

# Victoria Power Networks

## PROGRAMMATIC PRE-ISSUANCE VERIFICATION LETTER

### ELECTRICAL GRIDS AND STORAGE CRITERIA OF THE CLIMATE BONDS STANDARD

**Type of engagement:** Assurance Engagement

**Period engagement was carried out:** July 2025

**Approved verifier:** Sustainalytics

**Contact address for engagement:** Hoogoorddreef 11, 1101 BA Amsterdam, Netherlands

**Pre-Issuance Engagement Team:**

Akshay Chandrakapure, [akshay.chandrakapure@morningstar.com](mailto:akshay.chandrakapure@morningstar.com)

Vipula Pandita, [vipula.pandita@morningstar.com](mailto:vipula.pandita@morningstar.com)

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### Scope and Objectives

Victoria Power Networks ("VPN" or the "Company") developed the Victoria Power Networks Sustainable Financing Framework (the "Framework") under which it intends to issue CBI Certified Green Bonds to finance and refinance projects related to the transmission and distribution of electricity and storage of electricity (the "Nominated Projects"). VPN has engaged Sustainalytics to review its proposed Green Bonds and verify that it meets the Pre-Issuance Requirements of the Climate Bonds Standard version 4.3.<sup>1</sup>

### Pre-Issuance Evaluation Criteria

Pre-Issuance requirements of the Climate Bonds Standard Version 4.3:

- Use of Proceeds
- Evaluation and Selection of Projects, including conformance with the relevant Sector Criteria
  - Electrical Grids and Storage Criteria<sup>2</sup>
    - Transmission and Distribution Networks (Grids)
    - Electricity Storage Facilities
- Management of Proceeds
- Reporting

### Issuing Entity's Responsibility

VPN is responsible for providing information and documents relating to:

- The details concerning the selection process for the Nominated Projects.
- The details of the Nominated Projects.
- The management systems for internal processes and controls for projects, including: tracking of proceeds, managing unallocated proceeds and earmarking funds to projects.
- The details of the issuer's commitments prior to issuance for reporting, including: investment areas, management of unallocated proceeds and frequency of periodic assurance engagements.

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<sup>1</sup> Climate Bonds Initiative, Climate Bonds Standard Version 4.3, at:

[https://www.climatebonds.net/files/documents/CBI\\_Standard\\_V4.3\\_FINAL\\_2025-08-20-102147\\_gbqn.pdf](https://www.climatebonds.net/files/documents/CBI_Standard_V4.3_FINAL_2025-08-20-102147_gbqn.pdf)

<sup>2</sup> Climate Bonds Initiative, Electrical Grids and Storage Criteria, at: [https://www.climatebonds.net/files/documents/Climate-Bonds\\_Electrical-Grids-Storage\\_Criteria-document\\_November-2021.pdf](https://www.climatebonds.net/files/documents/Climate-Bonds_Electrical-Grids-Storage_Criteria-document_November-2021.pdf)

### **Independence and Quality Control**

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of the proposed Green Bonds to provide an independent opinion on their conformance with the Pre-Issuance Requirements of the Climate Bonds Standard.

Sustainalytics has relied on the information and the facts presented by VPN with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable for any inaccuracies in the opinions, findings or conclusions herein due to incorrect or incomplete data provided by VPN.

Sustainalytics makes all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the bond.

### **Verifier's Responsibility**

Sustainalytics conducted the verification in accordance with the Climate Bonds Standard Version 4.3 and with International Standard on Assurance Engagements 3000 (ISAE 3000).

The work undertaken as part of this engagement included conversations with relevant VPN employees and the review of relevant documentation to assess the conformance of the proposed Green Bonds with the Climate Bonds Certification Pre-Issuance Requirements.

### **Conclusion**

VPN intends to issue its Green Financing Instruments to finance and refinance new or existing electrical grid related assets and projects, including capital expenditures and, where applicable, operating and other related costs.

Based on the limited assurance procedures conducted, nothing has come to Sustainalytics' attention that causes us to believe that, in all material aspects, the proposed Green Bonds is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements.

## Schedule 1: Overview of Nominated Projects and Assets

Details of the Nominated Projects and Assets that will receive financing or refinancing are provided below:

Asset or Activity Class	Asset or Activity <sup>3</sup>	Eligible Assets or Activities
<b>Transmissions and Distribution Networks (Grids)</b>	Low Voltage (LV) Network	Equipment to allow for exchange of renewable electricity between users.
	High Voltage (HV) renewable network connections, including transformers	Equipment and infrastructure where the main objective is to increase the generation or use of renewable electricity generation.
	Operational Technology (OT) systems	Equipment to increase the controllability and observability of the electricity system and enable the development and integration of renewable energy sources.
	Smart meters	Equipment to provide information to users, for remotely acting on consumption such as, but not limited to, advanced (also known as smart) metering infrastructure, including customer data hubs.
	Other electricity transmission, distribution and related assets	Other equipment and infrastructure in systems which are on a trajectory to full decarbonization.

<sup>3</sup> Detailed description of the assets is included in Appendix 1.

