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Victorian Government
VicGrid

Lodged via the Engage Victoria website

Mr Alistair Parker,

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia, representing nearly 1,000 of the leading businesses operating in renewable energy, energy storage, and renewable hydrogen. The CEC is committed to accelerating the decarbonisation of Australia's energy system as rapidly as possible while maintaining a secure and reliable supply of electricity for customers.

We welcome the opportunity to comment on the *Draft Victorian Transmission Planning Guidelines*. We commend the extensive analysis carried out to date on identifying the most suitable areas for renewable energy development.

The CEC supports the ongoing engagement and analysis carried out by VicGrid with industry and community. We advocate for clarity, simplicity and flexibility to account for the rapid changes associated with the energy transition.

Key Recommendations

The CEC suggests VicGrid consider these high-level principles when developing the future Victorian Transmission Plan (VTP). Drawing from member experience in Victoria, we propose the following key principles for consideration:

1. Create an attractive proposition for developers to build in areas marked in the map as suitable by considering the trade-offs between infrastructure, land use, community sentiment and access regime
2. Build a plan that is not too prescriptive so it can account for changes in what constitutes an optimal generation and storage mix
3. Consider how best to develop the REZ network in a robust manner, in terms of the overall optimal design of the REZ transmission network and its integration into the power system as well as its capability to facilitate a range of future outcomes regarding generation and storage.

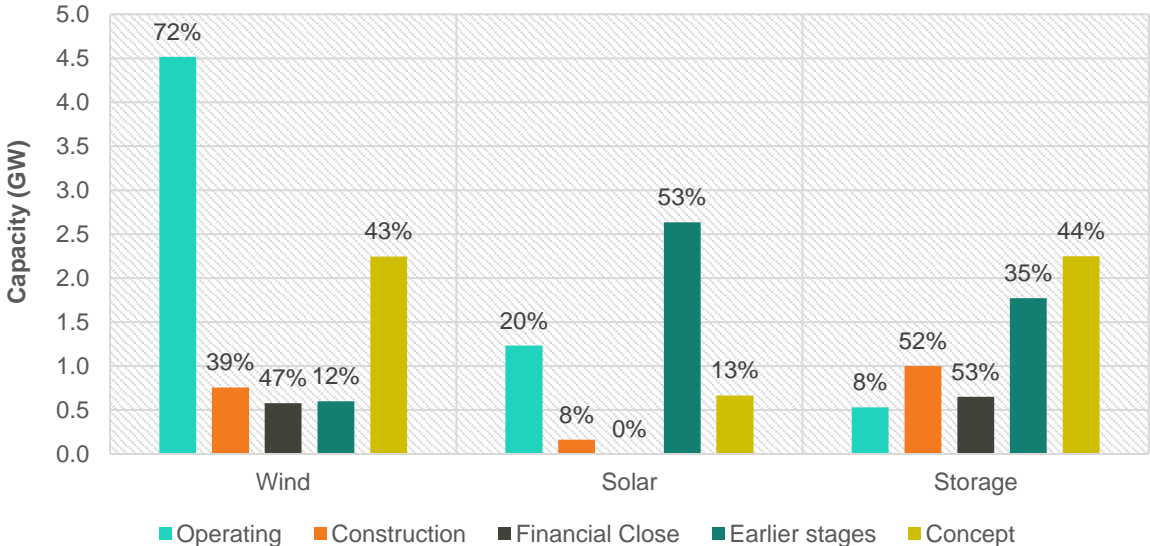
The following sections describe in more detail these guiding principles, starting with an overview of projects in Victoria.

Overview

Under the 2024 Integrated System Plan’s Step Change scenario, Victoria will require 22 GW of wind and solar generating capacity by 2050 to meet the VRET targets and replace retiring coal-fired capacity.

Internal analysis shows that 13.3 GW are currently under various phases of development and 8.7 GW is already operating across the state.

Figure: Overview of projects in Victoria 2009 – 2035 (Source: Rystad Energy – Project analysis)



The steps taken by VicGrid so far to map out suitable areas for project development will bring more clarity to developers, helping unlock much of the projected future capacity. However, as the figure above shows, a little over half of capacity (for generation and storage, in MW) is in the early stages of project development, including concept phase. While the pipeline for projects is significant, especially for wind and storage projects, many hurdles stand in the way of these projects being ultimately built and connected. Few projects, only 16% of total capacity, are under construction or reaching financial close.

This figure demonstrates the high levels of interest from industry for investing in Victoria. However, a number of material complexities remain for investors looking to develop projects in Australia. Complexities in connection and onerous planning processes, social license concerns combined with significant competition from other international jurisdictions for limited capital, means that continued investment in any Australian jurisdiction cannot be taken for granted.

