Appendix 1.18:

17519206 – Molonglo Zone Substation

20001374 – Molonglo Feeders

Regulatory proposal for the ACT electricity distribution network 2024–29

Contents

1. Executive Summary

This Business Case addresses the growth of electricity demand in the Molonglo Valley and evaluates options into how Evoenergy can meet these needs. The maximum demand in the Molonglo Valley is forecast to increase steadily over the next 30 years as load grows in the new and developing suburbs of Weston, Coombs, Wright, Denman Prospect and Whitlam.

The remaining capacity of the existing zone substations and 11 kV feeder network supporting the Molonglo Valley District is significantly below the level required to meet the forecast load during the 2024-2029 regulatory period, which is expected to reach 36.4MVA by 2029.

Evoenergy considered a range of options to meet this demand growth as part of its 2019-24 regulatory proposal, resulting in the identification of a new Zone Substation in the Molonglo Valley as the preferred solution, coupled with new feeders to serve the new suburbs as they develop. As part of the Regulatory Investment Test for Distribution (RIT-D) completed in September 2020, it was identified that while the construction of the zone substation was the preferred permanent solution, it could be deferred by the implementation of a battery[1]. Evoenergy has reached an agreement with ITP Renewables to implement a battery energy storage system (BESS) which will defer the zone substation by approximately 1 year.

It was originally intended to deliver the substation in three stages, with Stage 1 to be delivered during the 2019-24 regulatory period. Stage 1 was to utilise the third-party BESS identified in the RIT-D to provide an interim supply solution followed by the installation of the Mobile Zone Substation (MoSS) to supply the initial feeders. In combination, the MoSS and BESS were intended to ensure sufficient capacity during the regulatory period. Stages 2 and 3, involving the installation of a permanent 30/55 MVA power transformer at each stage and associated switchgear on the substation site, were proposed to be deferred to future regulatory periods.

However, the failure of the MoSS transformer during 2022 led to a re-evaluation of risk and a commitment from Evoenergy to commence the installation of a permanent 55 MVA power transformer during the 2019-24 regulatory period, with a targeted completion date of winter 2025. A substantial proportion of the Stage 1 and 2 works, including the civil construction works for the substation site on William Hovell Drive, have now been completed or are scheduled for completion during the current regulatory period. However the energisation of the first transformer will not occur until 2025, and as such it is within the scope of the 2024-29 regulatory proposal.

Despite the capacity that will be delivered when the Stage 2 transformer is installed and the Molonglo Zone Substation is commissioned, load forecasting indicates the combined capacity of the substation and the existing 11 kV feeder network will be insufficient to meet the forecast load and N-1 reliability beyond summer 2027. Evoenergy is therefore proposing to also implement Stage 3, involving the installation of the second 30/55 MVA transformer, during the 2024-29 regulatory period.

Evoenergy has progressed several 11kV feeder projects to support Molonglo Valley load growth during the 2019-24 regulatory period. Further feeder installations or extensions from existing zone substation have been considered and found to not be feasible supply options, particularly in light of the magnitude of the forecast load growth to 2029.

[1] https://www.evoenergy.com.au/-/media/evoenergy/documents/emerging-technology/molonglo-rit-d-final-project-assessment-report.pdf?la=en&hash=3FD95789DAC214A5C7CC8B9DB2C04A6FC226934B

Broader demand management beyond the demand management agreement with the third party BESS is not considered to be a credible option due to the insufficient capacity of existing infrastructure and the requirement for greater than 40% of new demand to be offset.

The assessment of the options considered to address the need is provided in Table 1 below.

Table 1: Options assessment and preferred option identification

Ref	Option	Cost in 2024-2029 period^ (million)	NPV^* (million)	Evaluation Summary
0	Utilise existing network infrastructure	$0	$0	Not selected as not technically feasible
1	Grid battery only	$6,087.12	$1,670.74	Not selected due to lower NPV
2	Deliver remaining works for Molonglo Zone Substation – install two 30/55 MVA transformers and associated 132/11kV infrastructure at the substation site 11kV Feeder works	$14.49	$6,160.42	**Recommended**. Highest NPV technically feasible option

^In FY23/24 dollars, excluding corporate overheads, excluding contingency and excluding GST

****NPV relative to base case – utilise existing network infrastructure***

The recommended option based on the options evaluation presented in this report is Option 2, as this meets the requirements of the need, is technically and economically feasible, and has the highest NPV. The initial stage for option is proposed to be implemented by 2025 with the second stage by 2029.