## Schedule 2: Conformance to the Pre-Issuance Requirements of the Climate Bonds Standard<sup>4,5</sup>

Procedure Performed	Factual Findings	Error or Exceptions Identified
A.2.1. Use of Proceeds	<p>2.1.1 VPN has developed a list of proposed Nominated Projects which comply with the Electrical Grids and Storage Criteria of the Climate Bonds Standard. VPN intends to keep this list updated. The proposed Nominated Projects include:</p> <ul style="list-style-type: none"> <li>• LV network</li> <li>• HV renewable network connections, including transformers</li> <li>• OT systems</li> <li>• Smart meters</li> <li>• Other electricity transmission, distribution and related assets</li> </ul>	None
	2.1.2 VPN confirms that all the Nominated Projects will meet the documented objectives of the debt instrument as set out in the VPN's Framework.	
	2.1.3 VPN confirms that it will allocate 100% of the net proceeds of the debt instrument to projects and assets that meet the Electrical Grids and Storage Criteria requirements of the Climate Bonds Standard.	
	2.1.4 N/A	
	2.1.5 N/A	
	2.1.6 VPN confirms that the net proceeds of the debt instrument will not be greater than the total investment exposure to the proposed Nominated Projects or the relevant proportion of the total market value of the proposed Nominated Projects owned or funded by VPN.	
	2.1.7 VPN's management confirms that the Nominated Projects will not be nominated to other certified debt Instruments unless VPN demonstrates that distinct portions of the Nominated Projects are being funded by different certified debt instruments or, the present certified debt instrument is being	

<sup>4</sup> Climate Bonds Initiative, Climate Bonds Standard Version 4.3, at: [https://www.climatebonds.net/files/documents/CBI\\_Standard\\_V4.3\\_FINAL\\_2025-08-20-102147\\_gbqn.pdf](https://www.climatebonds.net/files/documents/CBI_Standard_V4.3_FINAL_2025-08-20-102147_gbqn.pdf)

<sup>5</sup> For ease of reference, the numbering in this section follows the numbering of the Climate Bonds Standard Version 4.3.

	refinanced via another certified debt instrument.	
A.2.2. Process for Evaluation and Selection of Projects and Assets	<p>2.2.1 VPN established and documented a decision-making process to determine the eligibility of the Nominated Projects.</p> <p>2.2.2 VPN's decision-making process mentioned in 2.2.1 above includes the following:</p> <ul style="list-style-type: none"> <li>i. The climate-related objectives of the debt instrument.</li> <li>ii. How the climate-related objectives of the debt instrument are positioned within the context of VPN's overarching objectives, strategy, policy and processes relating to environmental sustainability.</li> <li>iii. VPN's rationale for issuing the debt instrument is to support VPN's sustainability objectives and support the financing and refinancing of projects with clear environmental benefits.</li> <li>iv. A process to determine how the proposed Nominated Projects meet the eligibility requirements of the Climate Bonds Standard, including the relevant Sector Criteria. VPN's Treasury Team is responsible for asset identification, evaluating potential Nominated Projects, approving the allocation of proceeds, and ensuring compliance with all aspects of the Framework.</li> <li>v. VPN has sufficient measures in place to manage and mitigate environmental and social risks that are commonly associated with the Nominated Projects.</li> </ul>	None
A.2.3. Management of Proceeds	<p>2.3.1 VPN has documented and disclosed to Sustainalytics the systems, policies and processes it will use to manage the net proceeds.</p> <ul style="list-style-type: none"> <li>i. Tracking of proceeds: VPN has a process in place to track and monitor the proceeds.</li> <li>ii. Managing unallocated proceeds: VPN will manage any unallocated net proceeds by applying them to one or more of the following: temporary cash or cash equivalent instruments within its treasury operations; temporary investments that exclude greenhouse gas-intensive projects inconsistent with the transition to a low-carbon, climate-resilient economy; or temporarily using them to reduce</li> </ul>	None

	<p>revolving indebtedness, with the intention to reallocate the funds to Green Projects at a later stage.</p> <p>iii. Earmarking funds to Nominated Projects: VPN details the process it will use to allocate and manage proceeds of the debt instrument. This will enable the estimation of the share of the net proceeds being used for financing and refinancing.</p> <p>2.3.2 As the proceeds of the debt instrument must be ring-fenced, VPN has confirmed that the proceeds will be credited to designated bank accounts that can only fund the specified Nominated Projects. VPN will track and monitor all payments from the designated bank accounts.</p>	
A.2.4. Pre-Issuance Reporting	<p>2.4.1 VPN has prepared a framework and has made it publicly available prior to or at the time of issuance. In the case of loans and other private transactions, VPN has the option to disclose the Framework only to the lender(s).</p> <p>2.4.2 The framework mentioned in 2.4.1 includes:</p> <ul style="list-style-type: none"> <li>i. A statement of compliance with the Climate Bonds Standard and other applicable standards, such as the Green Bond Principles or the United Nations Sustainability Development Goals.</li> <li>ii. A summary of the expected use of proceeds.</li> <li>iii. A description of VPN's decision-making process</li> <li>iv. A description of VPN's processes for managing the proceeds</li> <li>v. A description of VPN's processes for reporting and external review or verification</li> </ul> <p>2.4.3 VPN has confirmed the following:</p> <ul style="list-style-type: none"> <li>i. VPN's Nominated Projects conform with the Electrical Grids and Storage Criteria. VPN may report on the following impact metrics: a) total installed capacity of renewable energy generation on VPN's network, b) Annual GHG emissions reduced/avoided in tonnes of CO<sub>2</sub> equivalent, c) Value of network and technology investments in innovation, d) Number of new connections, e) Residential rooftop solar (MW of rooftop systems</li> </ul>	None

