Transmission Connection Point Forecasts for Victoria

2025

VicGrid

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Acknowledgment of Traditional Owners

We acknowledge and respect Victoria's 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 partnering and meaningfully engaging with Victoria's Traditional Owners and First Peoples to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

1 Introduction

1.1 Purpose

VicGrid prepared this summary to provide information about its transmission connection point forecasts for connection points in the Victorian declared shared network (DSN) in line with VicGrid's responsibilities under clause 5.11 of the National Electricity Rules (NER).

1.2 Scope

These forecasts are based on information available at 1 November 2025, although more recent information has been incorporated where practical. This report uses many terms with meanings defined in the NER unless otherwise specified. This forecast was produced using the current Australian Energy Market Operator (AEMO) transmission connection point forecasting methodology,[1] which outlines the process through which the forecasts were developed.

Maximum and minimum operational demand forecasts can be presented with the following probability of exceedance (POE):

- A 10% POE for maximum demand, based on more extreme conditions that are expected to be exceeded on average one year in 10 (also called one-in-10-year).
- A 50% POE, meaning they are expected statistically to be met or exceeded one year in two, and are based on average weather conditions (also called one-in-two-year), or
- A 90% POE for minimum demand, based on more extreme conditions that are expected to be exceeded on average nine years in 10 (also called nine-in-10-year or one-in-10-year low minimum demand event). As this is a minimum, it is expected that an extreme low minimum will be exceeded more often than a not as low minimum.

Demand forecasts for customers that have an individual point of connection have been produced for use in studies and network totals but have not been shown in the results or supplementary documentation to maintain confidentiality.

1.3 Background

The connection point forecasting methodology directly incorporates the effects on demand due to population growth and consumer energy resources (CER) such as photovoltaics (PV), batteries, and electric vehicles.

Forecasts of maximum and minimum demand are produced for each connection point independently (described as non-coincident forecasts), and also at times of regional maximum and minimum demand (described as coincident forecasts). The non-coincident forecasts presented here are reconciled to the regional forecasts from AEMO's 2025 Electricity Statement of Opportunities (ESOO).

[1] See https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/tcpf/aemo-connection-point-forecast-methodology-overview-2020.pdf

Forecasts for CER are included in the modelling inputs consistent with the forecasts underpinning the latest ESOO regional forecasts[2], alongside population growth projections[3].

1.4 Supplementary information

Dynamic interface

An Excel workbook with the following information for each transmission connection point:

- Historical and forecast maximum demand, including 10% POE and 50% POE, for active power
- Historical and forecast minimum demand, including 90% POE and 50% POE, for active power
- Coincident and non-coincident values

High-level commentary and summary plots

Reactive power system forecast spreadsheet

Separate spreadsheet for reactive power forecasts at each transmission connection point, providing complementary information for power system studies. Values are provided for reactive power at connection point maximum demand.

Supplementary information is published with this report at:

https://www.vicgrid.com.au/transmission-planning/victorian-annual-planning-report

[2] The 2025 ESOO used CER assumptions from the 2025 Forecasting Assumptions Update. AEMO is also consulting with stakeholders on updated assumptions in the Draft 2026 Inputs, Assumptions and Scenarios Report, however as these are available only in a draft state and are not applied to the regional demand forecasts of the 2025 ESOO, these have not been applied.

[3] See https://www.planning.vic.gov.au/guides-and-resources/Data-spatial-and-insights/discover-and-access-planning-open-data/urban-development-program/victoria-in-future

2 Results and insights

Most Victorian transmission connection points are expected to experience increasing maximum demand over the next decade as shown in **Figure** 1 and **Figure 2**. In summer, 89.7% of connection points show a positive average annual linear change, reflecting broad-based increases in peak demand due to factors such as population growth, transport, increased air-conditioning uptake, and an increased volume of large customer load connections such as data centres. Notably, 12 connection points (17.6%) in summer and 15 connection points (22.1%) in winter have a substantial increase in peak demand, defined as an average annual linear change exceeding 2%. These sites are predominantly concentrated in the north and west of metropolitan Melbourne. More importantly, 10 terminal stations are projected to experience an average annual linear change exceeding 5% in maximum demand over the next decade, with increases of up to 178%. The key drivers underpinning these increases for each terminal station are summarised in **Table 1**.

