

Victorian Transmission Investment Framework

FINAL DESIGN PAPER



JULY 2023

energy.vic.gov.au



Energy,
Environment
and Climate Action

Victorian Transmission Investment Framework

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Acknowledgement of Traditional Owners

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it.

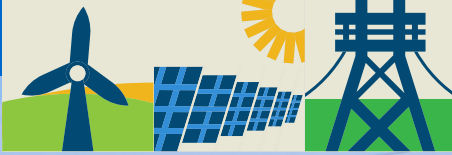
We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

DEECA is committed to genuinely partnering with Victorian Traditional Owners and Victoria's Aboriginal community to progress their aspirations.



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Minister's foreword



I am pleased to present the final design of the Victorian Transmission Investment Framework, which sets out a new approach to developing major electricity transmission infrastructure and Renewable Energy Zones (REZ).

Victoria is at the forefront of a global transition away from fossil fuels to cleaner, cheaper, more reliable renewable energy. Since 2014, we have more than tripled the share of renewable energy in power generation, creating thousands of jobs, placing downward pressure on prices and reducing emissions by more than any other state.

However, as our ageing coal-fired generators reach the end of their service lives - and demand for electricity increases - we must accelerate the development of renewable energy across Victoria. By investing in renewable energy, including through our plan to bring back the SEC, we'll secure sufficient new capacity to deliver power to homes and businesses across the state.

The scale of the transition is unprecedented, but if we get it right, we will deliver direct benefits to communities that host renewable energy infrastructure, and low-cost energy to power our homes and businesses for decades to come. To enable this, we have established a new government body, VicGrid, to better coordinate transmission and REZ planning and to implement the Victorian Transmission Investment Framework.

The new framework will feature earlier engagement with Traditional Owners, local communities and key industries to ensure their views are integrated, land use considerations are better understood, and environmental, economic and social impacts are considered in the planning process.

Collaboration with industry is also key, which is why the Framework introduces new arrangements to improve investor certainty and support timely coordination of investment in transmission, generation and storage infrastructure.

VicGrid will lead this work and will adopt new roles and responsibilities under the Framework. To implement this Framework, the Victorian Government will introduce new legislation in early 2024 to deliver these reforms to the way energy transmission infrastructure is planned and developed.

This document highlights how we will do this alongside the development of a first Victorian Transmission Plan by mid-2025, including key milestones and opportunities for engagement.

This will help us meet our renewable energy target of 95 per cent by 2035 and net-zero emissions by 2045, while delivering tens of thousands of new jobs and positioning Victoria as the ideal place for renewables investment.

The Hon. Lily D'Ambrosio MP
Minister for Climate Action
Minister for Energy and Resources
Minister for the State Electricity Commission



Executive summary

The Victorian Government is implementing the Victorian Transmission Investment Framework. This is a new framework for how transmission infrastructure is planned and developed in Victoria to ensure our Renewable Energy Zones are developed in the best way for Victorians and to meet our renewable energy and net-zero emissions targets.

Purpose of this paper

VicGrid, a Division of the Department of Energy, Environment and Climate Action (DEECA), is developing and implementing the Victorian Transmission Investment Framework (VTIF). This is a new regulatory framework with a comprehensive set of state-wide reforms to better meet Victoria's energy needs.

This document provides an overview of the legislative and regulatory reforms. It explains the design of core elements and new roles and responsibilities of VicGrid. Consultation is a critically important part of this process. This document also highlights key milestones and stakeholder engagement opportunities for implementing reforms, as well as developing the first Victorian Transmission Plan by mid-2025.

Why we are changing the existing arrangements

As Victoria's ageing coal-fired power stations retire, our electricity system needs to evolve. Investments in large-scale renewable energy generation and storage will help provide reliable and affordable electricity at the scale needed to continue powering Victorian homes and businesses.

The Australian Energy Market Operator (AEMO) recently released an update to the 2022 Electricity Statement of Opportunities (ESOO) report,¹ confirming the urgent need for investment in generation, long-duration storage and transmission to achieve reliability requirements over the next decade.

¹ Update to 2022 Electricity Statement of Opportunities
www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning

Victoria must plan for the closure of its remaining coal-fired power stations, which will remove 4.8 gigawatts (GW) of generation capacity.² As well as this, Victoria must be prepared for rapid increases in electricity demand driven by electrification of transport, heating and industrial gas uses. Ensuring that Victoria has an effective framework to deliver transmission infrastructure to connect sufficient renewable energy generation will help to manage risks to energy reliability, higher prices and attract greater investment and jobs to the state.

Developing Victoria's REZs is the most effective way to meet our energy needs during this period of change and to capitalise on economic development benefits of renewable energy infrastructure development. REZs are areas across the state with high-quality and abundant renewable energy resources.

Long-term planning and investment will be needed to coordinate new transmission, generation and storage infrastructure across our REZs. This planning will ensure Victoria has clean, reliable and affordable electricity into the future while unlocking new jobs and investment opportunities in our regions.

The way Victorian plans transmission and generation needs to adapt to the new energy landscape

The current transmission planning framework was not designed to meet Victoria's long-term energy needs in a transitioning energy system. It results in network investment decision-making processes that are too slow and too reactive to keep pace with the rapid transition from fossil fuels to renewable energy. This reduces certainty for renewable energy generators looking to invest in Victoria.

Existing transmission planning processes do not adequately incorporate community, land use and environmental considerations, including local economic benefits, leading to a lack of community acceptance for transmission projects.

Recent experience of community opposition to the Western Renewables Link project has highlighted that transmission planning processes must better incorporate these considerations and engage communities early in the planning process to avoid delays and higher delivery costs. The cost of transmission infrastructure delay has been estimated to be greatest in Victoria.³ An average Victorian residential consumer will pay more than an additional \$1,500 in energy bills over 15 years due to a two-year delay in critical transmission projects, with a four-year delay resulting in an increase of approximately \$4,800.

2 AEMO (2022), 2022 Integrated System Plan aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp

3 Modelling Electricity Bill Impact Of Transmission Project Delays nexaadvisory.com.au/reports-and-publications

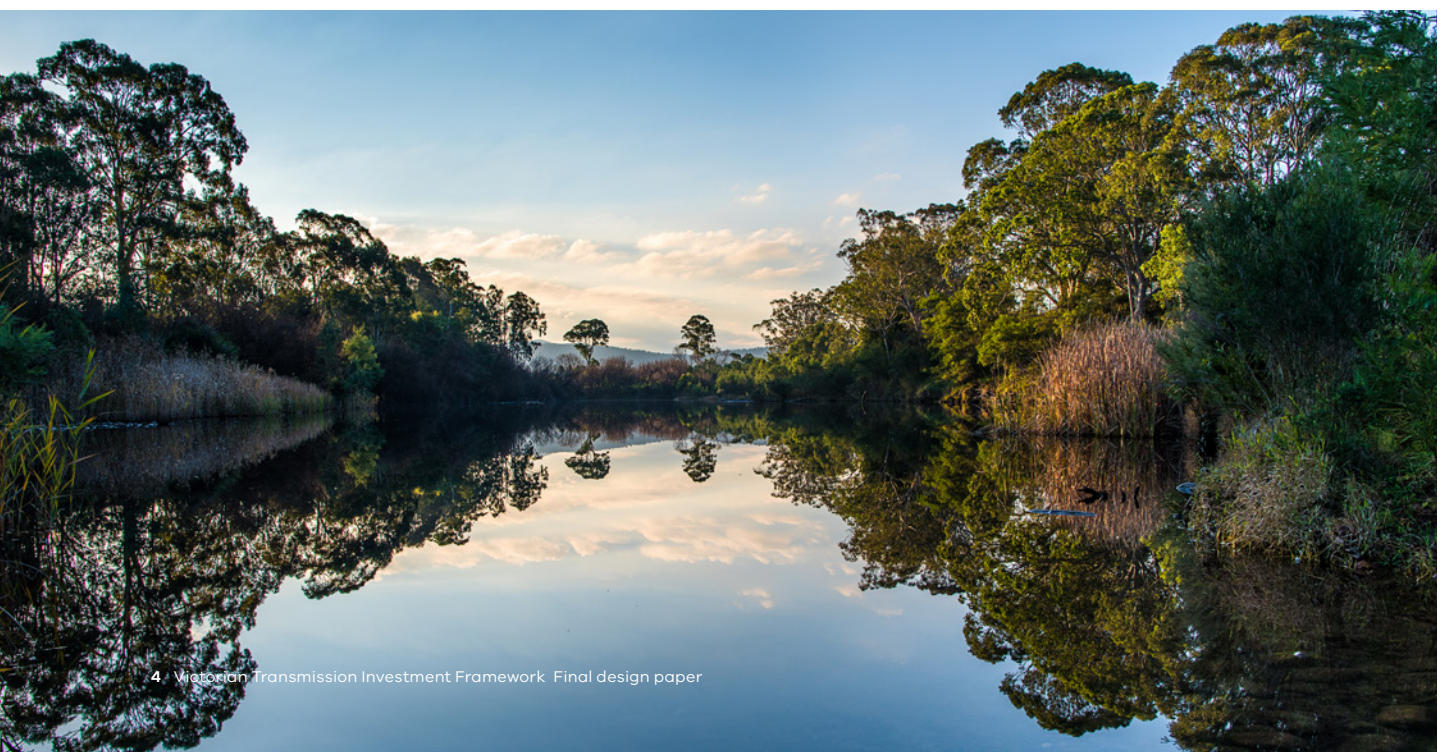
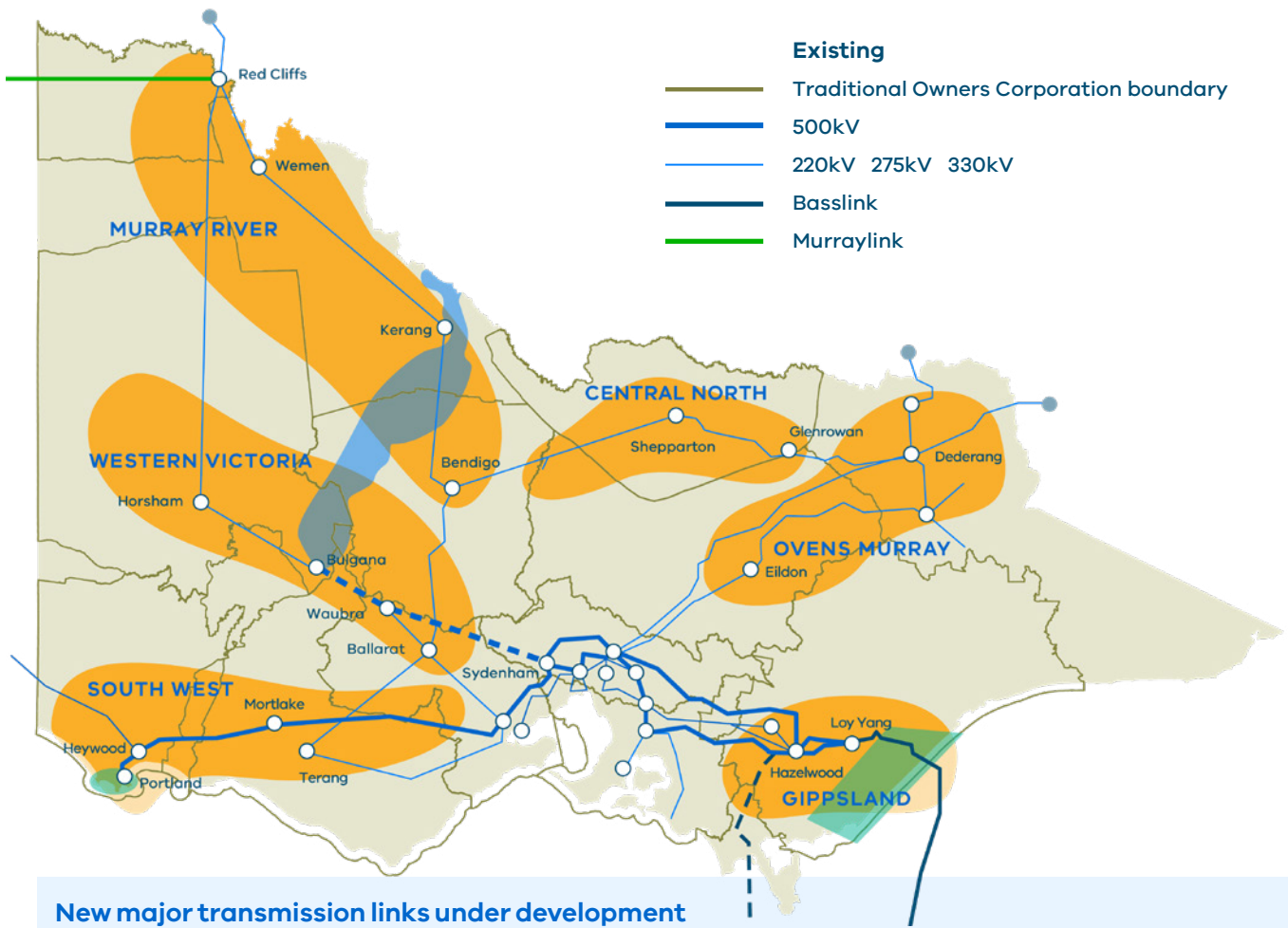
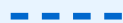


FIGURE 1 Map of Victoria's Renewable Energy Zones



New major transmission links under development

INTEGRATED SYSTEM PLAN



Western Renewables Link (WRL)

PROPOSED ROUTE

New 190km high voltage overhead transmission line from Sydenham to Bulgana in Victoria's west.



VNI-West¹

AREA OF INTEREST FOR CURRENT PREFERRED PROJECT OPTION 5A (TO BULGANA)

New high voltage overhead transmission line connecting Victoria and NSW. Option 5A connects WRL (at Bulgana) with EnergyConnect (at Dinawan) via a new terminal station near Kerang, and crossing the Murray River north of Kerang.



MarinusLink

PROPOSED ROUTE

New 1500MW undersea and underground electricity connection to further link Tasmania and Victoria.

REZ DEVELOPMENT



Offshore Wind Transmission²

AREA OF INTEREST FOR OFFSHORE WIND CONNECTION POINTS

Development of transmission infrastructure to provide coordinated connection points for offshore wind developers in Gippsland and Portland to enable the first target of at least 2GW of offshore wind by 2032, as a starting point.

This map has been provided for illustrative purposes only

1 VNI-West is currently at an early project stage called the Regulatory Investment Test for Transmission (RIT-T). This test is like a business case conducted early on in the development of a transmission project to determine if it will deliver economic benefits. The Project Assessment Conclusions Report is the final step in this test and outlines the preferred option, which establishes the broad area of interest for the project. As described in AEMO 2023, VNI West Project Assessment Conclusions Report Volume 1: Identifying the preferred option for VNI West, May 2023, the preferred Option 5A connects from Dinawan, via a new terminal station near Kerang, directly to WRL at a new terminal station near Bulgana (Wotjobaluk Country), crossing the Murray River north of Kerang (Wamba Wamba Country). This option requires relocation of the WRL proposed terminal station from north of Ballarat to Bulgana and the uprate of the proposed WRL transmission line from north of Ballarat to Bulgana from 220kV to 500kV.

2 Offshore Wind Implementation Statement 1, October 2022, p12-13

Summary of the Victorian Transmission Investment Framework

The new framework is an integrated approach for planning and delivering the transmission infrastructure needed for REZ development in Victoria that responds to the emerging challenges of the energy transition. It will help Victoria adapt to a changing electricity system.