A preliminary cost estimate for the recommended option is $24.42 million in FY24 dollars, excluding corporate overheads, excluding contingency, and excluding GST with **$14.49 million in FY24 dollars proposed to be spent in the 2024-2029 period**.

A preliminary cost estimate for the associated Molonglo 11kV feeders for the 2024-2029 period is **$3.33million in FY24 dollars, excluding corporate overheads, excluding contingency, and excluding GST**

2. Identified Need

2.1. Background and Context

Over the next 30 years substantial greenfield development is expected to occur in the Molonglo Valley District, which is situated in Canberra's west, approximately 10 km from the Canberra CBD. When complete, the newly developed suburbs of North Weston, Coombs, Wright, Denman Prospect and Whitlam in this region are expected to support an estimated 21,000 dwellings plus shopping centres, schools and community facilities.

The first stage of Whitlam commenced construction in 2019 with the first houses energised in 2021. Throughout 2020 and 2021 there was a significant acceleration of construction in Denman Prospect. Land releases between 2020 and 2024 will support an estimated 4,357 residential dwellings in addition to a shopping centre, schools, commercial areas, and community facilities.

Initial supply is being provided to these developments through two extended 11 kV feeders from Woden Zone Substation and one extended 11 kV feeder from Civic Zone Substation. Additional capacity to Denman Prospect is being provided through an extension of the existing 11kV Streeton feeder (Project Justification Report – 20001374) which is currently under construction. Evoenergy has also completed the extension of the Belconnen Way South feeder to provide additional capacity in the area.

Long-term planning to supply this growth was undertaken as part of Evoenergy's 2019-24 regulatory proposal. This led to the identification of a new Zone Substation in the Molonglo Valley as the preferred solution, coupled with new 11kV feeders to serve the new suburbs as they develop. The Molonglo Zone Substation was originally proposed to be developed in three stages:

- **Stage 1** would involve the relocation of Evoenergy's 15MVA mobile substation (MOSS) to the Molonglo Zone Substation site by June 2021, together with the construction of two new feeders from the MOSS to the Molonglo Valley load centre.
- **Stage 2** would comprise the installation of one 132/11 kV 30/55 MVA transformer, associated 132 kV switchgear, 11 kV switchroom and one 11 kV switchboard by 2026. It was proposed that this transformer would operate in parallel with the MOSS providing 15 MVA firm capacity
- **Stage 3** would comprise installation of a second 132/11 kV 30/55 MVA transformer and second 11 kV switchboard by 2030, and removal of the MOSS. This would provide Molonglo Zone Substation with 55 MVA firm capacity.

The proposed 3 stage solution was subsequently confirmed in the Regulatory Investment Test – Distribution (RIT-D) for the Molonglo area, which Evoenergy completed in September 2020. A further outcome of the RIT-D was the procurement of non-network solution in the form a two-stage BESS, to provide additional capacity to defer the construction of the zone substation. This involves the proponent, ITP Renewables, installing a 6.9MVA/7.45 MWh BESS on to the Black Mountain feeder from Civic Zone to supply Whitlam – expected winter 2023, followed by a second 6.9MVA/7.45 MWh system on to Belconnen Way South feeder from Civic Zone Substation in early 2024.

In March 2022 the tap changer for the transformer on the MOSS experienced a failure, causing a reassessment of the options and a decision to bring forward the completion of Stage 2 to winter 2025.
A substantial proportion of the Stage 2 works have now been delivered, or are scheduled for completion during the current regulatory period with energisation of the 30/55 MVA transformer scheduled prior to winter 2025

2.2. Load Growth

Evoenergy's load forecasting indicates cumulative demand from development in Molonglo Valley area will reach 14.7 MVA from 2024, rising to 36.4 MVA in 2029.