	<p>installed by residential customers and number of customers with rooftop solar), f) Smart meters (total and attributable number) and g) Percentage availability of reliable power.</p> <p>ii. VPN will manage unallocated net proceeds in accordance with Clause A.3.3.3 of the Climate Bonds Standard.</p> <p>iii. VPN has confirmed that it will report its allocation and impact reporting via a green bond report. The report will include a description of conformance with the Climate Bonds Standards criteria and on its certified operations. VPN's Nominated Projects meet the Electrical Grids and Storage Criteria. VPN will report on the investment areas in which the Nominated Projects qualify by reporting on an annual basis on the allocation and impact of the net proceeds of the green debt instruments.</p> <p>iv. VPN's green financing pool currently comprises a mix of refinanced and new/to be financed Eligible Green Projects. Where proceeds are allocated towards the refinancing of assets, VPN ensures that these projects are still operational, meet the Eligibility Criteria under the Framework, and have a remaining useful life that extends beyond the maturity of the relevant Green Financing Instrument. In the case of operating expenditures, VPN commits to only refinancing expenses incurred within two years prior to the issuance date, unless otherwise certified by the Climate Bonds Initiative (CBI). The specific breakdown between refinancing and new financing is determined at the time of each issuance and disclosed accordingly, with final confirmation provided through post-issuance reporting.</p> <p>2.4.5 VPN has confirmed that its disclosure documentation will include:</p> <p>i. Nominated Projects will conform with the Electrical Grids and Storage criteria.</p> <p>ii. The intended types of temporary investment instruments for the management of unallocated net proceeds are in accordance with Clause A.3.3.3 of the Climate Bonds Standard.</p>	
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	<p>iii. The name of the approved third-party verifier engaged by VPN to obtain the Climate Bonds Standard certification.</p> <p>iv. VPN's Nominated Projects meet the Electrical Grids and Storage Criteria. VPN will report on the investment areas in which the Nominated Projects qualify by reporting annually on the allocation and impact of the net proceeds of the green debt instruments.</p> <p>v. The CBI Disclaimer provided in the Certification Agreement.</p>	
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## Annexure 1: CBI Electrical Grids and Storage Criteria

### Appendix 1: Mitigation Requirements

Asset or Activity Class	Asset Name	Description	Overall Assessment
Transmission and Distribution Networks (Grids)	LV network	VPN's LV network supports the integration, distribution, and daily transmission of renewable electricity from both the transmission grid and user sources. It is expected to accommodate increasing renewable generation and includes assets such as earthing systems, overhead lines, poles, protection equipment, service lines, switchgear, and underground cables.	VPN's LV network automatically meets the mitigation component of the criteria because it allows for the exchange of renewable electricity between users.
	HV renewable network connections, including transformers	VPN's HV renewable connections are designed to integrate and distribute renewable electricity and are expected to support growing renewable generation. These embedded networks include assets such as earthing systems, overhead lines, poles, switchgear, underground cables, control equipment, and zone substations.	VPN's (HV) network automatically meets the mitigation component of the criteria as its primary purpose is to increase the generation or use of renewable electricity.
	OT systems	VPN uses OT systems, such as Supervisory Control and Data Acquisition (SCADA), to monitor and control its electricity distribution network. These systems enable real-time data collection, voltage management, integration of renewables, and restoring power after outages.	VPN's OT systems automatically meet the mitigation component as they increase the controllability and observability of the electricity system and enable the development and integration of renewable energy sources.
	Smart meters	VPN's smart meters measure actual electricity use and enable two-way communication, capturing both electricity consumed from the grid, and electricity fed into the grid. Through the myEnergy portal, customers can monitor and manage energy consumption and enable customers to be metered and settled at the same time resolution as the imbalance settlement period in the national market.	VPN's smart meters automatically meet the mitigation component of the criteria because they are equipment that carries information to users for remotely acting on consumption. Specifically, VPN's smart meters accurately measure actual electricity consumption and time of use information, providing two-way communication of this information to both household and business customers and

			energy companies, inclusive of retailers and distributed network service providers (DNSPs) like VPN.
	Other electricity transmission, distribution and related assets	This involves other equipment related to transmission and distribution assets that do not automatically meet eligible categories for mitigation requirements.	VPN has confirmed that for transmission and distribution assets not classified under the 'automatically eligible categories for mitigation', they will ensure that the systems on which such assets are installed are on a trajectory toward full decarbonization. Specifically, these systems will either operate below the threshold of 100gCO <sub>2</sub> e/kWh on a rolling five-year average basis, or at least 67% of the newly connected generation capacity will meet this threshold over the same period.

## Appendix 2: Adaptation and Resilience Requirements

Items	Proof Given	Overall Assessment
<b>Section 1: Clear boundaries and critical interdependencies between the infrastructure and the system it operates within are identified.</b>		
1.1 Boundaries of the infrastructure are defined using (1) a listing of all infrastructure and assets and activities associated with the use of the bond proceeds, (2) a map of their location, and (3) identification of the expected operational life of the activity, asset or project.	VPN provided the following documents: <ul style="list-style-type: none"> <li>i. Distribution Annual Planning Report<sup>6</sup></li> <li>ii. Asset class overview for CitiPower and Powercor<sup>7</sup></li> <li>iii. Regulatory Information Notices for CitiPower and Powercor<sup>8</sup></li> </ul>	VPN has defined the project boundaries and identified key interdependencies between its infrastructure and the broader system it operates within. The Distribution Annual Planning Report and asset class documentation includes: <ul style="list-style-type: none"> <li>i. A comprehensive description of the project site and its surrounding environment.</li> <li>ii. Mapped locations of relevant infrastructure.</li> <li>iii. An overview of the asset class, including the expected operational life of various poles are outlined in the asset class documentation.</li> </ul>
1.2 Critical interdependencies between the infrastructure and the system within which it operates are identified. Identification of these interdependencies should consider the potential for adverse impacts arising from, but not limited to: (1) the effects of supply disruption or interruption on dependent electricity users or populations; (2) exacerbation of wildfires; (3) relationships of the asset/project to nearby flood zones; (4) reduction in pollinating insects and birds;	VPN provided the following documents: <ul style="list-style-type: none"> <li>i. Bushfire Mitigation Plan for CitiPower and Powercor<sup>11</sup></li> <li>ii. Network Resilience Plan<sup>12</sup></li> <li>iii. First People Engagement Report<sup>13</sup></li> </ul>	(1) VPN has identified the interdependencies between its infrastructure and the broader energy system, with a focus on the impact of supply disruptions on vulnerable users, particularly those dependent on electricity for life support equipment. To reduce adverse impacts, VPN maintains a register of such customers in collaboration with energy retailers, ensuring they are identified, informed, and protected under regulations by the Essential Services Commission Victoria.

