CITIPOWER

AUGMENTATION

COLLINGWOOD SUPPLY AREA

CP BUS 3.05 – PUBLIC

2026–31 REGULATORY PROPOSAL

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1. Overview

Collingwood is situated in Melbourne's inner-north and is characterised by high-density living and inner-suburban lifestyles. Our Collingwood (B) zone substation, Collingwood (CW) zone substation and North Richmond (NR) zone substation supply the Collingwood area.

Customer demand that is supplied by our B, CW and NR zone substations is expected to increase over the 2026–31 regulatory period. Single dwelling homes and shops are being replaced by large residential apartment towers around major transport and entertainment precincts, such as around Johnston Street and Victoria Park railway station.

This growth in demand is expected to lead to capacity constraints, particularly at our B zone substation.

We investigated several credible options to address expected capacity constraints. Our preferred option to address capacity constraints across the 2026–31 regulatory period is to install a third transformer at B.

This option is preferred because it addresses the identified need and provides the highest net economic benefits for customers.

Table 1 below shows the capital expenditure forecast for the preferred option.

TABLE 1 EXPENDITURE FORECAST FOR PREFERRED OPTION ($M, 2026)

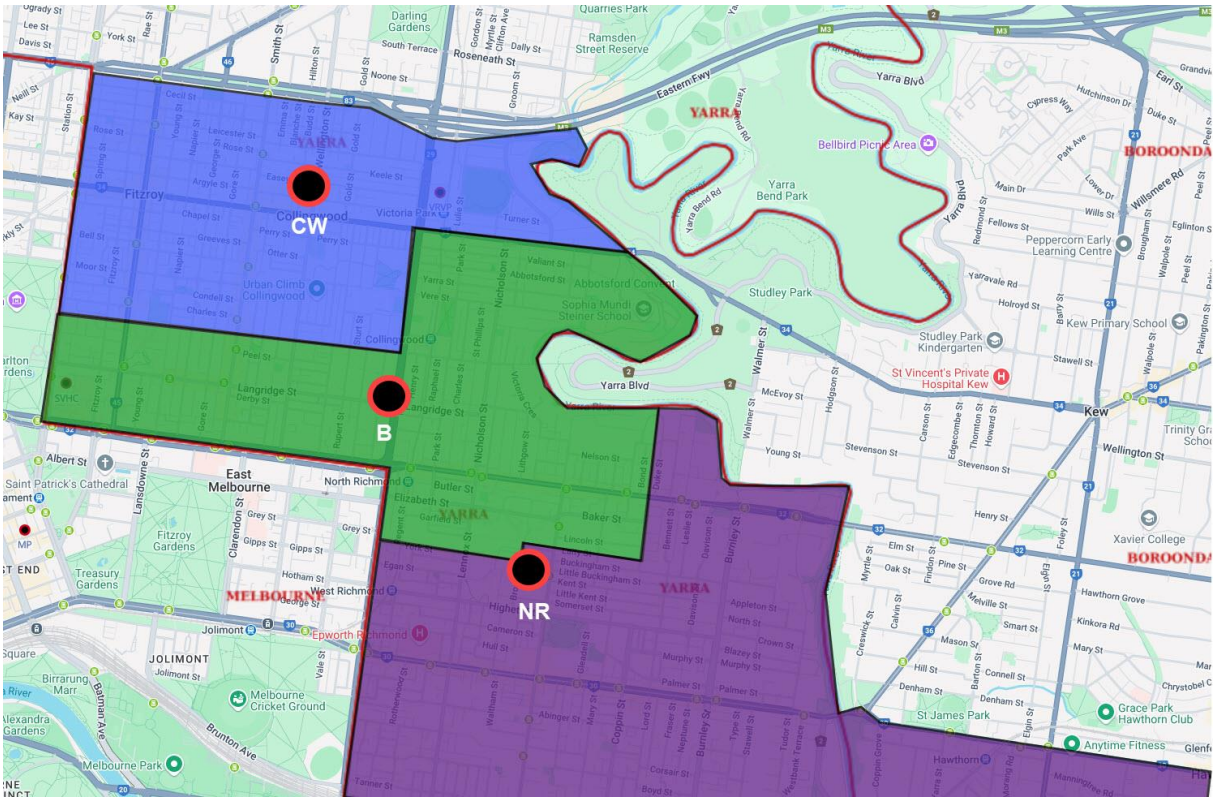
CAPITAL EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Install third transformer and associated equipment at B	4.1	4.1	-	-	-	8.2

2. Collingwood supply area

Collingwood is situated in Melbourne's inner-north and is characterised by high-density living and inner-suburban lifestyles. Our Collingwood (B) zone substation, Collingwood (CW) zone substation and North Richmond (NR) zone substation supply the Collingwood area.