In contrast, no connection point is projected to experience a substantial decline in peak demand, with no site recording an average annual linear reduction greater than 2% in either summer or winter peak demand. The widespread winter maximum demand growth also reflects the increasing influence of electric heating on winter peaks, while summer peak growth continues to be driven primarily by cooling loads.

Figure 3 and **Figure 4** show a widespread reduction in minimum demand across Victoria during the mild seasons over the forecast period, with 48 connection points (70.6%) in both summer and shoulder seasons experiencing a substantial decline in minimum demand, defined as an average annual linear reduction exceeding 2%. The trend also reflects sustained growth in rooftop PV capacity over the 10-year outlook, consistent with the assumptions underpinning the 2025 ESOO and supported by ongoing policy incentives, such as the Victorian Government's Solar Homes program[4]. As local PV generation continues to offset daytime consumption, midday minimum demand is expected to decline at most locations. Only 5 connection points are projected to have increasing minimum demand. These connection points are typically characterised by relatively low PV penetration and growth in continuous or off-peak loads. For all these connection points, the average annual linear increase in minimum demand remains below 2%.

[4] See https://www.solar.vic.gov.au/solar-homes-program

Figure 1 Forecast average annual linear change in maximum operational demand for summer, 10% probability of exceedance (POE), expressed as a percentage of 2024–25 actual operational seasonal demand.