We encourage VicGrid to consider the speed of coal-fired generation retirement. Earlier than expected retirement coupled with similar prospects in other states, is likely to result in a race for investment capital. Considering most of investment is foreign, this race is also global.

On this basis, we urge VicGrid to consider how it can provide a clear value proposition to incentivise the continued development of these many conceptual and early-stage projects.

Providing investors with a clear value proposition, should be a core element of VicGrid's REZ design strategy. The rest of the submission discusses in more detail CEC's proposed principles that are likely to help unlock future capacity to meet Victoria's renewable energy targets.

Providing an attractive value proposition for developers and community

Victoria was one of the first states to set clear emission reduction and renewable energy targets. The CEC supports the continuation of that initial progress through the VTP process.

We encourage VicGrid to consider how its policy frameworks can incentivise continued investment in new renewable energy projects. This is necessary to ensure that projects in the early stages of the pipeline continue to be developed and are ultimately delivered.

The best way to support continued investment is to ensure there is a strong and obvious value proposition for investors and developers to locate generation and storage projects within Victorian REZs. Many of these investors and developers are considering investments in other Australian jurisdictions, with many also looking overseas. A strong Victorian value proposition is therefore key to attracting these investors into the state.

The CEC makes the following suggestions as to what factors play into making an attractive proposition for developers and the community at large.

Value creation

When designing Victorian REZs we recommend that VicGrid consider the specific value proposition for developers to locate in a REZ. Driving investment in a REZ comes down to value for money, which is effectively the trade-off between the access fees levied and the various benefits to locating in a REZ.

These benefits are related to derisking of potential curtailment for those generators within the REZ, as well as some other benefits related to streamlining of planning and social license issues. Reductions in complexity of connection processes can also play a role in value creation, although care must be taken to ensure that any bespoke solutions minimise deviation and are in fact simpler than the national frameworks.

In our initial review of the draft guidelines, it was not immediately clear the exact nature of the costs and benefits to generators connecting in a Victorian REZ. VicGrid should therefore clearly identify and communicate to investors and developers these costs and benefits that REZs will offer to new projects as the VTP is progressed.

For example, we recommend VicGrid clearly define the nature of congestion and curtailment management, as well as any other bundled benefits associated with connecting in a REZ, such as frontloaded planning or approval pathways at state and local level.

When deciding how funds raised from access fees will be used, VicGrid should also consider the known requirements and expectations around benefit-sharing and community contributions. Each of these schemes contribute differently to local economies but come from the same source – individual renewable energy projects. Higher access fees could result in reducing funds available for benefit-sharing schemes. In the most extreme cases, if they reduce

revenues, and thus overall returns, below the level required to make the investment case, then developers are likely to cancel projects.

More broadly, we would comment that clean energy projects already make significant contributions towards regional benefit funds in the form of Payment in Lieu of Rates (PiLoR). Victoria is the only jurisdiction to calculate rates based on improved value without some exceptions for electricity infrastructure. In Victoria, anyone with a generator licence from the Essential Service Commission is eligible to negotiate with the relevant local government to determine the exact amount of rates a project pays. However, the PiLoR methodology establishes a starting point for negotiations that is already the highest in the country. The community benefits these funds enable could be more widely communicated by local or state governments.

Transparency

VicGrid should consider at a minimum, and in line with making sure no personal information is divulged, sharing the survey data with developers in an easy-to-use format (such as ArcGIS shapefiles). Developers place considerable resources into scoping projects. VicGrid is hoping to frontload much of this work, and industry has warmly received this. This will align with the Victorian government's current activities such as providing detailed information through the Vic Data portal, already an invaluable source for developers.

VicGrid should also consider providing visibility into how the information used in the land use assessment has been weighted. Community sentiment is a driving force for the roll-out of renewables. However, the government needs to balance the intersection between infrastructure, land use, community sentiment and access regime to create an environment that is conducive to investment. There is a specific compatibility between agricultural land and renewable energy development. Providing clarity around the agricultural constraints used in the modelling would be equally useful to project developers.

Community acceptance

VicGrid should reconsider its model of community acceptance. It has proposed in the recent consultation on Community Benefits Plan to deliver the REZ Community Energy Funds. This will likely see a reallocation of funds towards VicGrid from project-led benefit funds. Project-led benefit funds prioritise people living closest to a project, so a change in policy that results in a reallocation of funds away from those closest to a project towards people living further from the project does have negative consequences. Benefit funds facilitate knowledge and relationships, and those, not necessarily the outcome of funding, drive results in positive attitudes towards a project. The CEC is not convinced the model proposed by VicGrid would result in community support for clean energy projects as it decouples the impact (the project) with the positive outcome (the relationship).

We note that project proponents should continue to achieve project outcomes based on their own engagement with landowners and the community. The ability to develop quality projects is what leads to broader community acceptance.

