
# AUGMENTATION

## SOUTHERN FEEDER THERMAL AUGMENTATION PROGRAM

UE BUS 3.03 – PUBLIC

2026–31 REGULATORY PROPOSAL

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# 1. Overview

The United Energy (UE) network distributes electricity to customers in Melbourne's southeast and the Mornington Peninsula. UE's service area is largely urban and semi-rural, and although geographically small (about one percent of Victoria's land area), it accounts for around one-quarter of Victoria's population and one-fifth of Victoria's electricity maximum demand.

The southern region extends from Frankston down through the Mornington Peninsula. Frankston denotes the southern rim of the Melbourne metropolitan area and is the gateway to the Mornington Peninsula. Frankston is one of the largest retail areas outside of the Melbourne CBD.

This business case focuses on increasing capacity in Langwarrin and Dandenong South to account for feeders reaching their thermal capacity during the 2026–31 regulatory period.

Augmentations of the following feeders are proposed:

- Feeder DVY24 from the Dandenong Valley (DVY) zone substation
- Feeder LWN21 from the Langwarrin (LWN) zone substation.

Expenditure to deliver the preferred option for each feeder is summarised in Table 1.

**TABLE 1 PREFERRED OPTIONS EXPENDITURE ($M, 2026)**

| FEEDER | FY27 | FY28 | FY29 | FY30 | FY31 | TOTAL |
|---|---|---|---|---|---|---|
| DVY24 – New feeder at DVY and offload DVY24 | 1.3 | - | - | - | - | 1.3 |
| LWN21 – Extend LWN23 with overhead line to offload LWN21 | - | 0.5 | - | - | - | 0.5 |

Each of these proposed investments is supported by our attached detailed economic modelling. [1]

[1] See UE MOD 3.02 - Dandenong Valley new 22kV feeder - Jan2025 – Public and UE MOD 3.03 - Langwarrin feeder works - Jan2025 - Public

# 2. The DVY24 feeder

DVY24 provides electricity supply to a fast growing industrial and commercial customer base in Dandenong South. It is supplied from the Dandenong Valley zone substation (DVY).

## 2.1 Identified need

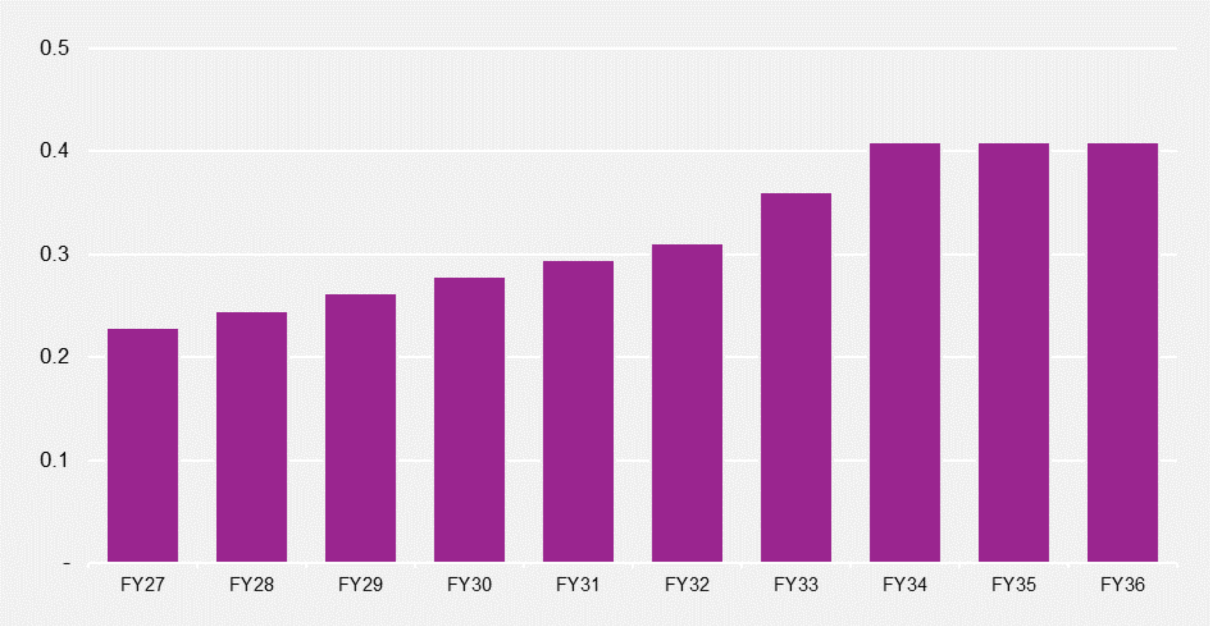
Dandenong South's growth is driven by large greenfield developments, particularly in the area south of Abbots Road and East of Dandenong-Frankston Road. There is substantial amount of undeveloped land available in the area with easy access to major arterial roads.

