expected to change** across each of the credible options or the base case. This includes, but is not limited to, **inclusion or exclusion of particular anticipated projects based on their degree of likelihood of being commissioned** within the modelling period. (*Bolded for emphasis*)

Energy Grid Alliance (EGA) note that the WRL is currently progressing through the Environmental Effects Statement (EES) process with the proponent expecting to complete the draft EES in late 2022. As such, the WRL is treated as an anticipated project (as noted on page 54 of the PADR) as the proponent has not yet obtained all required planning consents, construction approvals and licenses, including completion and acceptance of any necessary environmental impact statement. The VNI West PADR further states, if any modifications are required as a result of the EES processes, respectively, in order to obtain environmental and planning approvals, the impact of these modifications will be assessed to determine if any consequential changes to VNI West would be required that could materially change this RIT–T assessment.

It is also relevant to note that in selecting development paths, AEMO is required to select development paths that contain commercially, and technically feasible projects as defined in the National Energy Rules (NER) clause 5.15.2(a) as being an option (or group of options) that: (1) addresses the identified need; (2) is (or are) commercially and technically feasible. When acknowledging uncertainty and likely material changes with respect to the WRL, EGA believe it is prudent of the VNI West RIT–T proponents to include a realistic counter-factual scenario where the WRL does not exist. Delaying this decision, based on outcomes of an

EES or final project costs only increases the uncertainty of VNI West for all interested stakeholders and reduces trust and confidence in the analysis undertaken for VNI West.

EGA observe that only two options were assessed in the PADR (Section 6, page 51) and include:

- Option 1: VNI West – a new high capacity 500 kV overhead double-circuit transmission line to connect the **Western Renewables Link (north of Ballarat)** with Project EnergyConnect (at Dinawan) via new stations near Bendigo and Kerang. (*Bolded for emphasis*)
- Option 2: A virtual transmission line (VTL) commissioned in 2026-27, involving batteries at South Morang in Victoria and Sydney West in New South Wales, then followed by VNI West.

EGA are acutely aware of key developments and material changes that have occurred in the market since completion of the Western Victorian RIT–T PACR in July 2019. These include, but are not limited to, adoption of Step Change as the most likely scenario, material increases in project costs, earlier than anticipated coal closures, development of utility-scale batteries and material delays in delivery, all of which bring into question the degree of likelihood of the WRL.

Given the material degree of uncertainty surrounding the WRL, EGA believe it reasonable to expect that VNI West RIT–T proponents include a realistic counter-factual scenario where the WRL does not exist, as is required by the RIT–T (IE parameters that are **not expected to change**). Therefore, the VNI West RIT–T should consider a counter-factual that includes:

- Construction of new North Ballarat Terminal Station, with 2 x 1,000 MVA 500/220 kV transformers
- Construction of new 500 kV double circuit transmission line from Sydenham to North Ballarat, with 50 MVAR reactors on each end of each circuit. Plus, associated connections.

Additionally, the PADR estimates that VNI West will increase the transmission limit by 550 MW in the Western Victoria REZ (V3). Given the degree of uncertainty surrounding the WRL's development, a reasonable VNI West counter-factual should also include construction of the new 220 kV double circuit transmission line required from North Ballarat to Bulgana and associated works (as scoped in the Western Victorian RIT–T).

Should the WRL not proceed (which is a likely and credible scenario), this will significantly impact the benefits claimed in this VNI West PADR. Therefore, EGA believe it is unreasonable to treat the WRL as a sunk cost in the assessment of credible options and expect this should be addressed as required by the NER.

2 Integrated projects and dual benefit sharing

As indicated in the PADR, VNI West seeks to integrate into the proposed WRL. As an integrated project, it is important to comprehensively review RIT–Ts for both projects to ensure benefits (e.g., fuel cost, timing etc.) are not being claimed under both RIT–Ts.

The Western Victorian RIT–T indicates the projected fuel cost savings are primarily from displacing black coal generation in New South Wales and Queensland, and displacing gas generation in New South Wales,

Queensland, and South Australia. Brown coal generation in Victoria increases after the preferred option is applied, because of higher exports after the increase in Victorian export capacity. While EGA is aware this assumption is no longer accurate or factual, due to early closure of coal and other material changes, it is only possible to comment on the information available in the published RIT-T documentation.

Option 2 (the preferred option in the Western Victorian RIT-T):

- Appears to obtain PV \$225M of fuel cost saving benefits from 2035-2075
- Enables a higher Victoria to New South Wales transfer capacity, which results in higher projected fuel cost savings
- Facilitates the future KerangLink (VNI West) transmission augmentation, and therefore has benefits in changing the timing for transmission investment
- Takes into account the benefits of reducing the future cost of KerangLink by claiming around PV \$91M of benefits from the future KerangLink.

