Business case: Recurrent Property Portfolio

2025-30 Regulatory Proposal

Supporting document 5.11.7

January 2024

SA Power Networks

Empowering South Australia

Contents

Glossary

Acronym / term	Definition
AER	Australian Energy Regulator
AM	Asset Management
AMP	Asset Management Plan
BAU	Business as Usual
Capex	Capital expenditure
CBA	Cost Benefit Analysis
CCP	Consumer Challenge Panel
EAM	Engineering & Asset Management
EV	Electric Vehicles
EWP	Elevated Work Platform truck
Hardstand	Heavy duty bitumen or concrete pavement to facilitate heavy vehicle movements and storage of plant and equipment
ICT	Information and Communications Technology
NPV	Net Present Value
MCA	Multi Criteria Analysis
Opex	Operating expenditure
PV	Present Value
RCP	Regulatory Control Period
Repex	Replacement Expenditure
SCS	Standard Control Services
WHS	Work, Health and Safety

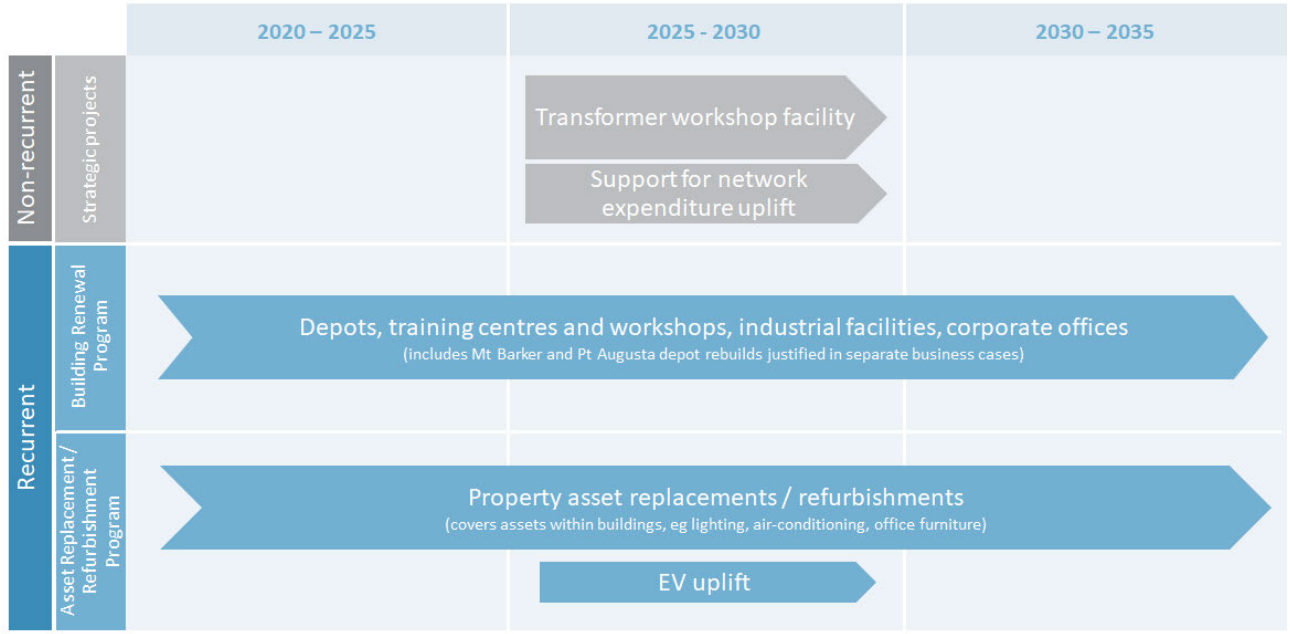
1 About this document

1.1 Purpose and context

This document supports SA Power Networks' Regulatory Proposal for the 2025-30 Regulatory Control Period (**RCP**).

This business case sets out the recurrent expenditure requirements for our property portfolio to maintain its functionality, capability and compliance during the 2025-30 RCP. This includes the program of maintenance, refurbishment and asset replacement activities required for our commercial and industrial properties, metropolitan and regional depots, and office accommodation. Figure 1 shows the composition of our property portfolio including the recurrent expenditure components considered in this business case.

Figure 1: Property expenditure classification. The recurrent expenditure components are highlighted in blue



The 'Building Renewal' Program component of our recurrent expenditure deals with renewals of the entire buildings, which may be accomplished via major renovations or rebuilds, while the 'Asset Replacement / Refurbishment' program is concerned with smaller-scale replacements or refurbishments of assets within buildings, such as lighting, air conditioning or office furniture.

This business case describes the drivers for investment in our properties, analyses the options to address the identified need and sets out the preferred investment option to provide a fit-for-purpose, safe and compliant asset portfolio that effectively and efficiently supports our delivery of services to customers.

Options are assessed using Cost Benefit Analysis (**CBA**) and risk analysis supplemented by Multi Criteria Analysis (**MCA**).

Three additional business cases were prepared for the largest property rebuild projects that are planned for completion in 2025-2030 RCP. These are the Transformer Workshop, Port Augusta Depot and Mount Barker Depot business cases. The expenditure recommended in the Port Augusta Depot and Mount Barker Depot business cases is included in this business case under the Building Renewal Program. The expenditure recommended in the Transformer Workshop business case is not included in this business case due to its non-recurrent nature; however, should our proposed Transformer Workshop replacement not be approved for the 2025-30 RCP, additional recurrent expenditure would be required to support its business-as-usual (**BAU**) operations.

1.2 Expenditure category

- Non-network capital expenditure (**capex**): property (recurrent)

1.3 Related documents

Table 1: Related documents

Ref	Title	Author
1	5.11.12 Mount Barker Depot Business Case	SA Power Networks
2	5.11.10 Port Augusta Depot Business Case	SA Power Networks
3	5.11.8 Transformer Workshop Business Case	SA Power Networks
4	Recurrent Property Expenditure – Cost-benefit analysis	SA Power Networks
5	5.2.5 Resourcing Plan for Delivering the Network Program	SA Power Networks
6	5.11.1 Property Expenditure Forecasting Methodology	SA Power Networks
7	Commercial Offices Asset Management Pan	SA Power Networks
8	Industrial Facilities Asset Management Pan	SA Power Networks
9	Operational Depots Asset Management Plan	SA Power Networks
10	SAPN Asset Register	SA Power Networks
11	Property Condition Reports	KPMG
12	Property Criticality Assessment	SAPN
13	Phase 1: Current State Summary Report	KPMG
14	Phase 2: Opportunity Analysis	KPMG
15	Property Strategy (Draft)	SAPN
16	Criticality Dashboard	KPMG

2 Executive summary

Our property portfolio consists of approximately 162 buildings and associated infrastructure, distributed across four commercial offices, 31 operational depots, two training centres, and five industrial facilities. Our properties are critical for the delivery of electricity distribution network services to customers by providing fit-for-purpose depots, industrial facilities and commercial offices to support network office and field operations, customer service activities and staff training.

Over the last three years we initiated a program of independent building expert assessments, asset analysis and strategic planning to improve the asset lifecycle management of our property portfolio and address deficiencies identified in the 2020-25 Australian Energy Regulator (**AER**) Distribution Determination, including low quality asset data. This business case utilises the new analytical capabilities and improved asset data acquired as a result of that program, which enabled us to assess the condition and criticality of property assets within the context of our Risk Management Framework, and to prioritise our proposed expenditure profile over the next and future RCPs.

We have identified the following key drivers for recurrent expenditure:

- **Condition of property assets**: Approximately 90% of the property portfolio is in the high to medium criticality range, due to poor to very poor condition of important assets. Over 25% of our property assets will reach the end of their useful recommended life in the 2025-30 RCP.
- **Compliance of property assets**: Many of our properties that were built decades ago are not meeting the standards required for new structures to comply with current legislation and building codes. Retrofitting and re-building assets will bring our properties up to contemporary standards appropriate for our employees.
- **Optimisation of business operations**: we are transitioning to an asset lifecycle approach for property, including managing buildings and infrastructure assets through a planned, long-term view that is adaptable and scalable to meet evolving business drivers over time.

Our past approach, underlying our expenditure profile in the 2015-20 RCP in particular, was to manage our properties and facilities on a largely reactive basis, by addressing urgent asset deficiencies. There was no long-term strategic plan to overcome the increasing average age and worsening condition across the property portfolio. We refer to the historically low expenditure attributed to this approach as the baseline, noting it is not a credible option.

Using the new data collected over the past three years, improved lifecycle management tools, and clearer alignment to the building industry practices, we identified three options for the recurrent property expenditure program of work:

- **Option 0: BAU**, which addresses some maintenance, and asset replacements, but does not include depot rebuilds for Mount Barker and Port Augusta;
- **Option 1: Forward program**, which aims to address most of the known issues in the 2025-30 RCP, bringing forward a stepped improvement for the overall property portfolio; and
- **Option 2: Risk-based program**, which spreads the costs more evenly over two regulatory periods by prioritising critical sites and assets.

These three options were compared to the baseline case of historic levels of expenditure. The baseline is not a credible option because it does not address the identified need to improve the condition of depots whilst prioritising the critically important facilities in a long-term sustainable and cost-effective manner.

Based on the results of the options assessment and the outcomes from stakeholder engagement, **Option 2 is recommended as the preferred option**. The required capex for Option 2 is estimated at **$74.6 million**[1] for the 2025-30 RCP. Option 2 is the most prudent and efficient of the three options as it smooths asset investments across at least the next two RCPs, committing a minimum viable amount in the 2025-30 RCP based on asset condition and criticality.

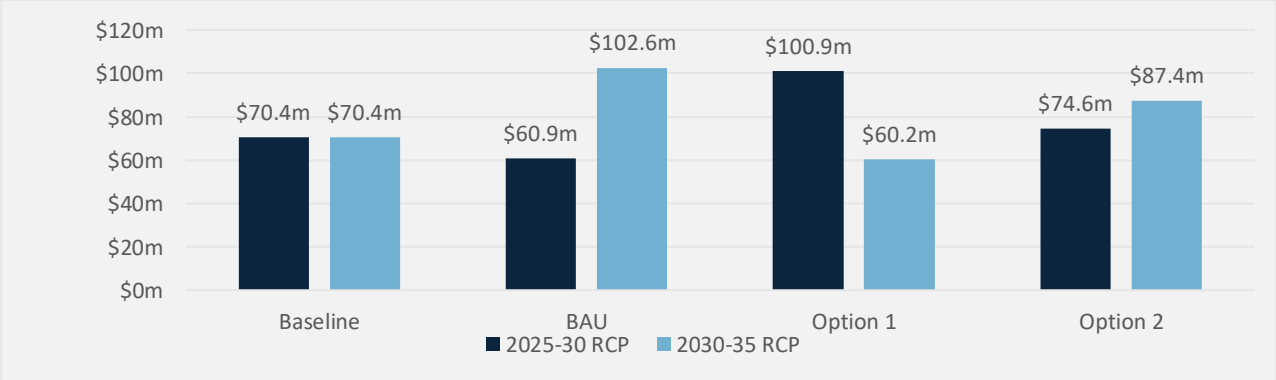
Options were assessed using a CBA, risk assessment, and a MCA for unquantifiable benefits over the 10-year period from 2025-2035. The options assessment (Table 2) shows that while Option 2 has an NPV that is not materially different to that of the BAU option, it has the best MCA score for the unquantified benefits and a lower residual risk rating than the BAU. The approach undertaken in the BAU, a reactive repair via asset-by-asset replacement, is more costly in the longer term and less effective in improving the average condition of the property portfolio. While both Option 1 and Option 2 reduce our risk by launching the program of rebuilding depots and proactively managing asset replacement works through an optimised data-driven approach, Option 2 creates an additional option value in the subsequent RCP by committing less in the 2025-30 RCP than Option 1. The expenditure components included in each option are detailed in Appendix A.