Maintaining flexibility

REZ frameworks are good at sending signals for where new generation and storage should locate. The draft VTP guidelines set out a framework that sends clear signals based on strategic land use assessments. We consider this aligns with our members general preference to be guided toward high quality, preferred locations rather than being dissuaded from poor ones.

However, VicGrid should also recognise the benefits providing flexibility for project siting. Optimal generation location and mixes will change, so it is important to provide flexibility for siting projects.

When sufficient accurate and up-to-date information is provided to developers, they will likely locate projects in areas that align with VicGrid's priority areas. We are supportive of the overall approach from VicGrid to provide updated and granular information through the VTP reporting and iterative REZ design process.

However, we encourage VicGrid to consider the limitations associated with using complex modelling as the basis of this locational signalling. The strategic planning of the VTP is based on modelling, such as the combined PLEXOS and PSSE modelling described in the Draft Guidelines. While this modelling is a powerful and informative tool, it is important to recognise its limitations. In particular, the assumptions fed into the model are the key determinant of its output – any errors in these assumptions are likely and may result in material real work inefficiencies.

While such modelling is important in the planning process, we therefore recommend that VicGrid not be overly reliant on this modelling.

We also recommend that VicGrid consider the asymmetry of risks associated with moving too quickly vs moving too late in the transmission planning process. By this we mean the balance of costs associated with building transmission assets before they are fully utilised, vs building them after the need for the additional generation they connect has manifested. This asymmetry of risk is that while customers may bear some upfront costs associated with moving earlier, they will bear far higher costs through price spikes and unmet demand from moving too late.

Relatedly, VicGrid should begin considering issues around developer bonding and the risk of delay in transmission asset delivery. Experiences in other jurisdictions have shown that while REZ developers are often asked to provide a series of upfront payments through bonding 'stage gates', there is no equivalent financial discipline placed on the REZ developer to ensure that REZ transmission infrastructure will be delivered on time and coordinated with the generation development, to ensure that energisation of the asset can commence as soon as possible. Some form of liquidated damages provisions should be included in the Vic REZ design process to ensure that developers have confidence that they will not bear an unreasonable share of the costs associated with any delays in transmission development by the REZ network developer / operator.

VicGrid should also consider how to build flexibility into the process for expanding capacity allocation in each REZ. In New South Wales, increasing the capacity of a REZ has already occurred, driven by better understanding that South-West REZ is a favourable location for projects and is connecting to a new high voltage AC transmission line. Another process to expand headroom capacity has also commenced in the Central West Orana REZ. This kind of flexibility allows for better utilisation of transmission assets and increases overall final energy delivery to customers.

We also recommend that the Victorian REZ frameworks provide as much information as possible on how generation capacity, transfer limits and curtailment values will be calculated. VicGrid should also consider the rapid pace of technological evolution, particularly grid forming batteries, renewable / battery hybrid projects and long duration energy storage technologies. These technologies can play a significant role in increasing overall hosting capacity in a REZ. The role of offshore wind should also be clearly communicated and planned. These ongoing technology changes mean the VTP should be as flexible as possible to account for changes in how technology is deployed to solve specific grid stability and reliability problems as renewable energy generation increases.

We also recommend VicGrid consider how it can develop new transmission infrastructure in a manner responsive to developer interest and activity. Developers are likely to prioritise areas with low housing density, where farmers can supplement their income by hosting renewable energy projects and where geographic conditions are optimal for renewable development. If these areas have poor network infrastructure, these could become areas of interest for transmission planning. Some of this rationale is already evident from the initial mapping.

Community responses will also change in response to state-wide assessment translating into REZ development and project areas. Currently, the response to the Renewable Energy Planning Survey has been limited and the results from the mapping might change if community divergence occurs or is amplified. It remains vital for VicGrid to remain flexible in how it assesses continuing issues raised by community as REZ development progresses and the weighting of constraints for specific areas.

Robust and optimal transmission build out

VicGrid should be clear and transparent how it defines a REZ, calculates needed capacity, and where to build required new transmission. The VTP methodology proposes using energy market modelling for each system scenario to provide which technologies to build, including storage, how much capacity to build, when to build new capacity and the location of the new generating plants. Developers need to understand whether REZs will be defined around a geographical area or managing access for transmission access. Transmission access design is a key determinant of how attractive a REZ will be for a developer. Too much red tape or uncertainty will lead developers to build outside a REZ.

VicGrid should consider the following elements when defining and designating REZs:

- The capacity and curtailment values should be determined based on transparent and quantified analysis, with prospect for those values to be revised and any headroom limits to be raised accordingly. Storage assets should be considered explicitly here, given their ability to increase total hosting capacity of a REZ. VicGrid should also consider how network assets and curtailment is shared between generators connecting in a REZ
- Transmission access consistency – clearly define the value for developers in terms of location and infrastructure that will be funded through access fees. Developers must have clarity as to exactly how much of the network they will fund, with that funding being limited to the portion of the network related to supporting their own connection. Foundation generators should not bear the cost of constructing network assets that will be utilised by later connecting parties.