In the VNI West PADR, KerangLink was found to deliver \$687 million in expected net market benefit. It is not clear in the PADR if benefits that were claimed for KerangLink in the Western Victorian RIT-T PACR, have been accounted for (subtracted from) in the VNI West PADR cost-benefit test. It is also unclear if the fuel cost saving benefits from increases in exports of brown coal have been reviewed and recalculated to account for earlier than expected coal closures. EGA seek clarification on this matter as double counting benefits could materially impact cost-benefit calculations for both the WRL and VNI West.

Additionally, EGA is also concerned about possible double counting in the assessment of transmission transfer capacity in the V3 REZ.

The VNI West PADR indicates the increased transfer capacity under both options is forecast to harness diverse variable renewable energy (VRE) resources and promote the efficient sharing of energy and capacity between southern regions, particularly Victoria and New South Wales. Further, the modelling finds that VNI West unlocks significant transmission transfer capacity for Western Victorian (V3) REZ (between 600 MW and 800 MW across the three scenarios). The preferred option claims to increase the transmission limit, facilitating **additional generation development** in the order of 400-800 MW in the Western Victoria REZ (V3) (*Bolded for emphasis*). This appears to be at odds with the Western Victorian RIT-T the indicates (page 8); While the preferred option identified in this RIT-T will reduce the most urgent congestion on Western Victorian generators, additional transmission network augmentations beyond the scope of this RIT-T will likely be required to **further accommodate future generation connections** (*Bolded for emphasis*).

EGA is unsure how VNI West proposes to unlock this additional transfer capacity (estimated 550 MW) without further augmentation of the WRL (beyond the current Western Victorian RIT-T). Given the proposed WRL, which VNI West heavily relies on to unlock this capacity, will only reduce the most urgent congestion on Western Victorian generators and has already claimed the benefits of unlocking up to 900 MW in its RIT-T to supply Victoria's load centre, it is unclear how connecting VNI West to a proposed terminal station at North Ballarat, increases the transfer capacity of the WRL by an additional 550 MW. The transfer capacity benefit appears to be either incorrect or has been double counted. EGA seek clarification of this matter.

Additionally, EGA is concerned the VNI West PADR may be over claiming benefits from avoided or deferred investments via import/export assumptions. The VNI West PADR indicates a transfer capacity from Victoria to NSW of 1,930 MW and from NSW to Victoria of 1,800 MW. These transfer capacities avoid or defer the capital costs of new generation in both Victoria and NSW. EGA appreciates that transfer capacities cannot be averaged as the sun may not always be shining or the wind always blowing in both states however, EGA is concerned in respect to the method of calculation of avoidance benefits being claimed for both NSW and Victoria. As the worksheets do not transparently identify how avoidance or deferral benefits have been calculated, it appears it would be easy to massage the import/export capacities to increase the overall benefits. IE. The greater the assumed transfer capacity in both directions, the greater the benefits. EGA suggests that when considering benefits, the calculation that should have occurred is the calculation of the 'net' transfer capacity, being 130 MW (1,930 – 1,800), not 3,730 MW (1,930 + 1,800).

EGA seek clarification from the RIT–T proponents regarding this matter.

3 Consideration of Government objectives, Renewable Energy Targets and Jobs

EGA appreciate the Integrated System Plan (ISP) is a whole-of-system plan that provides an integrated roadmap for the efficient development of the National Electricity Market (NEM) over the next 20 years and beyond. Its primary objective is to optimise value to end consumers by designing the lowest cost, secure and reliable energy system capable of meeting any emissions trajectory determined by policy makers at an acceptable level of risk.

EGA also appreciate the RIT–T is an economic cost-benefit test used to assess and rank different options that address an identified need. Its purpose is to identify the investment option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market.

When meeting the National Energy Objectives (NEO), the ISP appears to represent an appropriate business model with respect to the NEM. However, EGA is concerned that the ISP and RIT–T frameworks are not fit for purpose as they do not consider matters beyond the NEO in terms of state-level economic development, emerging industries, job creation, land use, emissions targets, environment, and social considerations. EGA are not alone in this with many stakeholders believing the current framework is not fit for purpose. From a Victorian perspective, it is important that the ISP and RIT–T framework also serve the interests of Victoria and its electricity consumers.

EGA recognise the Victorian Government is in support of VNI West to maximise the capacity for new renewable energy projects however, EGA believe the Victorian Government does not yet fully appreciate the serious consequence of such endorsement. Following are quotes from the Hon. Lily D'Ambrosio MP speaking to the benefits VNI West will deliver to Victoria.