Table 2: Options assessment summary ($m, June 2022)[2]

Option	2025-30 RCP cost	10-year cost	10-year benefits	10-year NPV[3] (absolute)	10-year NPV[4] (incremental)	MCA score	Risk rating[5]	Rank
Baseline	$70.4m	$140.8m	Not quantified	-$118.3m	-	-	High	Non-credible
Option 0 - BAU	$60.9m	$163.5m		-$133.9m	-$15.6m	11/25	Medium	3
Option 1 – Forward Program	$100.9m	$161.2m		-$138.8m	-$20.5m	16/25	**Low**	2
Option 2 – Risk-based Program	$74.6m	$162.0m	Not quantified	-$134.8m	-$16.5m	19/25	**Low**	1

Figure 2 and Table 3 demonstrate the forecast expenditure for each option. Our long-term strategy is to address the state of property assets informed by better data and asset management practices. The strategy highlights the need to avoid large increases in costs and/or increased risk of performance issues in the 2030-2035 RCP and beyond. Option 2 provides the optimum balance between this strategy and our stakeholders' preference to defer capital investments when it is prudent to do so.

Figure 2: Long-term forecast expenditure ($m, June 2022 real, undiscounted)



[1] Unless otherwise specified, all financial figures in this business case are in real June 2022 dollars.

[2] Note: Totals presented in tables throughout this document may not exactly match the sums of individual figures due to rounding.

[3] Discounted at 4.05% discount rate over 10 years.

[4] Discounted at 4.05% discount rate over 10 years.

[5] The risk ratings SA Power Networks Enterprise Risk Management Framework. See Appendix B.

Table 3: Long-term forecast expenditure ($m June 2022, undiscounted)

	2025-26	2026-27	2027-28	2028-29	2029-30	2025/26 to 2029/30	2030-31	2031-32	2032-33	2033-34	2034-35	2030/31 to 2034/35	Total 10 years
Baseline	$13.4m	$13.0m	$13.3m	$13.9m	$16.8m	**$70.4m**	$15.5m	$13.0m	$14.1m	$13.9m	$13.8m	**$70.4m**	**$140.8m**
BAU	$11.7m	$11.3m	$11.4m	$11.9m	$14.5m	**$60.9m**	$21.7m	$19.2m	$20.6m	$20.4m	$20.6m	**$102.6m**	**$163.5m**
Option 1	$19.5m	$19.1m	$19.4m	$20.0m	$22.9m	**$100.9m**	$13.5m	$11.0m	$12.1m	$11.9m	$11.8m	**$60.2m**	**$161.2m**
Option 2	$14.9m	$11.1m	$15.0m	$15.2m	$18.5m	**$74.6m**	$18.3m	$15.4m	$17.0m	$17.2m	$19.6m	**$87.4m**	**$162.0m**

We engaged extensively with customers and the community via Focused Conversations and ultimately via deliberation in a Peoples' Panel to assist in determining future requirements and needs, including what investments should be made during the 2025-30 RCP. Stakeholders in Focused Conversations endorsed the investment in the Building Renewal and Asset Replacement/Refurbishment programs recommended in Option 2, preferring to see a data-driven, prioritised and staged renewal of our property portfolio. This recommendation was also supported by the People's Panel.

3 Background

3.1 Description of SA Power Networks property portfolio

Our property portfolio relates to non-network property assets, that is, property assets that are not integrated or embedded in the primary distribution network such as substations.

It comprises five industrial facilities and four commercial office buildings, 31 operational works depots and two training centres located in metropolitan Adelaide, and regionally located across the state. The portfolio includes both leased properties and properties owned by SA Power Networks.

The property portfolio includes:

- buildings;
- land;
- all assets (systems and sub-systems) from which structures are composed;
- hard stand areas for vehicle parking and materials storage;
- fencing, gates, alarms, cameras, and other security assets related to property;
- office fit-outs, and installation of telecommunications and internet fibre infrastructure ; and
- large fixed plant assets, such as gantry cranes, compressors, tanks.

3.1.1 Property expenditure categories

Our 2025-30 property expenditure forecasts have been separated into two categories:

1. **Recurrent expenditure** which includes planned cyclical activities to retain existing functionality, capability and service, on regular cycles set out in our Property Asset Register, including building and land refurbishments and more frequent end of life and break-fix asset replacements and renewals to maintain existing services. Examples are replacing air conditioners and lighting.
2. **Non-recurrent expenditure** which includes less frequent replacements and larger value facility upgrades to address specific business requirements, which are strategic projects that do not fall under planned cyclical works in recurrent expenditure. The rebuild of the transformer workshop is the main example of non-recurrent expenditure in this RCP.

3.2 The scope of this business case

3.2.1 In scope

This business case is focused on the **recurrent expenditure**, and comprises the following:

1. Building Renewal Program - both asset renewals and depot refurbishments/rebuilds
2. Asset replacement program - ongoing maintenance (break/fix) replacements, beyond end-of-life and upcoming end of life asset replacements
3. The property infrastructure support for Electric Vehicle (**EV**) charging.

These components are graphically represented in Figure 1 provided in Section 1.1 of this document.

Details of the assets and activities in each of these categories are provided in the Asset Management Plan.[6]

[6] SA Power Networks (2022) Operational Depots Asset Management Plan p45-51

The full costs of rebuilding the Mount Barker and Port Augusta depots[7] are included in the Options 1 and 2 of this business case; the BAU costs of refurbishing these two depots (assuming the rebuilds don't go ahead under the BAU) are included in the BAU option of this business case.

The net BAU costs of the Transformer Workshop are included in all options considered in this business case[8].

Appendix A for detail of the expenditure components included in each option.

3.2.2 Out of scope

The items outside the scope of this business case are the properties directly related to network assets, the **non-recurrent expenditure** program of work and the **operational expenditure** (**opex**).

The property portfolio does not include the following network-related assets:

- network property assets that are directly associated with network infrastructure such as zone substation buildings and land;
- fleet including vehicles, trucks and mobile cranes; and
- ICT systems, infrastructure and client devices.

The non-recurrent property expenditure that is out of scope includes:

- the proposed Transformer Workshop rebuild[9]; and
- the property aspects to support the network capital expenditure uplift.

Opex, as described in the Asset Management Plan (**AMP**)[10], is not included within this business case as it is not expected to alter substantially from the 2020-25 opex allocated to the property portfolio.

3.3 Our performance to date

Figure 3 shows our actual capex spend on the property portfolio for 2010/11 to 2022/23 and the forecast capex for 2023/24 to 2024/25.

The variable nature of the property capex is mainly due to the large periodic investments (Strategic Projects) made as part of the Building Renewal Program. For example, in the 2020-2025 RCP, we built a new depot in the Barossa Valley and subsequently closed two other depots, rationalising administration and field functions to one larger site to address changes in customer demand in this region of South Australia.

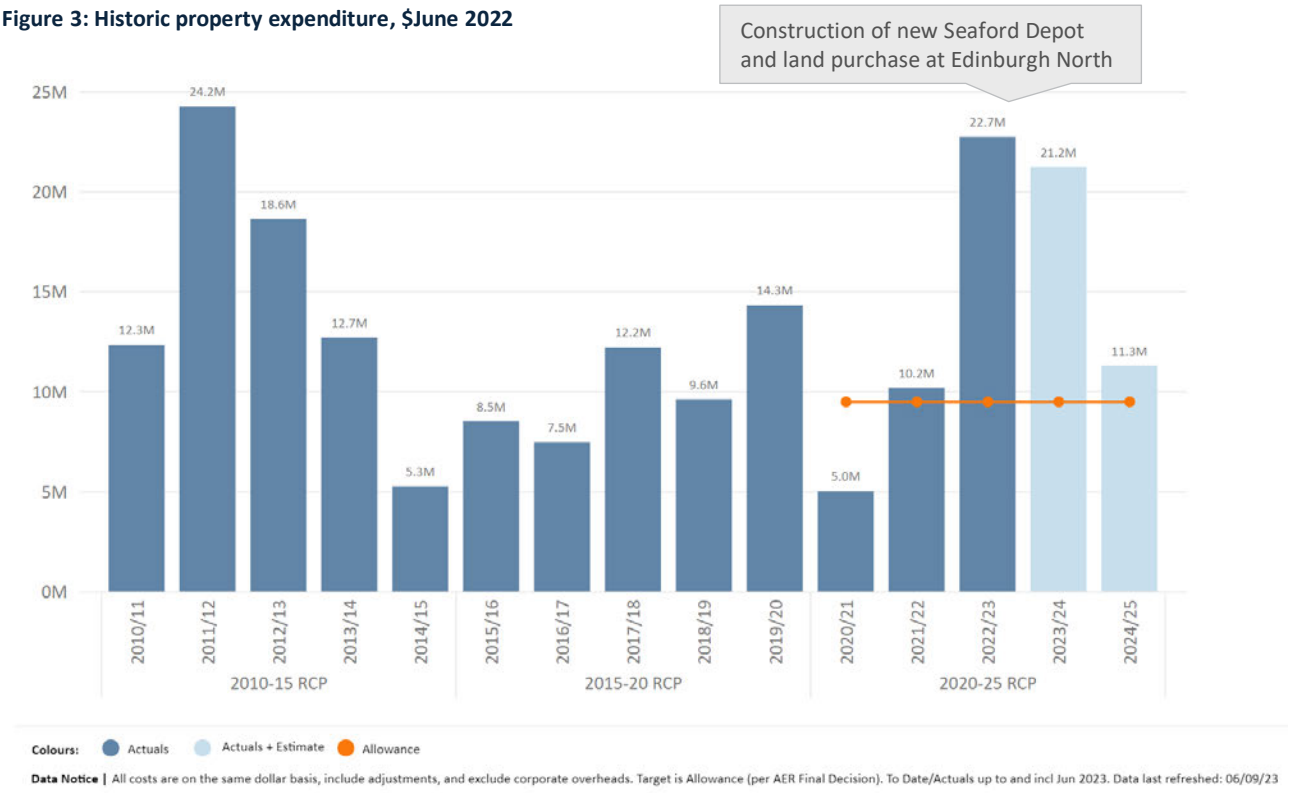
7 These costs are justified separately in the respective business cases; the full costs include the net BAU costs (ie the full BAU cost minus the avoided BAU costs after the new depots become operational).

8 We assume that the Transformer workshop will be re-built in the 2025-30 RCP as recommended in the preferred option of the Transformer Workshop business case. ***Note*** – should the Transformer Workshop not be approved, the additional BAU renewal expenditure required to keep the workshop in operation will need to be added to all options considered in this business case.

9 If the Transformer Workshop rebuild is not approved, the costs of all options of this business case will increase to include asset renewal expenditure needed to keep the workshop in operation, consistent with the asset renewal costs in the BAU option of the Transformer Workshop business case.

10 SA Power Networks (2022) Operational Depots Asset Management Plan p. 45.

Figure 3: Historic property expenditure, $June 2022



2010-15 RCP

Expenditure during the 2010-15 RCP was characterised by some large strategic projects and one-off land and building purchases. Our new Hindmarsh office was purchased and fit-out completed, a large parcel of industrial land was purchased for the construction of the future depot at Seaford, and the Holden Hill depot was completely rebuilt on an adjacent parcel of land.

2015-20 RCP

Expenditure during this period was below sustainable property management levels as our approach was mainly to respond on a reactive basis to the needs of our property assets, addressing safety, risk and compliance primarily through interventions in response to the most urgent asset repairs and statutory maintenance and break/fix replacements. One new depot was built at Angaston in 2019/20. The Baseline under-represents the investment required to manage the portfolio sustainably. At the time, there was insufficient information on the condition and priority of assets to enable a strategic expenditure program to be developed and implemented.