<sup>6</sup> VPN, "Distribution Annual Planning Report for PowerCor & CitiPower", at: [https://media.powercor.com.au/wp-content/uploads/2024/12/31085241/DAPR\\_2024\\_Powercor\\_Distribution-Annual-Planning-Report-1.zip](https://media.powercor.com.au/wp-content/uploads/2024/12/31085241/DAPR_2024_Powercor_Distribution-Annual-Planning-Report-1.zip); CitiPower : [https://media.powercor.com.au/wp-content/uploads/2024/12/31085532/DAPR\\_2024\\_Citipower\\_Distribution-Annual-Planning-Report-1.zip](https://media.powercor.com.au/wp-content/uploads/2024/12/31085532/DAPR_2024_Citipower_Distribution-Annual-Planning-Report-1.zip).

<sup>7</sup> VPN, "Asset Class Overview for PowerCor and CitiPower", at: <https://www.aer.gov.au/system/files/2025-02/PAL%20BUS%204.01%20E2%80%93%20Poles%20E2%80%93%20Jan2025.pdf> ; CitiPower: <https://www.aer.gov.au/system/files/2025-02/CP%20BUS%204.01%20E2%80%93%20Poles%20E2%80%93%20Jan2025%20E2%80%93%20Public.pdf>.

<sup>8</sup> VPN, "Regulatory Information Notices for CitiPower and PowerCor", at: CitiPower: <https://www.aer.gov.au/publications/reports/performance/citipower-network-information-rin-responses> ; PowerCor: <https://www.aer.gov.au/publications/reports/performance/powercor-network-information-rin-responses>.

<sup>11</sup> VPN, "Bushfire Mitigation Plan for Powercor and CitiPower", at: <https://www.aer.gov.au/documents/pal-att-909-bushfire-mitigation-plan-version-102-oct2023> ; CitiPower: <https://media.powercor.com.au/wp-content/uploads/2021/07/07181113/CP-BFM-Plan-Rev5-9Dec19-signed-FINAL-2.pdf>

<sup>12</sup> VPN, "Network Resilience Plan", at: <https://www.aer.gov.au/system/files/2025-02/PAL%20ATT%205.02%20-%20Network%20resilience%20plan%20-%20Jan2025.pdf>

<sup>13</sup> VPN, "First People Engagement Report", at: [https://hdp-au-prod-app-cp-engage-files.s3.ap-southeast-2.amazonaws.com/6717/3873/3986/CitiPower\\_-\\_FP\\_engagement\\_report.pdf](https://hdp-au-prod-app-cp-engage-files.s3.ap-southeast-2.amazonaws.com/6717/3873/3986/CitiPower_-_FP_engagement_report.pdf).

<p>(5) reduction in biodiversity or High Conservation Value<sup>9</sup> habitat; (6) damage or reduction in value of neighbouring property due to boundary structures at risk of falling during storm events; (7) fire and other practices that affect air quality; (8) appropriation of land or economic assets from nearby vulnerable groups<sup>10</sup></p>		<p>Customers receive timely notifications of planned or unplanned outages via SMS and/or email and are encouraged to prepare back-up plans with medical professionals. Options include backup power, alternate accommodation, and emergency contacts. This proactive approach helps safeguard vulnerable populations during supply interruptions. VPN has shared guidance on its website to help customers during power outages, including specific instructions for life support customers who depend on electricity to operate essential medical equipment.<sup>14,15</sup></p> <p>(2) Electricity networks inherently carry a risk of fire ignition, and VPN's Powercor has identified several interdependencies between its infrastructure and the broader environmental system that could exacerbate wildfire events. Key ignition risks include electrical faults, hardware failures, and contact with vegetation, animals, or contaminated equipment. Approximately 51% of Powercor's network assets are located in Hazardous Bushfire Risk Areas (HBRA), and bushfire mitigation strategies are updated in line with Country Fire Authority (CFA) fire hazard mapping. VPN's CitiPower operates in areas without identified HBRA's, and therefore does not apply the same operational restrictions or mitigation practices.</p> <p>(3) Extreme rainfall events pose a significant threat to electricity infrastructure through increased risk of flooding. Impacts include damage to towers, poles, and substations, limited access for repairs, and increased outage durations. Zone substations are particularly critical, as they are</p>
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<sup>9</sup> High Conservation Value (HCV) habitat criteria in accordance with <https://www.hcvnetwork.org>.

<sup>10</sup> According to IFC Performance Standards.

<sup>14</sup> VPN, "Life Support Services", at: <https://www.powercor.com.au/for-your-home/life-support-services/>

<sup>15</sup> VPN, "Emergency Advice", at: <https://www.powercor.com.au/power-outages-and-emergencies/emergency/>

		<p>single points of failure, flooding can result in widespread service disruptions, affecting essential services like water treatment, communications, and life support equipment. Flood overlays show varying exposure levels across networks:</p> <ul style="list-style-type: none"> <li>i. CitiPower: Up to 18% of zone substations intersect with flood zones, notably in areas like St Kilda and Fitzroy.</li> <li>ii. Powercor: High-risk areas include parts of Barwon Southwest and Shepparton, with up to 13% of zone substations intersecting flood zones.</li> </ul> <p>(4) VPN takes proactive steps in its standard construction designs to help prevent electrical contact, especially in areas at higher risk. This includes using bird diverters and covers to protect both the network and local wildlife.</p> <p>(5) VPN has implemented procedures to assess the biodiversity impacts of new assets and upgrades, aiming to minimize these impacts wherever possible and secure the necessary regulatory approvals. VPN is also strengthening its maintenance and line clearance practices by enhancing staff training and improving the identification of areas with protected flora and fauna. Additional details are available in VPN's Environment and Heritage Framework.</p> <p>(6) VPN has a clear process in place for handling damage claims related to property or possessions that are affected by power supply issues or activities carried out as part of its operations. Information on how to make a claim is available on its website.<sup>16</sup></p> <p>(7) Bushfires can damage overhead network assets, disrupt electricity supply, and create major safety</p>
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<sup>16</sup> VPN, "Claims", at: <https://www.powercor.com.au/contact-us/claims/>.