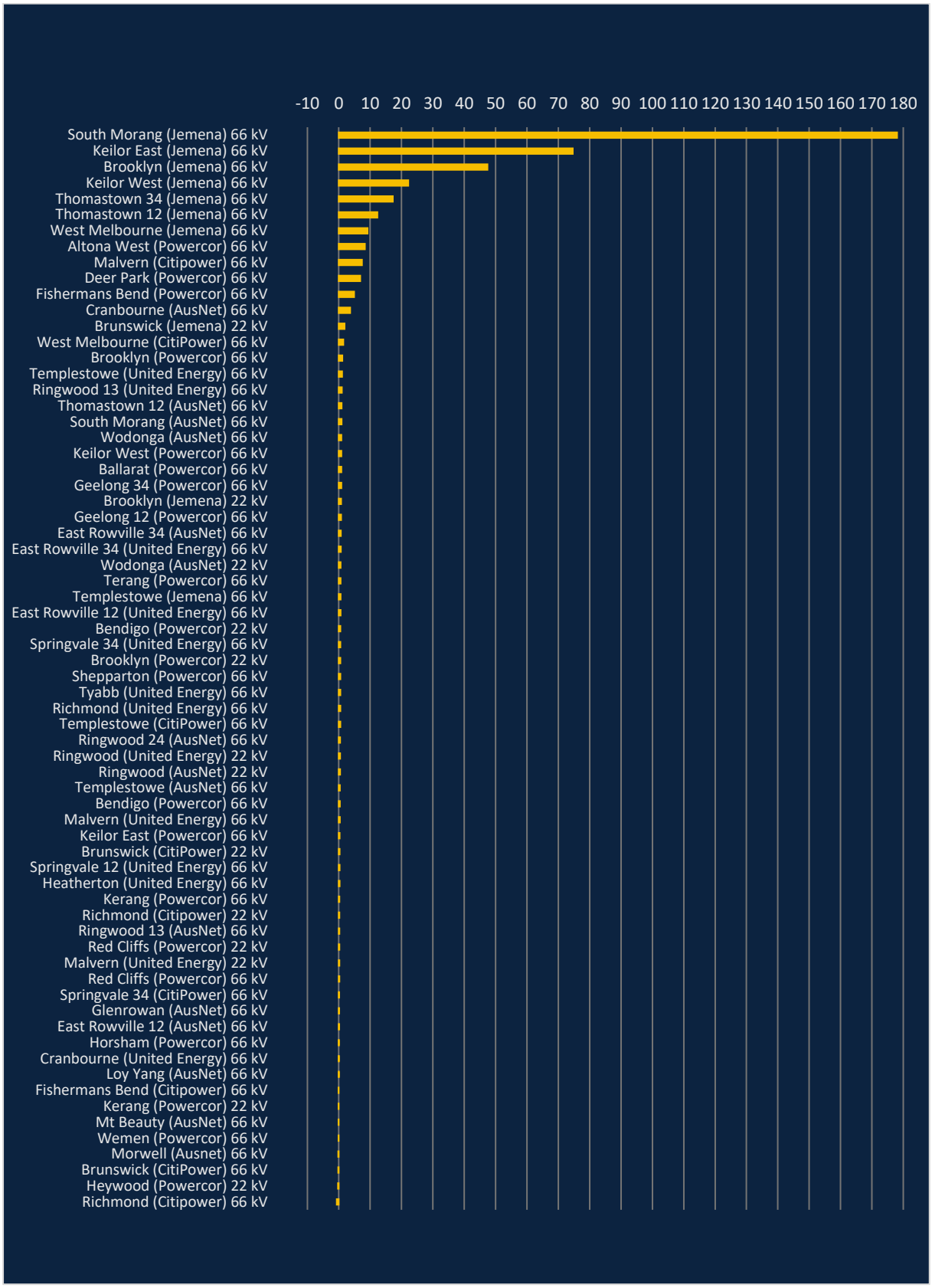

Figure 2 Forecast average annual linear change in maximum operational demand for winter, 10% POE, expressed as a percentage of 2024–25 actual operational seasonal demand.