It is designed to strengthen community engagement and foster a strong investment environment for renewable energy infrastructure to meet our electricity needs through the energy transition.

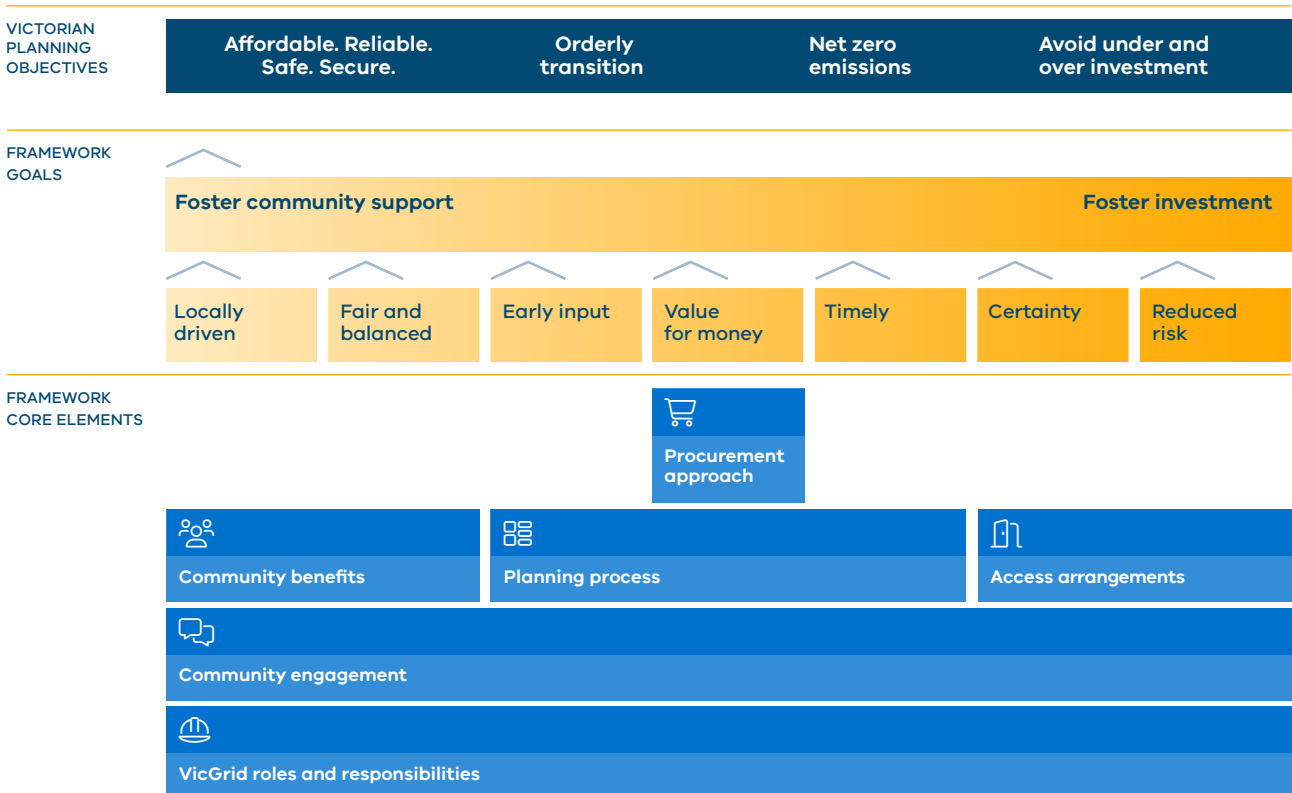
The new framework introduces a strategic and proactive process to ensure timely coordination of investment in transmission, generation and storage infrastructure across Victoria’s REZs, tailored to Victoria’s energy needs.

It will better integrate land use considerations, environmental impacts and community views into the planning process.

At its core is the greater opportunity for earlier and deeper engagement with Traditional Owners, local communities and landowners to better manage impacts and to make the most of regional development opportunities for communities hosting this new infrastructure.

The new framework is also designed to attract investment for renewable energy generation and storage into Victorian REZs by providing greater investment certainty for industry.

FIGURE 2 A new modern framework enabling the transition to renewable energy



The framework strikes the appropriate balance between timely delivery of strategic transmission projects, building community acceptance and minimising the cost for electricity consumers. It includes several mechanisms to ensure delivery of cost-effective infrastructure that will be used efficiently.

The framework will best facilitate the development of Victoria’s REZs in an orderly and strategic way to deliver better outcomes for Victorian energy consumers and local communities. [Figure 2](#) summarises the core elements of the Framework and how they interact.

VicGrid will have new roles and responsibilities under the new framework, including new functions for undertaking transmission infrastructure planning, coordinating end-to-end engagement, and administering community benefits arrangements in Victoria.







To support its evolving role VicGrid will, as a first step, transition to an administrative office of DEECA while the Victorian Government considers options to establish it as a more independent corporate entity (see VicGrid’s roles and responsibilities chapter).

VicGrid will develop the first Victorian Transmission Plan by mid-2025, which focuses on achieving a smooth transition for Victoria in the face of coal-fired generator closure over the next decade (see Next steps chapter).

Consultation highlighted strong support for these reforms and informed the final framework design. Read more about this in the next chapter, [How feedback shaped the new framework](#).

CORE ELEMENTS OF THE FRAMEWORK

CHAPTER

	A new Victorian transmission planning objective	Appropriately incorporates environmental objectives and Victorian needs in a changing energy landscape	What’s new to the planning process
	A new planning process	For major transmission augmentations and REZs that enables anticipatory and strategic investment decisions along with more investment certainty for renewable energy generators in Victoria This process produces a Victorian Transmission Plan every four years, including an Optimal Pathway that outlines the transmission infrastructure projects required to enable REZ development and energy system needs over the following 25 years	Developing the Victorian Transmission Plan
	A new procurement approach	For determining the best value for money solutions to deliver the projects included in the Victorian Transmission Plan while also ensuring timely delivery of those projects and protecting consumers’ interests	Delivering value for money
	Access arrangements	To improve coordination and address connection and curtailment issues in Victorian REZs, either through the adoption of national reforms currently being led by the Energy Security Board (ESB) or the development of a bespoke access scheme	Fostering investment
	A place-based approach to community engagement	This incorporates Traditional Owner and community expectations early in the planning process and recognises the impacts of new infrastructure to ensure those affected directly benefit from the energy transition	Place-based approach to community engagement and benefits
	Community benefits for impacted Traditional Owners and communities		

Timeline for implementation

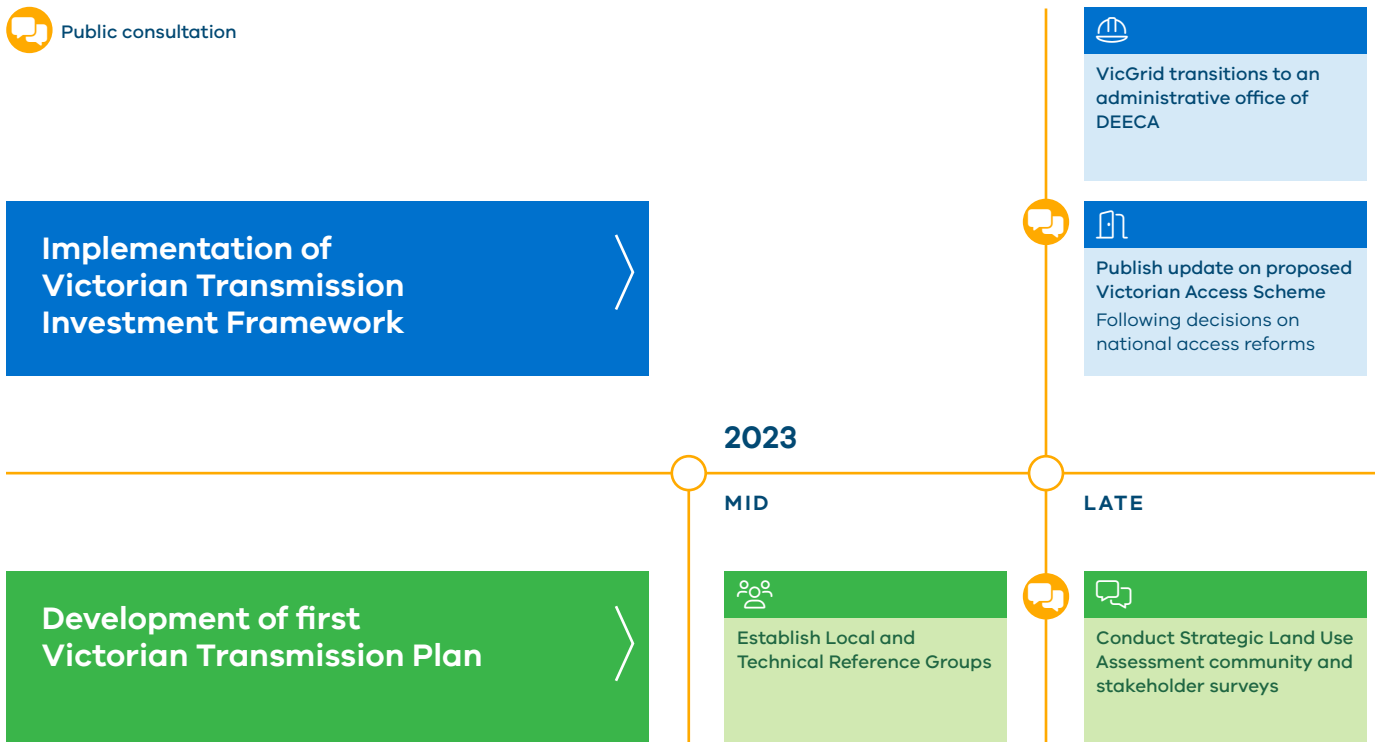
The Victorian Government is now developing and implementing the core elements of the new framework outlined in this document. It is anticipated that the overarching requirements for some core elements will be implemented in 2024 while other elements require further detailed policy and design work before being implemented.

VicGrid strongly values public consultation and will be undertaking a range of consultation activities during 2023 and 2024 on these elements, including access arrangements, a new procurement framework and community funds (see [Figure 3](#)).

VicGrid is also progressing the development of the first Victorian Transmission Plan, to be published in mid-2025, which will identify potential key transmission projects for the next 15 years to support an orderly transition from coal-fired power. This will help to ensure that Victoria is well-positioned with sufficient renewable generation and transmission to provide secure, reliable and affordable electricity to meet its needs.

VicGrid will facilitate a stakeholder engagement process that ensures a collaborative approach to developing the 2025 Victorian Transmission Plan in consultation with local communities and stakeholders, and in partnership with Traditional Owners. Publication dates and timing of key milestones in the development of the first Victorian Transmission Plan are outlined in [Figure 3](#) and further described in [Next steps](#) chapter.

FIGURE 3 Key milestones and opportunities for consultation



How to find out more

If you wish to be kept informed on the implementation of the new framework and development of the first Victorian Transmission Plan, including upcoming opportunities for engagement, please subscribe to receive project updates on the Engage Vic website.

engage.vic.gov.au/victorian-transmission-investment-framework

For further information please also visit:

Transmission and grid upgrades

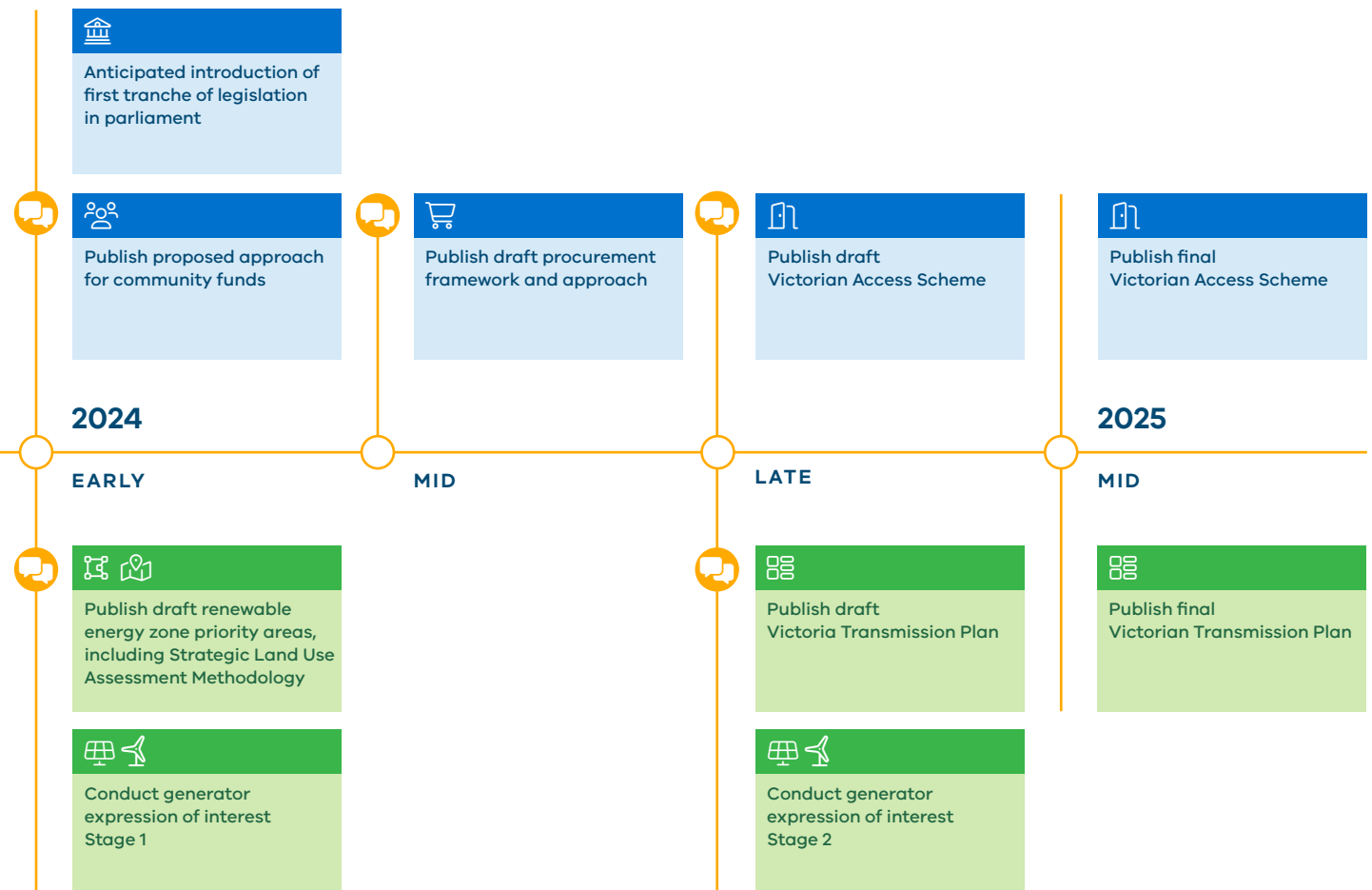
vicgrid.com.au/transmission-projects

Renewable Energy Zones webpages

energy.vic.gov.au/renewable-energy/renewable-energy-zones

Or contact us

rezdevelopment@delwp.vic.gov.au





How feedback shaped the new framework

The new framework has been developed following public consultation with a range of stakeholders including local communities, who overwhelmingly supported change.

In July 2022, the Victorian Government published a [Victorian Transmission Investment Framework Preliminary Design consultation paper⁴](#) and completed a comprehensive six-week stakeholder consultation process.