*“KerangLink will be a renewable energy superhighway, **creating a wave of new jobs right across the state**”*

*“This project will **unlock more wind and solar power in Victoria** than ever before, and is crucial action to address climate change.*

*“We know that renewable energy will play a vital role in **powering the future of Victoria’s economy.**”*

In this context, EGA refer to two public documents for this RIT–T and have included extracts for convenience:

- [VNI West PADR \(July 2020\)](#) and
- [Ernst & Young VNI West Market modelling report forecasting gross market benefits for the PADR \(26 July 2022\)](#).

Document 1: VNI West PADR (July 2020) – Page 10 extracts, bolded for emphasis.

Changes in resource sharing and better utilisation of Snowy pumped hydro, particularly Snowy 2.0, is found to **defer and reduce the need for investment in new capacity**, as well as deliver significant fuel cost savings by offsetting thermal generation that would otherwise need to operate.

In all three scenarios, **the vast majority of benefits** are from **avoided or deferred generation and storage capital costs** and avoided fuel costs (which, together, make up between **83% and 94%** of Option 1's (KerangLink's) **gross benefits** across the three scenarios). **Avoided transmission costs associated with the connection of REZs** make up the remainder of the estimated benefits.

On the basis of costs, the wholesale market modelling in the PADR is finding there is **no Gippsland offshore wind** build in the 'step change' scenario under Option 1 (KerangLink) and Option 2.

These observations raise great concern when considering the vital role new renewables will play in Victoria's energy and economic future. With 100% of gross benefits derived from deferring or avoiding renewable investment, how can VNI West support the objectives of the Victorian Government? EGA is concerned the projects very existence serves to stifle immediate and future development within the state.

Document 2: Ernst & Young VNI West Market modelling report forecasting gross market benefits for the PADR (26 July 2022). – Pages 35-36 extracts, bolded for emphasis.

The following extracts highlight the severity of future development constraints (deferral or avoidance) within Victoria under the 'Step Change' scenario by implementing VNI West.

- Option 1 is forecast to **initially result in wind capacity deferral**, then **LS battery and solar capacity deferral until the mid-2030s**. **More black and brown coal generation** is forecast through the early to mid-2030s, which increases emissions and **reduces the need for new capacity** that would otherwise be needed without this augmentation. The whole-of-study optimisation means that even with higher forecast coal generation in those years, the allocated carbon budget is met with Option 1, as it enables increased renewable generation in the years following the augmentation.
- Specifically, **wind builds are expected to be deferred** in Central West Orana, Darling Downs and **Gippsland REZs**. Up to around **1.3 GW LS battery in Victoria is also deferred** in the early to mid-2030s, **while solar capacity deferral is mostly seen in Victoria**, South Australia and Queensland.
- From the mid-2030s, Option 1 is forecast to **avoid Open-Cycle Gas Turbine (OCGT) build in Victoria** by **building solar and LS battery in NSW**, while also **building some of the earlier deferred LS battery in Victoria**. New OCGT is required in the no augmentation case to supply demand and maintain reserve requirements as several gas generators are expected to withdraw in Victoria and South Australia in the mid-2030s. However, with Option 1, the VNI limit is expected to increase and as such a **cheaper generation mix in NSW** is utilised and **imported to Victoria** to meet demand and maintain the reserve requirements in the region.

- By the end of study period, Option 1 is forecast to **unlock more wind and solar capacity** (and energy) as well as **LS battery in NSW**, South Australia and Queensland (wind being the only exception). At the same time Option 1 is forecast to **result in a reduced need for LS battery in Victoria** (in addition to OCGT), and a significant capacity of wind and solar in Tasmania which is required without the augmentation.
- **By 2047-48**, it is expected that **more renewables are built in NSW REZs** such as Central West Orana, South West NSW, and Wagga Wagga while up to around 1 GW of wind and solar is avoided in Tasmania REZs such as Central highlands, North West and North East Tasmania.
- Option 1 provides transmission capacity for **Murray River** and **Western Victoria REZs**, resulting in a significant increase in renewables in these REZs **which replace the required wind in Gippsland** and solar in Ovens Murray for the no augmentation case. Note that **Option 1 is forecast to result in wind and solar deferral/being brought forward in several REZs** throughout the study period.

These observations clearly illustrate that implementation of VNI West will best serve the states of New South Wales (NSW) and Tasmania but will do little to achieve the Victorian Governments objectives which are to:

- maximise the capacity for new renewable energy projects
- create a wave of new jobs right across the state
- unlock more wind and solar power in Victoria than ever before
- enable renewable energy to play a vital role in powering the future of Victoria's economy.