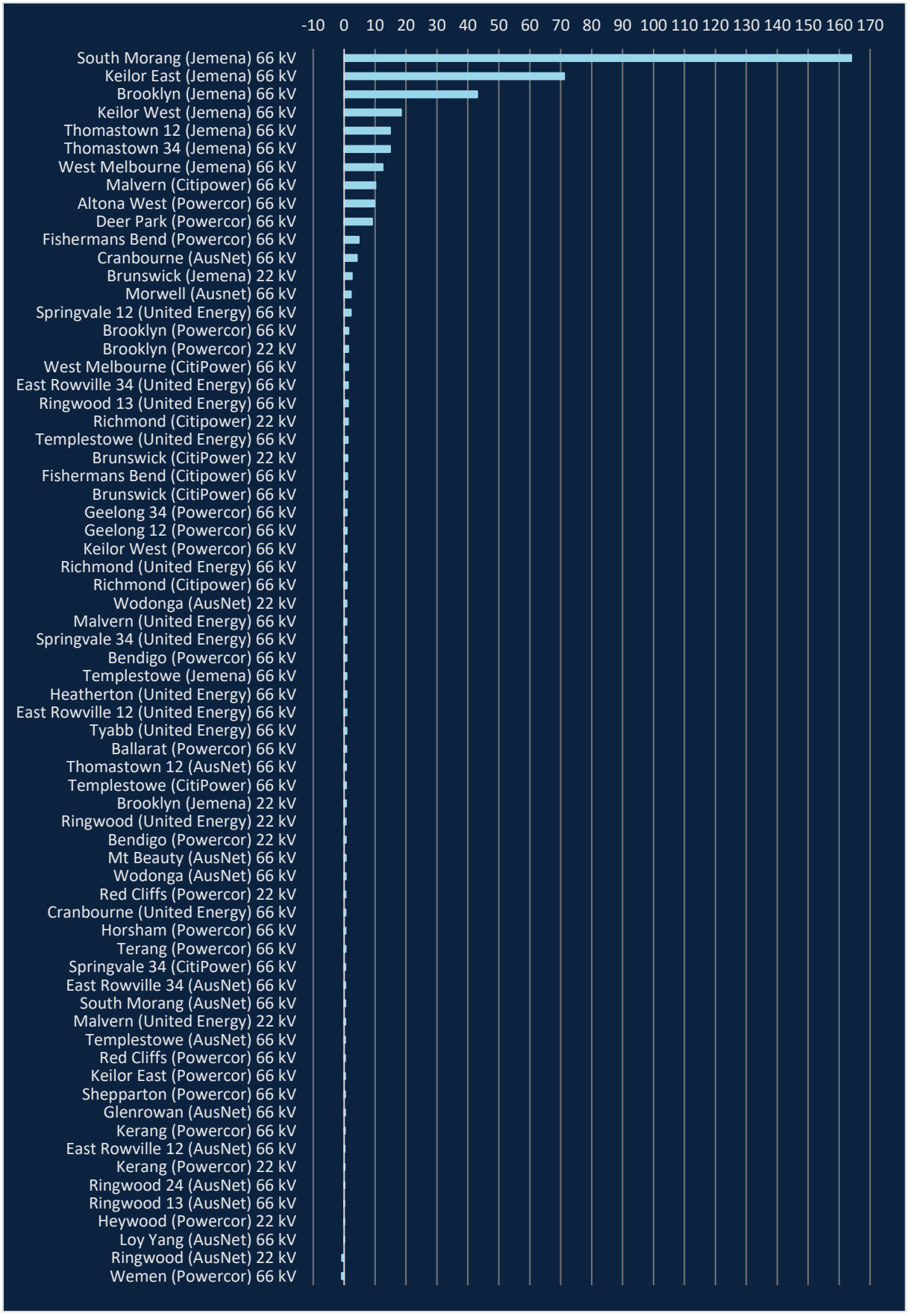

Figure 3 Forecast average annual linear change in minimum operational demand for summer, 90% POE, expressed as a percentage of 2024–25 actual operational seasonal demand.