The capacity provided by the 13.8MVA BESS, combined with the 11 kV feeder network feeder (including the extensions described in Section 2.1 above) will be insufficient to supply the forecast load beyond summer 2027.

Evoenergy's planning standards are set to ensure that peak demand can be met with an appropriate level of backup should a credible contingency event occur. A credible contingency event is the loss of a single network element that occurs sufficiently frequently, and has such consequences, as to justify the DNSP to take prudent precautions to mitigate. This is commonly referred to as an N-1 event.

3. Options

Evoenergy has considered network and non-network options to meet forecast demand in the Molonglo Valley area, including scope to defer investment. The following options have been considered to meet the investment need:

- Option 0 – Utilise existing network infrastructure (Base Case)
- Option 1 – Grid battery only
- Option 2 – Complete remaining works for Molonglo Zone Substation

3.1. Option 0: Utilise existing network infrastructure (Base Case)

The Base Case option involves maximising load-shifting through reconfiguration of the existing feeder network and implementation of the two-stage 13.8MVA/14.9MWh BESS in 2023/24.

The Base Case incorporates the Streeton and Belconnen Way South feeder extensions described in Section 2.1. Once these are completed there will be four feeders supplying the Molonglo Valley area, namely Streeton, Black Mountain, Hilder and Belconnen Way South. The BESS would be connected approximately on the midpoint of the Black Mountain (Stage 1) and Belconnen Way South (Stage 2) feeders.

Table 2 outlines how Evoenergy proposes to allocate the forecast load growth within this existing network, noting the limitations that may apply to each feeder in terms of geographic location, interconnectivity and proximity to new loads.

Table 2: Allocation of new loads to existing feeder network

Feeder Name	2021	2022	2023	2024	2025	2026	2027	2028	2029
Streeton		0.5	1.1	1.6	0.3			0.6	0.4
Black Mountain	0.5	1.7	1.6	1.8	0.7	1.6	1.4	1.1	1.1
Hilder	1.4	1.3	2.0	0.4					
Belconnen Way South		0.5	0.5	0.8	2.6	2.5	1.7	4.0	3.8
Additional Load (MVA)	1.9	4.0	5.2	4.6	3.7	4.1	3.1	5.7	5.3
Cumulative Additional Load (MVA)	**1.9**	**5.9**	**11.1**	**15.7**	**19.3**	**23.4**	**26.5**	**32.3**	**37.6**

Table 3 below highlights the impact of adding the future load onto the existing feeders, where some exceedance of thermal limits is observed on Black Mountain feeder from winter 2022, increasing progressively to thermal exceedances on all feeders from 2026. The maximum load supplied by each feeder as a percentage of its firm rating, is shown for summer and winter. Yellow denotes load above the firm rating, red denotes load above thermal rating.

Table 3: Feeder loadings in Base Case

Feeder	Summer		Winter		2021		2022		2023		2024		2025		2026		2027		2028		2029	
	Firm	Thermal	Firm	Thermal	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Streeton	5.5	7.3	6.2	8.2	6.1	7.3	6.5	7.8	7.5	8.9	8.8	10.5	9.0	10.9	9.0	10.9	9.0	10.9	9.6	11.5	9.9	11.9
Black Mtn	4.9	7.6	5.5	7.3	3.0	7.1	3.7	8.8	4.3	10.4	5.1	12.2	5.4	13.0	6.0	14.6	6.6	16.0	7.1	17.1	7.5	18.2
Hilder	5.2	7.0	5.9	7.8	3.7	6.2	4.5	7.5	5.7	9.5	5.9	9.9	5.9	9.9	5.9	9.9	5.9	9.9	5.9	9.9	5.9	9.9
Bel Way	5.4	7.1	6.1	8.1	3.3	5.0	3.6	5.5	2.6	4.0	3.1	4.8	4.9	7.4	6.5	9.9	7.7	11.6	10.3	15.6	12.8	19.4
Expected Unserved Energy (kWh)									153615		437078		569244		1070067		2094595		6691476		13851530	
Value of Expected Unserved Energy									$5,062,389		$14,403,892		$18,759,423		$35,264,062		$69,027,376		$220,517,584		$456,477,173	

The Base Case would result in Evoenergy breaching its Distribution Network Augmentation Standards and thus its obligation to provide a reliable and secure power supply.