Without intervention, demand growth is expected to exceed the capacity of DVY24 in FY26. Operational transfers are available to reduce the energy at risk resulting from exceedance of DVY24's capacity, but a longer-term solution is necessary to mitigate energy at risk.

Without intervention, exceeding the thermal capacity rating of DVY24 will result in deteriorating reliability of supply.

The corresponding total value of energy at risk supplied by DVY24 is shown in figure 1 below.

FIGURE 1 VALUE OF EXPECTED UNSERVED ENERGY ($M, 2026)




## 2.2 Assessment of credible options

Several credible options were considered to meet the identified need. A summary of the cost and net benefit of each credible option are described in Table 2 below. Further detail is provided in our attached cost-benefit modelling.

**TABLE 2 OPTIONS CONSIDERED AND BENEFIT SUMMARY ($M 2026)**

| DESCRIPTION OF WORKS | ASSESSMENT | PV COST | NET BENEFIT |
|---|---|---|---|
| Option one: base case): no capital investment or change to existing practices | The forecast loads on feeder DVY24 will result in maximum demand on the feeder exceeding its thermal rating in the 2026–31 regulatory period. This option fails to address the identified need to maintain reliability of supply to customers | - | - |
| Option two: new feeder at DVY and offload DVY24 | Establishing a new feeder from DVY to the existing DVY32 circuit breaker location would mitigate the energy at risk | -0.7 | 4.7 |
| Option three: augment DVY24 feeder | Upgrading 1.1 km of DVY24's exit cable and reconductoring the initial overhead backbone section close to DVY will increase the rating of DVY24 to 350/390A. Sufficient capacity will be created to mitigate energy at risk | -0.4 | 4.5 |

## 2.3 Preferred option

The preferred option to address the identified need is option two. It provides sufficient capacity to manage growing demand and results in the highest net benefit for customers.

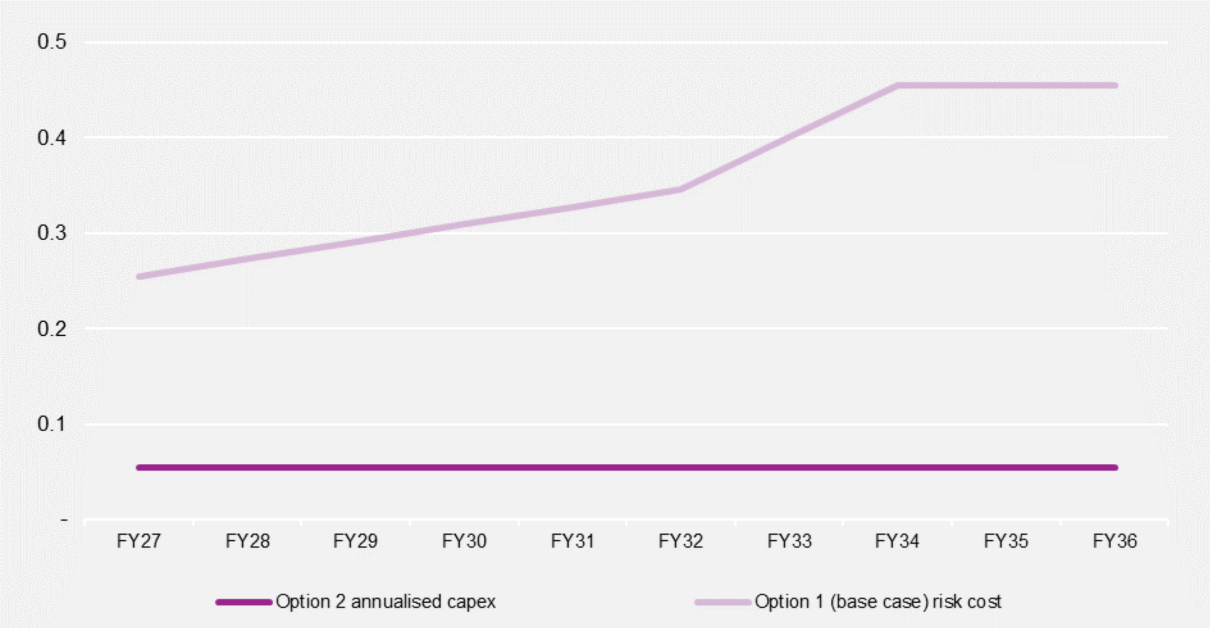
The forecast expenditure for option two is shown in Table 3 below.

