

# VicGrid Offshore Wind Transmission

## Final Options Assessment Method



November 2023



# VicGrid

## Offshore Wind Transmission Final Options Assessment Method



### 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.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



## Delivering renewable energy to Victorians

Victoria has set targets for the development of offshore wind generation in Gippsland and Portland to generate at least 2 gigawatts (GW) of renewable energy by 2032, 4 GW by 2035 and 9 GW by 2040. New transmission infrastructure is required to deliver this energy to the existing grid.

VicGrid is working to determine transmission connection points and corridors to connect these new offshore wind energy projects.

We're progressing from early planning to more detailed investigations and conducting ongoing local engagement to identify the preferred transmission project options. This involves developing, investigating and assessing different project options in Gippsland and Portland, including the type of transmission infrastructure types and high-level corridors. These project options must be technically and commercially feasible, and also meet project needs and objectives.

Traditional Owner partnerships, consultation with communities and landholders and taking into account the feedback we receive, is another important part of this process.

### Designing the assessment method with the community

Our Options Assessment Method (assessment method) enables a clear, consistent and open decision-making process for the new transmission infrastructure needed to connect offshore wind energy in Gippsland and Portland to Victorian households and businesses.

The assessment method is the decision-making tool we will use to assess and decide on shortlisted project options. This includes preferred corridors, connection points and/or technologies.

The assessment method is subject to our ongoing work to establish a partnership approach with Traditional Owner groups: the Gunaikurnai Land and Waters Aboriginal Corporation, Eastern Maar Aboriginal Corporation, and Gunditj Mirring Traditional Owner Aboriginal Corporation.

The assessment method has been informed by feedback from Phase 1 and Phase 2 engagement.

- **Phase 1** – in April/May 2023 we asked for input on what criteria we should use to assess and decide on project options.
- **Phase 2** – in August 2023 we sought views on the relative importance of each assessment criteria to understand what values and priorities are important to consider.

Read the engagement reports at Engage Victoria, the Victorian Government's **online consultation platform**.

Offshore wind farms can only be built in areas approved by the Australian Government. The Australian Government has declared an area of the Bass Strait off Gippsland as Australia's first offshore wind zone. This spans approximately 15,000 square kilometres in Australian waters, running from Lakes Entrance in the east to south of Wilsons Promontory in the west. The transmission infrastructure in Gippsland is being developed by VicGrid and will be enabled through a transmission line and connection point that extends the existing transmission network from the Latrobe Valley towards the Gippsland Coast.

The Southern Ocean region off the coast of Portland is a potential offshore wind zone in Victoria but has not been declared by the Australian Government. The transmission infrastructure in Portland is subject to this declaration process, but would be smaller than in Gippsland because the existing transmission network already runs close to the coast in that area. It would be enabled through a new or upgraded connection point. As such, the assessment method may be used differently in Gippsland and Portland.



## Balancing a range of factors

As coal-fired power retires faster than expected, there is an urgent need to develop transmission lines to support and coordinate new sources of renewable energy.

The decisions we make are for all Victorians. When assessing options and deciding on preferred transmission options, we need to balance different and often competing priorities. We know people will have different views about what is most important.

That is why we have consulted widely and sought out the views of local communities who may host transmission infrastructure. The feedback gathered has helped us balance the relative importance of each factor being considered and design this assessment method.

All feedback received was considered in the final assessment method, and is summarised in the Phase 2 engagement summary. Alongside survey responses, feedback received through our interactive map, conversations and submissions was considered and evaluated to inform the assessment criteria, and to understand if there were any outlier issues not raised in the surveys.

Our state-wide community attitudes research surveyed 1,000 Victorians. This is a statistically robust number and was chosen to match the age, gender and location proportions based on census data from the Australian Bureau of Statistics, and to represent to the best of its ability a 'mini Victoria'. The sample size provides us with high confidence that the respondents represent the wider Victorian population. We first used this data to help refine the assessment criteria.