Table 4: Power and energy required over thermal capacity of the existing network

Power & Energy over Thermal Ratings	2023	2024	2025	2026	2027	2028	2029
100% Load Forecast (assume no demand reduction)							
Worst case							
Maximum daily power above Thermal rating (MW)	3.1	4.9	5.6	7.2	7.5	9.7	14.7
Maximum daily energy above Thermal rating (MWh)	18.2	36.8	43.7	67.6	104.3	181.1	258.6
Daily hours above Thermal rating (hrs)	305	706	837	1438	2123	3627	5560

3.2. Option 1: Grid battery only

This option utilises a grid battery to supply the load growth that is in excess of the existing network's thermal capacity. A grid battery, although more expensive than a traditional network solution on a per MVA basis, has advantages over a traditional network solution. A grid battery is modular and also able to be redeployed, meaning it can represent a more economic option in an environment of demand uncertainty or where demand is expected to increase for a short period and then decline.

Table 5: BESS requirements to alleviate load over thermal rating

BESS required	2023	2024	2025	2026	2027	2028	2029
MWh capacity required	14.4	16.7	6.1	43.4	162.3	3066.8	4818.1
Estimated cost ($million)[2]	10	12.3	4.5	32.2	121.8	2,301.1	3,615.1

The estimated total cost for 7,508MW/15,000MWh BESS is **$6,087.1 million in FY24/25 dollars, excluding corporate overheads, contingency and GST.** This estimate does not contain provision for ongoing battery maintenance or the purchase of land to facilitate the implementation of a grid battery solution.

3.3. Option 2: Complete Stages 2 and 3 of Molonglo Zone Substation

This option involves delivering the outstanding works for Stage 2 and the full program of works for Stage 3 of the Molonglo Zone Substation, consistent with the project specifications outlined in the RIT-D Final Project Assessment Report[3]. Specifically this involves:

- **Stage 2 (outstanding works)** – install first 132/11 kV 30/55 MVA transformer. Completion targeted winter 2025.
- **Stage 3 –** install second 132/11 kV 30/55 MVA transformer and second 11 kV switchboard. Completion targeted summer 2027. This will provide 55MVA firm capacity.

According to the Base Case, the ability to supply the load from the surrounding network should the first transformer fail (N-1 scenario) would be insufficient after 2027. As such the second transformer is needed from 2028 to avoid significant energy at risk.

A preliminary cost estimate for Option 2 for the 2024-2029 regulatory period is **$11.16million in FY24 dollars excluding corporate overheads, contingency and GST**. The timing of this expenditure is shown in Table 6 below.

Table 6: Allocation of expenditure by year ($million)

Option 2	2024/25	2025/26	2026/27	2027/28	2028/29
Complete Stages 2 and 3 of Molonglo Zone Substation	7.09			0.81	3.28

[2] Based on Evoenergy's BESS estimated cost of $644 / kWh.

[3] https://www.evoenergy.com.au/-/media/evoenergy/documents/emerging-technology/molonglo-rit-d-final-project-assessment-report.pdf?la=en&hash=3FD95789DAC214A5C7CC8B9DB2C04A6FC226934B

Also associated with Option 2 is the installation of new feeders from Molonglo substation to supply the new suburbs as they grow. Approximately 11.5km of 3C/400mm^2 Aluminium XLPE cable is required to construct these 11kV feeders. The associated cost is **$3.33million in FY24 dollars excluding corporate overheads, contingency and GST**.

4. Options Evaluation

The commercial evaluation of the options identified to meet the need is set out in Table 7 below. Full financial details appear in Appendix A.