**TABLE 3 EXPENDITURE FORECAST FOR PREFERRED OPTION ($M 2026)**

| PROJECT | FY27 | FY28 | FY29 | FY30 | FY31 | TOTAL |
|---|---|---|---|---|---|---|
| New feeder at DVY and offload DVY24 | 1.3 | - | - | - | - | 1.3 |

Assessment of optimum timing found the economic benefits of option two are maximised if it is commissioned no later than FY27, when the value of energy at risk exceeds the annualised project cost. This assessment is shown in Figure 2.

**FIGURE 2 TIMING OF PREFERRED OPTION ($M 2026)**




## 2.4 Sensitivity analysis

Sensitivity analysis was undertaken to understand the impact of increasing and decreasing both the cost and the value of energy at risk mitigated on the net economic benefits of each option in different scenarios. Option two provides the highest net economic benefit under all scenarios and remains the preferred option. Further information on our sensitivity analysis can be found in our attached cost benefit modelling.

# 3. The LWN21 feeder

LWN21 is a high-capacity feeder with a summer thermal rating of 13.4MVA and winter thermal rating of 15.12MVA. This feeder provides electricity supply to more than 4,000 customers in the Langwarrin, Cranbourne South and Pearcedale areas. It is supplied from the Langwarrin zone substation (LWN).

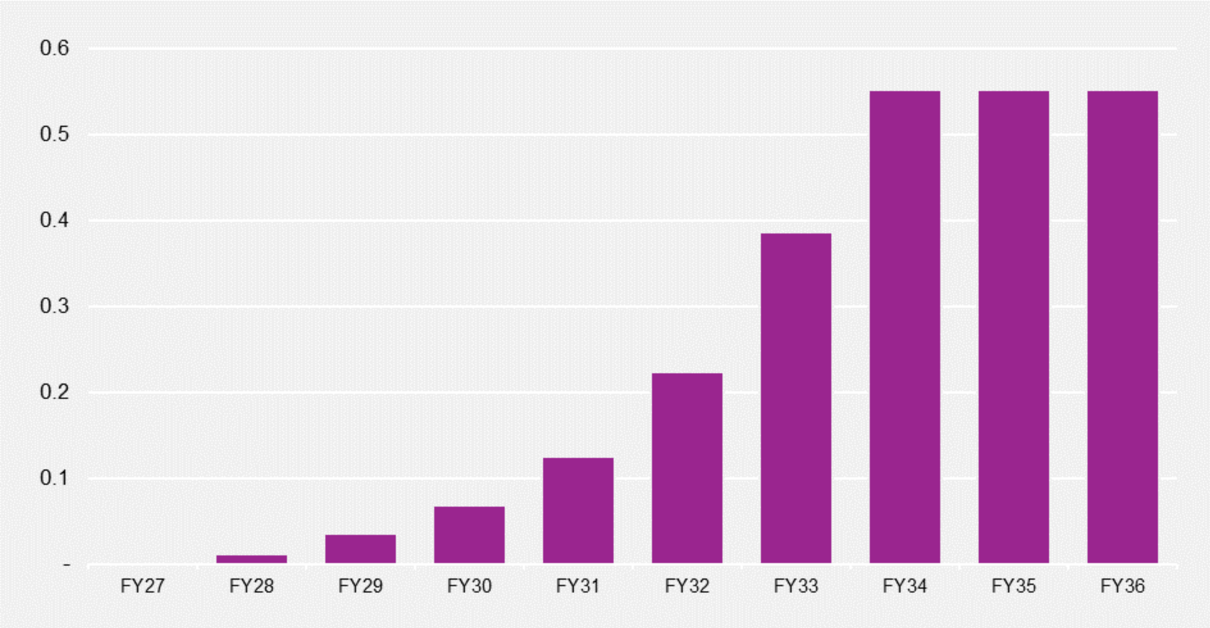
## 3.1 Identified need

Cranbourne South is forecast to nearly double in population, from 32,310 in 2026 to 62,795 in 2036, led by in-demand greenfield developments such as Botanic Ridge. Without intervention, demand from a growing population will exceed the capacity at LWN21 in FY28.

Exceeding the thermal capacity rating of LWN21 will result in deteriorating reliability of supply.

The corresponding total value of energy at risk supplied by LWN21 is shown in Figure 3 below.

FIGURE 3 LWN21 VALUE OF EXPECTED UNSERVED ENERGY ($M, 2026)




## 3.2 Assessment of credible options

Several credible options were considered to meet the identified need. A summary of the cost and net benefit of each credible option is described in Table 4 below. Further detail is provided in our attached cost-benefit modelling.