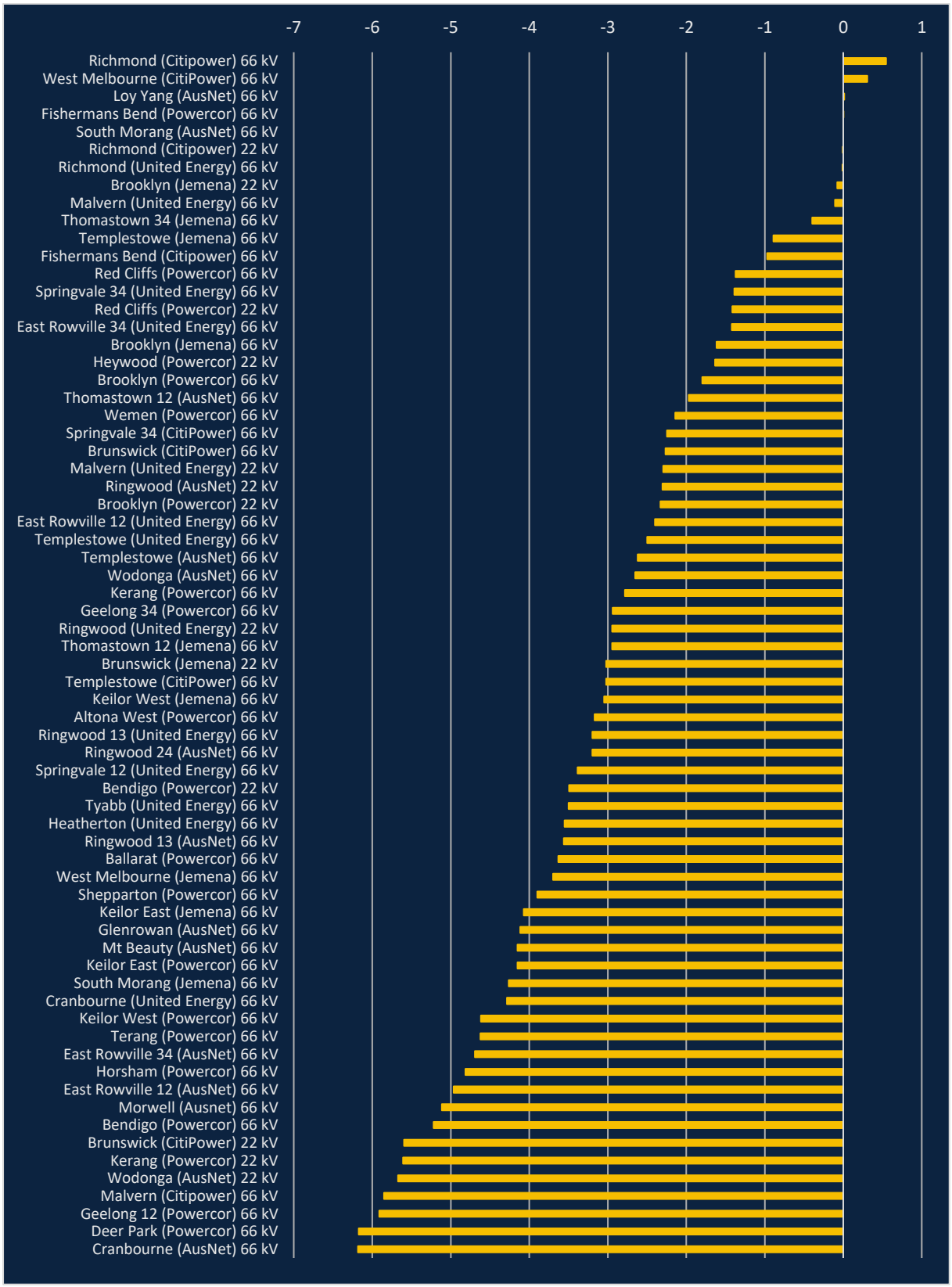

Figure 4 Forecast average annual linear change in minimum operational demand for shoulder season, 90% POE, expressed as a percentage of 2024–25 actual adjusted seasonal demand.