Table 7: Evaluation Summary and Recommended Option

Ref	Option	Cost^~ (millions)	NPV^* (millions)	Evaluation Summary
0	Utilise existing network infrastructure	$0	$0	Not selected as not technically feasible
1	Grid battery only	$6,087.1	$1,670.74	Not selected due to lower NPV
2	Deliver remaining works for Molonglo Zone Substation – install two 30/55 MVA transformers and associated 132/11kV infrastructure at the substation site 11kV feeder works	$14.49	$6,160.42	**Recommended**. Highest NPV technically feasible option

^FY23/24 dollars, excluding corporate overheads, excluding contingency and excluding GST
~Only includes expenditure for the 2024-2029 regulatory period
**NPV is relative to base case – utilise existing network infrastructure.*

5. Recommendation

The recommended option based on the options evaluation presented in this report is Option 2, as this meets the requirements of the need, is technically and economically feasible, and has the lowest cost (least negative NPV).

The 55 MVA firm capacity delivered by the remaining stages of the Molonglo Zone Substation will future-proof growth and development of the Molonglo Valley District for up to 30 years.

It can be implemented in time to meet the project needs as identified and will add to Evoenergy's regulated asset base. The asset will have an estimated economic life of 50 years.

The preliminary cost estimate for the recommended option for the 2024-2029 period is **$11.16million in FY24 dollars, excluding corporate overheads, excluding contingency, and excluding GST**.

The preliminary cost estimate for the associated Molonglo 11kV feeders for the 2024-2029 period is **$3.33million in FY24 dollars, excluding corporate overheads, excluding contingency, and excluding GST**

Appendix A

A.1 Cost Estimate – Option 2:

The below cost estimate details the whole cost of the option in FY21/22 dollars. Only a portion of this cost is proposed to be spent in the 2024-2029 regulatory period.

Project Cost Estimate

Project Number	17519206
Project Name	Molonglo Zone Substation
Project Manager	
Program	AUGEX

Labour

Normal Hours	Hours	Rate	Total
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		[redacted]
OT Hours	Hours	Rate	Total
Field OT Labour	-		-
Field Labour Total			41,226.23

Normal Hours	Hours	Rate	Total
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		[redacted]
OT Hours	Hours	Rate	Total
Non-Field OT Labour	-		-
Non-Field Labour Total			1,732,293.28

Total Normal Labour	10,849.00		1,773,519.52
Total OT Labour	-		-
Total Labour	10,849.00		1,773,519.52

Plant

Plant Type	Qty (Hrs)	Rate	Total
[redacted]			

Contract Payments

Total	Qty	Rate	Total
Stage 1	-	-	-
[redacted]			

[redacted]			

Materials

Item Description	Qty	Rate	Total
Total Internal Materials			-
Item Description	Qty	Rate	Total
Total Contract Materials			-
Total Materials			-

Overheads

Cost Centre Overhead	Base	Rate	Total
[redacted]			

Summary

Summary	Total
Labour	1,773,519.52
OT Labour	-
Plant	-
Contract Payments	22,649,154.00
Materials	-
Total Direct Cost	**24,422,673.52**
Cost Centre Overhead	496,585.46

Corporate Overhead	5,617,214.91
Total Overhead Cost	6,113,800.37
Total Cost	30,536,473.89

Project Cost Estimate

Project Number	Molonglo Feeders
Project Name	
Project Manager	
Program	

Labour

Normal Hours	Hours	Rate	Total
[redacted]			

Field OT Labour	-	-
Field Labour Total		140,194.55

Normal Hours	Hours	Rate	Total
[redacted]			

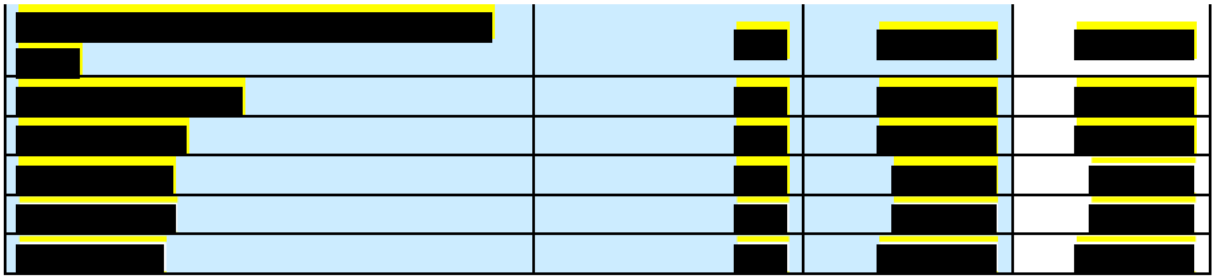
[redacted]			
[redacted]			
Non-Field OT Labour	-		-
Non-Field Labour Total			109,005.23
Total Normal Labour	2,231.00		249,199.77
Total OT Labour	-		-
Total Labour	2,231.00		249,199.77