2020-25 RCP

The current RCP capex forecast, estimated at $70.4 million ($ June 2022)[11], is expected to significantly exceed the AER's forecast of $47.5 million ($ June 2022), included in the AER's total capex allowance. This indicates that the AER's allowance of $47.5 million ($ June 2022), which was approximately $33.5 million less than the previous RCP, was insufficient to manage the portfolio. We acknowledge that at the time of the AER's 2020-25 Determination, we lacked data evidence and strategic direction to support the proposed projects. To rectify this, over the last three years we have obtained independent expert advice to assist developing a strategic framework and asset lifecycle management for the property portfolio founded on detailed, robust

[11] Based on the three years of actuals from July 2020 and up to and including June 2023, and the forecast capex from July 2023 to June 2025, current as of September 2023

asset condition data and analytical tools to manage the expenditure and delivery of competing work priorities.

The overspend in 2020-25 is largely due to the construction of the new Seaford depot in 2023 costing $15 million, purchase of land at Edinburgh North at $7 million[12] and beyond end-of-life asset replacements. The Seaford depot was required to meet forecast rising customer demand in the south of Adelaide. The purchase of land at Edinburgh North took advantage of a rare opportunity in the South Australian real estate market to own a suitably zoned and sized industrial land parcel that could be used for relocation and rebuild of the Transformer Workshop and storage of large network equipment to support future field service delivery from the outer northern suburbs of Adelaide.

3.4 Drivers for change

Our non-network properties are critical in supporting the delivery of Standard Control Services (**SCS**) by maintaining and storing essential network assets, providing a base for field staff and their equipment to respond to planned network activities and unplanned power outages, facilitating customer service activities, and conducting staff training. Failure to provide fit-for-purpose and efficient facilities to support the field work can impact customers through delayed response time to outages and inefficiencies in co-ordination and mobilisation from these sites.

The top drivers of our forecast property expenditure for 2025-30 relate to:

1. **condition of property assets**: Approximately 90% of the property portfolio is in the high-to-medium criticality range[13], due to poor to very poor condition of important assets. Over 25% of our property assets will reach the end of their useful recommended life in the 2025-30 RCP;

2. **compliance of property assets**: Many of our properties built decades ago are not meeting standards required for new structures to comply with current Work, Health and Safety (**WHS**) legislation and building codes. Retrofitting and re-building assets with revised building typology to bring our properties up to contemporary commercial accommodation standards for our employees; and

3. **optimisation of business operations**: we are transitioning to an asset lifecycle approach for property, including managing buildings and infrastructure assets through a planned, long-term view that is adaptable and scalable to meet evolving business drivers over time.

3.4.1 Condition of property assets

The average age of our property portfolio is 42 years, with about 80% of the portfolio being over 30 years old and 38% of our properties being over 50 years old and at the end of their useful life. During the 2025-30 RCP more properties will move into that category.

As property assets continue to age and condition degrades, failure to intervene through targeted and proactive replacement and renewal creates material risks of impacts to the reliability, resilience and safety of our services to customers.

3.4.2 Compliance of property assets

While our buildings were constructed to the relevant codes and legislative requirements at the time, the general age profile of greater than 50 years for many of these facilities means that these buildings no longer comply to the current building codes and WHS requirements. Some key areas identified for improvement include fire protection, separate gender bathrooms, and disability access.

[12] For future depot expansion.

[13] See Appendix C for explanation of these terms.

3.4.3 Optimisation of business operations

The property portfolio requires significant capital upgrades and/or replacement to ensure safe service delivery. The key risks identified across the portfolio have a considerable impact on the assets' health, reliability and cost going forward – with subsequent impact on employee safety, legislative and regulatory compliance[14] and indirect impact on network performance, if not addressed through asset and operational interventions to improve the condition and performance across the portfolio. This creates a risk for our employees and can indirectly impact network performance.

Properties were found to contain aged office, and toilet and shower amenities that were well beyond their intended lifecycle. Some properties also did not have separate gender change rooms or adequate disability access. The poor condition of these environments can impact our ability to recruit and retain staff and negatively impact employee engagement and workplace culture.

3.5 Alignment with industry practice

3.5.1 Our improved approach to property portfolio management

Following the AER feedback on our proposed Property expenditure in our Regulatory Proposal for the 2020-25 RCP, we undertook an extensive work program over the last three years to establish a clear strategic direction and achieve an uplift in asset lifecycle management maturity. This involved extensive asset data collection, detailed condition reports and improvements to the operational planning, maintenance and management of our properties by applying building industry standards. Application of an appropriate industry asset management approach has proven to facilitate efficient and cost-effective management of long-lived property assets in the utilities sector and similar industries. This improvement responds directly to concerns raised by the AER and its Consumer Challenge Panel (**CCP**) in the 2020-25 Distribution Determination. We engaged KPMG Property and Environmental Services and KPMG Asset Management experts to work with us to develop a structured, data-driven and sustainable framework for property management, aligned with the building and construction industry practices.

Using KPMG analysis and with our operations' team input, we developed a suite of asset management tools, documentation and frameworks to set the base and then advance the existing property portfolio management in alignment with industry standards and regulations.[15]

These tools provided us a bottom-up and top-down view of the portfolio, including development of the key elements and relationships of the typical asset management system as defined by ISO 55000 – Asset Management. Our organisational objectives and asset management policy were leveraged to develop a Property Strategy, AMPs and Asset Management objectives for the commercial offices, industrial facilities and operational depots asset classes. We engaged KPMG to perform physical condition assessments of all properties to produce a condition report for each site.[16] An asset hierarchy was then developed to produce an Asset Register for the property portfolio. Figure 4 shows our key strategic and property-related documents and artefacts.

[14] National Construction Code OH&S/WHS regulations.

[15] Buildings were inspected in accordance with AS 4349-2007 Inspection of Buildings, the Institute of Public Works Engineering Australia (IPWEA) Building Condition and Performance Assessment Guidelines and Royal Institution of Chartered Surveyors (RICS) relevant guidance. Also, all building services assets are assessed against their respective Australian Standard.

[16] SA Power Networks' Operational Depots Asset Management Plan, Industrial Facilities Asset Management Pan, Commercial Offices Asset Management Pan.

Figure 4: Map of property-related documents

The Asset Register is a single database, incorporating all our serviceable property assets to produce an integrated and connected live suite of connected registers. The database contains a 15-year capex forecast in an asset replacement register, a 15-year preventative maintenance plan in a maintenance register and a schedule of defects and refurbishments in a works register.

After the completion of the bottom-up data gathering and assessment work, a top-down criticality assessment was performed as an overlay to the Asset Register to prioritize assets for investment and renewal activities. The criticality assessment informed optimisation of the timing to ensure continued and safe delivery of services. Criticality was determined as a weighted product of consequence and likelihood using the factors listed below.

Consequence of asset failure ranked from (1-5) across:

- WHS;
- financial implications due to loss of revenue due to unavailability;
- impact on reliability and quality of delivered services;
- impact on environment;
- reputational impact on internal and external customers;
- impact on employee engagement and retention based on the current condition of facilities; and
- legislative and regulatory impacts.

Likelihood of asset failure based on:

- asset condition determined by independent condition inspections (conducted in 2021);
- asset health determined by asset lifecycle age recorded during condition inspections (conducted in 2021); and
- maintenance frequency to indicate early fault detection determined based on existing planned maintenance schedules.

See Appendix C for a summary of the criticality assessment methodology used and Appendix D for the results of the assessment.

The integration of these tools allows us to make informed expenditure decisions on our asset portfolio not previously possible, including the prioritisation of works, risk identification and monitoring, forecasting capex and opex forward 15 years, asset life extension, asset warranty monitoring, compliant building typology design, optimisation of refurbishments and strategic projects and future maintenance strategies.

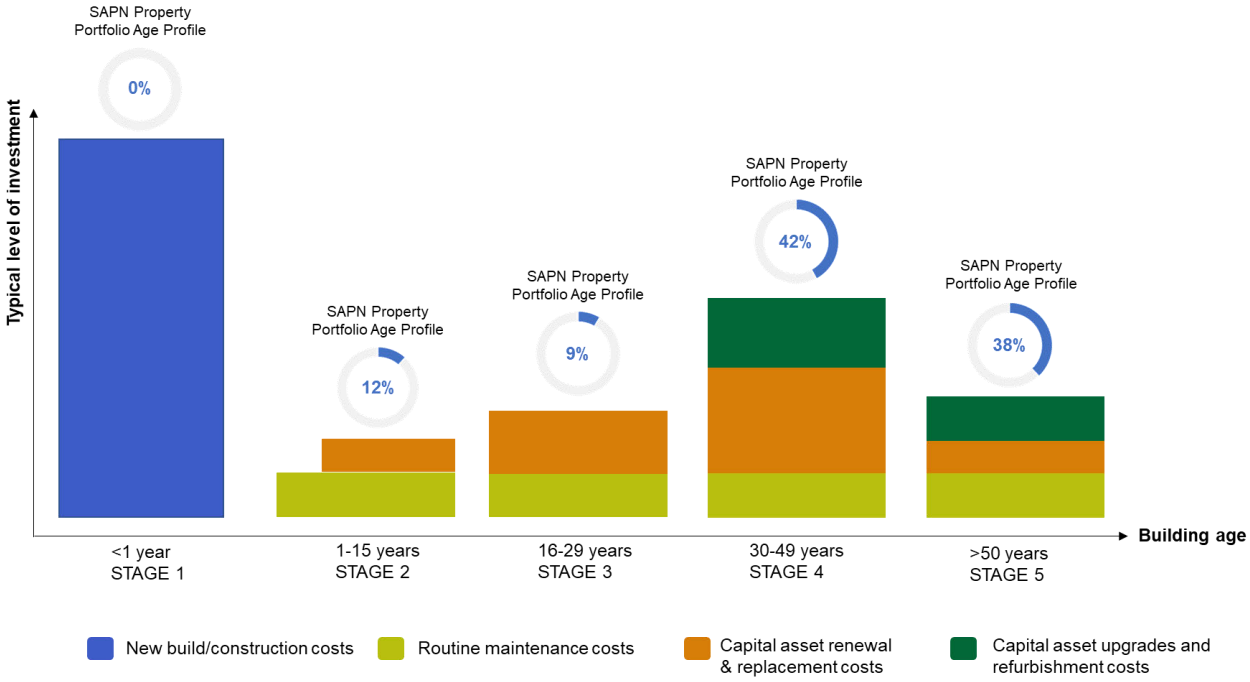
The primary findings from the condition assessment are that the condition of most properties is well below modern standards, with about 80% of the portfolio being in poor to very poor condition.[17] This poor condition may introduce higher risk to service delivery over time that would compromise the safe delivery of field services and network inventory if unaddressed in the next RCP.

The criticality assessments found that, due to the ageing asset base, poor to very poor condition profile and asset attributes, 90% of the portfolio has been assessed to be in the high to medium criticality range. In addition to ongoing replacements, there were also current and outstanding asset replacement works identified which required prioritisation and scheduling in the works program.

3.5.2 Industry standards for management of maturing assets

Buildings and building assets[18] follow a consistent pattern of necessary investment as they pass through the different lifecycle stages. Most major building assets are designed with a 30-year useful life, which requires a 30-year planning horizon to allow for efficient planning of asset replacement projects. The typical investment at each lifecycle stage is shown in Figure 5.

Figure 5: Typical building investment lifecycle relative to SA Power Network's property portfolio age profile[19]



Our approach to the Building Renewal and Asset Replacement programs of work follows typical industry practice for investing in different types of assets at different stages of life, with the additional consideration of condition, criticality factors, and business operational needs.