We also extended the state-wide research to in-depth telephone surveys with 200 Gippsland residents and 100 Portland area residents to ensure we gathered local feedback in our areas of interest.

We know it's important to consider the feedback and views of local communities who live in areas that may be impacted by new transmission infrastructure for offshore wind. We refined the assessment criteria against results from the community attitudes research, and engagement feedback received via Engage Victoria, submissions, community drop-in sessions and pop-ups.

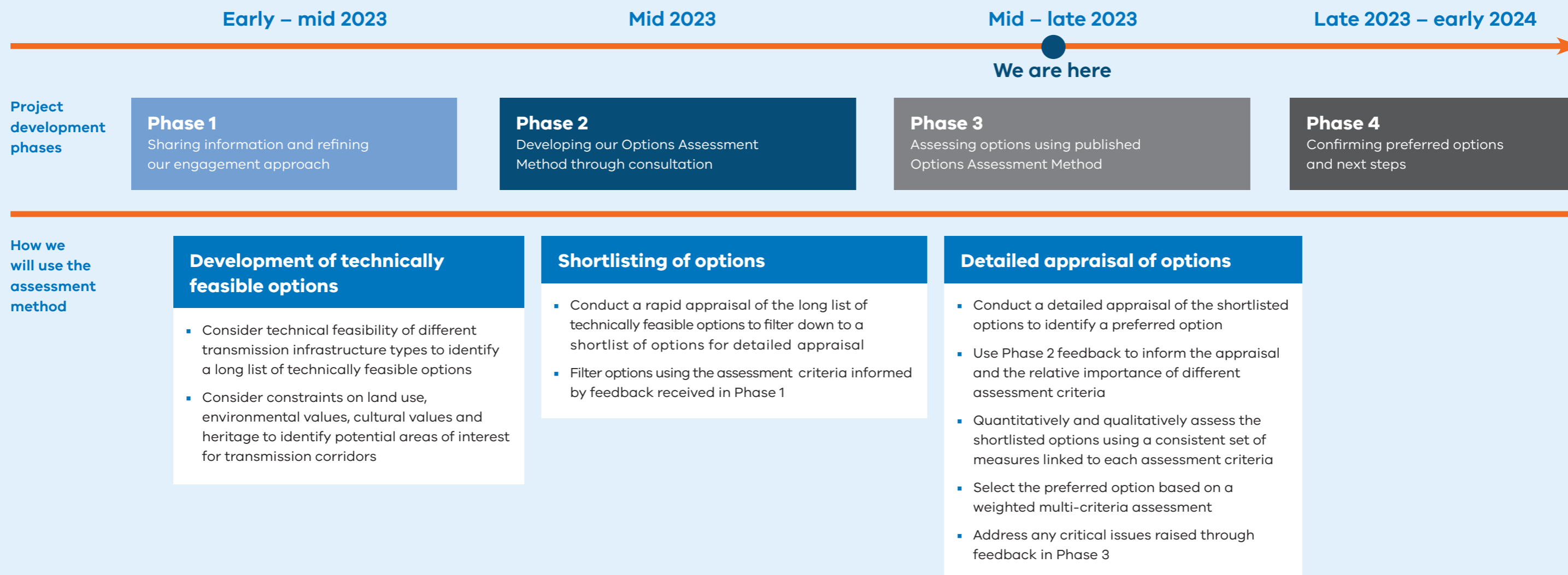
We want to make sure this development balances social and environmental benefits, impacts and costs alongside technical and economic factors.



# How we will use the assessment method

VicGrid's *Development and Engagement Roadmap* sets out our key steps in 2023 and early 2024 to plan new offshore wind transmission. This diagram shows how we're undertaking consultation and assessing options to prepare a preferred transmission solution.

The final assessment method follows a three-stage process to identify options, consider feedback and filter a long list of technically feasible project options into a preferred project option. It sets out the social, cultural, economic, environmental, and technical criteria that VicGrid will use to assess transmission options and understand the relative costs and benefits of these options.



Feedback collected during each project phase is cumulative and informs decision-making now and into the future.