It is also clear from these observations that AEMO, under its declared network functions, including for Victorian transmission planning, has not considered the Victorian Governments objectives regarding development of Victoria's new renewable industry, Victoria's REZ development plans, Victoria's offshore wind developments, or increasing the resilience of Victoria. If both VNI West and Marinus Link (both Actionable ISP projects) are implemented, this will reduce Victoria to a net importer of electricity (by 2028), reliant on other states for its electricity needs. By 2032 Victoria will require imports exceeding 30% of its energy needs.

As noted by [AusNet Services in its submission](#) to the Draft 2022 ISP, the Victorian outcomes of the VNI West PADR and 2022 ISP show limited addition of new generation and, as coal plants close over the next decade, a reliance on importing energy from new and existing interconnectors. Victoria's brown coal is largely being replaced by renewables in New South Wales and Tasmania. This vision for Victoria's energy future is a significant departure from the state's historical net energy surplus and appears to place critical dependence a small number of key transmission elements, and on the cost-effective delivery of both Marinus Link and VNI-West. This leaves Victoria heavily dependent on its interconnector transmission corridors. In addition to the broad and concerning economic impacts, this is an important risk to assess.

With climate change driving more extreme weather events and Victoria set to be a net importer of energy throughout the ISP's forecast period, Energy Grid Alliance is concerned that power system resilience could deteriorate further, increasing the occurrences of market intervention and load shedding in Victoria. There is a need to consider whether Victoria's energy infrastructure enables us to see through these conditions, independently of the National Energy Market (NEM), and maintain resilience to consumers through the energy transformation.

The Victorian outcomes of the VNI West PADR is a significant departure from the Victorian Governments vision of a once-in-a-generation energy transition with investment in large-scale renewable energy generation and

storage that provides reliable and affordable electricity at the scale needed to power Victorian homes and businesses.

EGA express genuine concern regarding implementation of VNI West and what this means for Victoria's energy future, economic development, job opportunities and ability to meet legislated climate change objectives.

4 Regulation of avoided or deferred investment benefits

Analysis of the VNI West PADR shows that the proposed preferred option is expected to efficiently provide supply reliability and put downward pressure on electricity prices by, among other things, **avoiding capital costs**, by **deferring or avoiding generation and storage investments** that would otherwise be required, associated with enabling greater integration of renewables in the NEM. *(Bolded for emphasis)*

The VNI West PADR shows the vast majority of benefits are from **avoided or deferred generation and storage capital costs and avoided fuel costs** (which, together, make up between **83% and 94%** of Option 1's gross benefits across the three scenarios). **Avoided transmission costs** associated with the connection of REZs make up the remainder of the estimated benefits. *(Bolded for emphasis)*

EGA note, avoided/deferred generation and storage capital costs and avoided fuel costs are the primary sources of benefit for both options. Avoided fuel costs (PADR Figure 7) arise primarily from **avoided gas generation in Victoria after VNI West is commissioned**. Avoided/deferred generation and storage capital costs are primarily driven by **deferred/avoided investment of large-scale storage and gas** as well as some early deferral of predominantly wind capacity, though more wind and solar capacity is expected by the end of the study period. *(Bolded for emphasis)*

Modelling indicates it is expected Option 1 (KerangLink) unlocks more renewables mainly in REZs such as Murray River, Western Victoria, and South West NSW while **reducing the need for renewables** in Ovens Murray, Wagga Wagga, Gippsland as well as Fitzroy and Central Highlands REZs. *(Bolded for emphasis)*. EGA is concerned this is not a likely outcome when considering developments that are already occurring in NSW and Victoria that the ISP is not driving, such as G-REZ in Victoria's Latrobe Valley.

In this context, it is important to consider the *Victorian Gas Substitution Roadmap*, *NSW's Electricity Infrastructure Roadmap*, *Victoria's REZ development plans*, *proposed offshore wind developments* and the *Victorian Transmission Investment Framework (VTIF)*. When observing the scale of development and strength of commitment by both the NSW and Victorian Governments, it is unclear how the VNI West RIT-T can claim there will be deferral or avoidance of further investment or claim benefits from avoiding further investment in generators, storage, or gas. It is clear the state Government has made significant commitments to transition away from gas, while progressing both onshore REZ and offshore wind development, regardless of any investment in VNI West. Therefore, the VNI West RIT-T cannot claim its development will defer or avoid further investments and cannot claim the associated benefits (which represent up to 94% of gross benefits claimed).

Government commitments indicate the transition away from both coal and gas should be taken as a certainty and as such should not provide benefits to VNI West. Claiming benefits from deferred or avoided

investment in fossil fuels implies that the VNI West transmission investment leads to that avoidance or deferral. That is not the case, political will has determined the outcome of fossil fuels, not this project.