The paper set out a preliminary proposal for two key reforms:

- 1 A new framework for transmission planning in Victoria to enable REZ development.
- 2 New roles and responsibilities for VicGrid under the proposed framework.

The consultation process provided an opportunity to seek a wide range of views on the proposed reforms. VicGrid hosted five online community information sessions across the Barwon South-West, Gippsland, Grampians, Loddon Mallee and Hume regions, as well as a state-wide online session. These featured constructive discussions with community members about the renewable energy transition and the need for new transmission infrastructure. VicGrid also held a two-day workshop for key stakeholders that went into further detail on the components of the Framework. This workshop was attended by local government, peak industry bodies, investors, academics and energy regulators.

In addition, VicGrid held more than 35 bilateral briefings with key stakeholders, including key local councils, Regional Partnerships, renewable energy investors, energy market institutions and community groups. Print and social media advertising was used to encourage people to participate in the consultation by completing a short survey or lodging a written submission through a dedicated Engage Victoria webpage. The webpage received more than 25,000 visits, 600 survey responses and 100 submissions.

The extensive public consultation demonstrated strong support for the proposed reforms. An overwhelming majority of stakeholders agreed that there is a need for an improved transmission planning framework in Victoria to provide policy certainty, address community acceptance risks and enhance confidence for investment.

The Victorian Government has considered this stakeholder feedback and is proposing to implement a new framework to plan and deliver the transmission infrastructure required in Victoria to respond to the emerging challenges of the energy transition and meet Government's ambitions. In general, the final framework design outlined in this document largely affirms and builds on the proposed preliminary design with several elements that were further refined in response to the feedback received.

⁴ engage.vic.gov.au/victorian-transmission-investment-framework

Feedback also demonstrated support for the proposed roles and responsibilities of VicGrid under the new framework. A preference was expressed for a single entity to undertake end-to-end transmission planning in Victoria, and for that entity to have independence from government in the longer-term. The Victorian Government will consider this further during 2023.

A report summarising the outcomes of the stakeholder consultation process, including the key themes and views heard, is available at [Engage Victoria](#).⁵

TABLE 1 Summary of feedback and changes incorporated in the final Victorian Transmission Investment Framework design

WHAT WE CONSULTED ON	WHAT WE HEARD	WHAT WE ARE IMPLEMENTING
 <p>A new Victorian Transmission Planning Objective that includes environmental considerations through emissions reductions and drives anticipatory investment</p>	<ul style="list-style-type: none"> • There was strong and consistent support for the proposed Victorian Transmission Planning Objective which includes environmental considerations. • It was suggested that the current target year for achieving net zero emissions be removed from the Objective, noting that this could be brought forward in the future and that the Objective should be consistent with evolving Victorian Government policy. 	<p>A new Victorian Transmission Planning objective, which will incorporate emissions reduction targets without reference to a specific date to allow for potential future changes in Victorian Government targets.</p>
 <p>A new planning process to produce an Optimal Pathway for transmission infrastructure within and outside REZs</p>	<ul style="list-style-type: none"> • There was support for adopting a more strategic, timely and well-coordinated approach to transmission planning and investment. • There was strong support for adopting the Strategic Land Use Assessment (SLUA) and Multi-Criteria Analysis (MCA) as planning tools to consider social and environmental factors when planning transmission projects. • There was support for the use of Robustness Analysis as a tool for decision-making under uncertainty. • There was general support for a review process for planning to confirm if underlying assumptions or costs have changed. • Concerns were raised that the proposed four-year review cycle wasn't aligned with other planning cycles like the Integrated System Plan, which occurs every two years. • The majority of stakeholders agreed that the planning process should apply to projects within and outside REZs as the 'meshed' network topography in Victoria makes it difficult to separate out distinct areas. 	<p>The previously proposed planning process, with some minor refinements following consultation, which include:</p> <ul style="list-style-type: none"> • The SLUA will be split into two phases: one to identify broad study areas for development and the other to identify more specific areas for the siting of infrastructure. • The review process will include a biennial update to system scenarios and modelling, as well as a materiality trigger to enable updates as required for significant or exceptional changes. This is in addition to the annual review process. • The planning cycle will span 4 years and alternate with the Integrated System Plan (ISP) to allow the two plans to inform each other. • A new planning standard will be developed to determine the efficient level of transmission capacity needed across Victoria's REZs to accommodate expected generation development. This will provide greater certainty for investors regarding level of curtailment when developing in REZs. • The planning process will apply to REZs and major transmission augmentations to ensure a consistent approach to transmission investment across Victoria.

⁵ engage.vic.gov.au/victorian-transmission-investment-framework



Changing the threshold for contestable procurement

- Retaining the existing contestable procurement model in Victoria was considered important, alongside delivering transmission projects in shorter timeframes.
- While there were different views on changing the level of the contestability threshold, industry feedback indicated that it should not be raised as this would lead to a less competitive environment.

- A new procurement framework will outline the approach to procure major transmission augmentations included in the Optimal Pathway, based on the existing contestable arrangements.
- The framework will provide for discretion to decide at what stage of project specification to proceed to procurement, depending on the potential for a competitive process and timing considerations.
- Specific procurement processes to be determined on a project-by-project basis would seek to maximise competitive pressure where possible and utilise speed where necessary. Procurement may be for either a transmission service or a specific infrastructure asset.
- Independent oversight will ensure project costs are efficient and prudent, with appropriate probity over the process and outcome.
- Where applicable, procurement will remain consistent with Victorian Government policies, including (but not limited to) the Local jobs First Policy and the high value, high risk framework.



A Victorian Network Investment Test (VNIT)

A least net cost or maximum net benefits test to be applied to transmission projects in the Optimal Pathway

- Stakeholder feedback affirmed the importance of timely delivery of transmission infrastructure and that the current investment test (RIT-T) has proven to be a significant hurdle to this.
- There was broad support for focusing on 'timeliness' and 'certainty' of project delivery timeframes.
- Consumer representatives highlighted the importance of ensuring that the cost impacts of inefficient solutions are not passed on to consumers.

- While the proposed VNIT would provide greater certainty and more timeliness than the RIT-T, it would still take approximately two years to complete and duplicates some activities and decisions made in the planning stages;
- Considering the need to achieve more timely delivery of transmission projects and rigorous investment decisions that protect the interest of Victorian consumers, the following changes have been made.
- Transmission projects in the Optimal Pathway will not be subject to the proposed VNIT and will proceed to procurement
 - Independent oversight mechanisms during the procurement process will ensure that the costs of transmission projects are efficient, prudent and reasonable.
 - This provides certainty that projects will be delivered in a timely manner and at least cost, removing the need for a separate investment test.

 <p>Access and pricing arrangements for Victoria NEM-wide reforms preferred, with alternative Victorian specific options canvassed (physical, financial and open access)</p>	<ul style="list-style-type: none"> • A majority of submissions supported a physical access regime, while others supported the continuation of the current open access regime. • Many submissions called out the need for simplicity, given Victoria’s highly meshed network, especially as national reforms are also under consideration. 	<p>The preferred approach is the proposed ‘priority access’ model being developed by the Energy Security Board as part of the national reforms, now subject to detailed design work. Further analysis of how the new framework will integrate into the national reforms will be completed once the ESB’s detailed design work is finalised. Access arrangements under the new framework will be implemented in time for the delivery of projects included in the Optimal Pathway of the first Victorian Transmission Plan.</p>
 <p>Community engagement model based on principles of early and ongoing involvement, inclusiveness and transparency</p>	<p>Earlier and more effective community engagement on transmission planning, development and delivery was supported.</p>	<p>A community engagement model with multiple and early opportunities to influence the planning of transmission and generation infrastructure in Victorian REZs, including new engagement points informing the SLUA and MCA. This will include the establishment of a centralised VicGrid engagement team, place-based engagement measures and local reference groups.</p>
 <p>Benefits for hosting communities and Traditional Owners</p>	<ul style="list-style-type: none"> • Strong support for community benefits arrangements that drive better outcomes for hosting communities. • Industry stakeholders preferred pooling benefits from multiple projects in a region to deliver more strategic benefits for community. 	<ul style="list-style-type: none"> • New payments to private landholders hosting easements for major new transmission infrastructure. • Clearer expectations for managing neighbours ‘significantly impacted’ by transmission projects. • Community funds to support community and economic development, with contributions from proponents of new major transmission lines and generation and storage projects locating in REZs.
 <p>New partnership opportunities with Traditional Owners to inform the development of REZs and to share benefits</p>	<p>Strong support for Traditional Owner groups to be brought into engagement processes early and to receive benefits from REZ investments.</p>	<ul style="list-style-type: none"> • Contributions from new REZ transmission, generation and storage projects will be used for dedicated benefits to be developed in partnership with Traditional Owners. Further consultation will take place throughout 2023 with details finalised in early 2024. • VicGrid will partner with Traditional Owners to co-design an approach that provides resources and benefits for Traditional Owners’ self-determination purposes.
 <p>New roles and responsibilities for VicGrid under the new framework</p>	<ul style="list-style-type: none"> • Feedback supported the proposed role for VicGrid as a responsible body to coordinate renewable energy development with transmission investment, and to lead community engagement and land-use planning across the state. • There was a strong preference by industry and investors for VicGrid to be independent of government in the long term. • There was general consensus that any new arrangement should avoid duplication and minimise complexity, and therefore, a preference for a single entity responsible for planning, procurement, delivery and contract management. 	<ul style="list-style-type: none"> • VicGrid will perform new roles and responsibilities in coordinating the planning and review process including engagement and consultation, developing REZ declarations and administering arrangements to provide benefits for communities and Traditional Owners. • The Victorian Government will consider further additional roles and responsibilities for other elements, including access arrangements and procurement. • The Victorian Government will also consider further independence from Government and consolidating planning functions in Victoria under a single entity.



What's new to the planning process

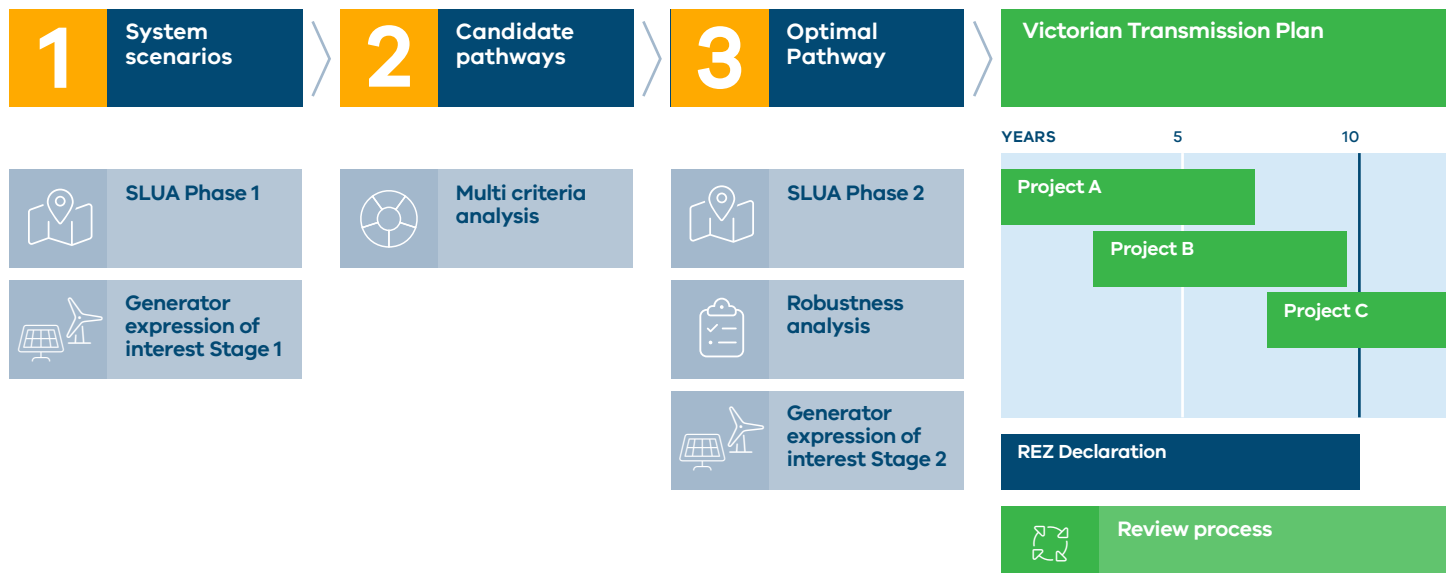
This section provides an overview of the planning process under the new framework, the new planning tools that will be used, timing for Victorian Transmission Plan cycles and its review processes. It also outlines the new framework's relationship to existing and national regulatory arrangements.

Overview of the Victorian Transmission Investment Framework planning process

Under the new framework, the planning process will produce a 25-year strategic plan for Victorian transmission and REZ development called the Victorian Transmission Plan. [Figure 4](#) shows an overview of the planning process with the key planning tools and broader delivery framework.

The Plan will include the Optimal Pathway, which will describe the most resilient and robust set of transmission network projects to support REZ development, coordinating future demand, generation, storage and the transmission needed to enable it.