17 See section 10 for a list of definitions of the condition ratings.

18 Building Assets include assets associated with the following systems: building fabric, building structure, electrical services, fire protection services, hydraulic services, mechanical services, security systems, transportation services.

19 KPMG (2023)

3.5.3 Building Renewal Program

Our Building Renewal Program is comprised of building refurbishments and building rebuilds and is represented by the dark green segments in Stages 4 and 5 (Figure 5):

- in Stage 4 for property aged 30-49 years, investment in upgrades and refurbishment begins for properties because they have approached the end of their service life. Some property lives can be extended through asset renewals; and
- on Stage 5 for property aged over 50 years, refurbishment and rebuilds dominate the investment life-cycle profile. Complete refurbishment or rebuild of the building and building services (eg lighting, electrical, air conditioning) is expected for the majority of these properties.

3.5.4 Building asset replacement and refurbishment program

Our building Asset Replacement/Refurbishment Program is comprised of upcoming and beyond end-of-life asset replacements, which is represented by the orange segments and ongoing maintenance (break/fix) asset replacements, which is represented by the light green segments in:

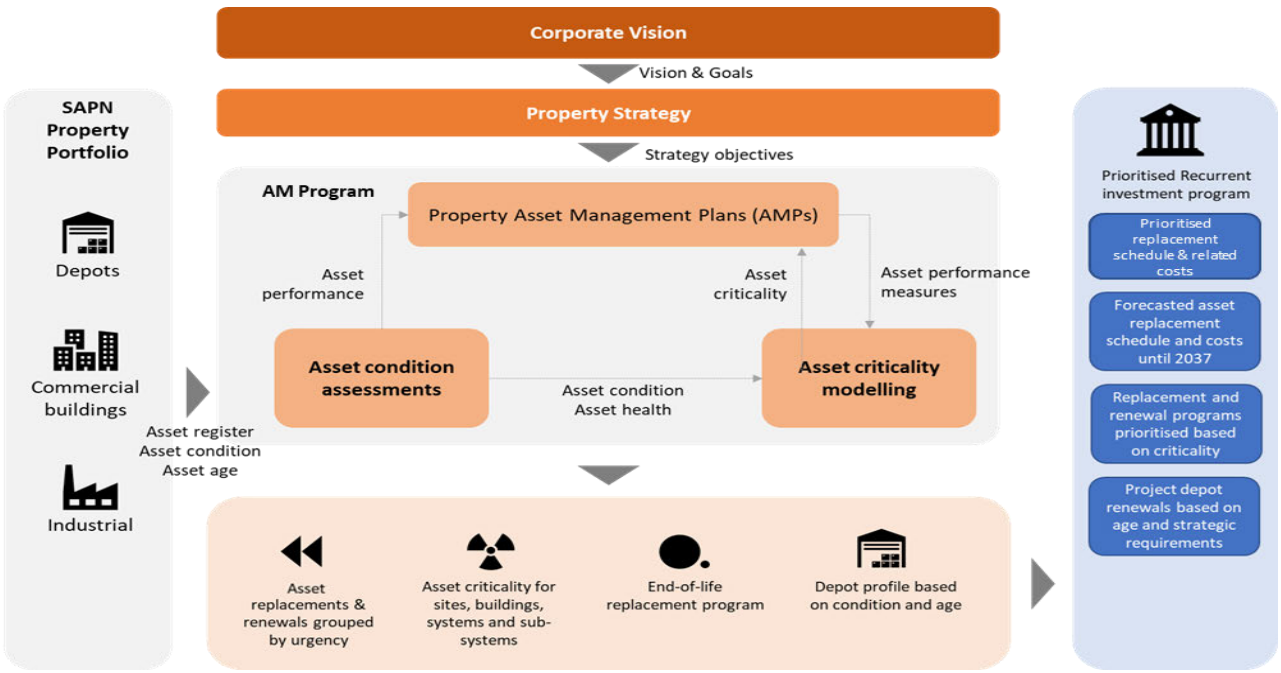
- end of life asset replacement expenditure can vary significantly as the building approaches the median of its useful life curve as illustrated in Stage 3, requiring increased investment. Where depots are being rebuilt or significantly refurbished under the Building Renewal Program, there is no requirement for investment in asset replacement; and
- beyond end-of-life works expenditure covers asset replacements for outstanding activities.

3.5.5 Development of the Asset Management program

We transitioned to an asset lifecycle approach for property, managing land, buildings and their associated infrastructure assets via a planned, long-term view that is adaptable and scalable to meet the changing business drivers over time. This includes changes to operations to optimise the efficiency, utilisation and performance of existing sites and buildings and meet changes to the business strategic objectives.

We established our Asset Management (**AM**) program to develop a structured and strategic approach to the management of property assets and capex investment and maintenance forecasts. The approach to create a fit-for-purpose and whole-of-life approach to asset replacement and renewals is illustrated in Figure 6.

Figure 6: Asset Management Program



The AM program creates a line-of-sight from corporate objectives set out in the Property Strategy to operational asset management practices to strategic management of the property portfolio.[20] The AM program is underpinned by high fidelity asset performance data collated via an external independent condition assessment and compilation of an asset register database that includes costs. The AM program's key components of are:

- **Property Strategy** defined the following key objectives**:**
  - we assess how our property portfolio will meet current and future business needs in delivering services to customers;
  - we have data, systems and processes to take a strategic approach to property portfolio planning and delivery;
  - we apply good practice asset management principles to manage, maintain and renew our property assets; and
  - we have a strong basis for strategic investments, ensuring that they achieve business objectives and offer value for money in our delivery of services to customers.
- **phase 1 and 2 Current State summary reports** summarise current challenges and future opportunities for re-structuring the portfolio;
- **Property Expenditure Forecasting Methodology**[21] establishes the approach to evaluate property specific investment options; and
- **Property AMPs**[22] the data gathered from condition assessment and costings are used to determine and prioritise required improvements to the portfolio (both forecast and outstanding) and to create strategic performance measures and proactive management strategies.

AMPs were developed for specific asset classes of commercial offices, industrial facilities and operational depots. These have formalised asset lifecycle management with a replacement and renewal cycle according to lifecycle age, condition, criticality and building code/WHS compliance. AMPs ensure that our building assets are developed, operated, maintained, and renewed in the most cost effective and sustainable way.

3.5.6 The bottom-up recurrent schedule of work

Our improved strategic planning and asset management is based on new analytical capabilities in identifying and assessing the condition of property assets to determine the assets that require renewal and the optimal time for that renewal. We collected significant amounts of data and information in preparing renewal plans for all building assets in the property portfolio with timing for expenditure based on the asset type, condition and lifecycle age. The following steps were undertaken and documented:

- **Site condition assessments** of all properties in the portfolio with rating in accordance with the Institute of Public Works Engineering Australasia Guidelines. Experienced engineers and building surveyors physically inspected and assessed the buildings, building elements and site infrastructure to determine the condition and age of the respective elements, including identification of defects and corresponding risks. The assessment covered the building fabric components including interiors, roofs, external facades, load supporting elements and the external grounds and hardstands. It also included the building and site services such as mechanical services, electrical, fire, hydraulic and lifts/cranes. The building condition report summarised all of the above and included a detailed description of the building characteristics and its services. The condition, age and risk of buildings and site infrastructure

[20] SA Power Networks, *Asset Management Plan Operational Depots, Industrial Facilities and Commercial Offices,* Operational Depots p.17, Industrial p.15, Commercial p.16., 2022.

[21] SA Power Networks, *Property Expenditure Forecasting Methodology*, Version 1, 2023.

[22] See SA Power Networks, *Asset Management Plan Operational Depots, Industrial Facilities and Commercial Offices,* 2022.

allow for the qualitative and quantitative prioritisation of funding, works and replacement planning. The building condition assessments have:

- informed whether the desired objectives and service levels/KPIs defined in the strategy are/can be achieved; and
- documented the asset function, characteristics, age and summarised if condition supports demand.

- **Asset Register.** An asset register was developed and organised into an asset hierarchy according to Organisation / Site / Building / System / Subsystem / Assets. For a cost-effective asset register, data was collected only on serviceable assets (air conditioners, hot water systems, fire equipment, etc) and assets with short lifecycles (i.e. carpets) and/or high replacement costs/consequential damage (i.e. roof surfaces). Data on asset attributes was also collected and documented (i.e. manufacturer, model, capacity, manufacture/installation date, condition, effective life (remaining life), extended life (for assets still in use beyond their life), year it is due for replacement, unit cost, etc). The asset register vastly improves the estimate of remaining life as assets have been recorded Individually.
- **15-year capex forecast.** The asset register was combined with a 15-year capex forecast that identifies assets that are due for lifecycle replacement during the specified forecast period and their respective expected replacement costs. This does not include opex, planned and/or preventative maintenance costs. Forecast costs fed into expenditure projections/business plans and budgets, and allows for benchmarking against industry best practice and improvement plans.
- **15-year Maintenance Plan**. A maintenance plan naturally draws down from the asset register as serviceable assets have already been documented. KPMG developed our asset maintenance library which contains standard building assets, maintenance frequencies and costs to produce an annualised maintenance plan. The maintenance plan is created by adopting the serviceable assets in the asset register and drawing down on the asset maintenance library. A description of the work task, the unit cost and the frequency for which the maintenance task is expected to be undertaken is also included. The frequency of the task is based on the type of the asset, manufacturer's warranty requirements, where applicable, and industry standards. The maintenance plan is independent of the condition assessment. The maintenance plan has a starting year for each maintenance task, linked to the year of replacement and the frequency of the task needed to maintain the asset. This adds a layer of confidence in annual spend and enables maintenance optimisation and cost reduction, including facility management performance monitoring and reporting.
- **Works Register**. Following the condition assessments, a works register was developed containing all defects, reactive maintenance, refurbishments and strategic projects that are not captured in the maintenance plans – with associated costings. Where condition issues were identified in a building or grounds, independent assessors detailed a work task description in the register to rectify the issue, with a cost estimate to undertake the task. A priority rating of 1 to 3 was assigned to the task. The works register is linked to the asset register and maintenance plan to reduce the duplication of works and to optimise spend.
- **Dashboard**. The dashboard provides a readily accessible portfolio view of the asset register data, that allows for drill down and comparison by any characteristic field or date in the dataset. This facilitates comparison of sites and buildings to enhance informed decision making.

3.5.7 Optimisation of the profile of expenditure

We took several steps to optimise the profile of the proposed expenditure across the ten-year period to ensure deliverability:

- **criticality assessment** in the asset register for replacement and the works register for the current and outstanding tasks. This assessment was undertaken to establish the criticality profile of the entire property portfolio through a weighted assessment of consequence (determined by impact on our strategic priorities) and likelihood of asset failure (determined by asset condition, lifecycle age and maintenance regime). Assessed outputs were used to create an optimised asset replacement strategy

and prioritise renewal and replacement investments to optimise costs while keeping the risk at an acceptable level. See Appendix C for a summary of the methodology used and Appendix D for the Criticality assessment;

- **risk assessment** of the options was undertaken based on our Enterprise Risk Management Framework. See Appendix B for risk assessment of each option; and
- **smoothing** the profile of annual expenditure for delivery of constrained budget over the five years. This includes consideration of the feasibility of managing the number of projects each year and obtaining the internal and external resources to complete the works.