It is unclear from the PADR how or where generation and storage investments are likely to be deferred or avoided and what impact future builds will have on already claimed benefits. If up to 94% of gross benefits are derived from avoiding or deferring generator, storage or transmission investments, EGA would like to understand what mechanisms AEMO or the AER will be putting in place to monitor, report and regulate the future avoidance and/or deferral of such investments. Understanding that this could have significant impact on REZ developments and economic opportunities within each state. If robust mechanisms are not put in place to ensure claimed deferral or avoidance benefits are enforced, there is a real risk that consumers will end up paying the cost of over investment in the future.

It is also important to note that the VNI West PADR recognises that **avoiding investment** in generation and storage **is a benefit**. This shows acknowledgement there is a cost associated with this investment. EGA is therefore concerned that the PADR **does not include the costs** (CapEx or OpEx) of these investments when the increased generation capacity and associated investment is needed to facilitate VNI West.

5 Appropriate cost-benefit analysis and impact on consumers

The VNI West PADR shows \$687 million in expected net market benefit to consumers and producers of electricity and supports the energy market transition. Analysis of the VNI West PADR shows that the proposed preferred option is expected to efficiently provide supply reliability and put **downward pressure on electricity prices**. Further, the VNI West PADR suggests it underestimates the **benefits of the project for consumers**. (*Bolded for emphasis*)

Observations of the VNI West PADR and the Western Victorian RIT-T PACR show the WLR RIT-T has claimed significant market benefits from reducing the future costs of KerangLink but has not claimed any costs associated with obtaining this benefit (at least not until after 2035). Further, the VNI West PADR also appears to claim benefits from the WRL but not any costs associated with those benefits. It is relevant to note that as costs have materially changed since completion of the Western Victorian RIT-T PACR (2019), and with the lack of publicly available data, it is difficult to analyse, compare or quantify any cost-benefit calculations of these tightly integrated projects without reapplication of the RIT-T.

For example, in the Western Victorian RIT-T PACR, Sydenham to North Ballarat (500 kV dual-circuit and North Ballarat Terminal Station component), incremental costs for VNI West represented around **\$150 million** of the **\$285** total estimated costs in the PACR for this 75-80km section. Based on analysis of the VNI West PADR, it is clear these costs are now expected to have materially increased to between **\$400-\$600 million**. (*Bolded for emphasis*). These cost increases alone will have a material impact on the net benefits of both the WRL and VNI West and represent a material impact on the cost of living to consumers. Consumers will be further impacted by paying for the costs of the underutilised WRL 500 kV line and terminal station until VNI West is commissioned in the rarely 2030's.

The VNI West PADR has not counted the cost of the North Ballarat Terminal Station (NBTS), 500 kV dual circuit lines from NBTS to Sydenham (SYD) or upgrading of SYD. These components are required for VNI West, yet costs have not been counted (at least not after 2035) in the Western Victorian RIT–T PACR. Therefore, correcting the WRL will find that C2 is no longer the preferred option and should not proceed.

These observations indicate it is reasonable to expect the Western Victorian RIT–T proponent should correct the WRL and reapply the RIT–T or include the cost of the NBTS, 500 kV dual circuit lines from NBTS to SYD and upgrading of SYD in the VNI West RIT–T.

The VNI West PADR provides a summary of project costs which included early works, substation works, line works, battery costs (for the VTL option), power flow controllers, property/land access/easements and biodiversity offset costs. (The Option 2 capital costs are also inclusive of battery replacement costs that will be incurred in 2047). The VNI West PADR does not appear to account for costs as a consequence of this investment.

The purpose of the RIT–T, as set out at clause 5.16 of the national electricity Rules, is to identify the credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the market. In the RIT–T, costs are the present value of a credible option's direct costs. These must include the following classes of costs:

- Costs incurred in constructing or providing the credible option;
- Operating and maintenance costs over the credible option's operating life; and
- Costs of complying with relevant laws, regulations, and administrative requirements.

While clause 5.16 identifies a narrow class of costs, the RIT–T is a cost-benefit analysis which is defined in welfare economics. The principal of which is to measure how costs change as a consequence of the investment you are assessing. Benefits are just costs that are avoided as a result of the investment you are assessing. As such, the RIT–T must consider the operating costs of all existing assets, and the capital and operating costs of all future costs in the assessment. The net benefit of the investment you are trying to measure is then counted as the difference between:

- The cost of the investment you are assessing plus all other operating costs (of existing assets), plus all capital costs of new assets that are built as a result of the investment you are assessing; and
- The operating cost of all existing assets plus the operating and capital costs of **all the new assets that would occur if you did not build the investment you are assessing.** (*Bolded for emphasis*)

Review of the VNI West PADR, the Western Victorian RIT–T PACR and Integrated System Plan (ISP) projects such as HumeLink, and Marinus Link, show the calculation that should have occurred is the transmission investment cost, plus all other future generation and transmission costs that will arise as a result of that investment, set against the cost of all the other investments that would occur if the transmission was not built was not built.