FIGURE 4 Overview of the planning process



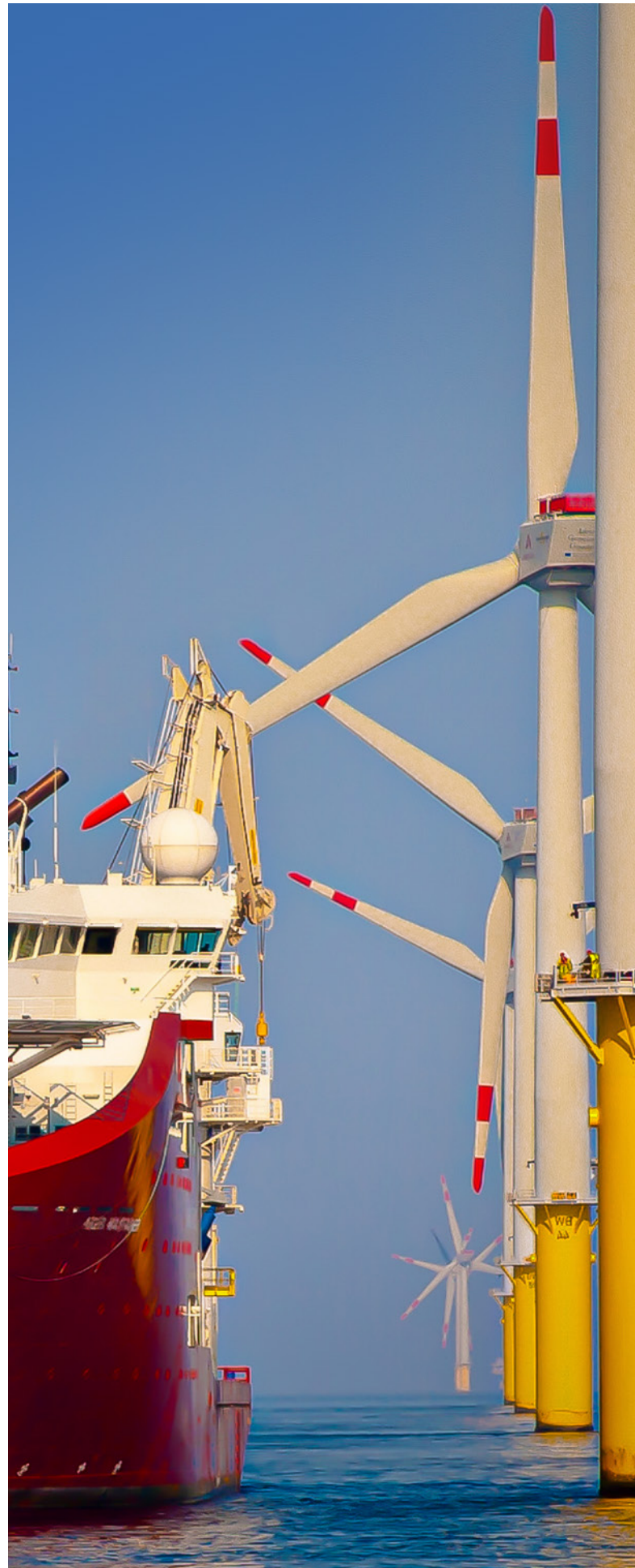
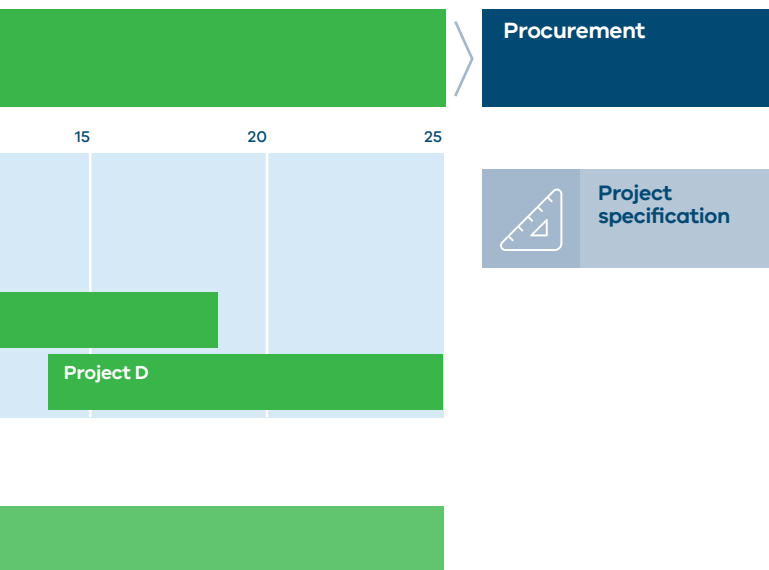
The process to identify the Optimal Pathway includes new planning tools, such as a Strategic Land Use Assessment (SLUA) and a Multi-Criteria Analysis (MCA). These help to incorporate early stakeholder input and economic, social and environmental considerations for transmission infrastructure development.

It also includes an internationally established practice for planning infrastructure under uncertainty. Instead of using a primary, most likely future scenario, planning will be driven by several plausible scenarios and will apply a Robustness Analysis to identify the set of transmission network projects, or candidate pathway, that performs best across all of them: the Optimal Pathway.

Developing the candidate pathways for each scenario will include early engagement and work to integrate local community, Traditional Owner and stakeholder values and perspectives, particularly with respect to where infrastructure could be sited. Geographical areas with transmission infrastructure included in the Optimal Pathway will be officially declared as REZs according to the needs and timeframes.

Declaring a REZ would include specifying its intended transmission hosting capacity, access arrangements, geographic boundary and indicative development timing.

Transmission projects included in the Optimal Pathway that need to progress will be converted into project solutions and proceed to procurement according to the delivery timeframes. The procurement process will be subject to independent oversight to ensure probity, the appropriateness of the procurement process and assure consumers that project costs are efficient, prudent and reasonable.



A Victorian Transmission Planning objective

The new framework will include a new Victorian Transmission Planning Objective that will drive the Framework with respect to major electricity transmission planning and investment. It will incorporate environmental objectives and Victorian needs in a changing energy landscape and will guide how transmission planning and investment decisions are made in Victoria.

Core elements of the proposed Victorian Transmission Planning Objective

To promote efficient investment in, and efficient operation and use of, electricity transmission services for the long-term interests of Victorian consumers of electricity with respect to:

- Price, quality, safety and reliability and security of supply of electricity.
- The reliability, safety and security of the national electricity system.
- The orderly transition of the Victorian electricity system, consistent with the target to net zero emissions.
- The delivery of transmission, consistent with a least regrets development pathway.

Recently, Federal, State and Territory Energy Ministers agreed to include emissions reduction in national energy objectives. This is expected to be introduced into the South Australian Parliament before the July recess and there may be opportunity to consider this development as the new framework is implemented.

While this increases the scope of investment decisions made under the national framework to consider emissions reductions, it would not facilitate investment decisions that can anticipate and meet Victoria's future energy needs consistent with a least-regrets pathway.




Stakeholder engagement insights

Feedback from the public consultation affirmed that the proposed objective appropriately balances the core needs of the electricity network moving forward – including network safety and security – with prioritising emissions reduction and anticipatory investment. It was also suggested that the current target year for achieving net zero emissions be removed from the Objective to ensure consistency with evolving Victorian Government policy, including any decision to bring forward future targets.



Key planning tools

Three new planning tools will be integrated into the planning process to deliver the best outcomes for Victoria and directly respond to existing and emerging challenges. These tools will enable anticipatory investment and certainty that the necessary transmission capacity will be built in a timely way. These are:

	Strategic Land Use Assessment (SLUA)	To identify suitable areas for siting REZ infrastructure that balances a range of technical, environmental, cultural, social and economic factors.
	Multi-Criteria Analysis (MCA)	To incorporate broader qualitative, economic, social, cultural and environmental factors into determining where, when and how Victoria's network should develop.
	Robustness analysis	<p>To prepare for a range of plausible future scenarios in a way that minimises the risk of both under-investment (not being prepared) and over-investment (building more than is necessary).</p> <p>This approach is an internationally established best practice planning method to address the increased uncertainty, complexity and change in the electricity system. The framework would plan to a range of plausible, high-impact scenarios and development pathways, selecting the one that performs best (i.e., can adapt with minimal cost) across all scenarios.</p> <p>This approach, often called 'least worst regrets', is discussed further in a summary of Stage 3 Determining the Optimal Pathway with a robustness analysis.</p>

Strategic Land Use Planning Assessment (SLUA)

The Strategic Land Use Assessment considers key land use, environmental and community issues early in the transmission planning process, well ahead of project identification or approvals. This will allow planners to identify the most appropriate areas for development, accounting for a range of relevant social, environmental, cultural and economic considerations. Transmission and generation development will therefore be able to avoid highly sensitive areas and focus on most suitable areas.

Broadly, the SLUA includes two processes:

- A technical, geo-spatial mapping process, to quantitatively assess siting options and multiple land use factors using a range of data layers.
- A social engagement process, to ensure that community and stakeholder values and feedback help to shape outcomes.

Blending technical and social elements supports the SLUA's objectives of identifying the most suitable corridors for transmission and areas for generation development, providing a process that meets stakeholder needs and fosters a greater level of social acceptance of outcomes.

The SLUA is structured in two phases, which will be integrated at different stages of the planning process:

Phase 1 Landscape level suitability assessment

A high-level assessment that identifies study areas or 'REZ Priority Areas' that are appropriate for development of both generation and transmission, as well as areas that are inappropriate for development. It is important to note that identifying a REZ Priority Area would only mean that transmission infrastructure could be planned to support generation in those areas, if needed. Individual projects would still be subject to individual assessments and all existing planning and approval processes would continue to apply. Each 'study area' may span up to ~ 50km wide.

Phase 2 Detailed identification of transmission corridors

Detailed assessment to select preferred corridors for siting transmission infrastructure for specific project solutions for projects included in the Optimal Pathway. Each corridor may span up to ~3–10km wide.

Data layers included in the SLUA will vary between Phase 1 and Phase 2, consistent with the level of analysis required as the assessment becomes more localised. Those data layers will reflect a range of land use values across technical, environmental, cultural, social, and economic domains, including government policy and state and regional land use priorities.

The SLUA will seek to incorporate criteria likely to be required for project approvals, including under the *Environmental Effects Act (1978)* (Vic), to support a streamlined assessment and approvals process for individual transmission projects developed from the new planning process. Streamlining could be achieved through sharing information early to assist with identifying trade-offs that multiple parties would be willing to accept, and as a result of fewer objections to approval processes. While there are no changes to any existing approvals processes or planning scheme requirements for transmission projects, VicGrid is exploring potential opportunities to accelerate approval pathways for the siting of generation assets within REZs.

Stakeholder engagement insights

Feedback on the preliminary proposal overwhelmingly supported the introduction of a strategic approach to land use planning through the SLUA. Many stakeholders, including some local councils, have highlighted the importance of the SLUA as a key vehicle through which local and regional priorities can be integrated into generation and transmission development. They also highlighted the importance of the SLUA adequately capturing both generation and transmission development.

Phase 1 of the SLUA includes identifying suitable areas for generation so that study areas can take an integrated view of REZ development, beyond consideration of transmission. This is particularly important when considering the cumulative impacts from development across a region when determining the Optimal Pathway.

Some stakeholders also highlighted that a level of detail and certainty for a proposed transmission line is needed to ensure the credibility of the corridor while managing local expectations. The output of Phase 2 of the SLUA will identify preferred corridors within which Optimal Pathway projects eventually would be routed. This provides sufficient certainty about where development of any new transmission lines would occur – ensuring that communities have influence and impacts are minimised – and avoids raising local expectations too far ahead in the process where projects have not been finalised in the Optimal Pathway.

Planning and environmental approvals

This new transmission planning process will introduce changes to ensure environmental, land-use, cultural and social factors are considered early in the transmission planning process, alongside ongoing community consultation, to inform the most appropriate areas to locate new transmission projects. This process also includes key milestones to provide Traditional Owners, community and stakeholders with greater transparency about transmission infrastructure identified in the Victorian Transmission Plan. With each milestone, the identification of affected communities and stakeholders becomes more specific.

So while project proponents would still be required to seek planning and environmental approvals, it is expected that these changes will streamline and improve the approvals pathway for transmission projects.

VicGrid will also play a coordinating role with project proponents during approvals, particularly in relation to community engagement and benefits. This should improve outcomes for project proponents, stakeholders and local communities engaged in the process.

VicGrid is exploring potential opportunities to accelerate approval pathways for the siting of generation assets within REZs.



Multi criteria analysis (MCA)

The multi criteria analysis (MCA) will be used to balance how new transmission and generation infrastructure will be distributed across the state's REZs to meet system needs for each Candidate Pathway. It will allow for each Candidate Pathway to be informed by community attitudes to renewable energy development, economic opportunities for regional communities and to align electricity system planning with the needs and preferences of investors.

In practical terms, the MCA will act as a tool to influence the development of Candidate Pathways, ensuring that in addition to the engineering and cost considerations, the allocation of transmission hosting capacity across REZ priority areas reflects important community and government objectives.

The MCA approach allows for the inclusion of factors that are difficult to quantify with traditional approaches to electricity system modelling. These considerations will be included in five assessment criteria (Figure 5): resource potential, land use, community acceptance, opportunities for regional communities and generator interest.

Many of the MCA criteria have similarity to the factors which are considered in the Phase 1 SLUA, such as stakeholder views on land use, community acceptance and resource potential. The MCA can be viewed as applying similar factors but balancing them in a qualitative way across the whole state and the Candidate Pathways. While information sources for three of these criteria (resource potential, land use, community acceptance) are datasets used in, or derived from, the SLUA, the MCA will require a process to additionally assess generator interest and regional development.

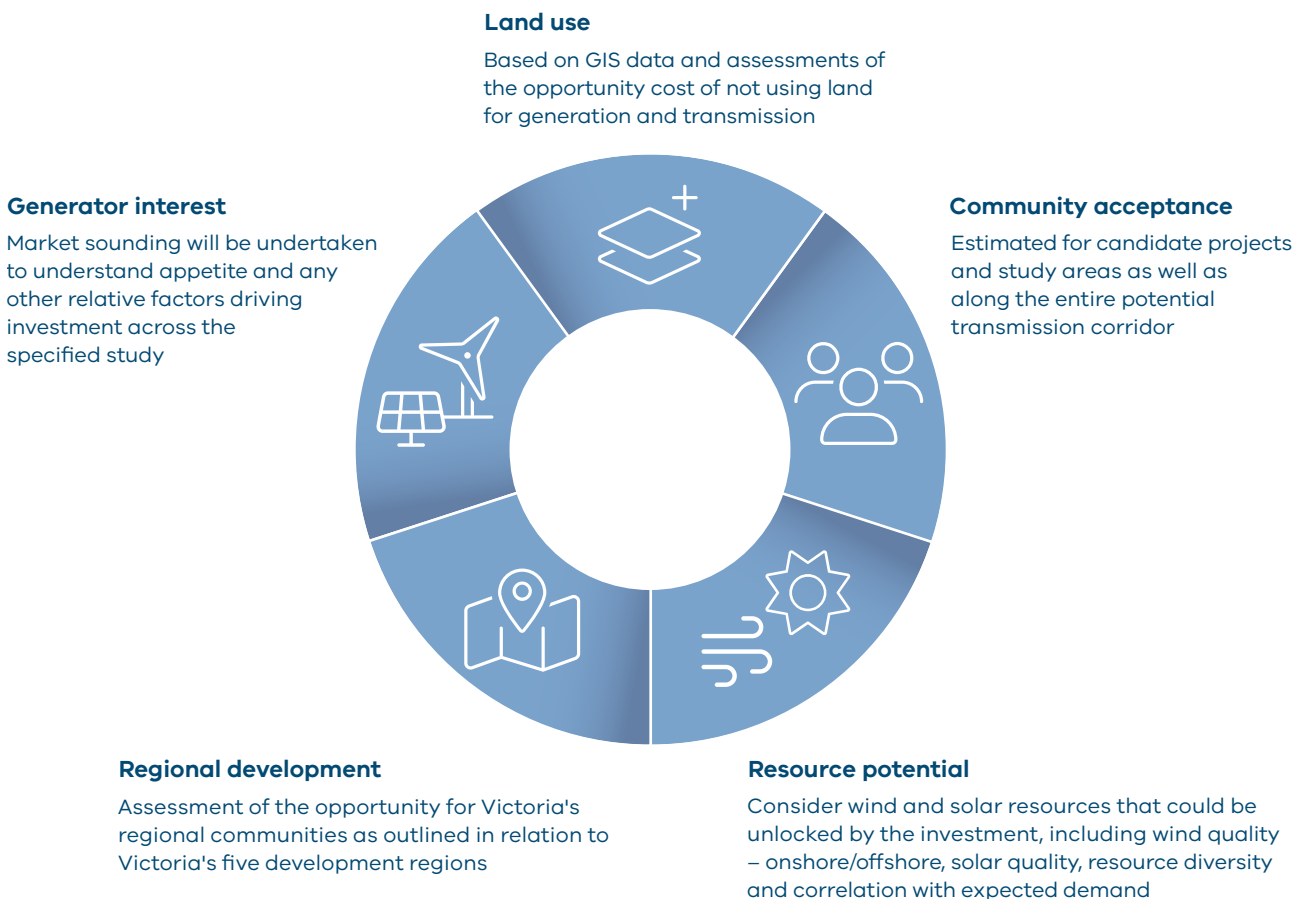
Regional development will be determined based on priorities and projects that leverage comparative strengths in Victoria's regions in relation to REZ development. Information on generator interest will be gathered from a first stage market sounding exercise (Generator Expression of Interest Stage 1) to broadly inform the potential geographical location of generation across the state.