An important part of our work is to continue to strengthen our relationships and partnerships with Gunaikurnai Land and Waters Aboriginal Corporation (majority of Gippsland coastline), Gunditj Mirring Traditional Owners Aboriginal Corporation and Eastern Maar Aboriginal Corporation (Portland coastline) and broader First Peoples communities. This is our commitment in enabling self-determination and the transfer of power and resources to Traditional Owners and First Peoples of Victoria. This process is ongoing.



## The assessment criteria

The assessment criteria consist of project objectives and guiding principles.

Project objectives relate to maximising the positive outcomes of the project options. Guiding principles relate to minimising the negative outcomes. Both project objectives and guiding principles will be equally considered as part of the options assessment.

The project objectives and guiding principles will be used to assess different corridor area options and technical infrastructure options using a multi-criteria analysis. We need to consider two main factors to decide on the preferred transmission solution: corridor options and transmission technology options. We need to apply the assessment criteria differently for these two factors. The assessment works by assigning a score to each criterion, which gives an indication of its potential impact.

Measures specific to each criterion are used to understand and analyse the potential impact of each project option. For example, to assess cost impacts under guiding principle 5, the corridor assessment will look at the length of each corridor option; and the technical assessment will look at indicative costs to build each technical option. In this example, a longer corridor option would receive a higher score to indicate a higher cost impact.

The final assessment method, including the relative importance and weighting of each criterion, has been informed through the independent community attitudes research and input from the community, landholders and stakeholders.

Outlined below are the assessment criteria, descriptions, key considerations and measures. These will ensure we undertake a robust and consistent assessment of shortlisted project options for new transmission infrastructure in Gippsland and Portland.

A multi-criteria analysis compares quantitative and qualitative impacts arising from different options by assigning scores to various criteria. It provides a structured, systematic, and transparent framework for comparing options with unquantified costs and benefits.

## Scoring

We will use the following approach to rate qualitative and quantitative measures of positive and negative outcomes for each proposed option. Each criterion is scored according to a scale from -5 to +5.

Score	Rating	Description
0	<b>No impact</b>	No impact discernible or predicted
+/- 1	<b>Limited impact</b>	Impacts confined to a small number of locations, generally small in magnitude, short-term, and of a scale significant at a local level
+/- 2	<b>Minimal impact</b>	Impacts affecting a moderate number of locations within the project area, potentially small in magnitude and medium-term or moderate in magnitude and short-term, and of a scale significant at a local level
+/- 3	<b>Moderate impact</b>	Impacts affecting a large number of locations within the project area, potentially small in magnitude and long-term or large in magnitude and short-term, and of a scale significant at a municipality level
+/- 4	<b>Major impact</b>	Impacts affecting a significant portion of the project area, generally large in magnitude, long-term, and of a scale significant at a regional level
+/- 5	<b>Extreme impact</b>	Impacts widespread across the project area and beyond, of vast magnitude, long-term, and of a scale significant at a state level