Observations of the current investment framework suggest there may be errors or omissions in the current regulatory cost-benefit analysis process, or application of it, that EGA suggest requires independent review by the Productivity Commission.

If these are not errors or omissions, this highlights a fundamental flaw in the process which further reinforces the RIT-T is not fit for purpose for the transition to renewables. EGA acknowledge the regulatory investment test was developed for minor augmentations to a network where the cost of the generator (typically coal and gas) had already been accounted for. When considering the need for NEW renewable generation, enabled by NEW transmission, the Variable Renewable Energy (VRE) generators do not exist and need to be built. As such, any Capital Expenditure (CapEx) and Operation expenditure (OpEx) of both generators and dispatchable storage must be accounted for if the associated fuel cost savings and deferral or avoidance benefits are also being claimed.

EGA note the VNI West PADR shows the vast majority of benefits are from avoided or deferred generation and storage capital costs and avoided fuel costs. It is clear from this that the RIT-T proponents recognise the avoidance of costs when it comes to claiming benefits however, it does not appear the cost (Capex and Opex) of these investments are relevant or accounted for when it comes to identifying the real costs and associated benefits of the investment.

According to the Western Victorian RIT-T PACR, renewable generation has a fuel cost of zero. This is an interesting and concerning observation. An investment test cannot assume wind and solar provide a considerable fuel cost saving as a free substitute for fossil fuel. Wind and solar are only free until the fuel source reaches the generator, from that point, both the market and consumers pay for the supply and transfer of all electricity generated. Additionally, the cost-benefit test cannot assume that the investment in generator and storage infrastructure required to facilitate the identified need is also free.

These observations suggest that cost-benefit test, or application of it, is only concerned with net 'market benefits' to those who produce and transport electricity and not 'net economic benefits' to those who consume electricity. If this is the case, there is much need for concern when considering the National Energy Objective (NEO). Failure to appropriately calculate costs and benefits of integrated-projects and develop appropriate regulatory arrangements for transmission network projects will come at great cost to consumers, market participants and the economy. And at great cost to acquisition of social licence.

EGA request investigation and clarification of these matters before it can be certain any cost-benefit analysis for the WRL, VNI West or any ISP project is accurate. Without full transparency around true costs to consumers and full accountability for keeping cost in check, EGA do not see merit in conducting any cost-benefit investment test for transmission.

6 Alternate development paths not being considered

Several submissions commented on the VNI 6 option in the WNI West PSCR, which was an interconnector on new corridors (via Bendigo or Shepparton). [AusNet Services](#) suggested that a variation of the 2020 ISP VNI 6 topology that would connect into the 500 kV network at a new terminal station site north of Melbourne should be investigated (and South Morang was proposed as the new terminal station site). AusNet Services stated that this option could be delivered more quickly due to fewer outage constraints and availability of existing land and easements that currently form part of AusNet Services strategic land

holdings. Further to this, AusNet Services submission indicated that compared to the VNI West options (VNI 6 and VNI 7 & 8) this alternative:

- Is shorter in route length and introduces lower electrical losses
- Significantly lower in cost due to shorter length and fewer terminal station connections
- Is more feasible to build due to Greenfields location of terminal stations
- Could be delivered more quickly due to fewer outage constraints and availability of existing land and easements that form part of AusNet Services strategic land holdings
- Eliminates the dependency on delivery of the Western Victoria Renewable Integration upgrade project – specifically the new 500 kV link from Sydenham to North Ballarat
- Provides other benefits including:
 - improved security of supply to Melbourne by avoiding the creation of a highly critical generation flow path between **Ballarat and Sydenham** (*Bolded for emphasis*)
 - enables the newly identified V6 REZ in central Victoria
 - alleviates risk to supply as a result of bushfires through route diversity (from existing VNI corridor)
 - allows for future spurs to be constructed to enable further generation in V2 REZ.

The VNI 6 option put forward in the PSCR and included in the 2020 ISP was ruled out in the 2022 ISP, as outlined in Section 6.4 of the VNI West PADR, as it **did not optimise benefits for consumers**. It is therefore not considered in this RIT–T.

As discussed, (above), EGA is concerned about the appropriateness of the cost-benefit analysis in, and implied benefits of, the project to consumers. When all costs, as a direct result of an investment, are considered (not just accounting for the cost of transmission while deriving benefits, but not costs, from all associated generator and storage investment this will produce an accurate and notable difference in the preferred credible option. EGA believe the VNI 6 option above should be reconsidered.