Two sub-transmission lines from the Richmond terminal station (RTS) provide power to B, CW and NR. Figure 1 shows the Collingwood supply area.

FIGURE 1 COLLINGWOOD SUPPLY AREA



B comprises of two 20/27MVA transformers operating at 66/11kV and supplies 6,974 customers in Collingwood, Abbotsford and North Richmond. The majority of these customers are residential.

2.1 Identified need

The identified need is to provide a reliable supply of electricity to customers in our Collingwood supply area as forecast residential growth and development continue.

Customer demand that is supplied by our B, CW and NR zone substations is expected to increase over the 2026–31 regulatory period, driven by ongoing electrification, population growth and infill development.

This is consistent with continued gentrification in the area. Single dwelling homes and shops are being replaced by large residential apartment towers around major transport and entertainment precincts, such as around Johnston Street and Victoria Park railway station.

Figure 2 below shows that the maximum demand at B already exceeds its summer and winter N-1 thermal capacity ratings of 29 MVA and 32.2 MVA respectively. B will remain above this rating in the 2026–31 regulatory period.

FIGURE 2 MAXIMUM DEMAND FORECAST AT B (MVA)

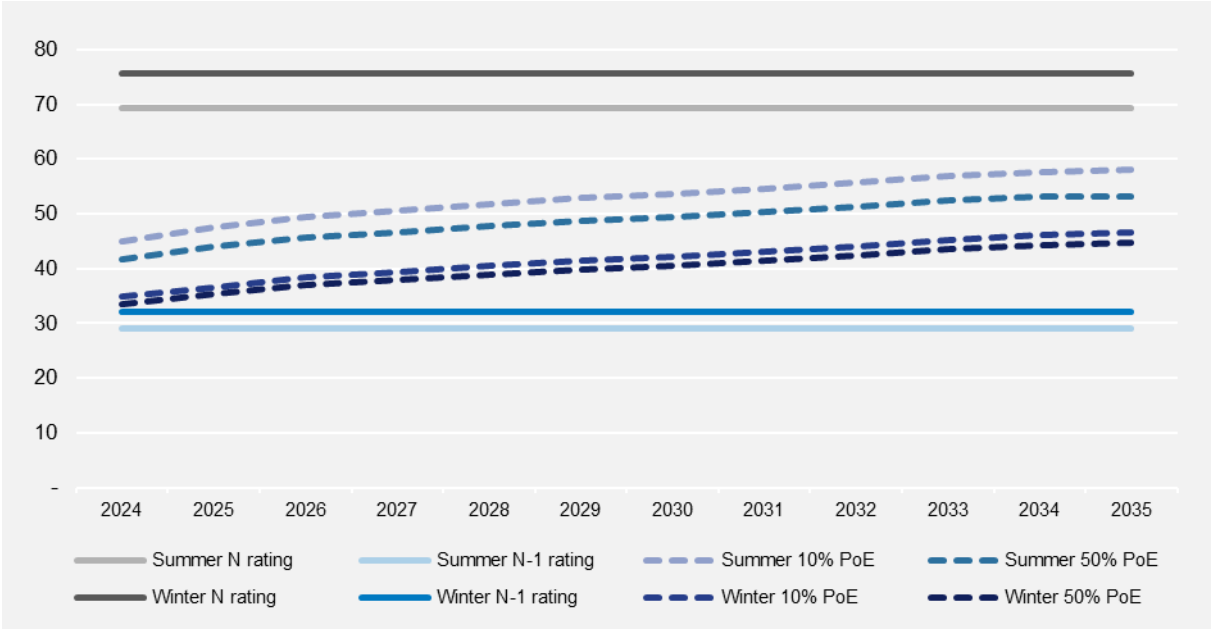


Figure 3 below shows that the maximum demand at CW already exceeds its summer and winter N-1 thermal capacity ratings of 34.4 MVA and 38.2 MVA respectively. This forecast assumes that we install a new third transformer at CW as part of our Brunswick Modernisation business case, which leads to the increase in asset rating from 2029 to 2030.