The weighting of MCA criteria will be determined in consultation with Traditional Owners and stakeholders, including energy market participants, community and energy consumers. Weighting may be used to mitigate the possibility of 'double counting' if there is overlap between what different criteria are assessing, such as resource quality being considered implicitly in generator interests.

Stakeholder engagement insights

Stakeholder feedback on the MCA was supportive of the approach, recognising that it enables early consideration of local community views in the transmission planning process. Stakeholders expressed in principle support for the proposed criteria, which include a wider range of factors than a standard cost benefit analysis.

FIGURE 5 Multi criteria analysis elements



Timing of Victorian Transmission Plan cycles

The Victorian Transmission Plan will set out an Optimal Pathway over a 25-year horizon that includes REZ projects and new major transmission augmentations⁶ required to meet Victoria's future energy needs and strategic priorities. The Optimal Pathway will include a list of optimal transmission projects and recommended timing for implementation that are aligned with REZ study areas, boundary conditions and high-level assessment of costs. It will also include information on how the Optimal Pathway was developed and assessed against alternative candidate pathways.

A Victorian Transmission Plan and Optimal Pathway will be developed every four years with a draft and a final version following public consultation. The process will include an expression of interest process to confirm potential renewable energy proponents seeking to obtain transmission capacity in the proposed REZs in relation to planning applications and connection enquiries. This will provide a level of certainty that transmission investment included in the Optimal Pathway is coordinated with generation and will be effectively utilised, reducing the risk of asset stranding.

The infrastructure included in the Optimal Pathway that is delivered will, on completion, form part of the Victorian Declared Shared Network (DSN) and will be operated and maintained under the existing regulatory regime.

This four-yearly cycle provides reasonable certainty around developments needed for the coming 10 years, as well as over a 25-year planning horizon. Additionally, the Victorian Transmission Plan review process balances the need to provide certainty to investors, stakeholders and communities regarding the development, with the need to update and adjust the plan over time as circumstances change.

⁶ A major transmission augmentation will be defined as a project to expand the transmission system or to increase its capacity to transmit electricity at or above 220 kilovolts

Relationship with existing and national frameworks

The planning cycle aims to integrate the Victorian Transmission Plan with the Integrated System Plan (ISP) and the Victorian Annual Planning Report (VAPR). AEMO's ISP for the National Electricity Market (NEM) adopts a two-yearly cycle, with a 20-year development outlook. The VAPR is published annually by AEMO, as Victoria's system planner, with a 10-year outlook that identifies upgrades to the existing Victorian Declared Shared Network (DSN) needed to meet reliability and security needs.

The first Victorian Transmission Plan is expected to be released by mid-2025 with subsequent plans released in the alternate years to the ISP (i.e., from 2027). The alternating planning cycle will enable outputs of the Victorian Transmission Plan to be incorporated into the subsequent ISP, which will remain critical for planning transmission developments across the NEM, including interconnectors. This will be complemented by a review process as shown in [Figure 6](#). Similarly, outputs from the ISP will be incorporated into the development of Victorian Transmission Plans to ensure consistency between national and Victorian transmission development.

VAPR studies with more granular information about the DSN will be used to inform technical specifications for projects identified in the Victorian Transmission Plan and improve and refine subsequent publications of the Plan.

Delivery of transmission projects identified through the VAPR (e.g., minor augmentations, replacements) and the ISP (e.g., interconnectors) that are not included in the Optimal Pathway will continue to be subject to existing planning and regulatory frameworks. Transmission projects identified through the Optimal Pathway (e.g., major augmentations) that are also included the ISP and VAPR will be delivered through the new Framework.



Review process

The Victorian Transmission Plan review process consists of:

- Annual review of the Optimal Pathway via an implementation progress report
- Biennial update to system scenarios and modelling
- Materiality trigger for updates for significant or exceptional changes as required

This process appropriately balances investor certainty with the need to capture changes affecting Victoria’s energy system, ensuring that the Optimal Pathway is transparent, up-to-date and regularly informed by stakeholders.

The Victorian Transmission Plan review process, through the materiality trigger, can also take account of short-term shocks or disturbances in the energy system that impact the Optimal Pathway and candidate projects.

To ensure consistency with Victorian and national planning processes, the review process aligns with the publication of the ISP and VAPR, and allows updated information to be reflected in the Optimal Pathway. [Figure 6](#) shows the Review process in the context of a four-yearly planning cycle, including the interaction with the biennial ISP and annual VAPR.

FIGURE 6 Review process and timeline



Annual review

The annual review will primarily be a tool for reporting on progress in implementing the Optimal Pathway. Given the focus of this annual review, there is an opportunity to integrate this with the annual VAPR.

The purpose is to provide stakeholders and communities up-to-date information around priority projects in the near term and expected delivery timeframes and key dates. It is proposed that the report include:

- Progress against the plan for Optimal Pathway projects, including key milestones in project development. This could identify, for example, whether a procurement process has been completed, updated project specifications and updated delivery timeframes.
- Near term changes, trends or key events in the energy market impacting the projects or future iterations of the Optimal Pathway. This could include key factors that may trigger updated system scenarios and modelling as part of the biennial review or the next Victorian Transmission Plan planning cycle.

Biennial review to update system scenarios and modelling

The biennial review is effectively an interim planning cycle which aims to update system scenarios and market modelling with relevant changes to inputs and assumptions. The purpose of this review is to capture emerging developments in the energy sector that may change the need identified in the Optimal Pathway and assess whether it remains a robust and reliable development path. This biennial review will be additional to the annual implementation progress report.

The biennial review would re-run the market modelling in developing the candidate pathways and the optimal pathway with more recent information around inputs and assumptions, such as those captured by the ISP. It would not involve additional steps surrounding the MCA or SLUA phase one. The aim is to identify changes in modelling outputs from the updated inputs and assumptions. It is anticipated that this review would influence the timing (i.e., urgency) of existing projects identified in the Optimal Pathway and could potentially identify new projects that meet an emerging system need.

There is potential for the biennial review to also include updated costs and benefits included in the robustness analysis at Stage 3 of the planning process. Judgment relating to the changes in the market and system scenarios would determine whether this additional step is required.



Materiality trigger

A materiality trigger is included in the new framework that provides for updates to the Optimal Pathway based on significant or exceptional developments. This trigger will operate in a similar way to the ISP, where AEMO (subject to consultation and assessment of the impact) is able to amend the ISP and re-run the process if there are significant changes in the market that undermine the reliability of the plan. Parameters for the application of the materiality trigger will be developed as part of the enabling legislation for the new framework.

Enhanced Victorian Transmission Plan review processes

One of the key issues raised by industry stakeholders was the proposed four-yearly planning cycle and review process. Many stakeholders suggested a two-yearly cycle would enable more regular reviews and updates of the Optimal Pathway to keep pace with energy sector changes and align with the ISP. Some stakeholders suggested that while market modelling should be re-run every two years in coordination with national and Victorian planning, other elements such as the MCA and SLUA could be revisited over a longer cycle.

The final approach has been informed by this feedback and now comprises a two-yearly review process to update system scenarios and market modelling, more clearly aligning with the ISP. The full Victorian Transmission Plan planning process remains on a four-yearly cycle, acknowledging the time and resources required to re-run the entire process. The SLUA and MCA elements of the candidate pathways process are also unlikely to materially change over short timeframes, so maintaining a four-yearly approach is appropriate. Stakeholder submissions supported allowing light touch updates as needed, with suggestions to include a backstop provision for critical system review between reviews (similar to NSW's Priority Transmission Infrastructure Projects (PTIP) process and AEMO's ability to update and re-run the ISP when there are significant changes in the market). As a result, the Materiality Trigger has been added and expands the original review process, providing greater confidence and clarity around the mechanisms to adapt the optimal pathway if circumstances change.

REZ declarations

REZs with major transmission augmentation projects to be developed in the next 10 years, identified in the Optimal Pathway, will be declared through a REZ declaration process. This process will be driven by the needs and timing of the critical projects included in the Optimal Pathway.

A REZ declaration will set out:

- The geographic boundary of the REZ for transmission and generation infrastructure – which will be determined using outputs from the SLUA.
- Transmission hosting capacity within the REZ.
- The access scheme that will apply within the REZ.
- Identification of host communities for the purposes of engagement and community benefits.

As part of the declaration process, VicGrid will publish a draft declaration seeking feedback from the public and will engage directly with stakeholders in the areas in which declared REZs are being proposed. REZs will be declared by Order in Council on recommendation of the Minister for Energy and Resources.

The REZ declaration process will include the following steps:

- 1 Draft REZ declaration developed and published.
- 2 Consultation period.
- 3 Draft REZ declaration amended (if required) and submitted for adoption by Order in Council.
- 4 REZ formally declared.

Iterative approach to Victorian Transmission planning process

VicGrid will develop and trial specific elements for the development of the Optimal Pathway in the first Victorian Transmission Plan. Based on the learnings and outcomes of the process used for the first Victorian Transmission Plan, as well as practical experience gained in coordinating transmission for offshore wind generators, VicGrid may subsequently refine the approach and methodology, and will consult on any proposed changes, prior to developing future Victorian Transmission Plans.



Developing the Victorian Transmission Plan

Key reforms include a new planning process for the staged development of Victoria's major transmission augmentations and REZs for the next 25 years.

A Victorian Transmission Plan will be published every four years. The Plan is based on plausible scenarios and robust analysis to prepare Victoria for a range of possible futures and to meet government's priorities, so the risk of both under-investment (not being prepared) and over-investment (building more than is necessary) is minimised.

The Optimal Pathway will be developed through three main planning stages described in [Figure 7](#):

Stage 1 Developing system scenarios and REZ Priority Areas

Stage 2 Identifying candidate pathways

Stage 3 Determining the Optimal Pathway

A Draft Victorian Transmission Plan with a draft Optimal Pathway will then be published for consultation, followed by a final Victorian Transmission Plan and Optimal Pathway.



FIGURE 7 Optimal Pathway planning process

STAGE		PROCESS	INPUTS	OUTPUTS
1	System scenarios	Develop scenarios to meet Victoria's needs, adapting most recent ISP scenarios and public consultation	<ul style="list-style-type: none"> Future electricity demand, supply, technologies Victorian Government's targets and policy commitments Public consultation feedback AEMO ISP 	System scenarios outlining electricity system investment needs for the coming 25 years
	SLUA Phase 1 REZ Priority Areas	Identification of priority areas within REZs for generation and transmission and areas to de-prioritise	<ul style="list-style-type: none"> Land use datasets Traditional Owner engagement Community and stakeholder surveys, feedback 	REZ Priority Areas for development
2	Candidate pathways	Iterative development of viable transmission investment pathways that co-optimize transmission and generation, including application of the MCA	<ul style="list-style-type: none"> Planning standard Access Arrangements Technical system requirements Least-cost system design Wider factors from the MCA 	A set of viable 25-year pathways with projects that factor in economic, social and environmental factors
	Optimal pathway	Cost-benefit, robustness and sensitivity analyses to identify the preferred investment pathway	<ul style="list-style-type: none"> Electricity market benefits and costs Public consultation feedback 	Optimal Pathway for the following 25 years
	SLUA Phase 2 Preferred transmission corridors	Identification of appropriate, least impact corridors within which any future transmission lines would eventually be routed	<ul style="list-style-type: none"> Detailed land use datasets Traditional Owner, community and stakeholder engagement Public consultation feedback 	Maps for each transmission corridor, with a preferred corridor for projects identified in Optimal Pathway



1

Developing system scenarios and REZ priority areas

System scenarios

PURPOSE	INPUTS	OUTCOME
Develop a limited number of plausible future scenarios for the electricity system in Victoria, consistent with Victorian policy objectives and market outlook	<ul style="list-style-type: none"> AEMO's most recent IASR Report Victorian Government policies and priorities Market outlook Planning standard 	A number of specified generation and demand scenarios for Victoria over the next 25 years. Each scenario would describe the amount and timing of renewable generation capacity to reliably supply demand, and the investment needs across the scenarios.

In Stage 1, VicGrid will design system scenarios representing high impact but plausible future developments of demand and supply conditions in the Victorian energy sector over the next 25-year period. These will be based on scenarios in AEMO's most recent biennial ISP Inputs, Assumptions and Scenarios Report (IASR) and adapted to integrate Victorian Government priorities and policy objectives, as well as high impact but plausible future scenarios of the energy system.

Examples could include significant changes in supply (earlier retirement of coal-fired generators, delays to interconnectors) or demand (from electrification, industry or technology changes, consumer investment in distributed energy resources) as well as Victorian Government policies and targets (for net zero emissions, renewable energy, storage, offshore wind and hydrogen).

These scenarios will establish a more anticipatory transmission need that drives the planning process. Once developed, VicGrid will attribute probability weightings to each scenario.

VicGrid will consult on the draft scenarios and weightings, including the inputs and assumptions, so these can be tested with market bodies, industry stakeholders, consumer groups and other interested stakeholders.

This approach ensures that:

- The Optimal Pathway is consistent with Victorian Government priorities and policy goals, such as meeting net zero emissions by 2045, interim emissions reduction targets, the Victorian Renewable Energy Target and offshore wind and storage targets.
- The Optimal Pathway is robust to potential high impact but plausible future development in the energy system through the transition.
- There is consistency of assumptions, duplication of processes is avoided and the thorough analysis and stakeholder engagement processes that inform the scenarios used in the IASR can be leveraged to inform the Victorian Transmission Plan scenarios.

VicGrid will then undertake technical analysis to identify a 'generation need' for each system scenario, including timing and location of additional generation, storage and transmission to meet that need over the coming 25-year period. As part of this analysis, network transfer capacity required to meet the generation need, consistent with access arrangements and the planning standard (see below), will also be considered alongside operational system security, safety and reliability standards. The network transfer capacity required to meet the need consistent with access arrangements and the planning standard (see Spotlight below) as well as operational system security, safety and reliability standards will also be considered.

Stakeholder engagement insights

Stakeholders supported a scenario-based approach, noting that AEMO does it well. Several submissions supported stakeholder involvement in weighting scenarios, as occurred for the 2022 ISP, to determine the 'most likely' scenario. Stakeholders highlighted that the methodology, inputs and assumptions of scenario weightings should be transparent, published and made more robust through public consultation.

New transmission planning standard

A transmission planning standard will be introduced to determine the extent of transmission capacity required across Victoria's REZs to accommodate the expected generation development.

The planning standard is in development, and to ensure that the network is not oversubscribed, it is expected to include an efficient curtailment limit for Victorian REZs. This will provide generation and storage projects with greater certainty on their potential generation output and level of curtailment risk, particularly with respect to managing the risk of future projects connecting.

The planning standard will be developed in consultation with AEMO and stakeholders, and will be used to determine the efficient level of transmission capacity needed across Victoria's REZs to accommodate expected generation in the first Victorian Transmission Plan. The New South Wales Government has taken a similar approach for development of its REZs, setting an efficient curtailment level for its Central West Orana REZ. The application of the planning standard with respect to access arrangements will be determined following further development of the national transmission access reforms.

REZ Priority Areas

PURPOSE	INPUTS	OUTCOME
<p>Identify 'study areas' that are suitable for renewable energy generation and transmission development and areas that should be de-prioritised</p>	<p>SLUA Phase 1</p>	<p>A number of study areas within Victoria's REZs that have been identified as most suitable for renewable energy development</p>

In Stage 1 of the planning process, VicGrid will identify REZ Priority Areas through Phase 1 of the SLUA. These are geographical areas or 'study areas' (around 20-50km across) within Victoria's REZs that are best suited for development, as well as study areas where development should be minimised or avoided. Study areas would consider the development of both renewable energy generation and transmission, and reflect the need to consider the combined impact for local stakeholders. This allows the development of the Victorian Transmission Plan and Optimal Pathway to focus on a selection of study areas that have been identified as being suitable for development.