		<p>risks for the public. Smoke and airborne particles can also affect sensitive equipment and increase operational challenges. To manage these risks, VPN has developed Bushfire Mitigation Plans aimed at reducing the threat of bushfires as much as possible.</p> <p>(8) VPN engages with local community groups and stakeholders to reduce the impact of its activities on Aboriginal, historical, natural, and industrial sites. The approach and processes are detailed on VPN's website. For projects located in areas with known or high cultural heritage value, VPN ensures engagement with Traditional Owner Groups and carries out appropriate surveys and monitoring, as outlined in its First People Engagement report.</p>
<b>Section 2: An assessment has been undertaken to identify the key physical climate hazards to which the infrastructure will be exposed and vulnerable to over its operating life.</b>		
<p>2.1 Key physical climate risks and indicators of these risks are identified in line with the following guidelines.</p> <ul style="list-style-type: none"> <li>• Risks are identified based on (a) a range of climate hazards, and (b) information about risks in the current local context, including reference to any previously identified relevant hazard zones, e.g., flood zones.</li> </ul> <p>In order to be confident that assets and activities are robust and flexible in the face of climate change uncertainties, it is essential that the climate risks being assessed and addressed cover those that are of greatest relevance to T&amp;D grids and electrical energy storage. The physical characteristics of climate change that must be considered in the risk assessment include:</p> <ul style="list-style-type: none"> <li>• Temperature rise <ul style="list-style-type: none"> <li>o High temperatures can impact on the electrical rating of assets, reducing transmission capacity and potentially reducing the ability of the network to meet demand.</li> </ul> </li> </ul>	<p>VPN provided the following proof of documents:</p> <ol style="list-style-type: none"> <li>Network Resilience Plan</li> <li>Climate Change study for Victorian Electricity Distribution Businesses-Phase 1<sup>17</sup></li> </ol>	<p>VPN's Network Resilience Plan and the AECOM Climate Change Study for Victorian Electricity Distribution Businesses – Phase 1 outline the company's approach to identifying and managing key physical climate hazards.</p> <p>The most significant physical climate risks for VPN include severe storms, heatwaves, bushfires, and flooding. Based on the characteristics and geographic distribution of VPN's network assets, the following physical climate risks are considered immaterial or not applicable:</p> <ul style="list-style-type: none"> <li>• Landslides/ground movement</li> <li>• Increased lightning activity</li> <li>• Sea-level rise</li> <li>• Increased snow, sleet, ice, and freezing fog</li> <li>• Increased coastal and river erosion</li> </ul> <p><b>Bushfires</b></p> <p>Bushfire risk is a key physical climate hazard for electricity networks, and VPN has assessed this using the Forest Fire Danger Index (FFDI). Bushfires, supported by hot</p>

<sup>17</sup> VPN, "Climate Change Study for Victorian Electricity Distribution Business Phase 2", at: <https://www.aer.gov.au/system/files/2025-02/PAL%20ATT%205.01%20-%20AECOM%20-%20Methodology%20report%20-%20May2024.pdf>.