- Offshore wind is included in both planning and scenarios within the draft guidelines. However, it is not clear if the transmission associated with offshore wind development is given a holistic consideration with REZ areas and infrastructure planning.
- Encouraging diversity of storage assets – short, medium and long duration
- The guidelines should promote investor confidence and shield against regulatory uncertainty by minimising deviation from the NER and being consistent with other national policies. Deviations from standard connection processes and system stability processes should be minimised, wherever possible.
- However, we note that parts of the system with unique technical and operational profiles – such as offshore wind REZs – bespoke technical and regulatory solutions may be necessary. For example, early stage model integration may be considered as a way to speed up and optimise transmission build.
- The REZ delivery body may also consider streamlined or centralised approaches to the delivery of critical power system stability equipment, such as harmonic filters, grid forming batteries and synchronous condensers, where these are critical to the stability of the grid. However, wherever possible, we also encourage VicGrid to capture the value of non-network options in network buildout – this may include provision of these critical stability services from contracted storage providers. See further detail below regarding consideration of NNOs.
- The frequency of information released to generators and the public about transmission planning – with more frequent releases, proponents can have a better understanding of the evolution of transmission build-out. After the initial two year publications, a four-year period could prove inadequate given that information can quickly become outdated. VicGrid could consider other forms of updates that are not based on entirely new modelling but acknowledges the changes in the market and regulation
- Some form of security should be provided to developers regarding the on-time delivery of new network assets on the other side of the point of connection.
- Scenario 3 should consider a longer delay period. The waiting orders for some components can start at 18 months. The impact of delays is significant for generators and modelling should more closely reflect past trends.

We also suggest that further consideration be given to non-network solutions in the planning stage. Currently, our understanding is that AEMO does not effectively model non-network solutions / non-network options (NNOs) when considering the possible options for new transmission lines, on the basis that AEMO only considers committed and anticipated projects as potential non-network solutions.

This creates an obvious chicken and egg issue, as private developers may build an asset made for a NNO – i.e., progress to committed status – only if there is some certainty a NNO contract. Our recommendation is that at least one non-network solution should be modelled as a complementary solution to new transmission. The NNO need not fully replace new transmission, but rather may enhance utilisation of transmission infrastructure. The most obvious example of this is a SIPS contract (System Integrity Protection Scheme), which allows a transmission line to run beyond what it could without the protection scheme, on a permanent basis (as long as the SIPS is armed). Non-network solutions have great potential to improve transmission design, overall costs, and overall utilization. It would be unfortunate if new transmission design in the VTP cannot benefit fully from new technologies.

The CEC also encourages VicGrid to consider the role of onshore wind in East Gippsland given the grid capacity and quality wind resources. At the moment, with only pockets of prioritised areas, development could be costly, fragmented, inadequate or delayed. Utilising the existing infrastructure given known delays in transmission delivery could result in better outcomes for Victoria.

The VTP modelling draws from a multitude of sources, such as the Victorian Renewable Energy Targets, Zero Emissions Vehicles Roadmap, Victorian Energy Upgrades, and Gas Substitution Roadmap. More recently, the Government released Victoria's electricity future. There needs to be alignment between the targets and assumptions of all these documents will ensure industry is accurately informed.

Offshore wind

In relation to offshore wind development that will require connection into Victorian transmission networks, we would strongly encourage VicGrid to consider earlier and increased transmission connections from the Gippsland offshore wind zone as part of this analysis.

We recognise VicGrid is looking to support transmission capacity in line with the Victorian Government's 9GW target by 2040, however we see the offshore wind industry moving at pace and are concerned that there is a real risk of projects being delayed or even cancelled if an adequate transmission plan is not in place on time.

The geographical areas under investigation omit offshore wind zones, as does the generator survey, which suggests the analysis may omit beneficial synergies between offshore and onshore wind.

In the three scenarios considered as part of the 2025 VTP, we note that there is no consideration for if the targets are met early, or if more generation capacity is constructed and requiring connection into the Victorian grid. We see this as a risk, as projects may choose to not progress as they see the threat of becoming a stranded asset due to challenges in project delivery. We would encourage the VTP to explore a scenario where there is an increased capacity of offshore wind connected in early 2030's, as well as continued growth later in the decade.

As always, the CEC welcomes further engagement from the VicGrid as the work on the Victorian Transmission Plan reform progresses. Further queries can be directed to Ana Spataru at the CEC on aspataru@cleanenergycouncil.org.au.

Kind regards

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