FIGURE 3 MAXIMUM DEMAND FORECAST AT CW (MVA)

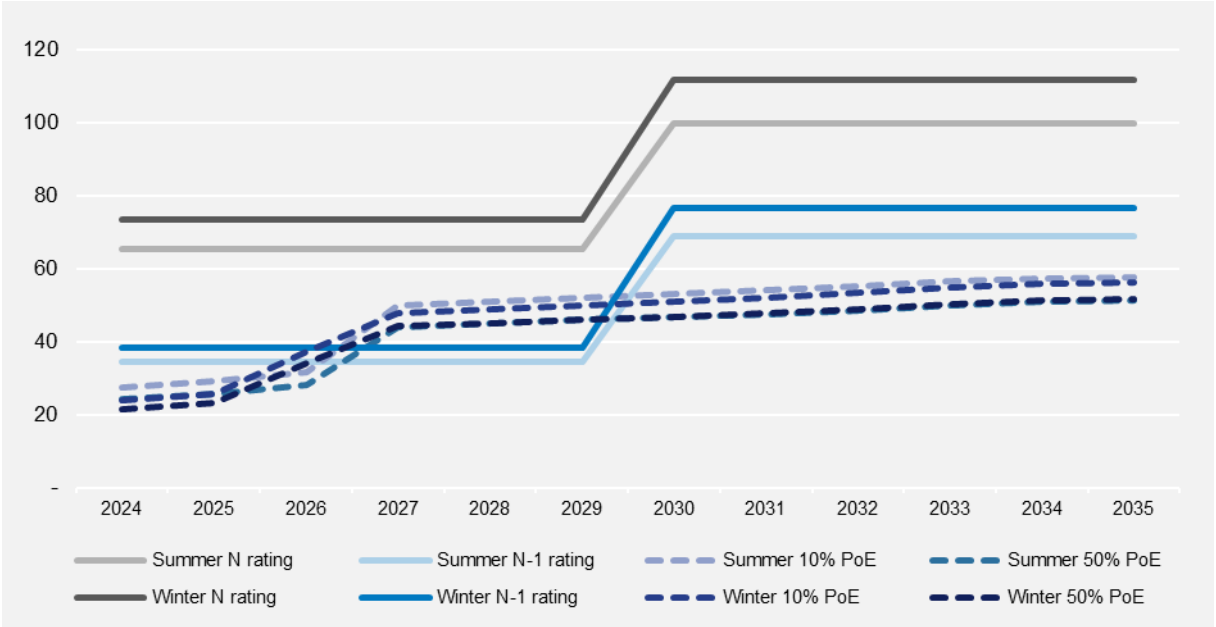
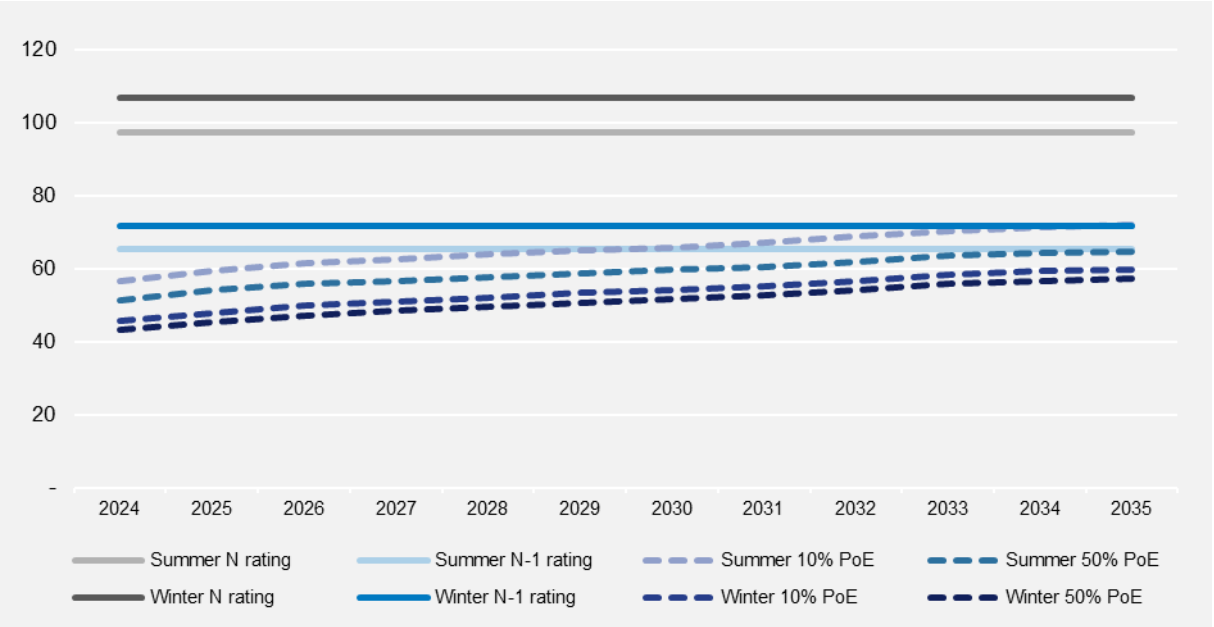