Plant

Plant Type	Qty (Hrs)	Rate	Total
[redacted]			
Total Plant	374.00		6,980.00

Contract Payments

Total	Qty	Rate	Total
[redacted]			



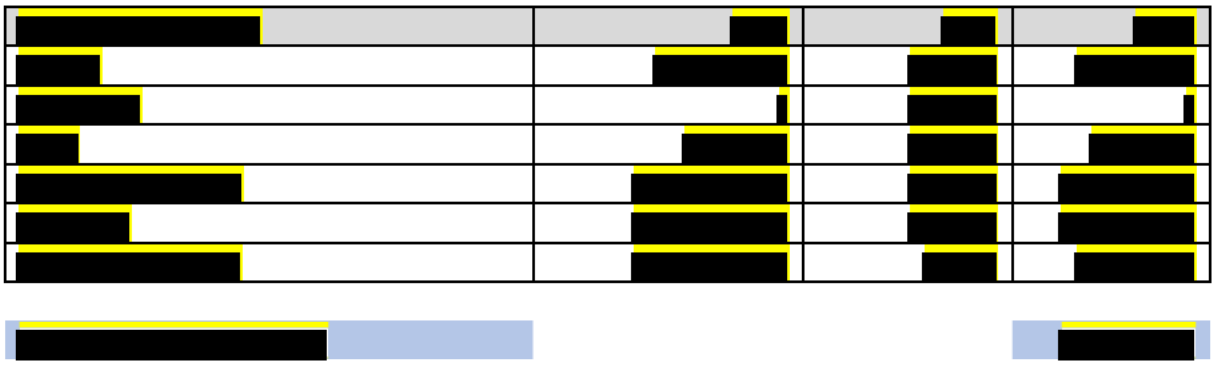
Materials

Item Description	Qty	Rate	Total
[redacted]			

Total Contract Materials	-
Total Materials	1,333,686.53

Overheads

Cost Centre Overhead	Base	Rate	Total
[redacted]			



Summary

Summary	Total
Labour	249,199.77
OT Labour	-
Plant	6,980.00
Contract Payments	1,645,440.00
Materials	1,333,686.53
Total Direct Cost	**3,235,306.30**
Cost Centre Overhead	67,283.94
Corporate Overhead	902,184.63
Total Overhead Cost	**969,468.57**
Total Cost	**4,204,774.88**

A.2 NPV calculation:

NPV has been calculated over a 40-year time horizon. The tables below capture the first 20 years of the NPV assessment period. The final NPV at the end of 40 years is in the highlighted cell.