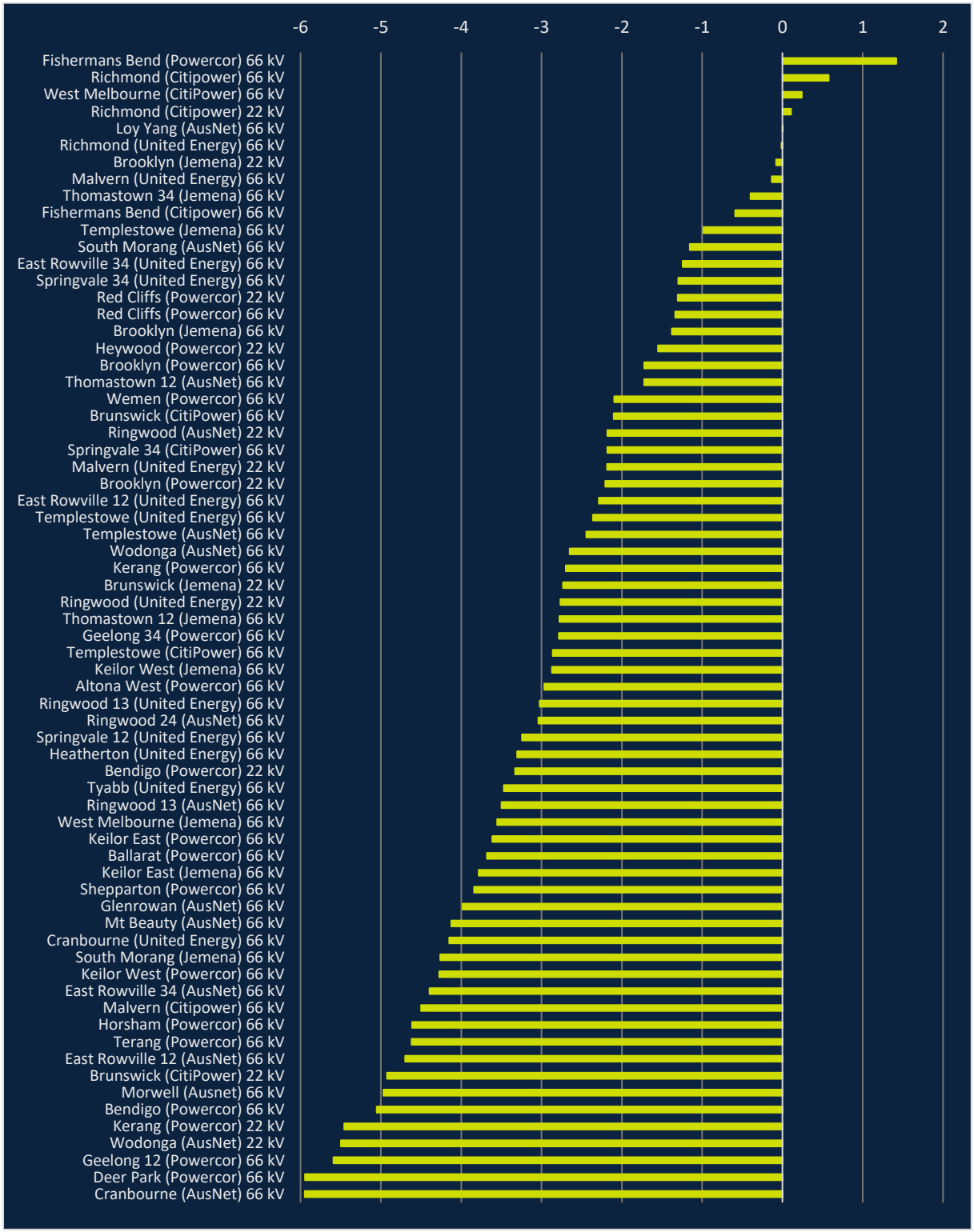

Table 1 Drivers at connection points with an average annual linear increase in summer or winter maximum operational demand exceeding 5%, based on the 10% POE forecast.

Connection Point	Key Drivers
South Morang (Jemena)	Rapid residential expansion in Melbourne's northern growth corridor alongside data centre connections at the sub-transmission level. The summer maximum demand is forecast to increase linearly over the outlook, with an average annual linear increase equivalent to 178% of the 2024–25 actual demand of 46.9 MW.
Keilor East and West (Jemena)	Greenfield residential expansion on the urban fringe, such as Sunbury, Sydenham, Gisborne and Woodend and anticipated data centre connections. In Keilor East and West, summer maximum demand is forecast to increase linearly over the outlook, with average annual linear increases equivalent to 74.6% and 22.2% of the 2024–25 actual maximum demands of 202 MW and 155 MW, respectively.
Brooklyn (Jemena)	Rising industrial and commercial load in Melbourne's inner west, combined with anticipated data centre connections. The summer maximum demand is forecast to increase linearly over the outlook, with an average annual linear increase equivalent to 47.4% of the 2024–25 actual demand of 211 MW.
Thomastown (AusNet/Jemena)	Residential load growth at Coolaroo and Somerton and data centre connections.
West Melbourne (CitiPower/Jemena)	Progressive load transfers from the retiring WMTS 22 kV system and the gradual ramp-up of Melbourne Metro Tunnel Supply at 66 kV.
Altona West (Powercor)	High population growth and booming commercial/industrial developments across Melbourne's outer west.
Malvern (CitiPower)	Established inner-south eastern suburbs, with growth driven by infill residential and commercial development.
Deer Park (Powercor)	Rapid residential and industrial growth across Melbourne's western corridor, coupled with recent load transfers from other terminal stations.