The analysis will consider important factors for siting energy infrastructure including resource quality, social factors, existing land uses, cultural and environmental constraints, topographic limitations, and economic considerations.

There is scope for this to also include load development, such as Renewable Energy Industrial Hubs and Hydrogen Hubs, to produce an integrated and broader view of suitable development areas.

This will produce a landscape-level assessment of where REZ infrastructure might best be located, as well as where transmission infrastructure may be needed to connect REZs. The SLUA Phase 1 will produce 'suitability' or 'heat' maps, which break each REZ into smaller study areas and identifies their suitability for development. It will also produce three inputs for the MCA, by developing a score for each study area on: community acceptance for infrastructure development; land use suitability for infrastructure development; and resource potential.

VicGrid will publish the Draft REZ Priority areas for consultation alongside the draft scenarios.

2

Identifying candidate pathways

PURPOSE	INPUTS	OUTCOME
Design 25-year candidate pathways for the development of Victoria’s transmission network that meet the needs identified in system scenarios in Stage 1	Final scenarios and weightings Technical system requirements SLUA MCA	A set of viable 25-year candidate pathways (at least one for each scenario) that meet electricity system needs and considers economic, social and environmental factors.

The development of candidate pathways involves an iterative process of gradually refining pathways that meet the needs of the system scenarios. This process brings together several different pieces of analysis (needs identified by system scenarios, the planning standard, REZ Priority Areas from SLUA Phase 1, high-level development of candidate projects etc) and is underpinned by detailed modelling.

Through this iteration of the candidate pathways, the scale of analysis is narrowed and becomes more detailed. It will progress from the broad study areas developed through Phase 1 of the SLUA to candidate projects within those study areas. Phase 2 of the SLUA facilitates a more localised and detailed process to identify the most appropriate linear corridors, inside (or between) REZ priority areas, within which transmission could be routed in the future. The outcome is a more refined plan for each system scenario that meets system needs while balancing a range of other non-market factors.

In Stage 2 of the planning process, based on the system scenarios developed in Stage 1, VicGrid will develop candidate pathways. These comprise a set of projects (or combination of projects), which meet the network hosting capacity required to support the generation need identified for each REZ Priority Area.

At least one candidate pathway will be developed for each scenario. A candidate pathway includes a set of potential network and non-network projects that are cost-effective, commercially attractive and located in the most appropriate areas identified for development (i.e. within REZ Priority Areas).

Candidate projects are anticipated to come from known projects identified in the ISP and additional work by VicGrid. Analysis would determine a view of the preferred candidate projects to meet the transmission need or generation gap. These candidate projects would be initial, high-level options as inputs into detailed modelling. The specification of candidate projects will then evolve and refine as the planning stages progress.

Candidate pathways will be developed using a model that co-optimises the expected generation and enabling transmission, and gradually refines the projects. The model will integrate:

- Traditional modelling techniques similar to those used in the ISP, such as capacity outlook and time sequential models.
- Assessment of the existing network capability from the study areas (including ISP assumed interconnector flows and inter-dependencies in power flows between REZ Priority Areas) and analysis of the estimated load demand within/relevant to each study area.
- Expected timeframes for transmission development and indicative cost information.
- Planning standards and obligations under any REZ access arrangements to ensure that candidate pathways will deliver the required level of curtailment risk.
- Wider considerations from the MCA to inform areas where development is likely to be difficult, costly or likely to trigger significant community opposition, as well as to determine the relative allocation of generation between the REZ Priority Areas.

- Technical assessments that confirm the pathways can achieve a power system that can operate securely, and meet reliability and supply requirements (e.g. system security, system strength, inertia) as well as assessing Marginal Loss Factors to inform new grid connections. Additional requirements such as regional diversity could be considered to ensure generation investment is not incentivised in one location, leading to risks from resource adequacy and lack of transmission redundancy.
- A cost-benefit analysis to determine, with the information known at the time, that the candidate pathways support the lowest total system costs to meet the scenario considering generation/storage costs as well as benchmarks for transmission costs.

Once this assessment has confirmed the best transmission candidate pathways for each system scenario, a robustness analysis is undertaken as part of Stage 3 to determine the Optimal Pathway.

Stakeholder engagement insights

Stakeholder feedback noted that the development of candidate pathways presents an opportunity to enhance national transmission planning arrangements, provide early information, opportunities to engage and greater certainty for communities and investors. Planning tools such as the SLUA and MCA received broad support. These tools will support communities to influence planning outcomes and address concerns about the impacts of REZ infrastructure.



3

Determining the Optimal Pathway with a robustness analysis

PURPOSE	INPUTS	OUTCOME
Identify the optimal (most robust) pathway from the range of candidate pathways that delivers the best outcomes for Victorians	Candidate pathways Costs and benefits of candidate pathways Robustness analysis	Single optimal pathway for Victoria’s REZs and transmission network that is most robust and resilient to change.

In Stage 3 of the planning process, a robustness analysis will be undertaken for the candidate pathways across all system scenarios to identify the Optimal Pathway. This will be the most robust candidate pathway under all scenarios and uncertainties, minimising potential costs while maintaining electricity security and reliability for Victorian consumers.

The robustness analysis determines ‘regrets’ (or benefits foregone) for each candidate pathway option across each scenario, and the option of most robustness is the one that minimises the regret across all scenarios i.e., minimises the net cost across all the scenarios.

The robustness test is not measuring the costs and benefits associated with the system scenario, but with each candidate pathway under each scenario. The classes of costs and market benefits considered in this analysis will be similar to the Australian Energy Regulator’s Cost Benefit Analysis Guidelines.⁷

This includes transmission capital and operating costs, generation capital and operating costs, and benefits from improved reliability, reduced carbon emissions, avoided generation constraints and curtailment and improved system security and strength.

A sensitivity analysis will be undertaken to further test the robustness of the Optimal Pathway to changes in underlying assumptions. This would bolster the rigour of the robustness analysis and the Optimal Pathway result.

Figure 8 shows an illustrative example of the robustness analysis. In this example, four system scenarios with weightings have been modelled (A-D) and six candidate pathways are assessed against these scenarios. In this example, candidate pathway 2 is the Optimal Pathway as it has the lowest regret (or cost) of all six pathways should any of the four scenarios eventuate.

FIGURE 8 Illustration of optimal REZ pathway robustness analysis

		PROJECTED ADDITIONAL COST IF OTHER SCENARIOS OCCUR (\$M)				
SCENARIO		A	B	C	D	
WEIGHTING %		w	x	y	z	ROBUSTNESS ANALYSIS MINIMISE WEIGHTED COST ACROSS ALL SCENARIOS
CANDIDATE PATHWAY	1	0	200	200	250	250
	2	120	0	100	100	Optimal pathway Maximum cost \$120M
	3A	20	400	0	200	400
	3B	250	425	25	100	425
	4A	300	300	450	0	450
	4B	250	500	350	50	500

⁷ AER Cost Benefit Analysis Guidelines (2020) aer.gov.au/industry/networks/system-planning/guidelines-system-planning/cost-benefit-analysis

Stakeholder engagement insights

There was general support for the optimisation approach or robustness analysis to select the Optimal Pathway. Unanimous agreement that scenarios should be weighted based on likelihood when identifying the Optimal Pathway. Stakeholders valued opportunities for consultation and to provide feedback on the Optimal Pathways.

During this planning stage, phase 2 of the SLUA also continues and focuses on specific areas where the Optimal Pathway has identified a transmission need. The purpose of Phase 2 is to identify the most appropriate corridor (around 3-10km wide) in which a transmission line could be sited in the future, for each transmission need identified in the Optimal Pathway.⁸ This approach supports careful consideration of a range of important land use values and perspectives. It provides assurance to communities that any eventual transmission line project would be routed within the preferred corridor and assurance to developers that the siting is more likely to be in areas with greater community acceptance.

The Phase 2 analysis includes more spatial data inputs and more spatially fine-grained analysis tailored to a transmission need. The EPRI-GTC protocol⁹ will be used to progressively narrow down corridor options from broad landscape areas to a preferred corridor. It builds in use of an appropriately representative panel of government, industry and community stakeholders for input and feedback (Technical Reference Group), allows for stakeholder consultation and the flexibility to apply expert judgement where needed.

It is a collaborative methodology that combines spatial analysis with a structured process for including stakeholder values and perspectives.

Broader engagement with local communities would include consultation on a preferred corridor option, with a particular focus on potentially affected landholders. A more targeted and collaborative approach can be applied at key “pinch point” segments along the preferred alignment where multiple variations of the corridor could be suitable or where there are sensitive issues. This will produce maps for each transmission need identified in the Optimal Pathway, with a preferred corridor in which a transmission line could be sited.

Following the SLUA Phase 2, robustness assessment and determination of the proposed Optimal Pathway, a draft Victorian Transmission Plan, including the proposed Optimal Pathway, will be published for stakeholder and community consultation and feedback. This may lead to further refinement of the Optimal Pathway.

A second generator EOI process would also take place following the publication of the draft Victorian Transmission Plan. The purpose of this process is to firm up investor interest in the REZs proposed for development. This would provide a check that the transmission hosting capacity and access arrangements proposed in the draft plan are well-matched with future generation and storage investment interest, avoiding over – and under-investment and inefficient utilisation of the proposed transmission assets.

A final Victorian Transmission Plan and Optimal Pathway will then be published. Projects identified in the Optimal Pathway progress through to a REZ declaration process and procurement.

⁸ Where the preferred option for meeting the transmission need is a transmission line

⁹ The Electric Power Research Institute (EPRI) and the Georgia Transmission Corporation (GTC) protocol





Delivering value for money

A fit-for-purpose procurement framework will be developed for major transmission augmentations identified in the Victorian Transmission Plan.

Procuring major transmission augmentations under the new framework

The new planning process will result in 'identified needs' or 'high-level project specifications' in the Optimal Pathway that will need to be translated into project specifications that can be procured. These specifications may be for the provision of a service to the network or may specify a particular physical solution to be built.

Projects included in the Optimal Pathway that need to progress will be converted into project solutions with technical specifications according to the delivery timeframe. The project solutions may identify a specific technical solution to be procured, be subject to a business case that considers alternatives and specifies a preferred option in greater detail, or be delivered through a technology-neutral procurement process.

For physical transmission infrastructure, the technical specifications will be informed by Phase 2 of the SLUA, which will identify a preferred corridor (~3-10km wide) in which the transmission line could be sited.

Once developed, project solutions will proceed directly to a procurement process subject to independent oversight. This will achieve more timely delivery of transmission projects alongside rigorous investment decisions that protect the Victorian consumers from inefficient costs. A separate economic assessment is not required, given this would duplicate parts of the planning process already undertaken for projects in the Optimal Pathway, including the cost benefit and robustness analysis, and delay timely delivery of projects.

In general, the principle is that transmission projects identified through the new planning process will be competitively procured. This competitive discipline ensures that the lowest costs for these projects are achieved. However, competitive procurement for every transmission project identified in the Victorian Transmission Plan may not always be possible or appropriate. For example, where the separability of the project from existing assets cannot be practically achieved, or where there is an urgent need, or limited time or capacity for the market to respond.

A new procurement framework

A new fit-for-purpose framework will allow for the procurement model to be determined on a project-by-project basis based on a set of established criteria related to the nature of the project being procured. For example, the decision on whether to follow a contestable or non-contestable procurement process could be determined using some of the following criteria: the total value of project, separability of the project from existing assets and the capacity of the market to respond.

This new procurement framework will be developed through consultation over 2023-24, ensuring it is in place in time for the first Victorian Transmission Plan by mid-2025. This process will provide transparency on how decisions regarding procurement processes are made, including the criteria considered in determining an appropriate procurement model for each project.

An independent regulator will provide oversight of the procurement process to ensure probity, the appropriateness of the procurement model and assure that project costs are efficient, prudent and reasonable. Key activities will include: verifying the appropriateness of the procurement model and the credibility of the procurement process, including whether true contestability has occurred.

Socio-economic outcomes will be integrated into the tender and negotiation processes and form part of project delivery contracts. In particular, the *Local Jobs First, Major Skills Guarantee and Social Procurement Frameworks* of the Victorian Government will apply to procurement of this infrastructure. Other social procurement objectives may also be determined according to the issues raised by local communities as part of the engagement process. Local economic development outcomes will be an important requirement for these major augmentations.

VicGrid will publish a draft procurement framework for public consultation, setting out the proposed framework for procuring major transmission projects and describing how independent oversight and cost recovery is anticipated to be undertaken.

The Victorian Government will also consider the benefits of consolidating transmission planning and procurement functions into a single entity over 2023-24, noting the stakeholder feedback received on this issue through the consultation process. This would provide VicGrid with the ability to procure transmission projects directly under the Victorian Transmission Investment Framework rather than through AEMO as the current Victorian transmission system planner.

In the interim, if required, VicGrid can continue to partner with AEMO to procure the necessary augmentations or network services under the direction of the Minister for Energy and Resources. This will involve using existing powers to enable the delivery of immediate projects on an expedited timeframe until the new legislation comes into effect.¹⁰

Procuring transmission projects and ensuring efficient costs for consumers

Feedback from the public consultation process affirmed the importance of retaining the existing contestable procurement model in Victoria and delivering transmission infrastructure projects in shorter timeframes. Industry feedback on the proposed change to the contestability threshold suggested the threshold should not be raised as this would lead to a less competitive environment.

The consultation process also sought feedback on a proposed Victorian Network Investment Test (VNIT) to determine preferred transmission options. The proposed VNIT had several similarities with the existing RIT-T, with the major difference being that a least net cost test would apply to individual projects. Feedback highlighted concerns that the RIT-T has proven to be a significant hurdle to timely delivery of transmission projects and is ill-suited to a rapidly transitioning energy sector. It also suggested that VicGrid should look for opportunities to simplify and streamline the proposed Test and assessment process and leverage AEMO's ISP to make the process as efficient as possible, while still providing an appropriate level of rigour and protection for consumers.

Accelerating transmission development in Victoria is critical to manage a smooth transition from coal-fired generation and meet Victoria's renewable energy targets. Transmission needs to be built at a much faster pace than the regulatory framework currently allows. The consumer price impacts of delays to transmission infrastructure critical to the energy transition are significant.

In recognition of this, projects included in the Optimal Pathway will not be subject to further economic assessment and will proceed directly to procurement. This will provide greater certainty to consumers and developers that projects included in the Optimal Pathway will be delivered in a more timely way, and at least cost, under the new framework than the current RIT-T approach. An oversight mechanism will ensure that the costs of transmission network infrastructure projects are efficient, prudent and reasonable – protecting consumers interests.

¹⁰ The *National Electricity (Victoria) Amendment Act 2020* (NEVA) inserts a new section 16Y into the NEVA to facilitate or expedite specified transmission system augmentations or services to improve the reliability of electricity supply in Victoria



Fostering investment

New access arrangements will apply in Victoria's REZs, either through implementation of national access reforms or a bespoke access regime under the new framework. Our approach will ensure that suitable access arrangements are in place when the first Victorian Transmission Plan is operationalised.