**TABLE 4 OPTIONS CONSIDERED AND BENEFIT SUMMARY ($M 2026)**

| DESCRIPTION OF WORKS | ASSESSMENT | PV COST | NET BENEFIT |
|---|---|---|---|
| Option one (base case): no capital investment or change to existing practices | The forecast loads on feeder LWN21 will result in maximum demand on the feeder exceeding its thermal rating in the 2026–31 regulatory period. Option one fails to address the identified need to maintain reliability of supply to customers | - | - |
| Option two: extend LWN23 with overhead line to offload LWN21 | Constructing 410m of overhead line and installing switchgear to transfer loads from LWN21 to the underutilised LWN23 would create sufficient capacity on LWN21 to mitigate energy at risk | -0.3 | 2.3 |
| Option three: extend LWN32 with reconductoring to offload LWN21 | Reconductoring 890m of existing overhead lines and installing 690m of underground cables and one manual gas switch to transfer loads from LWN21 to the underutilised LWN32 would create sufficient capacity on LWN21 to mitigate energy at risk | -0.6 | 2.0 |

## 3.3 Preferred option

The preferred option to address the identified need is option two. It provides sufficient capacity to manage growing demand and results in the highest net benefit for customers.

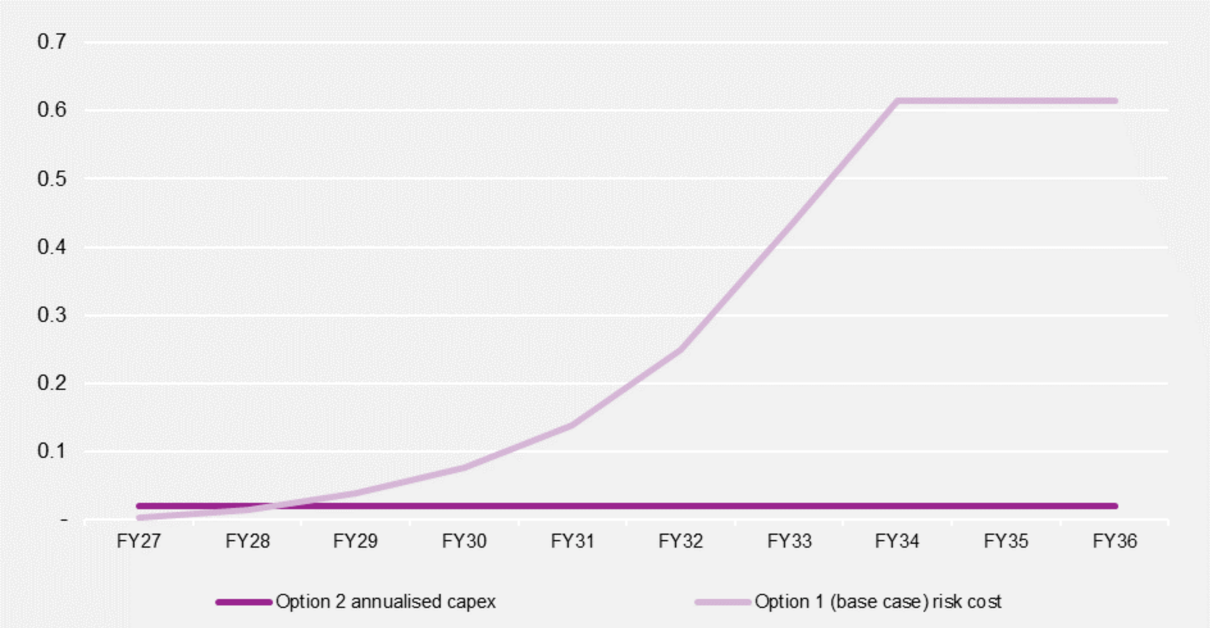
The forecast expenditure for option two is shown in Table 5.

**TABLE 5 EXPENDITURE FORECAST FOR PREFERRED OPTION ($M 2026)**

| PROJECT | FY27 | FY28 | FY29 | FY30 | FY31 | TOTAL |
|---|---|---|---|---|---|---|
| Extend LWN23 with overhead line to offload LWN21 | - | 0.5 | - | - | - | 0.5 |

Assessment of optimum timing found the economic benefits of option two are maximised if it is commissioned no later than FY28, as the value of energy at risk exceeds the annualised project cost from this time. This assessment is shown in Figure 4.

**FIGURE 4 TIMING OF PREFERRED OPTION ($M 2026)**




## 3.4 Sensitivity analysis

Sensitivity analysis was undertaken to understand the impact of increasing and decreasing both the cost and the value of energy at risk mitigated on the net economic benefits of each option in different scenarios. Option two provides the highest net economic benefit under all scenarios and remains the preferred option. Further information on our sensitivity analysis can be found in our attached cost benefit modelling.

For further information visit:

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