<ul style="list-style-type: none"> <li>o Increasing temperatures can also result in extension of overhead lines, which reduces the clearance above trees.</li> <li>o Increased temperatures may also result in changes to the load on assets, due to increased cooling demands (higher summer peak demands) and less winter heating (reduced winter peak).</li> <li>• Increased heavy rainfall <ul style="list-style-type: none"> <li>o Heavy rainfall can result in flash pluvial flooding, which could significantly impact electrical assets, particularly ground mounted assets.</li> </ul> </li> <li>• Sea-level rises <ul style="list-style-type: none"> <li>o Potential for flooding of coastal infrastructure and assets at risk from storm surge events.</li> </ul> </li> <li>• Increased lightning <ul style="list-style-type: none"> <li>o Lightning strikes have potential to cause transient outages due to power surges.</li> </ul> </li> <li>• Increased winds / gales <ul style="list-style-type: none"> <li>o Strong winds can cause damage to overhead transmission and distribution lines and supporting infrastructure (pylons and poles).</li> <li>o Up-rooting of trees and vegetation can also have an impact on power lines.</li> </ul> </li> <li>• Increased snow, sleet, ice, freezing fog <ul style="list-style-type: none"> <li>o Ice and snow accretion can make overhead power lines vulnerable to highwinds</li> <li>o Snow and ice can also impede access to sites for repairs in the event of a fault.</li> </ul> </li> <li>• Increased coastal / river erosion <ul style="list-style-type: none"> <li>o Risk to assets in coastal or riverbank locations</li> </ul> </li> <li>• Wildfires <ul style="list-style-type: none"> <li>o Wildfires present a risk to electricity infrastructure in affected areas and can significantly inhibit access to repair damaged infrastructure.</li> <li>o Electricity infrastructure can also be a cause of wildfires. For example, contact between transmission lines and dry vegetation has potential to start fires.</li> </ul> </li> <li>• Landslides / ground movement</li> </ul>		<p>and windy conditions, can significantly damage or destroy exposed overhead assets, including communications equipment, overhead distribution lines, poles, and substations, often resulting in multiple outages and substantially delayed response efforts. In addition, bushfires can cause prolonged smoky conditions, which limit solar energy production and thereby impact local network demand and load balancing.</p> <p><b>Flooding</b> Flooding from intense rainfall events is also a key concern. Heavy and sustained precipitation can cause major flooding, including flash or surface flooding, which may damage exposed assets such as substations and poles, and reduce clearance and access to overhead powerlines, affecting network reliability and restoration times. VPN evaluates this risk using baseline data for 1% and 2% Annual Exceedance Probability (AEP) 24-hour rainfall events, sourced from the Bureau of Meteorology's Australian Rainfall and Runoff Data Hub.</p> <p><b>Heatwaves</b> Extreme heat is a key physical climate risk, particularly for electricity infrastructure, which can be vulnerable to overheating and equipment stress. Heatwaves increase grid stress, raise summer peak demand, accelerate asset ageing, and cause overhead line sag, requiring derating. Sustained high temperatures especially high overnight temperature can lead to asset failures, outages, and affect communications and protection systems. They also disrupt field operations and workforce safety. Projections for temperature rise and heat-related impacts are based on the Victorian Climate Projections 2019, which provide data across different scenarios and timeframes. The selection of the specific variable will be dependent on the cause of asset failure being considered.</p> <p><b>Severe Storms</b> Severe storms and high winds are key physical climate risks for electricity</p>
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<p>o Potential to risk to both underground and above ground infrastructure from ground movement.</p> <p>o Potential for access to be impeded for repairs.</p> <p>Issuers might consider the climate risks posed through specific interdependencies which might include, for example:</p> <ul style="list-style-type: none"> <li>• Availability of telecommunications for control systems and operational / field staff communications when dealing with extreme weather events, where the telecommunications rely on third party providers and infrastructure.</li> <li>• Flood risk and resilience will likely have interdependencies with local and national agencies, for example related to local flood defences, coastal flood risk management, shoreline management plans etc.</li> </ul> <p>Optional guidance for carrying out risk assessments:</p> <ul style="list-style-type: none"> <li>• Users should apply climate scenarios based on representative concentration pathway (RCP) 4.5 and 8.5 or similar / equivalent to ensure consideration for worst case scenario.</li> <li>• A broad range of models can be used to generate climate scenarios.</li> <li>• Time horizons for assessing climate risk in agriculture can be based on annual seasonal forecasts and every ten years for the lifetime of the assets and projects. Where accurate assessments of climate variability for specific locations are not possible, use worst-case scenarios.</li> <li>• Risks can be characterized by the associated annual probability of failure or annual costs of loss or damage.</li> <li>• For risk assessment, the TCFD The Use of Scenario Analysis in Disclosure of Climate Related</li> </ul>		<p>networks, with the potential to damage poles, lines, and critical infrastructure. Storms can also generate debris including falling trees that may damage exposed assets or place excessive structural loads on network components, leading to outages and increasing the risk to public safety or bushfires.</p> <p>To assess these risks, historical baseline wind data has been sourced from the Electricity Sector Climate Information (ESCI) Project, acknowledging the limited availability of downscaled wind projections in Victoria's current datasets. This includes coarse-scale historic data relevant to asset exposure. For future conditions, extreme wind data from CLIM systems have been used for the 2030 and 2070 timeframes to better understand the potential impact on network resilience.</p> <p><b>Optional guidance for carrying out risk assessments</b></p> <p>VPN's Network Resilience Plan and AECOM's Climate Change Study for Victorian Electricity Distribution Businesses - Phase 1 has been produced in alignment with the TCFD Framework:</p> <ul style="list-style-type: none"> <li>• Climate scenarios of RCP 4.5 and RCP 8.5 were applied.</li> <li>• Projections were modelled for the years 2050 and 2070.</li> </ul> <p>As climate forecast data improves, VPN plans to conduct further physical climate-related risk assessments using scenario analysis.</p>
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Risks and Opportunities is recommended.		
<b>Section 3: The measures that have or will be taken to address those risks, mitigate them to a level such that the infrastructure is suitable to climate change conditions over its operational life.</b>		
<p>3.1 The following are examples of risk management activities that bond issuers might consider, or that might be adopted as part of regulations (e.g. codes and standards). This list is not exhaustive and bond issuers should fully assess the mitigation measures that are relevant to the climate risks and impacts identified in the risk assessment.</p> <p>Temperature:</p> <ul style="list-style-type: none"> <li>- Design standards that maintain equipment rating over its lifetime performance in the face of all potential ranges of temperature rise</li> <li>- Manage vegetation under power lines to ensure adequate clearance is maintained</li> <li>- Assess changing demand profile (milder winters, increased summer cooling) over equipment lifetime</li> </ul> <p>Rainfall:</p> <ul style="list-style-type: none"> <li>- Design for resilience to pluvial flooding</li> <li>- Assessment of site drainage requirements - Impact of restricted access to sites / lines due to flooding</li> </ul> <p>Increased lightning:</p> <ul style="list-style-type: none"> <li>- Design of electrical equipment to withstand lightning impulses, including shielding and surge suppression devices</li> <li>- Redundancy</li> </ul> <p>Increased winds / gales:</p> <ul style="list-style-type: none"> <li>- Design to withstand extreme winds</li> <li>- Cut vegetation regularly to safe distance to reduce risk from up-rooting</li> <li>- Invest in storm and hurricane forecasting tools</li> <li>- Consider placing cables underground</li> <li>- Redundancy</li> </ul> <p>Increased snow, sleet, ice, freezing fog:</p> <ul style="list-style-type: none"> <li>- Design equipment for ice loading</li> <li>- Suitable vehicles for access to sites in heavy snow / icy conditions</li> </ul> <p>Increased flooding:</p> <ul style="list-style-type: none"> <li>- Flood risk assessment and planning.</li> <li>- Site ground installations outside of potentially affected zones</li> </ul>	<p>VPN provided the following proof of documents:</p> <ol style="list-style-type: none"> <li>Network Resilience Plan</li> </ol>	<p>VPN's Network Resilience Plan details its approach to identifying and managing climate-related physical risks, including measures for preparedness, mitigation, and adaptation. The plan focuses on addressing the impacts of extreme weather events, particularly flooding, bushfires, and severe windstorms. It also highlights community resilience programmes, which serve as broader risk reduction efforts not tied to any single climate hazard.</p> <p><b>Bushfires</b></p> <p>VPN has established measures to prevent bushfires originating from its assets; however, with the increasing threat of fires from external sources, the focus is now expanding to enhance the resilience of the network itself.</p> <p>To support this, VPN is implementing a range of targeted, cost-effective actions:</p> <ul style="list-style-type: none"> <li>• Replacing wooden poles in high fire-risk areas with non-combustible alternatives at end-of-life.</li> <li>• Treating existing wooden poles with fire-retardant products to extend protection.</li> <li>• Using catastrophic bushfire mapping to prioritise resilience upgrades like undergrounding or covering conductors in the highest risk areas.</li> </ul> <p>These measures aim to ensure that VPN's network can continue to operate safely and reliably as bushfire risks grow under future climate conditions.</p> <p><b>Flooding</b></p> <p>While flood behaviour is becoming more unpredictable due to climate change, clearly defined flood plains enable targeted preparation. VPN's flood resilience strategy focuses on assessing asset vulnerabilities and implementing site-specific remedial actions rather than broad, high-cost interventions.</p> <p>Key measures include:</p> <ul style="list-style-type: none"> <li>• Integrating flood risk overlays into GIS systems to raise awareness of the</li> </ul>