# The assessment criteria

Assessment criteria		Description	Key considerations <sup>2</sup>							
<b>Project objectives – criteria based on maximising positive outcomes</b>										
<b>Objective 1</b>	Ensure investment in viable transmission infrastructure that is fit-for-purpose, resilient and built with future needs in mind	<i>Consideration of the option's ability to service current and future electricity system needs, including flexibility to expand capacity in line with future offshore wind targets</i>	Ability to meet Victoria's offshore wind targets				Flexibility of each option (e.g. to support offshore wind connections or be staged appropriately; complexity of expanding network capacity in the future)			
<b>Objective 2</b>	Contribute to regional development opportunities, including community benefits and governance, and economic development in the energy sector	<i>Consideration of the option's ability to contribute to regional development and local job opportunities, and deliver community benefits that can give back to impacted Traditional Owners and host communities</i>	Regional economic development opportunities and the ability to leverage local content							
<b>Objective 3</b>	Maintain transmission system security, reliability and strength, enabling the transport of generation to load	<i>Consideration of the option's ability to interface with generation (onshore and offshore) and enable transport of generation to load, including consideration of losses</i>	Technical considerations (e.g. anticipated fault rates, losses, and system strength services)				Flexibility to enable connection with other generation assets (including future onshore generation)			
<b>Guiding principles – criteria based on minimising negative outcomes</b>										
<b>Guiding principle 1</b>	Minimise impact on host landholders and communities, including visual amenity	<i>Consideration of the effect on visual amenity, health and local assets valued by host communities and landholders; and impact on compatibility with local government strategies and visions</i>	The option's visual impact	Community development preferences	Impact on noise and air quality	Proximity to residential areas and community assets	Presence and nature of different community assets (e.g. residential areas, farms and parkland)		Compatibility with local government strategies and visions	Extent of co-location with existing infrastructure
<b>Guiding principle 2</b>	Minimise impact on the environment	<i>Consideration of impact on the environment (including flora, fauna and water) and the risk of natural hazards/disasters</i>	Density and location of different environmental assets in the region (including Ramsar wetlands, native vegetation, marine parks or public conservation and recreation zones)			Natural hazard risk	Presence of and potential impacts on flora and fauna (e.g. during construction and operation of transmission infrastructure)			
<b>Guiding principle 3<sup>1</sup></b>	Identify areas of cultural heritage sensitivity (Aboriginal and non-Aboriginal) in order to minimise impact on known and potential cultural values.	<i>Consideration of areas of cultural heritage sensitivity (including known or previously unrecorded significant cultural heritage and/or archaeological sites, while acknowledging and respecting Traditional Owners legal rights, cultural values, and deep ongoing connection to land, sea and sky Countries.</i>	Registered significant heritage sites	Location and nature of 'Indigenous heritage' and 'historical heritage'		Compatibility with Traditional Owner values	Traditional Owner preferences and visions		Effect on known significant cultural heritage and/or archaeological sites	
<b>Guiding principle 4</b>	Minimise impact on existing and future land use	<i>Consideration of impact on existing land use, including agricultural and forestry land (including resulting effect on agricultural and forestry businesses) and tourism/recreation values (including resulting effect on tourism industry)</i>	Potential impact on existing land uses and local businesses	Density and location of agricultural land, plantations and irrigation zones	Resources and mineral tenements	Defence, Common-wealth and crown land	Public conservation and recreation zones	Number and location of tourist/regional attractions	Required easement widths and a high-level assessment of assembling land	
<b>Guiding principle 5</b>	Minimise cost impacts to energy consumers and generators	<i>Consideration of the cost to build and operate the new transmission infrastructure, and the resulting impacts on consumer electricity bills and costs for generation developers</i>	Effect on costs for offshore wind generators			The length and terrain of a potential corridor and the associated transmission costs		Potential cost impacts passed on to energy consumers		
<b>Guiding principle 6</b>	Limit engineering complexities during construction and impacts on existing infrastructure	<i>Consideration of the effect on program and constructability for delivery, including construction complexity, disruption during construction and supply chain constraints</i>	Technical complexities	Delivery timelines	Supply chain, procurement, and workforce risks	Potential disruption to other public infrastructure assets	Areas with complex terrain	Anticipated access requirements	Approval complexity	

<sup>1</sup> Note, Heritage values, including post-contact heritage, were included in this principle as many of the Acts or inventories include both pre and post contact heritage sites.

<sup>2</sup> Our assessment of the key considerations is based on publicly available data; there are limitations on how detailed our considerations can be at this stage of the project.

## Find out more and stay involved

Feedback is important to us. Transmission infrastructure to coordinate offshore wind connections will be developed and designed in partnership with Traditional Owners and in consultation with communities and stakeholders.

To ask a question, sign up for project updates or to get in touch with the VicGrid team please contact us.



[engage.vic.gov.au/  
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Climate Action 2023

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ISBN 978-1-76136-512-6 (Print)

ISBN 978-1-76136-513-3 (pdf/online/MS word)

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