4 The identified need

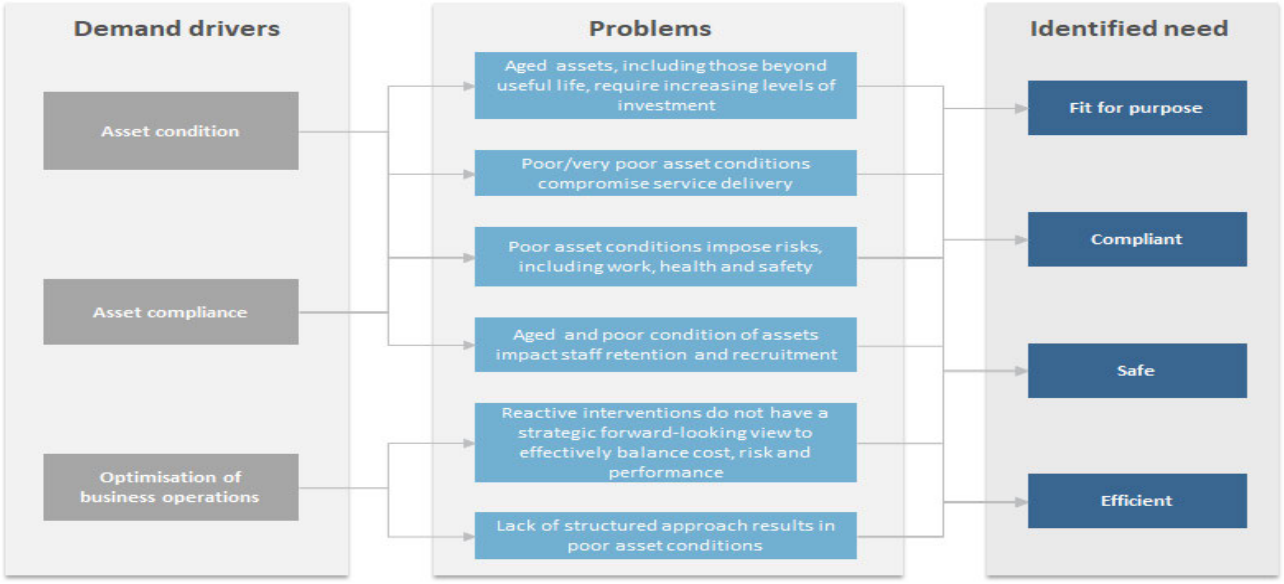
Over the 2025-30 RCP, SA Power Networks is adopting an investment approach to enable effective delivery and management of a property portfolio that supports provision of SCS. In doing this we will meet the current and future needs of our employees, customers and communities and deliver long-term outcomes.

The identified need for the recurrent property expenditure is to provide a property portfolio that is:

- **fit-for-purpose** to enable effective and efficient delivery and management of expected demand for services by customers, and ensure that non-network property is maintained in an appropriate condition that supports future service delivery;
- **compliant** and meets legislative and regulatory obligations, including building codes, fire safety, environmental, structural integrity and accessibility;
- **safe** for our employees, customers and community, including improved safety features to meet present and future safety standards; and
- enables **efficient** delivery of property support services to field staff enabling rapid network fault repairs in cost effective manner.

Figure 7 maps the key drivers, issues and the identified need for recurrent property expenditure for 2025-30.

Figure 7: Identified need logic mapping



To address these service requirements, an efficient and prudent investment in the property portfolio must be made as the following risks of not progressing are not acceptable:

- ongoing investment in infrastructure that is not fit for purpose;
- increased likelihood of unexpected maintenance expenditure on failing assets;
- non-compliance with building and safety regulations and codes;
- increased likelihood of asset deterioration causing potential service disruption to our customers; and
- risk to employee well-being, engagement and retention, health, and safety.

Consequently, action needs to be taken to address the identified issues and ensure that the property portfolio can enable us to maintain our provision of SCS to customers, improve efficiency and staff performance and enhance building assets safety and compliance with industry standards.

5 Comparison of options

The options presented in this section are the credible options that were compared to a counterfactual option of the **baseline** case of historical expenditure levels. The options represent different commercially and technically credible approaches that meet the following criteria:

- address the identified need of enabling a fit-for-purpose, safe and compliant property portfolio;
- are consistent with Asset Management Plans for property;
- are commercially and technically feasible; and
- can be implemented in sufficient time to meet the identified need.

5.1 The options considered

The credible options considered in this business case are summarised in Table 4 and further described in the subsequent sections.

Table 4: Summary of options considered

Option	Description	Customer Impacts
Option 0 - BAU	The BAU option involves replacement and renewals of building assets and services, without rebuilding the two key depots and the transformer workshop. This addresses only a third of the works tasks identified. This option does not optimise the priority of the Asset Replacement/Refurbishment Program, nor does it initiate the Building Renewal Program for rebuilding depots.	Delay to the building renewal program of work, although cheaper now, increases costs in the subsequent RCP. Refurbishments provide a second best solution in terms of higher cost for fewer new items than full rebuild, with retro-fitting challenges.
Option 1 – Forward program	This option involves creating and implementing a forward program for undertaking asset replacements and renewals across the portfolio. Key activities proposed to be undertaken within this option include: • Building Renewal Programs. • Ongoing end-of-life replacements of buildings assets and services. • Addressing all identified current and outstanding replacements and minor works for sites not included within the building renewal program.	Customers will pay now but have ongoing services from building renewals for 30- 50 years ensuring SA Power Networks presence and prompt response to outages and disaster recovery.
Option 2 – Risk-based program	This option involves implementing a risk-based approach to asset replacements and renewals across the property portfolio. This approach is based on a long-term strategic forecast of asset investments with consideration of asset criticality and impacts of asset failure on the strategic and operational environment. Key activities proposed to be undertaken within this option include: • Prioritised Building Renewal Program based on condition and site importance within the portfolio and risk rating. • Ongoing end-of-life and beyond end-of-life replacements and renewals prioritised based on asset criticality.	Spreads the costs of building renewals over two regulatory periods for customers by prioritising critical sites and their assets.

5.2 Comparison of options for each component of the recurrent portfolio

5.2.1 Building Renewal Program

The Building Renewal Program is a structured work program designed to address the poor condition of properties and their criticality by rebuilding and refurbishing buildings. The scope of the Building Renewal Program is summarised in Table 5 for each option.

Table 5: Building Renewal Program in 2025-30 for each option

Category	Site Location	BAU	Option 1	Option 2
Building Renewal Program: Rebuilds	Mount Barker (MB)	N	Y ($ from MB Business Case Option 2)	Y (Reduced $ from MB Business Case Option 2)
	Port Augusta (PA)	N	Y ($ from PA Business Case Option 2)	Y (Reduced $ from PA Business Case Option 2)
Building Renewal Program: Major Refurbishments	Mount Barker	Y ($ from MB Business Case BAU)	N	N
	Port Augusta	Y ($ from PA Business Case BAU)	N	N
	Transformer Workshop	Y (net BAU capex from TW Business Case)	Y (net BAU capex from TW Business Case)	Y (net BAU capex from TW Business Case)
	Elizabeth	Y	Y	Y
	Ceduna	Y	Y	2025-2030 = 60% 2030-2035 = 40%
	Naracoorte	Y	Y	2025-2030 = 83% 2030-2035 = 17%
Building Renewal Program: External Refurbishments	Other depots	Y	Y	2025-2030 = 68% 2030-2035 =32%

Rebuilds

- Rebuilds refers to properties that are knocked down and rebuilt, which may be on a different site. The two sites identified for rebuilds in the 2025-30 RCP have their own business cases: Mount Barker Depot and Port Augusta Depot.
- There are no properties planned to be rebuilt in the BAU scenario. Both Mount Barker and Port Augusta depots are scheduled to be rebuilt under the Options 1 and 2.

Major refurbishments (internal and external)

- Major Refurbishments refers to major refits of buildings and external infrastructure, where a number of asset systems are replaced under a single planned project.

- Under the BAU scenario, the properties identified for major refurbishments are Mount Barker Depot, Port Augusta Depot, Transformer Workshop Facility, Elizabeth Depot, Ceduna Depot and Naracoorte Depot.
  - Mount Barker, Port Augusta, Transformer Workshop are refurbished, as they are not rebuilt.
  - Elizabeth and Naracoorte were identified as critical assets in location ratings with both scoring 14.08 out of a maximum of 16.72 (scored by the Transformer workshop).
  - Ceduna also scored a high criticality rating at 11.59. Ratings are provided in the Criticality Assessment in Appendix D.
- Where major refurbishments are undertaken there is no requirement to invest in any current or outstanding end of life asset replacements as these are captured in the refurbishment project, so these costs are removed under each option.
- External Refurbishments refers to properties where the external areas such as gates, fencing, hardstand storage, vehicle parking, or warehouses are refurbished.
- There are a small number of other properties in the Building Renewal Program that will have refurbishments to external areas or sheds. There are 8 in the BAU and Option 1, and 5 in Option 2 where 3 depots and some depot costs are deferred to the subsequent RCP.

5.2.2 Building Asset Replacement and Refurbishment Program

The Asset Replacement/Refurbishment Program is derived from the asset register which sets out the replacement cycle for individual assets at each property across the portfolio and any current or outstanding works. It is comprised of asset refurbishment works and end of life replacements. The scope of the Asset Replacement/Refurbishment Program is set out in Table 6 for each option.

Table 6: Asset Replacement/Refurbishment Program in 2025-30 for each option

Category	Site Location	BAU	Option 1 (Forward Program)	Option 2 (Risk Based)
Asset replacement program: Current works	Mount Barker	N	N	N
	Port Augusta	N	N	N
	Transformer Workshop	Y	N	N
	Other Depots	P1, 30%P2	P1, P2, P3	P1, P2
Asset replacement program: End of Life Replacements	Mount Barker	N	N	N
	Port Augusta	N	N	N
	Transformer Workshop	N	N	N
	Elizabeth	N	N	N
	Ceduna	N	N	N

Category	Site Location	BAU	Option 1 (Forward Program)	Option 2 (Risk Based)
	Naracoorte	N	N	N
	Other Depots	H, M	Y	High criticality
EVs		N	Y	Y

Current works:

- Mount Barker and Port Augusta depots are excluded from the current works. There is no reason to undertake these works when significant building renewal works are taking place.
- The value of current works for all other properties depends on the option.
  - In the BAU option all priority 1 and one third of priority 2 are undertaken in 2025-30. The remaining priority 2 and all priority 3 are undertaken in 2030-35.
  - In option 1, all priority 1 and 2 and most of priority 3 are undertaken in 2025-30, with the remaining priority 3 undertaken in 2030-35.
  - In option 2, all priority 1 and 2 are undertaken in 2025-30. Priority 3 is undertaken in 2030-35.

End of life replacements:

- Mount Barker, Port Augusta, Transformer Workshop, Ceduna, Elizabeth and Naracoorte are excluded from end of life asset replacements because under all options they are either rebuilt or undergo a major refurbishment and do not need assets replaced.
- End of life replacement expenditure is required for all other depots and properties, with the amount varying by option. End of life asset replacement is based on criticality of the assets applied to the asset register items and assigned high, medium or low rating.
  - In the BAU option high and medium critical assets are replaced in 2025-30. The Low criticality assets are added to the 2030-35 period high and medium replacement costs.
  - In option 1 high, medium and low critical assets are replaced in 2025-30 and the relevant sites for high, medium and low criticality are replaced in 2030-35.
  - In option 2 only highly critical assets are replaced in 2025-30 and all medium and low criticality assets are added to the replacements for subsequent 2030-35 RCP.

5.3 Options investigated but deemed non-credible

5.3.1 Historical approach (baseline)

To ensure all potential solutions are considered in the development of the business case, the historical investment level (Baseline) was also explored but deemed non-credible.