<ul style="list-style-type: none"> <li>- Ensure flood defence systems and coastal management plans are adequate</li> <li>- Consideration of site access during flooding events</li> </ul> <p>Increased coastal / river erosion:</p> <ul style="list-style-type: none"> <li>- Shoreline management plans / coastal erosion assessment</li> </ul> <p>Wildfires:</p> <ul style="list-style-type: none"> <li>- Management of vegetation around electricity infrastructure to ensure adequate clearance</li> </ul> <p>Landslides / ground movement:</p> <ul style="list-style-type: none"> <li>- The potential for ground movement and landslides should be taken into account when assessing sites for installing grid infrastructure.</li> </ul> <p>General risk mitigation measures:</p> <ul style="list-style-type: none"> <li>- Business continuity plans</li> <li>- System restoration plans</li> <li>- Black start</li> <li>- Islanded operation / microgrids</li> <li>- System security standards</li> </ul>		<p>future asset sites and ensure design standards specifically include checks for flood plans.</p> <ul style="list-style-type: none"> <li>• Upgrading existing zone substations exposed to current 1-in-100-year flood risks.</li> <li>• Addressing future flood risks opportunistically during major site upgrades.</li> <li>• Reviewing HV and sub-transmission line crossings in flood-prone areas to ensure emergency access and safety protocols are in place.</li> <li>• Improving flood modelling to keep historical benchmarks relevant under future climate scenarios.</li> </ul> <p>Given the cost implications, relocating or undergrounding major assets are not considered viable based solely on future projections. Instead, VPN's approach focuses on practical, risk-based mitigation to ensure flood resilience over the asset lifecycle.</p> <p><b>Heatwaves</b></p> <p>Most of VPN's network assets are designed to withstand ambient temperatures up to 40°C. However, with climate projections indicating an increase in the number of days exceeding this threshold, VPN is taking proactive, cost-effective steps to adapt infrastructure and operations without premature asset replacement.</p> <p>Key measures include:</p> <ul style="list-style-type: none"> <li>• Reviewing and updating equipment ratings for thermally sensitive assets and adjusting operational limits where needed.</li> <li>• Revising equipment procurement standards to ensure new equipment is suited to higher temperatures.</li> <li>• Enhancing zone substation designs to better manage internal temperatures through, for example, improved ventilation, insulation, and energy-efficient solutions.</li> <li>• Seasonal readiness planning ahead of summer, including maintenance completion, inventory checks, and updates to contingency and resourcing plans.</li> <li>• Installing temperature monitoring on select critical assets to track</li> </ul>
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		<p>performance during extreme heat events.</p> <ul style="list-style-type: none"> <li>Improving climate modelling to improve forecasting and better understand operational impacts and consequences.</li> </ul> <p>Full-scale asset replacement based on future heat scenarios is not considered cost effective; instead, VPN's focus is on practical upgrades and preparedness to maintain reliability during increasingly frequent and intense heatwaves.</p> <p><b>Severe Storms</b></p> <p>Compared to hazards like bushfires and floods, windstorm projections are less precise, making it challenging to identify specific high-risk areas in advance. As a result, VPN's approach to storm resilience focuses on strengthening the network over time, using improved design standards and data-driven maintenance.</p> <p>Key actions include:</p> <ul style="list-style-type: none"> <li>Updating design standards for new and existing overhead lines (AS7000:2016) to reduce HV line clashing during high winds.</li> <li>Using Light Detection and Ranging (LiDAR) assessments to identify and address at-risk areas, with targeted interventions like installing HV spreaders to maintain safe clearances.</li> <li>Continuing LiDAR monitoring to ensure ongoing compliance and vegetation management.</li> <li>Investing in better climate modelling to understand the future impacts of windstorms on the network.</li> </ul> <p>Given current uncertainties and high costs, it is not considered cost-effective to proactively replace underground assets, or to clear vegetation well beyond current regulatory requirements based solely on future wind projections.</p> <p>VPN's strategy reflects a pragmatic and adaptive approach, building resilience gradually while responding to evolving climate data and storm patterns.</p>
<p>3.2 Risk reduction measures must be tolerant to a range of climate hazards and not lock-in conditions that could result in maladaptation.</p>		
<p><b>Section 4: The infrastructure enhances the climate resilience of the defined system it operates within, as indicated by the boundaries of and critical interdependencies with that system as identified in item 1 in this checklist.</b></p>		