Where new access arrangements apply, access payments will be required from new generation and storage projects, which will be used to contribute to access scheme administration costs, community funds and dedicated benefits for Traditional Owners and potentially cost sharing the development of REZ transmission infrastructure. The form and level of access payments will be developed in consideration of, and subject to, arrangements put forward under national transmission access reforms.

As discussed in the consultation paper, the Victorian Government considers that new access arrangements are critical to the successful development of future renewable energy generation in Victoria. The existing open access regime that applies in the NEM puts locational risk on generators who can be curtailed by new generators subsequently connecting. This can lead to congestion of the transmission network, which creates perverse incentives such as disorderly bidding.

The consultation paper set out three objectives of introducing access and pricing arrangements under the new framework:

- Attracting new renewable energy investment (and firming technologies) into Victorian REZs, by reducing future curtailment risk, thereby increasing revenue certainty.
- Improving coordination between generation and network development, by providing a system that works better than the current arrangements and supporting community acceptance of energy investments (network and generation).
- Feasible to implement and does not introduce undue complexity, by including the ability to operate in conjunction with, or independently of, national access and pricing reform measures.

In the consultation paper the Victorian Government expressed a preference for the national reform process to develop new access arrangements that would amend the current open access regime. This would provide a consistent approach NEM-wide that is favourable to investors. The Energy Security Board (ESB) has published a draft priority access model that could achieve better outcomes for generators connecting into Victoria's REZs than the existing open access regime.

The Victorian Government supports the detailed design work of this model being progressed by the ESB and VicGrid is undertaking analysis to ensure it can be integrated effectively into the new framework to meet its objectives for access, including providing greater certainty for investors in REZs. VicGrid will also continue to develop an approach to access under the framework to apply in the event that the national reforms have not commenced in time to be applied to a Victorian REZ declaration.

An update on access arrangements under the Victorian Transmission Investment Framework will be provided in late 2023, following decisions on final rules to implement the ESB's national transmission access reform proposals.

This will provide an opportunity for stakeholder input on how Victoria proposes to integrate these national access reforms into this Framework.

A draft approach to access will be outlined alongside the draft Victorian Transmission Plan due for release in late 2024. The Government will seek feedback on the draft approach and its detailed design. A final proposal for REZ access arrangements will then be published along with the final Victorian Transmission Plan in mid-2025.

Stakeholder engagement insights

In consultation on access options for the new framework, the majority of stakeholders supported a Physical Access model, with workshop groups supporting this model with access rights allocated on a competitive basis on price merits.

Many stakeholders called for the need for simplicity, given Victoria's highly meshed network. For this reason a Financial Access model was not generally supported due to its complexity and the lower level of curtailment certainty it provided generators.





Place-based approach to community engagement and benefits

Given the new transmission infrastructure development needed in the coming decades, strengthening community engagement is critical for the successful delivery of new transmission projects and REZs. It will enable sufficient new transmission capacity to deliver power to homes and businesses across the state when coal-fired generators retire.

It is important that transmission planning and development includes meaningful engagement with local communities, Traditional Owners, individual landowners, farm businesses and others to plan and develop our REZs in a way that maximises the collective benefits and minimises negative impacts.

Feedback from the consultation affirmed that existing transmission planning processes do not adequately incorporate Traditional Owner, community, land use and environmental considerations, including local benefits.

Key factors undermining community acceptance are:

- 1 Limited awareness in the community of the energy transition, why large-scale transmission projects and REZs are needed, and the implications, both positive and negative, for hosting communities.
- 2 Lack of transparency and accountability of the end-to-end transmission planning and project delivery process, including clarity around key decision-makers and how communities can influence outcomes.

- 3 Limited opportunities for communities and Traditional Owners to meaningfully engage and influence key decisions and outcomes, particularly early in the planning process.
- 4 Land use and environmental issues are not adequately considered in the planning process.
- 5 A perceived lack of fairness, that regions bear the impacts of energy infrastructure development while metropolitan areas benefit.
- 6 Compensation arrangements are perceived as inadequate for the unique impacts of transmission projects.

To address these challenges, under the Victorian Transmission Investment Framework there will be:

- A place-based approach to community engagement that is more participatory and fosters greater community support from the outset by incorporating community views and land-use planning early.
- New community benefits that can give back to impacted Traditional Owners and host communities, and deliver jobs and development opportunities.

Stakeholder engagement insights

Stakeholder feedback indicated an overwhelming consensus for the need to engage communities earlier in the planning process for transmission infrastructure. However, this is often challenging when the information most relevant to community – route design and selection – is not yet available.

Some stakeholders, including the Australian Energy Infrastructure Commissioner, noted such engagement will need to be carefully managed with the risk that inappropriate engagement too early can unnecessarily increase uncertainty and anxiety and create conflict between communities.

Stakeholder feedback also identified that regional development should be placed front and centre as part of REZ development to enhance its value proposition to local communities.

Stakeholder feedback strongly emphasised the need for reforms to address the community acceptance risk for REZ development across Victoria, particularly in hosting communities. For example, polling during the workshops highlighted:







- A majority (79 per cent) of stakeholders either strongly agreed or agreed that the current arrangements for community engagement needed to change.
- An overwhelming majority (93 per cent) of stakeholders believed that the community benefits arrangements for transmission projects needed to change.

Integrating community views, land use and environmental impacts earlier in the transmission planning process provides greater transparency for local communities and clarity for project delivery. This in turn, improves perceptions of fairness and responsiveness, building trust in the process and its outcomes.




Community engagement model

The primary goal of community engagement is to ensure Victoria’s Traditional Owners, regions and communities have the agency and opportunity to meaningfully participate in the planning and development of REZs and the benefits of the energy transition. To achieve this, there are six underlying objectives for VicGrid’s Community Engagement Model:

	To raise community awareness and understanding of REZs and why large-scale transmission is critical to the energy transition.
	To facilitate community input into key stages of the planning and investment lifecycle for transmission projects, including selection of optimal pathways and strategic land-use assessments.
	To enable Traditional Owners to be resourced with capacity and capability to participate in REZ discussions and make decisions.
	To support the delivery of community-led benefits to ensure impacted host communities and Traditional Owners directly benefit.
	To foster government-industry-community partnerships to unlock regional development opportunities in line with local aspirations and build local adaptive capacities.
	To facilitate a cross-sectoral and multi-level governance response to issues and provide an escalation point for resolving issues throughout the end-to-end planning and development process.

To meet the objectives outlined above, the new framework incorporates a high-level community engagement model that has three key elements, underpinned by best practice principles set out in a whole of Victorian Government framework for public engagement.

	Early, deeper and on-going community engagement.
	Centralised community engagement function.
	Tailored engagement to the needs of the stakeholder groups within REZ communities and the stage of the planning and investment lifecycle.

The Victorian Government's Public Engagement Framework 2021-2025 embodies six engagement principles that provide an overarching framework for guiding engagement:

Meaningful	The process of public engagement is genuine and informs the final decision.
Inclusive	The engagement is respectful, inclusive and accessible.
Transparent	The engagement is clear and open about what the public can and cannot influence
Informed	The engagement provides relevant and timely information to the public.
Accountable	The engagement is high quality and responsive to the public.
Valuable	The engagement creates value for the community and government. This can include social, economic and environmental value.

Fostering community support for transmission projects and REZ development is a very unique challenge. While it creates a significant opportunity for shared benefits for the whole state, affected communities may not experience local benefits that are immediately visible in the way they might for a major road or transport project. As transmission will be built at scale across regional parts of Australia for the first time in around 30 years, best practice community engagement is still evolving. For this reason, the proposed approach to engagement is not prescriptive but designed to be flexible and adapt to reflect continuous improvement as best practice principles evolve and lessons are learnt with delivery of each transmission project.

In October 2022, the Victorian Government released its inaugural Offshore Wind Implementation Statement 1, outlining the Government's plans for the establishment of an offshore wind industry. To meet the first offshore wind target, VicGrid is leading the development of transmission infrastructure to coordinate offshore wind connections near the Gippsland coast (east of Wilsons Promontory) and Portland (at or near the existing Portland terminal station). In undertaking this task, VicGrid will work closely with landholders, Traditional Owners and host communities to conduct place based engagement and provide a dependable source of information. VicGrid recently launched the [Transmission Development and Engagement Roadmap](#).¹¹ The roadmap outlines how VicGrid will coordinate offshore wind transmission to ensure this is done in a more effective way.

This will provide an early test-bed for the community engagement model and help to identify potential refinements and test preliminary effects/results. This will be critical to informing future detailed policy design.

Early, deeper and on-going community engagement

The new framework will incorporate early, deeper and on-going community engagement from a place-based perspective throughout the planning of, and investment in, transmission projects. The SLUA will be a key mechanism to deliver this engagement. Specifically, identifying local values, preferences, and opportunities across Victoria's REZs would highlight community pinch points, areas of significant cultural and heritage value and upper thresholds for development in sensitive areas.

Key guiding principles are:

- Engagement commences early and is focused on supporting capacity and capability building for genuine place-based engagement amongst the broader community and through local reference groups.
- At each stage of the planning process, there are key products as outputs of the process for public consultation.
- As the process progresses, the engagement shifts from a focus on broad community engagement to more targeted engagement with directly impacted Traditional Owners, landowners, neighbours, and communities.
- Engagement with Traditional Owners and Aboriginal Victorians is on-going and not limited by the stages of the planning process.
- Direct engagement with hosting communities on route and project design commences only once a network project has been identified. However, these communities have an opportunity to input earlier in the process as part of broader community engagement.

¹¹ engage.vic.gov.au/offshore-wind-transmission

- Establishment of local reference groups will occur early in the process, as it is a critical element to balancing risk of broader community consultation fatigue and the need for earlier input into SLUA, guiding appropriate timing and approaches for broader community engagement.
- In practice, it is not expected that the engagement process will be linear, as there will be regular feedback loops and an iterative process of refinement.

In developing the first Victorian Transmission Plan and undertaking engagement activities for offshore wind transmission, VicGrid will identify multiple potential opportunities and trial different approaches based on key guiding principles. VicGrid will build and enhance the engagement model over time to improve future engagement.

To support this engagement model, VicGrid is establishing a centralised engagement function and a set of place-based measures as described below.

Centralised community engagement function

A dedicated, centralised community engagement function in VicGrid will oversee engagement standards and coordinate regional engagement staff to ensure consistent, high-quality engagement is being delivered across REZs. This function will also play an active role in raising community awareness and understanding of why large-scale transmission is critical in the context of the energy transition, how these projects and broader REZ development would impact communities, and the potential opportunities from REZ development.

This will provide visible leadership and ownership of engagement and retain strong oversight of transmission project developers through project delivery, including the Environmental Effects Statement and construction phases.

Place-based measures

Place-based measures will help tailor engagement to the needs of the stakeholder groups within REZ communities and the stage of the planning and investment lifecycle. These include:

1 Establishing a representative, local stakeholder reference group as an advisory body in each REZ

These groups will provide an ongoing forum where a range of regional issues can be canvassed, to help inform, refine and deliver a tailored ongoing program of broader community engagement. These reference groups will provide a platform for capacity building to enhance participation in more complex and strategic discussions at critical points in the planning process, such as the SLUA and MCA processes.

2 Establishing a physical presence in local communities, employing local staff to build trust and confidence in the planning process

These VicGrid teams will provide local leadership and coordinate community engagement at critical stages in REZ development, coordinate the establishment of community-led regional funds and participate in the development of local plans while listening to the expertise, needs and ambitions of the local community.

3 Developing a framework for government-industry-community partnerships to minimise impacts and maximise regional development opportunities

Agencies with existing capabilities and networks will be critical to designing and delivering engagement, knowledge sharing, awareness raising and delivery of community benefits. These include Latrobe Valley Authority, Regional Development Victoria and Agriculture Victoria.

This framework will seek to maximise outcomes for regional communities identifying and delivering a program of existing and new policy development and investment opportunities that minimise impacts, remove barriers, creates enabling environments and/or leverages resources.

Stakeholder engagement insights

The findings from stakeholder consultation reinforced the critical importance of place-based engagement as an essential step in gaining community engagement and support for network transmission infrastructure.

Stakeholder feedback also highlighted the importance of establishing a fair and consistent model for payments to impacted landowners and benefits for hosting communities and Traditional Owners.

Community benefits for impacted communities and Traditional Owners

Landholder payments

The Victorian Government announced in February that it is introducing new payments to private landholders that host easements for major new transmission infrastructure, recognising their important role in the energy transition and the impact of hosting this crucial infrastructure.¹²

These new payments will be set at a standard rate for a typical easement area of \$8,000 per year per kilometre of transmission easement for 25 years, indexed for inflation. This is separate to any compensation under existing arrangements for transmission easements under the *Land Acquisition and Compensation Act 1986*, which ensures that property owners are fully and fairly paid for the acquisition of their land, or an interest in their land (such as easement), including the impact to any business operations undertaken on the land and the costs to landholders of the acquisition process.

First payments under the new arrangements will go to landholders who host transmission easements along the selected VNI West and Western Renewables Link transmission corridors. This will ensure an equitable approach for projects like VNI West that spans the Victorian-NSW border, as well as other major projects including the Victoria-Tasmania Marinus Link project and transmission links connecting Victoria's Renewable Energy Zones (REZs) and future offshore wind projects.

Additionally, VicGrid recognises that neighbouring landholders can also be impacted, even when not directly hosting easements for new transmission infrastructure. This can be especially the case where there are residual impacts on neighbouring properties that cannot be adequately addressed through detailed design and additional mitigation measures such as vegetation or screening. VicGrid is considering this further and developing guidance to set clear expectations for managing impacts on neighbouring landholders that are 'significantly impacted' by nearby transmission projects. Further information will be available in late 2023.

Community funds

Addressing the impacts of hosting new renewable energy infrastructure can enhance the social and economic outcomes for Traditional Owners and regional communities. Through public consultation on the proposed framework, there was strong interest in new ways to realise benefits with hosting communities and Traditional Owners, including through more strategic and regionally significant initiatives.

Under the new framework, VicGrid will administer REZ Development Funds for hosting communities of major transmission and REZ infrastructure. The purpose of the REZ Development Funds is to coordinate financial contributions by project proponents towards regional infrastructure and programs in each major transmission development and REZ area, amplifying community benefits from energy development across transmission, storage and generation projects.

REZ Development Funds will apply to the Western Renewables Link and VNI West projects as well as Marinus Link and the transmission connections for offshore wind.

Decisions on investments from the Funds will be made in consultation with regional community bodies in each area. VicGrid will have a role in providing information to the regional community bodies to inform their input into decisions about investments that are likely to have the greatest impact for their community.

Financial contributions to the REZ Development Funds will be made by transmission companies building major new lines and developers of new generation and storage projects in REZs. VicGrid is exploring a range of models to identify what would be the most appropriate arrangements for administering the REZ Development Funds, including types of community benefits that could be funded, eligibility criteria, contribution rates and decision-making and governance mechanisms.

VicGrid will develop and consult more widely on this during 2023 and 2024.

These arrangements will build on the application of the Victorian Government's existing *Social Procurement Framework and Local Jobs First Policy Framework* to the procurement of REZ transmission infrastructure, which will deliver jobs, skills and local development opportunities through the construction and operation of transmission infrastructure.

¹² lilydambrosio.com.au/media-releases/landholder-payments-for-a-fairer-renewables-transition/

Partnering with Traditional Owners to deliver benefits

VicGrid is committed to working in partnership with Traditional Owners as distinct rights holders,¹³ embedding their self-determination outcomes and ensuring that First Peoples are at the centre of decision-making processes around issues and opportunities that directly affect them.