In addition to credible option above, EGA also encourage including recommendations made by AusNet Services in [its submission](#) to the 2022 Draft ISP. AusNet considers that developing a corridor further west (potentially via Mortlake) would avoid areas of high constraint and provide potential for connection of greater amounts of renewable generation, leading to greater benefits from the investment. Taking a more detailed look across the three REZs in western Victoria (V2, V3, V4) may identify augmentation options that deliver benefits across these zones and promote a plan that leverages more granular analysis (e.g., an integrated network where low cost VRE in Victoria's eastern region providing diversity of resources that benefit both itself and other NEM jurisdictions).

EGA recommend that the cost-benefit analysis be rerun on all credible options identified in the Western Victorian RIT–T PACR and VNI West PADR and that analysis include ALL costs, benefits, investment deferrals and avoidance; not just those that satisfy the desired outcome and commercial motivation of RIT–T proponents.

7 Credibility, legitimacy, and trust in the ISP-first framework

The WVI West PADR and 2022 ISP recognises the importance of social licence and consideration of externalities. EGA are concerned however that attempts to address these critical matters by way of a desktop analysis or technical consultation process will not produce robust or defensible outcomes.

The PADR states; Before publication of the PADR, AVP and Transgrid have engaged with key stakeholders in Victoria and New South Wales respectively through MP briefings, local council briefings, consumer forums, stakeholder roundtables and briefings and project updates. EGA is concerned that while there is talk of social licence, lessons have not been learnt. It is critical to note that community and landholder has not been mentioned in that list.

The PADR states; All stakeholders are welcome to provide feedback on any project-related matters, and any concerns raised that are not able to be addressed in the RIT–T process will be collated and addressed following completion of the PACR, should a project be justified through the RIT–T process. **These matters will be given due consideration and addressed through community and stakeholder consultation as part of design and environmental and planning approvals processes.** (*Bolded for emphasis*)

The PADR states a key priority; Ensuring all interested stakeholders and communities can easily access project information through a variety of channels including websites and other platforms, and that any information can be easily understood. It is important to recognise that many impacted stakeholders (IE communities and landholders) may not have the level of technical knowledge or resources required to interpret the content of a RIT–T, ISP or accompanying worksheets.

EGA recommend that proponents visit and engage with potentially impacted communities in a town hall style forum to help landholders and communities better understand the need for, benefits of, and likely impacts of VNI West, including the steps that will be taken to avoid any impacts in project development.

EGA appreciate that the final route may not be determined until later stages, but as can be seen through the WRL, once RIT–T or ISP proponents determine what is believed to be the optimal development path (without consideration of local impacts), it is highly unlikely that Transmission Network Service Providers (TNSPs) will be able to, or eligible to, alter this path during later stages. It is clear from review of the WRL that the project proponent (AusNet Services) had limited scope to independently determine an optimal, least-impact, least-regret development path.

As an additional reference, EGA have attached a paper to this submission titled, *Acquiring Social Licence for Electricity Transmission*, that contains observations and recommendation relating to community participation and social licence that are important to consider for all future transmission projects.

8 Holistic approach to state-level roadmaps to best determine a project need

The 'identified need' for VNI West is to increase transfer capacity between New South Wales and Victoria to realise net market benefits by:

- Efficiently maintaining supply reliability in Victoria following the closure of further coal-fired generation and the decline in ageing generator reliability – including mitigation of the risk that existing plant closes earlier than expected.
- Facilitating efficient development and dispatch of generation in areas with high quality renewable resources in Victoria and southern New South Wales through improved network capacity and access to demand centres.
- Enabling more efficient sharing of resources between NEM regions.

While interconnection may share of resources between NEM regions, the VNI West PADR indicates a 'net' transfer capacity of 130 MW from Victoria to NSW (VIC to NSW 1,930 MW - NSW to VIC 1,800 MW). At a cost of over \$3.2 billion, this is a considerable cost for little net benefit. This does not appear to be economic or efficient. It is likely that state-level developments, including dispatchable storage and virtual transmission, could better facilitate this need. This brings into question the need for this augmentation.

The electricity market is rapidly localising in response to technology change and government policy, with variable renewables and storage costs now being similar in all regions of the NEM. Creating diversity in the availability of variable renewable resources, from neighbouring states, is unlikely to be anywhere nearly valuable enough to justify the cost of long-distance transmission expansion. This is particularly relevant given the cost blowouts, delays, and uncertainty of enabling projects such as Snowy 2.0, Project Energy Connect and Hume Link.