Historically, our decisions on asset replacement and renewals were driven by mainly reactive interventions. Replacement and renewals undertaken across the portfolio were developed on a short-term basis and did not have a strategic forward-looking view that balanced cost, risk and performance. Gaps in evidentiary justification for proposed expenditure in our previous Regulatory Proposals were noted by the AER in its 2020-25 Distribution Determination to allow only actual past expenditure, which was historically low as explained earlier in this document.[23]

[23] AER (2020) Final Decision 2020-2025 Attachment 5 Capital Expenditure p.11, 46-50

Continuation of historical investment levels and approach does not meet the identified needs of:

- **Fit-for-purpose** as historical investment levels do not enable us to effectively respond to the required expenditure required for the 2025-30 RCP. The current poor condition of the property portfolio, as captured in the Asset Register, coupled with outstanding end-of-life asset replacement, means that expenditure over and above historical levels is required.
- **Compliant and safe** as the current reactive approach does not enable us to manage risks posed by poor asset condition, this approach which can have a considerable impact on the assets' health, reliability and cost going forward. This could then subsequently impact on employee safety, legislative and regulatory compliance and indirect impact on network performance.
- **Efficient**: Property network expenditure are not prudent and efficient to provide a fit-for-purpose environment delivered in a cost-effective manner.

Continuation of the historical approach is not a credible option as it will not enable us to meet the objective and identified needs of the property portfolio. There is a need to shift from a reactive to a proactive approach to property asset replacement and refurbishment to address the poor condition and risks of the portfolio, meet growing volume demand over the 2025-30 RCP and optimise long-term outcomes.

5.4 Approach to the evaluation of options

To evaluate the credible options listed in Table 2, our assessment considered both qualitative and quantitative factors to provide a more complete understanding of the potential impacts on our customers.[24]

The direct benefits on customer service of the options for expenditure on property are not readily quantifiable. The main reasons for this are:

- current data maturity makes it difficult to objectively monetise quantifiable impacts of the options; and
- property assets indirectly support our services associated with the distribution of electricity.

In circumstances where benefits cannot be readily monetised, only costs can be analysed in present value terms.

Our approach brings together the results from the CBA of the quantified factors, the qualitative factors, and risk assessment to ensure all are appropriately considered when selecting a recommended option. The goal of this approach is to identify the most efficient and prudent option that meets the identified needs while considering both monetary and non-monetary factors.

This approach is summarised in Table 7 below.

Table 7 Summary of the approach used for the evaluation of options

	Evaluation measure	Description	Assessment approach
Costs, benefits	Monetary	Impacts that can be reasonably identified and valued in monetary terms. Includes both direct construction costs and indirect costs that can be quantified in monetary terms, in addition to benefits with a measurable monetary impact.eg construction costs.	CBA
	Qualitative	Impacts are known to exist but are not valued in monetary terms due to the absence of market price signals.	MCA Risk ratings

[24] As recommended by Infrastructure SA, *Impact Analysis Guide: Cost-Benefit Analysis,* p.5, 2022 and *Guidelines for the evaluation of public sector initiatives Part B: Investment Evaluation Process*, p.71, 2014

Costs are assessed on an absolute and incremental basis relative to the baseline. The modelling period in the cost analysis is 10 years, and a discount rate of 4.05% was applied to each option.

Consistent with our Property Expenditure Forecasting Methodology, the decision criteria in this business case are based on the least negative NPV relative to the baseline. Forecasting the costs uses data from across the business, as well as data collated in the asset register from the condition, criticality and risk assessments.

The justification for the costs used in this business case is detailed in Section 9. It shows that the costs are based on reasonable and verifiable estimates.

Where there is no robust means of quantifying the level of benefits, the nature, likely impact and assumptions are provided.[25] Non-quantified benefits are included as supplementary information to support decision-making that is based on quantified evaluation of costs.[26]

Non quantified benefits are assessed using the MCA framework. MCA relies on informed judgment to assess the options against the criteria. A consistent rating scale is applied to all MCA criteria. There is no double counting between MCA and CBA because the criteria included in the MCA and the CBA are mutually exclusive.

The MCA criteria used in this business case align with the relevant parts of our Strategic Plan and consider deliverability and social or economic benefits attributable to electricity customers. There are five MCA criteria and each criterion is rated on a scale from 1 (little to no attainment of the criterion) to 5 (very high attainment of the criterion). The scores against each of the six criteria are then summed up to give the total MCA score. Therefore, the higher the MCA score the better the option is according to the MCA assessment, with the highest possible score being 25/25. The MCA criteria and rating scale are summarised in Appendix E.

5.5 Analysis summary and recommended option

5.5.1 Options assessment results

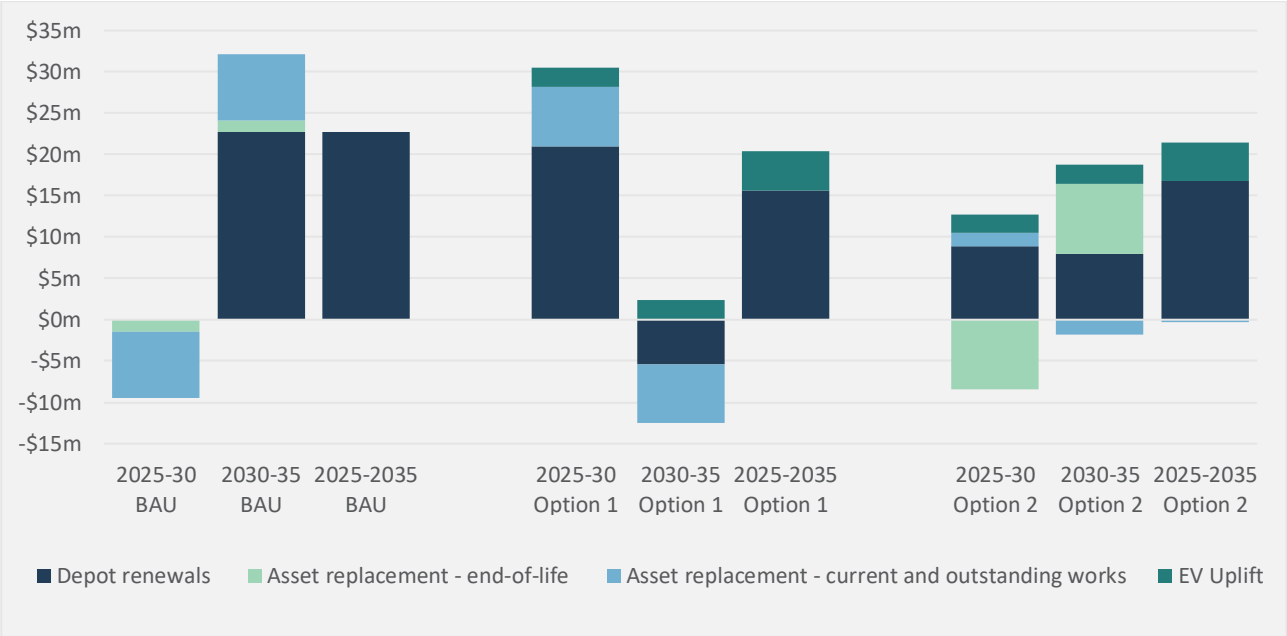
The results of the cost analysis, MCA and risk assessment for each option are listed in Table 8 and further presented in Figure 8.

Table 8: Costs, benefits and risks of alternative options relative to the base case ($m, June 2022 real)

Option	2025-30 RCP cost	10-year cost	10-year benefits	10-year NPV[27] (absolute)	10-year NPV[28] (incremental)	MCA score	Risk rating[29]	Rank
Baseline	$70.4m	$140.8m	Not quantified	-$118.3m	-	-	High	Non-credible
Option 0 - BAU	$60.9m	$163.5m		-$133.9m	-$15.6m	11/25	Medium	3
Option 1 – Forward Program	$100.9m	$161.2m		-$138.8m	-$20.5m	16/25	**Low**	2
Option 2 – Risk-based Program	$74.6m	$162.0m	Not quantified	-$134.8m	-$16.5m	19/25	**Low**	1

[25] As noted in SA Power Networks *Property Expenditure Forecasting Methodology* p.23, 2023
[26] AER *Non-network ICT Capex Assessment Approach* p.20, 2019
[27] Discounted at 4.05% discount rate over 10 years
[28] Discounted at 4.05% discount rate over 10 years
[29] The risk ratings SA Power Networks Enterprise Risk Management Framework. See Appendix B.

Figure 8: Costs components of options by RCP ($m, 2022 real, incremental to baseline)



Note: Costs and benefits are undiscounted. NPV is discounted at 4.05%

5.5.2 Long-term forecast expenditure by option

A 10-year perspective of expenditure for each option demonstrates the expenditure consequences for the 2025-30 RCP and 2030-35 RCP for each option. This forecast assumes that the current program of property related tasks, as detailed in the asset register, is fixed and just the timing of when the tasks are undertaken is changed. Figure 9 shows the long-term outlook for expenditure under each option, while Figure 10 provides a further breakdown of the costs by component.

Figure 9: Long-term forecast expenditure ($ million, $ June 2022 Real, undiscounted, absolute)

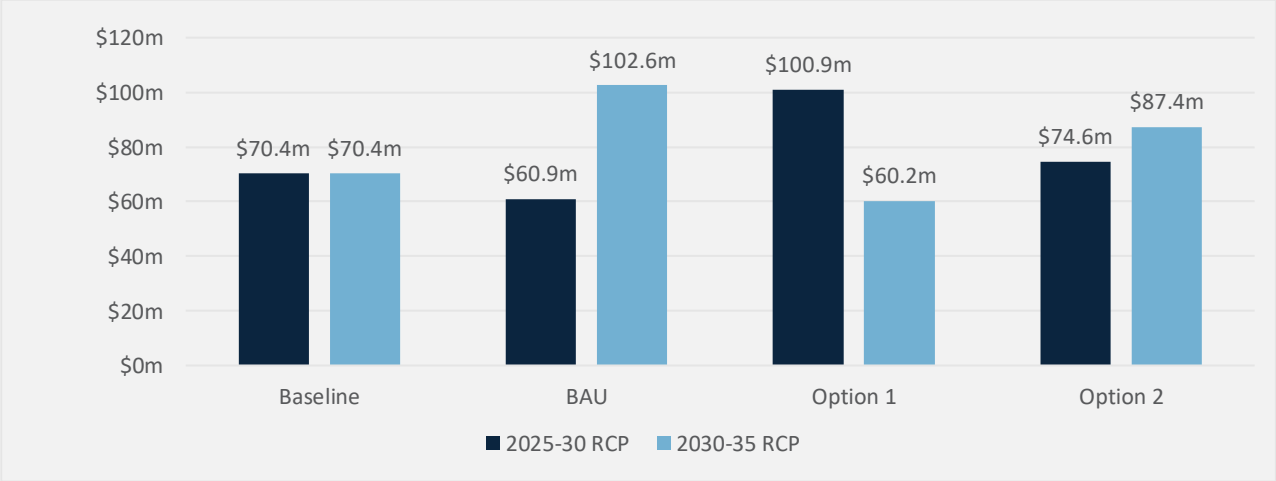
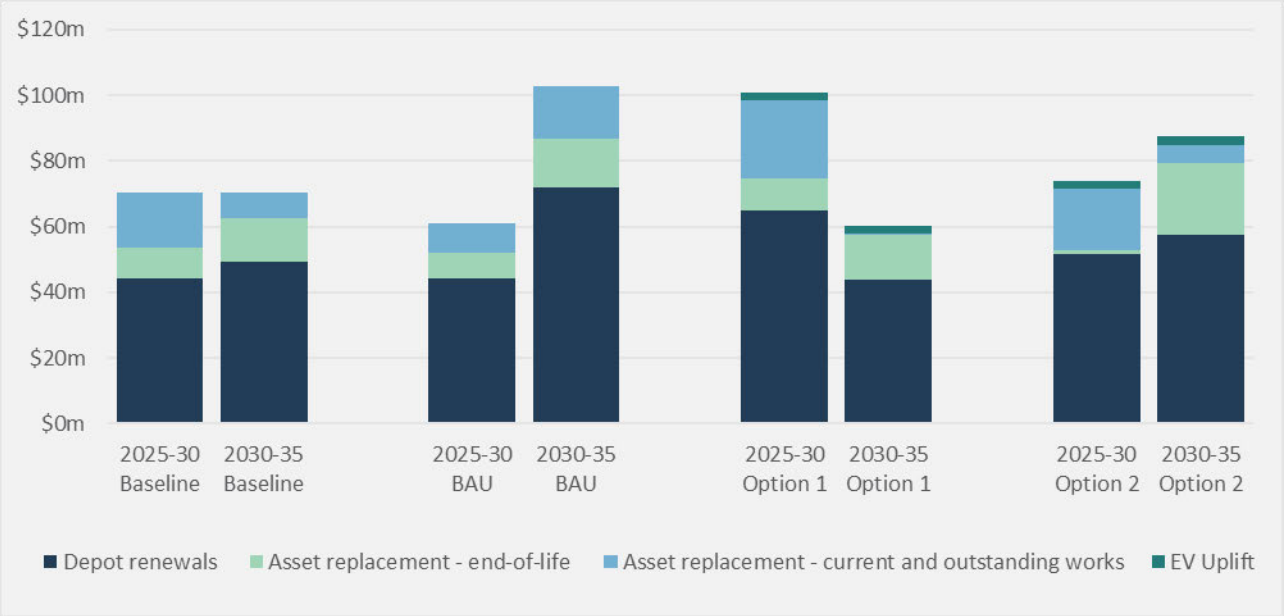