Option 0 - Base Case

Period	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38	FY 38/39	FY 39/40	FY 40/41	FY 41/42	FY 42/43
Project Costs - Capex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Costs - Opex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefits	-14,403,892	-19,228,607	-37,049,306	-74,334,934	-243,410,152	-516,462,023	-529,373,573	-542,607,913	-556,173,110	-570,077,438	-584,329,374	-598,937,609	-613,911,049	-629,258,825	-644,990,296	-661,115,053	-677,642,929	-694,584,003	-711,948,603
Tax Effect	3,240,876	5,406,728	9,778,239	19,504,058	60,342,404	134,459,717	157,843,706	161,789,798	165,834,543	169,980,407	174,229,917	178,585,665	183,050,307	187,626,564	192,317,228	197,125,159	202,053,288	207,104,620	212,282,236
Net cash flow	-11,163,016	-13,821,878	-27,271,066	-54,830,876	-183,067,748	-382,002,306	-371,529,868	-380,818,114	-390,338,567	-400,097,031	-410,099,457	-420,351,944	-430,860,742	-441,632,261	-452,673,067	-463,989,894	-475,589,641	-487,479,382	-499,666,367
PV of net cash flow	-10,877,942	-12,789,767	-23,962,277	-45,748,993	-145,043,604	-287,397,585	-265,424,648	-258,342,289	-251,448,909	-244,739,466	-238,209,052	-231,852,890	-225,666,330	-219,644,847	-213,784,036	-208,079,609	-202,527,395	-197,123,331	-191,863,464
Cumulative PV	-10,877,942	-23,667,710	-47,629,987	-93,378,979	-238,422,583	-525,820,168	-791,244,816	-1,049,587,105	-1,301,036,013	-1,545,775,479	-1,783,984,531	-2,015,837,420	-2,241,503,750	-2,461,148,597	-2,674,932,632	-2,883,012,241	-3,085,539,636	-3,282,662,967	-3,474,526,431
NPV	-6,171,937,063																		

Option 1 - Grid Battery

Period	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38	FY 38/39	FY 39/40	FY 40/41	FY 41/42	FY 42/43
Project Costs - Capex	-12,335,074	-4,656,735	-33,892,057	-131,144,123	-2,539,976,316	-4,090,160,023	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Costs - Opex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tax Effect	69,385	184,623	424,088	1,403,491	16,667,812	58,137,289	90,669,080	93,804,676	89,114,443	84,658,721	80,425,785	76,404,495	72,584,271	68,955,057	65,507,304	62,231,939	59,120,342	56,164,325	53,356,109
Net cash flow	-12,265,690	-4,472,113	-33,467,968	-129,740,632	-2,523,308,504	-4,032,022,734	90,669,080	93,804,676	89,114,443	84,658,721	80,425,785	76,404,495	72,584,271	68,955,057	65,507,304	62,231,939	59,120,342	56,164,325	53,356,109
PV of net cash flow	-11,952,456	-4,138,170	-29,407,311	-108,251,112	-1,999,203,917	-3,033,472,777	64,774,897	63,635,930	57,405,881	51,785,763	46,715,863	42,142,313	38,016,520	34,294,648	30,937,153	27,908,361	25,176,093	22,711,317	20,487,847
Cumulative PV	-11,952,456	-16,090,626	-45,497,937	-153,749,049	-2,152,952,966	-5,186,425,743	-5,121,650,846	-5,058,014,917	-5,000,609,036	-4,948,823,273	-4,902,107,410	-4,859,965,097	-4,821,948,578	-4,787,653,930	-4,756,716,777	-4,728,808,416	-4,703,632,323	-4,680,921,006	-4,660,433,160
NPV	-4,501,199,211																		

Option 2 - Molonglo Zone Substation

Period	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38	FY 38/39	FY 39/40	FY 40/41	FY 41/42	FY 42/43
Project Costs - Capex	-7,075,278	0	0	-2,571,825	-5,551,681	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Costs - Opex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tax Effect	39,798	90,873	99,596	109,082	154,145	192,898	193,662	183,979	174,780	166,041	157,739	149,852	142,359	135,242	128,479	122,055	115,953	110,155	104,647
Net cash flow	-7,035,480	90,873	99,596	-2,462,743	-5,397,536	192,898	193,662	183,979	174,780	166,041	157,739	149,852	142,359	135,242	128,479	122,055	115,953	110,155	104,647
PV of net cash flow	-6,855,812	84,087	87,512	-2,054,828	-4,276,439	145,126	138,354	124,809	112,590	101,567	91,624	82,654	74,562	67,262	60,677	54,737	49,378	44,544	40,183
Cumulative PV	-6,855,812	-6,771,725	-6,684,213	-8,739,041	-13,015,480	-12,870,354	-12,732,000	-12,607,191	-12,494,601	-12,393,033	-12,301,410	-12,218,756	-12,144,194	-12,076,932	-12,016,255	-11,961,518	-11,912,141	-11,867,597	-11,827,414
NPV	-11,515,103																		