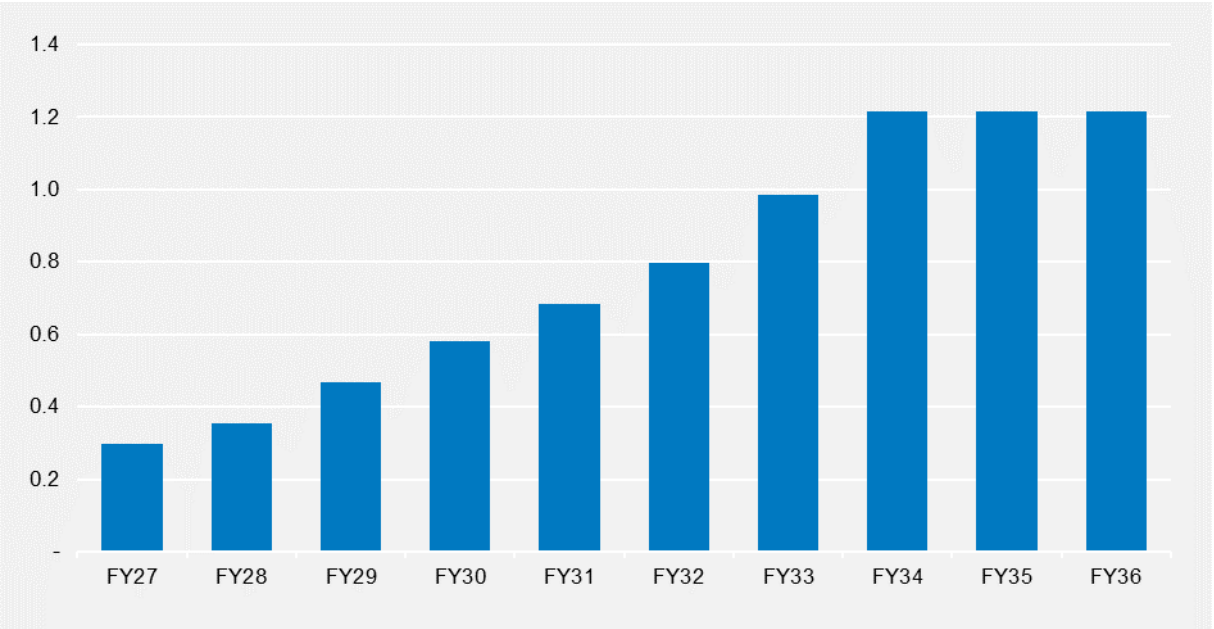
Figure 4 below shows that the maximum demand at NR is forecast to exceed its summer N-1 thermal capacity rating of 65.2 MVA with a 10 per cent probability of exceedance by 2030.

FIGURE 4 MAXIMUM DEMAND FORECAST AT NR (MVA)



The corresponding total value of energy at risk at the two zone substations without investments shown in figure 5 below.

FIGURE 5 VALUE OF ENERGY AT RISK IN THE COLLINGWOOD SUPPLY AREA ($M, 2026)



3. Assessment of credible options

Several options were considered to meet forecast demand growth in the B supply area. A summary of the costs, benefits and net present value of each option considered is described below and shown in table 2.