This means, for VicGrid and DEECA, in response to [Pupangarli Marnmarnepu 'Owning Our Future' Aboriginal Self-Determination Reform Strategy](#),¹⁴ that we will continually partner with Traditional Owners and other Aboriginal Victorians to identify and address key expectations and Aboriginal community concerns that align to their rights¹⁵ and cultural responsibilities. Furthermore, to ascertain and readily respond to benefits and opportunities of interest to Traditional Owners, Aboriginal communities and other Aboriginal stakeholders.

VicGrid will build relationships with Traditional Owners and partner with them throughout the transmission planning and development process to enable them to drive their own agenda on REZ development.

This will include providing support and resources to enable Traditional Owners to fully participate in the transmission planning process, with the nature of this support to be determined by Traditional Owners based on their preferences and capabilities.

This aims to ensure that transmission planning and REZ development in Victoria is done in a way that minimises impacts on Country and provides dedicated benefits to impacted Traditional Owner groups and Aboriginal Victorians.

Under the framework, as with the REZ Development Funds, financial contributions will be made by transmission network service providers delivering major new transmission augmentations and developers of new generation and storage projects locating in REZs to enable specific benefits for Traditional Owners.

The requirement to make contributions will also apply to the Western Renewables Link and VNI West projects as well as Marinus Link and the transmission connections for offshore wind.

Stakeholder engagement insights

Stakeholders strongly supported community benefits arrangements that achieve better outcomes for hosting communities, with mechanisms that are flexible, responsive and community focused. There was strong and consistent support for community benefits to be a feature of a new framework and for Traditional Owner and Community Groups to have agency to influence the type and nature of community benefits. Industry stakeholders preferred pooling benefits from multiple projects in a region to increase the benefits for communities.

Regional development was an important consideration in developing REZs to ensure local communities benefit from the energy transition. There was preference for local employment and training opportunities in regional renewable energy, from construction through to operation and maintenance.

“ This is a generational opportunity to secure our state’s energy needs in a planned and inclusive manner with the communities who both need the energy supply but who could be impacted by the project. Through proper coordination Regional Development can prosper whilst respecting the needs of the environment, Aboriginal culture and the general community.”

ENGAGE VICTORIA COMMUNITY SURVEY RESPONSE,
VICTORIAN TRANSMISSION INVESTMENT FRAMEWORK
PRELIMINARY DESIGN PUBLIC CONSULTATION

¹³ *Traditional Owner Settlement Act 2010 (Vic), Aboriginal Heritage Act 2006 (Vic) and Native Title Act 1993 (Cth).*

¹⁴ deeca.vic.gov.au/aboriginalselfdetermination/self-determination-reform-strategy

¹⁵ Victorian Charter of Human Rights and responsibilities Section 19 and 38 & UNDRIP Declaration of the Rights of Indigenous Peoples



VicGrid’s roles and responsibilities

Feedback from the consultation process showed general agreement that a body is needed to coordinate renewable energy development with transmission investment, and to deliver community benefits and community engagement across the state. In particular, many submissions supported VicGrid as a single point of contact with new roles and responsibilities to effectively perform these new functions under Victorian Transmission Investment Framework.

VicGrid will perform the following new roles and responsibilities under the framework (see [Table 2](#)). Legislation to give effect to these reforms is being developed and is expected to be introduced into Victorian Parliament in 2024.

Additional roles and responsibilities under the framework elements will be considered through the further detailed policy and design work in 2023–24 as described in the final chapter, [Next steps](#).

TABLE 2 Roles and responsibilities under new framework

ACTIVITY	ROLES AND RESPONSIBILITIES
Planning process	VicGrid will be responsible for development of the Victorian Transmission Plan.
REZ declaration	VicGrid will develop and publish a draft REZ declaration for stakeholder feedback and a final REZ declaration. It is proposed that a REZ will be declared by Order in Council on recommendation of the Minister for Energy and Resources.
Review	VicGrid will be responsible for undertaking the Victorian Transmission Plan review processes with appropriate governance arrangements ensuring that the review process meets Victorian energy needs and the needs of the Victorian Government, stakeholders and communities.
Community funds	VicGrid will be responsible for establishing community funds.
Community engagement	VicGrid will be responsible for coordinating engagement, providing local engagement staff and partnering with community, government agencies and industry, as set out under the framework.
Traditional Owners partnership	VicGrid will partner with Traditional Owner Groups to enable Indigenous Victorians to play an active role in the energy transition and minimise impacts to Country from REZ development.

Stakeholder feedback from the consultation also highlighted that a single party undertaking end-to-end planning of the expansion of the transmission network, delivery and contract management in Victoria would be more efficient and promote confidence in outcomes for consumers.

Consolidating the proposed new functions for transmission planning and jurisdictional transmission planning functions into a single organisation would increase the efficiency of whole-of-system transmission planning and reduce administrative and regulatory costs, compared to splitting these responsibilities across VicGrid and AEMO. At the same time, having a single responsible entity would also improve accountability.

In 2023, the Victorian Government will further consider consolidating these functions, including procurement, into one entity and will continue to engage with AEMO and AusNet Services to discuss options for future jurisdictional planning roles and responsibilities and how they relate to the new framework. In the short term, VicGrid will continue to contract with AEMO, as the current Victorian jurisdictional planner, to procure the necessary augmentations or network services under the direction of the Minister for Energy using existing powers.

Corporate form of VicGrid

Many stakeholders noted that VicGrid should be seen as an independent body responsible for the end-to-end process of electricity transmission planning, to provide greater confidence that any investments would deliver net benefits. The significance of decision-making powers and functions for VicGrid under the new framework means there is a high need for probity, independence and transparency.

To support its evolving role, VicGrid will, as a first step, transition to an administrative office of DEECA in late 2023. This will allow VicGrid to perform the roles and responsibilities under the new framework more effectively than it would otherwise as a division of DEECA in the short term whilst the Victorian Government considers options to establish it as a more independent corporate form.

Given the critical linkages between planning, procurement, delivery and contract management, a single entity responsible for these functions would help streamline, and improve efficiency of, the end-to-end process"

AUSTRALIAN ENERGY MARKET OPERATOR (AEMO), VICTORIAN TRANSMISSION INVESTMENT FRAMEWORK PRELIMINARY DESIGN PUBLIC CONSULTATION SUBMISSION, AUGUST 2022



Next steps

The Victorian Government will be implementing reforms and anticipates that a first tranche of legislation will be introduced into the Victorian Parliament in 2024. This will be subject to final approval by the Victorian Parliament and details of the reforms will be confirmed once legislation is passed.

Implementing the Victorian Transmission Investment Framework

While the first tranche of legislation will set out overarching legislative requirements for key reforms, further detailed policy and design will be undertaken during 2023 and 2024. VicGrid strongly values public consultation and will be engaging with stakeholders as part of this work. The range of consultation activities that will be undertaken during this period, including documents released for public consultation are highlighted in [Figure 9](#). Stakeholder feedback received through the consultation will inform critical design and policy decisions.

VicGrid is actively engaging with Traditional Owner groups on preferred partnering approaches to implement this new framework, building on the DEECA existing partnerships.

Please visit Engage Vic (engage.vic.gov.au/victorian-transmission-investment-framework) for updates on consultation activities.

VicGrid is also working to raise community awareness related to REZ development and the critical role of large-scale transmission in the energy transition. This, in addition to the benefits for hosting communities, aims to build greater acceptance and support for future REZ development.

While the new framework is being finalised and implemented, VicGrid will adopt the principles of the framework where possible to its near-term priority of planning and coordinating the transmission connections for new offshore wind energy projects in Gippsland and Portland. These include:

- An engagement model that is participatory and inclusive of regional and local interests.
- Consideration of benefits for the local communities and Traditional Owners hosting the transmission infrastructure.
- Partnering with Traditional Owners and Victoria's Aboriginal Communities.

These will ensure a more proactive, strategic and adaptive approach for offshore wind transmission, as well as provide an early test-bed for key elements of the new framework. This may identify further potential refinements to the framework and test preliminary effects/results, which could inform the detailed policy and design issues.

More information on Offshore Wind Transmission can be found at [Engage Vic](#).¹⁶

¹⁶ engage.vic.gov.au/offshore-wind-transmission

FIGURE 9 Summary of Victorian Transmission Investment Framework implementation key milestones and

2023		2024	
LATE		EARLY	
			
VicGrid transitions to an administrative office of DEECA	Publish update on proposed Victorian Access Scheme	Anticipated introduction of first tranche of legislation in parliament	Publish proposed approach for community funds
	An update on access arrangements under the new framework will be provided in early 2024, following expected timing of decisions around the national access reform process. This will provide an opportunity for stakeholder input on Victorian adoption of national reform		Consultation on the administration of a new REZ Development Fund

The 2025 Victorian Transmission Plan

VicGrid is progressing the development of a first Victorian Transmission Plan to be published in mid-2025, which will identify transmission investment to support REZ development in Victoria for the next 15 years.

This will be critical for the following reasons:

- It will allow Victoria to immediately identify potential key projects that need to be delivered in the next 15 years to support an orderly transition from coal-fired power, ensuring that Victoria is well-positioned with sufficient renewable energy and connecting transmission to maintain core electricity security, reliability and affordability needs. As previously noted, AEMO’s recent update to the 2022 ES001 confirmed the urgent need for investment in generation, long-duration storage and transmission to achieve reliability requirements over the next decade.
- It will enable transmission planning and development in Victoria to immediately include more meaningful engagement with local communities, Traditional Owners, individual landowners, farm businesses and others as we plan and develop our REZs to minimise impacts and deliver tangible, meaningful benefits to regional communities.
- It will improve investor certainty that transmission hosting capacity will be in place in a timely way, increasing investment attractiveness and job creation in Victoria.
- It will enable Victoria’s strategic priorities to be incorporated into AEMO’s national ISP planning processes earlier than might otherwise have occurred.
- It will accelerate the deployment of renewable energy, which has been shown to drive down wholesale electricity prices and reduce costs for consumers, and will position Victoria to meet our renewable energy targets and net-zero emissions by 2045 goals.

MID



LATE



MID



Publish draft procurement framework and approach

Draft procurement framework and independent oversight policy paper – it will set out the proposed framework for procuring REZ and major transmission projects. It will describe how the Regulator will undertake independent oversight and the cost recovery mechanism



Publish draft Victorian Access Scheme

A clear draft position on access will be outlined in the draft Victorian Transmission Plan due for release in late-2024. The Government will seek feedback on the proposed approach including detailed design. A final access arrangement will then be published along with the final Victorian Transmission Plan



Publish final Victorian Access Scheme

Development of the first Victorian Transmission Plan will include the new planning tools such as SLUA and MCA. These help to incorporate early stakeholder input and economic, social and environmental considerations for transmission infrastructure development.





To enable the delivery of a Victorian Transmission Plan by mid-2025, taking into account the time and resources required for the new planning process and the novel nature of the new planning tools we are deploying for the first time, development of the first Plan will follow an accelerated timeframe with some simplified steps.

The outcomes and learnings of the first Victorian Transmission Plan will inform the methodology for the subsequent Victorian Transmission Plan in 2027.

Key differences are:

- The first Plan will use one core scenario with sensitivities. This approach takes into account that recent Victorian Government commitments on emissions reduction, renewable energy targets and offshore wind development have provided greater certainty on the state’s pathway for development over the next 10-15 years. The core scenario largely will rely on the updated ISP Step Change scenario, inputs and assumptions, as well as incorporating Victoria-specific policy commitments and new framework elements such as access arrangements and the SLUA. Adapting the Step Change scenario reduces risk by using inputs, assumptions and costs that are well-tested with industry and will support consistency with national planning processes. In the first Victorian Transmission Plan, sensitivities will be designed to capture key plausible, high impact changes in assumptions and will be the basis for the robustness analysis.

FIGURE 10 2025 Victorian Transmission Plan timeline of key milestones and consultation activities

2023		2024	
MID		LATE	EARLY
			
Establish Technical Reference Groups	Establish Local Reference Groups	Conduct Strategic Land Use Assessment community and stakeholder surveys	Publish draft renewable energy zone priority areas, including Strategic Land Use Assessment Methodology
This will ensure that scenario, inputs, assumptions, planning standard and any weightings for sensitivities will be undertaken in a robust way.	These will provide VicGrid with the ability to further understand local expectations and perspectives, and incorporate these more effectively throughout the Victorian Transmission Plan development process.	These will be an important source of community and relevant stakeholders' input into Phase 1 of the Strategic Land Use Assessment for identifying geographical areas that are best suited for renewable generation and transmission development, as well as areas where development should be minimised or avoided.	In early 2024, the Draft REZ Priority Areas will be published and seek feedback on the areas where REZ infrastructure might best be located as well as where transmission infrastructure may be needed to connect REZs. The process will consider important factors for siting energy infrastructure including resource quality, social factors, existing land uses, cultural and environmental constraints, topographic limitations, and economic considerations.

- Consultation on the scenario, inputs, assumptions, planning standard and any weightings for sensitivities will be undertaken with a Technical Reference Group, rather than a full public consultation process.
- This initial plan will have a 15-year time-horizon, rather than 25 years, to focus on a smooth transition from coal-fired generation by ensuring that Victoria has sufficient renewable energy and connecting transmission in place.

Consultation with a diverse set of stakeholders will be critical to the development of the 2025 Victorian Transmission Plan, helping to improve and refine scenario development, suitable areas for siting of infrastructure, decision-making and assessment processes.

VicGrid is committed to facilitating a stakeholder engagement process that ensures a collaborative approach to developing the 2025 Victorian Transmission Plan in consultation with local communities and stakeholders and in partnership with Traditional Owners.

At the same time, VicGrid will ensure that the engagement approach is integrated with engagement processes for offshore wind and other priority projects, including VNI West.

The 2025 Victorian Transmission Plan timeline of key milestones (Figure 10) provides a high-level overview of the key milestones for the development of the first plan. This allows stakeholders to understand and engage in the Victorian Transmission Plan development process.

VicGrid will facilitate broad stakeholder consultation through avenues such as written submissions, in-person discussions, workshops, webinars, and briefings.

VicGrid will apply the Victorian Government's Public Engagement Framework 2021-2025 which provides principles, a how-to guide and measures for engagement evaluation to frame the purpose and scope of each stage of consultation.





It aims to strengthen meaningful engagement practice in Victoria. The Public Engagement Framework aligns with the values and principles set out by the International Association of Public Participation (IAP2)².

2025

LATE



MID

			
<p>Conduct generator expression of interest Stage 1</p>	<p>Publish draft Victorian Transmission Plan</p>	<p>Conduct generator expression of interest Stage 2</p>	<p>Publish final Victorian Transmission Plan</p>
<p>This will broadly inform the potential geographical location of generation across the state refining the REZ Priority Areas.</p>	<p>In late 2024, the Draft Victorian Transmission Plan will be published and seek feedback on an optimal pathway for Victoria. This draft will include preliminary candidate pathways with projects and will request submissions for non-network solutions to any projects.</p>	<p>This will confirm potential renewable energy proponents seeking to obtain transmission capacity in the proposed REZs in relation to planning applications and connection enquiries.</p>	<p>The final Victorian Transmission Plan will be published in early 2025. It will incorporate feedback from the Draft Victorian Transmission Plan and finalise an optimal pathway for Victoria.</p>

VicGrid will provide stakeholders with up-to-date information on opportunities to contribute to the 2025 Victorian Transmission Plan's development through the Engage Victoria website and email notifications.



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