<p>4.1 Issuers are to assess the climate resilience benefits of system focused assets and activities and demonstrate they are ‘fit for purpose’, in the sense that they enhance climate resilience at a systemic level, with the flexibility to take into account the uncertainty around future climate change impacts.</p> <p>The assessment is conducted according to the principle of best available evidence during the investment period taking into account the infrastructure’s boundaries and critical interdependencies as defined in Criteria 1. ‘Fit for purpose’ is defined as measures that mitigate the following effects:</p> <p>(1) the effects of supply disruption or interruption on dependent electricity users or populations;</p> <p>(2) exacerbation of wildfires;</p> <p>(3) relationships of the asset/project to nearby flood zones;</p> <p>(4) reduction in pollinating insects and birds;</p> <p>(5) reduction in biodiversity or High Conservation Value<sup>18</sup> habitat;</p> <p>(6) damage or reduction in value of neighbouring property due to boundary structures at risk of falling during storm events;</p> <p>(7) fire and other practices that affect air quality; (8) appropriation of land or economic assets from nearby vulnerable groups<sup>19</sup></p>	<p>VPN provided the following proof of document:</p> <p>i. Network Resilience Plan</p>	<p>VPN has established a robust set of plans, programmes, and management systems aimed at maintaining network reliability and strengthening the resilience of infrastructure, the workforce, and communities. The climate-related risk mitigation actions are specifically designed to address the growing threats from extreme weather events.</p> <p>VPN’s Network Resilience Plan recognises that each climate variable presents distinct risks to network assets and customer reliability. However, there are common resilience-building strategies that can be applied across all hazards. The plan outlines a proactive approach to managing the long-term impacts of climate change by embedding climate considerations into asset design, planning, and investment decisions. Given that network infrastructure typically operates for decades, ensuring it remains fit for purpose under future climate conditions is critical to long-term system performance and community reliability.</p> <p>To support this, VPN is implementing a suite of system-wide measures designed to enhance resilience regardless of the specific climate threat:</p> <ul style="list-style-type: none"> <li>• Integrating climate change into all business decision-making processes and business cases, ensuring future conditions are factored into asset planning and approval.</li> <li>• Revising specifications for new equipment and construction standards to account for increased exposure to extreme heat, wind, and fire, including the use of higher-rated assets that exceed historical design assumptions.</li> <li>• Applying the “Build Back Better” principle by replacing end-of-life assets with non-like-for-like, climate-resilient alternatives that improve overall system robustness.</li> <li>• Reviewing and maintaining strategic spare parts and mobile equipment,</li> </ul>
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<sup>18</sup> High Conservation Value (HCV) habitat criteria in accordance with <https://www.hcvnetwork.org>.

<sup>19</sup> According to IFC Performance Standards.

		<p>such as generators, to enable a faster and more flexible emergency response.</p> <ul style="list-style-type: none"> <li>• Updating contingency and resourcing plans, ensuring resource deployment strategies are optimized for extreme weather scenarios and evolving climate risks.</li> <li>• Ensuring operational continuity through resilient Control Centre arrangements, including uninterruptible power supply (UPS) systems, backup generators, and alternate control rooms to support network operations if primary sites are compromised.</li> </ul>
<b>Section 5: The issuance is required to demonstrate that there will be ongoing monitoring and evaluation of the relevance of the risks and resilience measures and related adjustments to those measures will be taken as needed.</b>		
5.1: Indicators for risks identified under item 2 in this checklist are provided.		VPN closely monitors a range of performance indicators including those linked to climate risks through a continuous improvement process. Daily event reporting helps identify causes and impacts, while significant issues are escalated to management monthly or as needed. Performance is tracked both broadly, using network-wide metrics like System Average Interruption Frequency Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Momentary Average Interruption Frequency Index (MAIFI), and in detail, through fault cause and asset type data. Historic trends are used to determine whether the existing programmes provide sufficient controls to meet VPN's current business objectives and whether they will continue to meet the company's objectives in the future.
5.2: Indicators for risk mitigation measures identified under item 3 in this checklist are provided.		In addition to overall network performance, VPN also considers individual customer experiences, with risks reflected through the Guaranteed Service Level (GSL) incentive scheme, which compensates customers for poor supply reliability.
5.3: Indicators for "fit for purpose" resilience benefit measures identified under item 4 in this checklist are provided.	<p>VPN provided the following proof of document:</p> <ol style="list-style-type: none"> <li>Value of Network Resilience<sup>20</sup></li> </ol>	<p>VPN operates under national and state legislation, with resilience benefits guided by the Australian Energy Regulator (AER). In 2024, the AER released a Value of Network Resilience document<sup>21</sup> focused on prolonged outages beyond 12 hours</p>

<sup>20</sup> VPN, "Value of Network Resilience", at: <https://www.aer.gov.au/industry/registers/resources/reviews/value-network-resilience-2024>.

<sup>21</sup> VPN, "Network Resilience Plan", at: <https://www.aer.gov.au/system/files/2025-02/PAL%20ATT%205.02%20-%20Network%20resilience%20plan%20-%20Jan2025.pdf>.

		duration for economic assessment of resilience investment. VPN have adopted this regulated resilience benefit stream for its assessments
5.4: Issuers have a viable plan to annually monitor (a) climate risks linked to the infrastructure, (b) climate resilience performance, (c) appropriateness of climate resilience measure(s) and to adjust as necessary to address evolving climate risks.		VPN annually reports on the average number of minutes customers are without power due to planned and unplanned outages during the calendar year. VPN is working to minimise potential electricity disconnections due to climate risks and improve the resilience of its distribution network. Network performance is also presented to the Board quarterly for executive oversight.
5.5: Where electricity supply has been interrupted, the number of customer interruptions and customer minutes lost (i.e. aggregate duration of supply interruptions) should be measured and reported, together with the cause of the interruption. Any actions taken to reduce the risk of further impacts should also be recorded.		VPN's Advanced Distribution Management System (ADMS) captures detailed data for every customer interruption, including the number of customers affected, the duration of the outage, and the root cause. The causes and impacts of these events are reviewed during monthly governance meetings, where actions are assigned for further investigation or, where feasible, immediate resolution. Reliability events are reported daily, providing visibility into their causes and business impact, while significant incidents are escalated to management on a monthly or as-needed basis.

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