TABLE 2 OPTIONS SUMMARY ($M, 2026)

OPTIONS		PV COSTS	PV BENEFITS	NET BENEFITS
1	Maintain status quo	0	0	0
2	Install a third transformer and associated equipment at B	-4.5	16.3	11.8
3	Offload feeders at B to CW	-5.7	15.6	9.8
4	Offload feeders at B via existing network to NR	-7.8	15.6	7.8

A full description of the costs, benefits and optimal timing of each option can be found in our detailed cost-benefit modelling.[1]

3.1 Option one: maintain status quo

Maintaining the status-quo provides no mitigation to the energy at risk, other than through currently available operational responses such as 6.5 MVA limited load transfers. This option will lead to increased supply interruptions and greater potential asset failures as forecast loads exceed the capacity of the substation.

This option does not address the identified need to keep reliability of electricity supply to customers within required standards.

3.2 Option two: install a third transformer and associated equipment at B

This option involves the installation of a third transformer at B to allow for greater load capacity in B's service area and would sufficiently addresses the identified need in the area.

The works required to implement this option include:

- installation of an outdoor 66/11kV 20/27MVA transformer including current transformers
- installation of 66kV and 11kV connections including connection to the neutral earthing resistor

[1] CP MOD 3.03 - Collingwood supply area - Jan2025 - Public

- upgrading of existing protection, control and communication schemes to accommodate the new configuration.

It is noted that this option only solves the energy at risk present at B.

The present value of expenditure required under this option and the benefits of improved capacity at B relative to the status quo are described in table 3 below.

TABLE 3 OPTION TWO: BENEFITS ASSESSMENT SUMMARY ($M, 2026)

OPTION TWO	PV COSTS	PV BENEFITS	NET BENEFITS
Install third transformer and associated equipment at B	-4.5	16.3	11.8

3.3 Option three: offload feeders at B to CW

This option involves offloading feeders B011, B021 and B03 to CW via augmentation of the existing 11kV distribution network. Load transfers of up to 12 MVA would be made available through these works.

For this option to be credible, it is assumed that the third transformer at CW will be installed as part of the Brunswick Modernisation program.[2] On this basis, the costs of establishing the third transformer at CW not been considered in this option.

The works required to implement this option include:

- extending three new feeders from CW along Wellington Rd and tie to existing 11kV distribution feeders (tie on to B011, B021 and B03) to enable load transfers
- line upgrading and uprating works for B011, B021 and B03 to enable load transfers to CW.

Works on this project would commence during the beginning of the regulatory period to minimise supply disruption to customers. It is expected that the distribution works would be completed by the FY27.

The present value of expenditure required under this option and the benefits of improved capacity at B relative to the status quo are described in table 4 below.

TABLE 4 OPTION THREE: BENEFITS ASSESSMENT SUMMARY ($M, 2026)

OPTION THREE	PV COSTS	PV BENEFITS	NET BENEFITS
Offload feeders at B to CW	-5.7	15.6	9.8

3.4 Option four: offload feeders at B via existing network to NR

Option four involves offloading feeders B013, B014 and B026 to NR via augmentation of the existing 11kV distribution network. Load transfers of up to 12 MVA would be made available through these works as NR is adjacent to B.

[2] CP BUS 3.03 – Collingwood supply area – Jan2025 – Public

The works required to implement this option include:

- Extending three new feeders from NR zone substation through Highett, Lennox and Park St to pick up B feeders (B013, B014 and either B026)
- Line upgrading and uprating works for B013, B014 and B26 to enable the load transfers to NR

Works on this project will commence during the beginning of the regulatory period to minimise the supply disruption to customers.

Option four has a similar package of works to option three, and presents similar net economic benefits as option three does at B. However, the transferred load via the B feeders under this option will cause the unserved energy at NR to increase.

The present value of expenditure required under this option and the benefits of improved capacity at B relative to the status quo are described in table 5 below.

TABLE 5 OPTION FOUR: BENEFITS ASSESSMENT SUMMARY ($M, 2026)

OPTION FOUR	PV COSTS	PV BENEFITS	NET BENEFITS
Offload B feeder to NR via existing 11kV network to enable load transfers of up to 12MVA	-7.8	15.6	7.8

3.5 Option five: non-network solution

Given the size of the support needed from a non-network or SAPS solution, and it being required at all times of the year to maintain supply reliability within the Melbourne Inner North area, it is unlikely that a non-network or SAPS option would be technically and economically viable to address the identified need.