Figure 10: Costs components of options by RCP ($m, June 2022 real, undiscounted, absolute)



The assumption of fixed frequency of tasks is likely to underestimate the expenditure in the future for the BAU (and to a lesser extent Option 2), in two ways:

- delaying the launch of the Building Renewal Program will worsen the condition and increase the average age of assets at the priority depots, which will result in more frequent asset replacement activities than is currently scheduled in the asset register; and
- cost efficiencies obtained from replacing the full range of assets during depot rebuild project are not achievable when assets are replaced one by one according to the schedule timeframe in the asset register.

5.5.3 Recommended option

Based on the outputs from the options assessment using the NPV, risk assessment and MCA, it is recommended that the Option 2: Risk-based program for asset renewals and replacements be progressed as the preferred option. Option 2 is preferred because:

- compared to BAU, it has materially the same NPV, but a lower risk rating;
- compared to Option 1, it has a higher NPV and the same risk rating;
- it has the highest MCA score for unquantified benefits;
- it is closely aligned with good asset management practices, industry standards and optimises the approach to managing property portfolio on a whole-of-life basis. Under Option 2, we will adopt a risk-based approach that ensures that the recurrent property expenditure is prudent and efficient and is an acceptable level of risk;
- it aligns with the recommendations of the Focused Conversations and the People's Panel;
- it creates a works plan forecast over the next 15 years and phases asset investments based on business need, service delivery requirements and asset criticality.
- is the best long-term solution and provides the greatest benefits to customers, including:
  - reduced risk of unpredictable, escalating, ongoing replacement expenditure associated with aged and deteriorating facilities;
  - improved community and staff safety through the rectification of non-compliances associated with aged facilities that do not meet legislative and regulatory requirements;

- stable customer costs due to levelled asset investment;
- enabled workforce through access to improved and safe depots and facilities to support improved service delivery; and
- a program of work that is deliverable in terms of the scale of rebuild and asset renewals and provides a high degree of alignment to SA Power Networks' Property Strategy and risk appetite as well as better alignment with good asset management practices.

Option 2 is supported by the recommendations of customers in Focused Conversations and ultimately the People's Panel (as discussed in Section 7). This option will deliver better value for customers than the BAU and Option 1.

5.6 Sensitivity analysis

Sensitivity analysis was undertaken to ensure that the NPV calculations of the options are robust to changes in key input parameters. The analysis tested sensitivity to changes in the discount rate and average cost of rebuild per depot. The default setting used in the cost analysis was 4.05% per cent discount rate. The sensitivity results are presented in Table 9. The analysis shows that in each test scenario the NPV for the preferred Option 2 is similar to that for the BAU and materially higher than for Option 1.

Table 9: Sensitivity analysis of discount rate and refurbishment cost of depots ($m, June 2022, 10-year period)

Parameters tested	Incremental NPV - BAU	Incremental NPV - Option 1	Incremental NPV - Option 2
Core case, 4.05% discount rate	$15.6m	$20.5m	$16.5m
3% discount rate	$17.2m	$20.5m	$17.6m
3.5% discount rate	$16.4m	$20.5m	$17.0m
4.5% discount rate	$15.0m	$20.5m	$16.0m
5% discount rate	$14.3m	$20.5m	$15.6m
Average depot cost +25%	$19.9m	$24.4m	$19.7m
Average depot cost -25%	$11.3m	$16.7m	$13.2m

5.7 Option 0: BAU

5.7.1 Description

Given the advanced age and known poor condition of the property assets, a minimal 10-year program of works was developed for the BAU option that represents a more realistic expenditure level than continuing with the flat baseline for the next decade.[30] The BAU option involves some depot refurbishments and asset renewals, and addresses some of the current and outstanding works. However, the BAU does not reflect full implementation of our revised asset management framework for property assets. Furthermore, the BAU falls short of strategic optimisation of the portfolio over the long-term because it defers the re-building of properties to future RCPs.

The BAU option involves building renewals based on asset condition and criticality as well as addressing some of the current and outstanding works and some replacements for end-of-life assets. This approach will delay addressing safety risks at Port Augusta, inadequate capacity at Mount Barker and the poor condition of the Transformer Workshop. Under the BAU option (in contrast to Options 1 and 2), we would not rebuild the Mt Barker Depot, the Port Augusta Depot and the Transformer Workshop. Additionally, much of the outstanding asset replacements works that have accumulated over time would remain unaddressed.

For these reasons the BAU option is insufficient to address requirements for the long-term approach to building renewals, nor is it well aligned with our preferred approach to risk management.

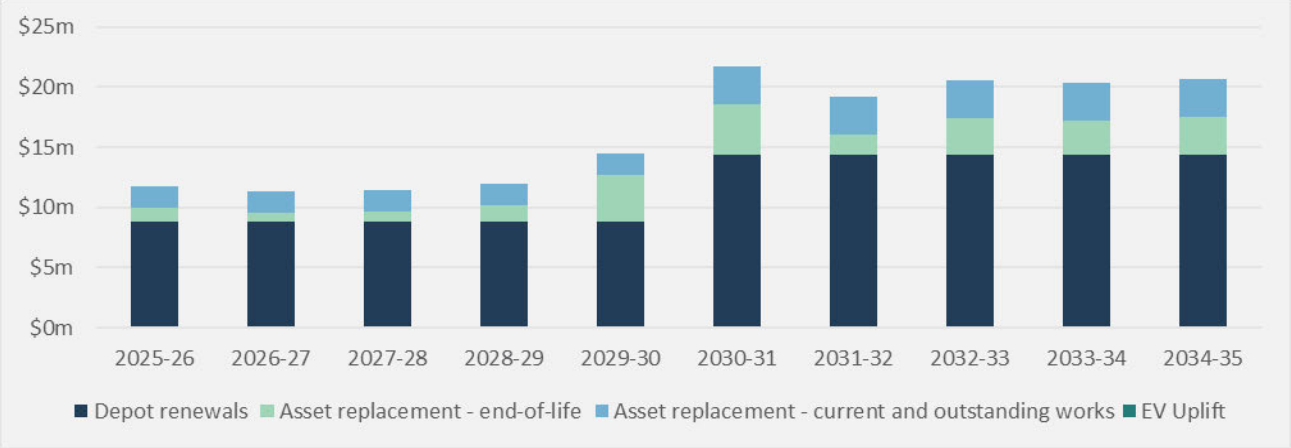
5.7.2 CBA: BAU Option

The base case is to continue with BAU approach to asset replacements and renewals. As a result, there is no expected step change in expenditure, only the annual replacement costs that will be incurred for reactive management. The expenditure profile for BAU is shown in Table 10 and graphically presented in Figure 11.

Table 10: Estimated costs: BAU Option ($m, June 2022 real, 10-year period, undiscounted)

	2025-26	2026-27	2027-28	2028-29	2029-30	2025/26 2029/30	2030-31	2031-32	2032-33	2033-34	2034-35	2030/31 2034/35	Total
Building renewals	$8.8m	$8.8m	$8.8m	$8.8m	$8.8m	**$44.1m**	$14.4m	$14.4m	$14.4m	$14.4m	$14.4m	**$72.1m**	**$116.2m**
Asset replacement - end-of-life	$1.2m	$0.7m	$0.8m	$1.4m	$3.9m	**$8.0m**	$4.2m	$1.6m	$3.0m	$2.8m	$3.1m	**$14.7m**	**$22.7m**
Asset replacement – current and outstanding works	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	**$8.8m**	$3.1m	$3.1m	$3.1m	$3.1m	$3.1m	**$15.7m**	**$24.6m**
EV Uplift	$0.0m	$0.0m	$0.0m	$0.0m	$0.0m	**$0.0m**	$0.0m	$0.0m	$0.0m	$0.0m	$0.0m	**$0.0m**	**$0.0m**
Total Cost	$11.7m	$11.3m	$11.4m	$11.9m	$14.5m	**$60.9m**	$21.7m	$19.2m	$20.6m	$20.4m	$20.6m	**$102.6m**	**$163.5m**

Figure 11: Estimated costs: BAU Option (10 year period, $m, June 2022 real, undiscounted)



30 In our analysis, we assumed that the baseline is the average of the actual and forecast spend during the 2020-25 RCP

5.7.3 MCA: BAU Option

The MCA assessment of the unquantifiable benefits against the five assessment criteria is provided in Table 11. The main benefit is in the deliverability of existing asset management of the property portfolio.

Table 11: MCA assessment: BAU Option

No.	MCA criteria	MCA assessment	Rating
1	Network and Performance	× Increased risk to continued delivery of services from sites and building services × Low impact on resilience of network services and flexibility to change from low investment in storage and regional facilities.	1
2	Safety	× Minimal improvement to asset condition due to a lack of proactive program of works to improve asset health × Increased risk to safety for staff and nearby communities	2
3	Culture and Workforce	× Limited improvement in workplace environment, leading to decreased workforce morale	2
4	Deliverability	✓ No significant changes proposed to the existing approach	4
5	Socio-economic and environmental impacts	× Increased environmental risk from lack of visibility of environmental issues due to the reactive replacement regime × Lack of support for carbon footprint reduction without energy efficient building designs and EV charging provisions.	2
		Total Score (out of 25)	**11**

5.7.4 Summary

The BAU option involves continuation of reactive and end of life replacement activities across the entire portfolio. While this option requires lower investment in the short-term, it defers increasing capital and operating costs in the long term. This is due to incurring costs of undertaking repetitive remedial activities on the asset portfolio to address performance issues that arise during ongoing operations.

The BAU option does not address the identified need to take a strategic approach to replace or renew the end of life asset base to reduce the total cost of operations. With the current and outstanding works unaddressed with this option, there is an increased cost deferred to the future and potential impact on the safety of staff and communities.

The BAU option was also not supported by our customers as it does not allow us to upgrade properties to modern building standards across the asset portfolio.

5.8 Option 1 – Forward Program

5.8.1 Description

The Forward Program implements a forward-looking program for undertaking all asset replacements and renewals work across the portfolio as identified (in the asset, works and criticality registers) in the 2025-2030 RCP. This option provides for:

- the renewal of 13 depots and workshops identified in the Building Renewal Program;
- all identified current works replacements[31];
- end-of-life replacements[32]; and
- installation of EV charging points for light vehicles.

This option addresses the identified need (as set out in Section 3) to develop a systematic approach to asset replacement and renewal to improve the state of the buildings and associated infrastructure, minimise risk and increase the ability of the property portfolio to support the our service delivery needs.