EGA is concerned that the ISP-first regime, while it might be a reliable business model for the NEM, does not effectively or efficiently consider state-level roadmaps, effective technical solutions (batteries), offshore wind developments, REZ planning, economic development, job opportunities as well as emerging public opposition to large-scale transmission. EGA suggest it may not be prudent to interconnect states before first determining the risk of leaving states heavily dependent on its interconnector transmission corridors, the level of public acceptance, and the potential for generation and firming capacity at state-level. Due to the high cost of implementation for VNI West, resulting in minimal net transfer capacity, analysis should take a holistic view of state-level REZ planning, and associated transmission network capacity before interconnection to the NEM is considered.

For example, in the cost-benefit analysis, VNI West obtains 100% of its benefits from deferring or avoiding the construction of new generators, storage and transmission. The PADR makes specific reference to Gippsland in Victoria. Should VNI West proceed, this means renewable developments within Victoria **must be put on hold**, resulting in a stalled transition in Gippsland as well as other regions. While EGA appreciate the urgent need to satisfy the NEO and NEM, it is not possible to satisfy these objectives while prioritising the broader needs of Victoria. The Victorian Government cannot endorse VNI West and NOT defer or avoid new renewable developments, particularly in Gippsland.

Victoria's Climate Change Act 2017 sends a strong signal to Victorian businesses that Victoria is moving away from fossil fuels to clean energy in order to do their bit to avert dangerous climate change. The emphasis for business is on the new jobs and economic opportunities created by the clean energy transition.

One of the stated policy objectives (s22(d)) in the Act is: to promote and support the state's regions, industries and communities to adjust to the changes involved in the transition to a net zero greenhouse gas emissions economy, including capturing new opportunities and addressing any impacts arising from the need to reduce greenhouse gas emissions across the economy.

Another stated policy objective (s17) in the Act is: In having regard to the potential impacts of climate change, the relevant considerations for a person making a decision or taking an action are — (b) potential long and short term economic, environmental, health and other social impacts.

It is a guiding principle of this Act that a decision, policy, program or process should integrate the competing long-term, medium-term and short term environmental, economic, health and other social considerations relating to climate change to ensure that — all relevant issues relating to climate change associated with the decision, policy, program or process are taken into consideration during the decision-making process (s24(a)).

EGA agree with the methodology that transmission planning should focus on more than one area at once and are not advocating a 'build it here and not there' approach. Unfortunately, this is what proponents are concluding in the VNI West PADR and ISP. Build it in NSW and Tasmania and not in Victoria. Within Victoria, the Government needs to be focussing on regions that represent opportunities for Victorians and not render the state a net importer of electricity by avoiding or deferring the transition. IE, the Government should not be focussing on interconnection until we first determine our capacity at state-level.

In a Victorian context, EGA believe Gippsland is more important than other regions and should be progressed as a priority Stage 1 development. With its long history in fossil fuels, and supporting workforce and industries, Gippsland is in a unique position where it has more to lose than other regions if the transition stalls. This requires serious coordination and investment across all levels of government, industry and unions to help create new job opportunities in emerging renewable energy industries, especially in those very regions that are undergoing transition and that have powered this country for so long.

Gippsland, and indeed Victoria, has more to gain by rapidly progressing developments in the Latrobe Valley. The fact the bulk of the high-voltage transmission already exists (saving years in development), makes Gippsland the perfect choice as the first REZ zone to be developed and EGA's view should be rapidly progressed as a priority Stage 1 development. Other regions within Victoria (including the WRL and VNI West) can be developed over time, if the need can still be justified, but we need to keep the lights on when coal retired, and Gippsland can achieve this rapidly and at scale compared to other regions.

Thinking about the local community where renewable energy infrastructure is planned to be hosted and thinking about the workforce as we transition away from coal is important to build trusting relationships with industry and the public. This is something the ISP does not do and is something the VNI West PADR has not done.


EGA believe it is critical to prioritise the needs of each state to ensure costs to its people are minimised, development opportunities maximised, transitioning workforces are supported and the state Government is not carrying unnecessary burdens imposed upon it to gain minimal benefit from the NEM.

As the climate emergency worsens, there is too much at stake to adopt the current '**decide, announce, defend**' and ISP-first model of infrastructure delivery. There is too much at stake to not consider state-level needs, roadmaps, policies, and objectives first. There is also too much at stake, with respect to social licence, to not be robust, transparent, and accurate in all cost-benefit tests.

It is critical that all Victorians play a central role in the delivery of the states future electricity system and that the needs, rights and opportunities for Victorian communities, industries and consumers are not being compromised for the benefit of the NEM.

Energy Grid Alliance support development and implementation of robust, accountable, and beneficial transmission projects and welcome opportunities for further consultation.

Sincerely



Darren Edwards
Director
Energy Grid Alliance