We will continue to publish information on this constraint and project in the Distribution Annual Planning Report (DAPR) and follow our Demand Side Engagement Strategy for this project to ensure that non-network providers are given the opportunity to propose economic solutions that are technically and economically viable.

With the level of investment required for the most expensive credible option, this project will be subject to a regulatory investment test for distribution (RIT–D) before investment. This will maximise the chance of a viable non-network solution being identified through the engagement of non-network service providers during the RIT-D consultation.

4. Preferred option

The preferred option for the 2026–31 regulatory period is option two, to install a third transformer at B. This option is preferred because it addresses the identified need and provides the highest net economic benefits. Without this augmentation, there is insufficient system capacity to supply forecast demand. Our preferred option is the least cost option that maximises the net benefits to customers.

A detailed economic assessment, located in our attached cost benefit modelling, of the optimal timing for option two shows the net benefits of establishing a third transformer are maximised if this project is commissioned no later than FY27, as shown in figure 6.[3]

FIGURE 6 TIMING OF PREFERRED OPTION ($M, 2026)

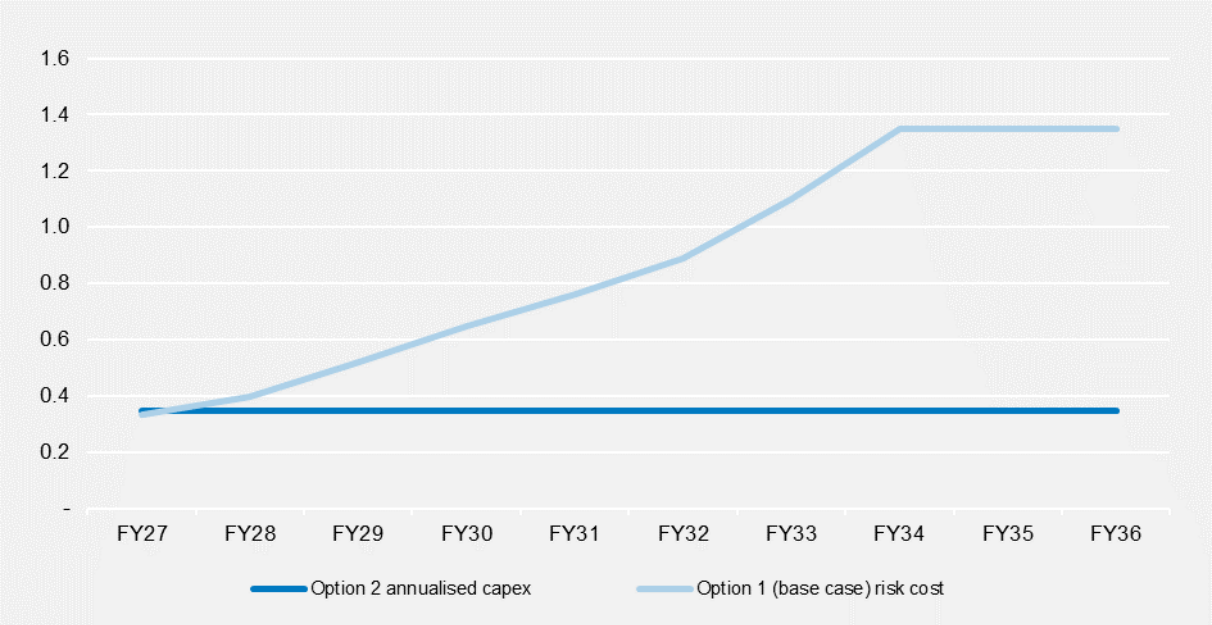


Table 6 below shows the capital expenditure forecast for the preferred option.

TABLE 6 EXPENDITURE FORECAST FOR PREFERRED OPTION ($M, 2026)

CAPITAL EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Install third transformer and associated equipment at B	4.1	4.1	-	-	-	8.2

4.1 Sensitivity analysis

Sensitivity analysis was undertaken to understand the impact of increasing costs and decreasing 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

[3] CP MOD 3.03 - Collingwood supply area - Jan2025 - Public

option. Further information on our sensitivity analysis can be found in our attached cost benefit modelling.[4]

[4] CP MOD 3.03 - Collingwood supply area - Jan2025 - Public

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