5.8.2 CBA: Option 1 – Forward Program

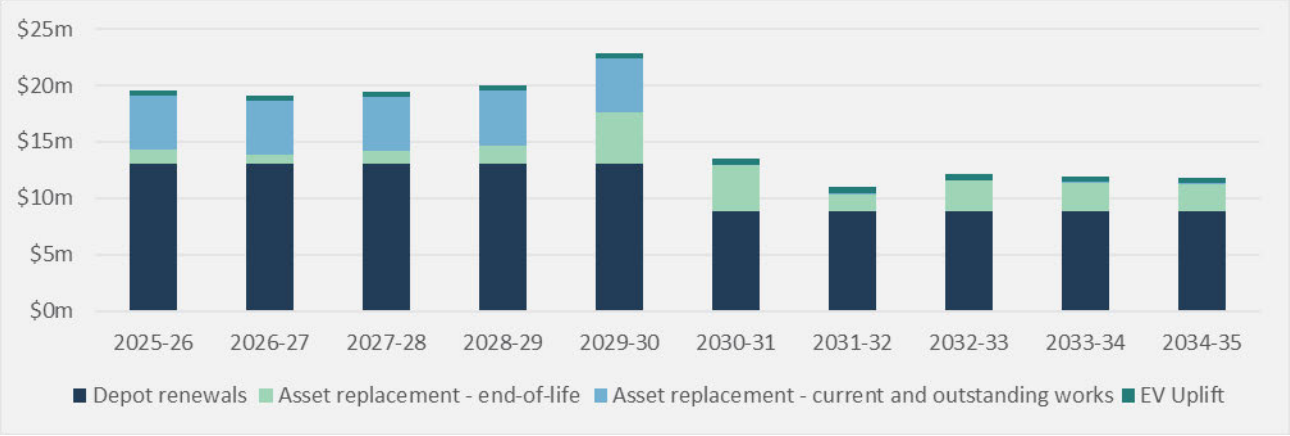
The Option 1 capex is estimated at $100.9 million capex for 2025-30 and $60.2 million for 2030-35.

The expenditure profile for Option 1 is shown in Table 12 and graphically presented in Figure 12.

Table 12: Estimated costs: Option 1 ($m, June 2022 real, 10-year period, undiscounted)

	2025-26	2026-27	2027-28	2028-29	2029-30	2025/26 to 2029/30	2030-31	2031-32	2032-33	2033-34	2034-35	2030/31 to 2034/35	Total
Building renewals	$13.0m	$13.0m	$13.0m	$13.0m	$13.0m	**$65.1m**	$8.8m	$8.8m	$8.8m	$8.8m	$8.8m	**$44.0m**	**$109.1m**
Asset replacement - end-of-life	$1.2m	$0.8m	$1.1m	$1.7m	$4.6m	**$9.4m**	$4.1m	$1.6m	$2.7m	$2.5m	$2.4m	**$13.3m**	**$22.7m**
Asset replacement - current and outstanding works	$4.8m	$4.8m	$4.8m	$4.8m	$4.8m	**$24.0m**	$0.1m	$0.1m	$0.1m	$0.1m	$0.1m	**$0.5m**	**$24.6m**
EV Uplift	$0.5m	$0.5m	$0.5m	$0.5m	$0.5m	**$2.4m**	$0.5m	$0.5m	$0.5m	$0.5m	$0.5m	**$2.4m**	**$4.8m**
Total Cost	$19.5m	$19.1m	$19.4m	$20.0m	$22.9m	**$100.9m**	$13.5m	$11.0m	$12.1m	$11.9m	$11.8m	**$60.2m**	**$161.2m**

Figure 12: Estimated costs: Option 1 (10 year period, $m, 2022 real, undiscounted)



[31] See description of Current and outstanding works register in Section 0 for prioritisation of 1 to 3.
[32] See the Criticality Assessment in Appendix D for details of the high, medium and low assessments for end of life replacements.

5.8.3 MCA: Option 1 – Forward Program

The MCA assessment for the unquantifiable benefits against the five assessment criteria is provided in Table 13. The main benefits are in safety, culture and workforce and socio-economic and environmental impacts.

Table 13: MCA Assessment: Option 1

No.	MCA criteria	MCA assessment	Rating
1	Network and Performance	× Strategic approach to rapidly deliver Building Renewal Program and reduction of outstanding works. ✓ Improved resilience by rebuilding depots in regional locations.	3
2	Safety	✓ Reduced risk to safety of workforce and community	4
3	Culture and Workforce	✓ Improved workforce culture due to the improved state of facilities and work environment	4
4	Deliverability	× Reduced deliverability due to market conditions and large scope of works to be delivered within 5 year timeframe	1
5	Socio-economic and environmental impacts	✓ High socio-economic benefits due to volume of work to be delivered and opportunities for local employment ✓ Improved environmental benefits due to identification and mitigation of environmental risk due to a structured approach of asset interventions ✓ Emissions Reduction through energy efficient building designs and EV charging provisions.	4
		Total Score (out of 25)	**16**

5.8.4 Summary

Option 1 represents a step change in our existing replacement and renewal investments and addresses all outstanding issues within the portfolio. It provides for the replacement of all depots identified in the Building Renewal Program, leading to a resetting of asset life and reduced costs of asset replacement.

While this option will improve the average condition of the assets contained within the property portfolio, it has a high upfront cost and is less feasible from a delivery perspective. The high costs can be attributed to undertaking all works rather than prioritising the buildings and assets with the highest risk of failure. This results in a less strategic investment approach. The deliverability of this option is also challenging in the current tight labour and material market conditions given the large scope of works within this option.

5.9 Option 2 – Risk based program

5.9.1 Description

This option adopts a risk-based approach to creating a forward-looking works program for building renewals and ongoing asset replacements and refurbishments. Determination of asset criticality and a better understanding of asset risks within the property portfolio is the critical driver of this approach. Outputs from the criticality assessment undertaken at a site, building, system and sub-system level have been used as a basis to systematically identify assets for replacement and renewal. This will more prudently improve the condition of the asset portfolio and improve alignment with strategic direction.

The Risk-based program involves the creation of a long-term strategic forecast of asset investments, with consideration of asset criticality and impacts of asset failure. This program of work addresses the issues identified via independent reviews and documented in the asset, works and criticality registers, and applies our risk framework to spread the costs over the 2025-30 and 2030-35 RCP. This approach optimises the expenditure on properties in the following manner:

- Building Renewal Program is based on condition, site importance and risk rating, resulting in renewal of identified assets at 10 properties in the 2025-30 RCP and deferral of asset renewal at three properties following 2030-35 RCP. The renewal program at the 10 properties is scaled back by prioritising the higher risk assets, reducing expenditure at these sites by deferring renewal of assets that are not in the higher risk category;
- current replacements are based on asset criticality by dealing with priority 1 and 70% of priority 2 tasks in the 2025-30 RCP and deferring 30% of priority 2 and all priority 3 tasks to the following RCP;
- end of life replacements are largely deferred with 15% to be replaced in the 2025-30 RCP (mainly the highly critical assets). The medium and low critical assets are deferred to the following RCP; and
- on site charging EV infrastructure for light passenger vehicles is implemented.

The proposed expenditure is constrained to the priority properties considered to be high and medium criticality to network performance, outstanding replacements for high critical facilities only, and end-of-life replacements for high to medium criticality assets.

5.9.2 CBA: Option 2 – Risk based program

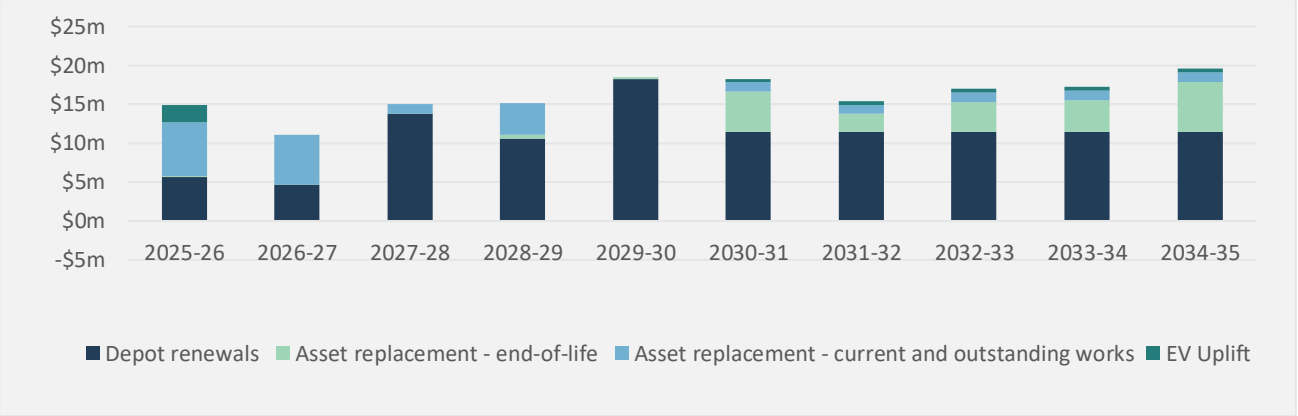
Option 2 proposes to create a replacement and renewal program driven by asset risk and will require **$74.6 million** in the 2025-30 RCP and **$87.4 million** for the 2030-35 RCP. High to medium priority renewal and replacement programs that have been deemed critical, along with end-of-life replacements scheduled by 2030 have been included within the 2025-30 RCP. Refer to Appendix D for the detailed criticality assessment workflow. Low priority renewals and replacements have been deferred until the 2030-35 RCP.

The expenditure profile for Option 2 is shown in Table 14 and graphically presented in Figure 13.

Table 14: Estimated costs: Option 2 ($m, June 2022 real, 10-year period, undiscounted)

	2025-26	2026-27	2027-28	2028-29	2029-30	2025/26 to 2029/30	2030-31	2031-32	2032-33	2033-34	2034-35	2030/31 to 2034/35	Total
Building renewals	$5.7m	$4.7m	$13.8m	$10.5m	$18.3m	**$53.0m**	$11.5m	$11.5m	$11.5m	$11.5m	$11.5m	**$57.4m**	**$110.4m**
Asset replacement - end-of-life	$0.1m	$0.0m	$0.0m	$0.5m	$0.2m	**$0.9m**	$5.2m	$2.3m	$3.8m	$4.1m	$6.4m	**$21.8m**	**$22.7m**
Asset replacement – current and outstanding works	$6.8m	$6.4m	$1.1m	$4.2m	$0.0m	**$18.5m**	$1.2m	$1.2m	$1.2m	$1.2m	$1.2m	**$5.8m**	**$24.3m**
EV Uplift	$2.2m	$0.0m	$0.0m	$0.0m	$0.0m	**$2.2m**	$0.4m	$0.4m	$0.5m	$0.5m	$0.5m	**$2.4m**	**$4.6m**
Total Cost	$14.9m	$11.1m	$15.0m	$15.2m	$18.5m	**$74.6m**	$18.3m	$15.4m	$17.0m	$17.2m	$19.6m	**$87.4m**	**$162.0m**

Figure 13: Estimated costs: Option 2 (10 year period, $m, 2022 real, undiscounted)



5.9.3 MCA: Option 2 – Risk based program

The MCA assessment of the unquantifiable benefits against the five assessment criteria is provided in Table 15. The main benefits are network and performance, safety, culture and workforce, deliverability and environmental carbon footprint reduction impacts.

Table 15: MCA Assessment: Option 2

No.	MCA Criteria	MCA assessment	Rating
1	Network and Performance	✓ A strategized and prioritised approach to delivering outcomes against SA Power Networks' strategic priorities ✓ Improved resilience by rebuilding depots in regional locations.	4
2	Safety	✓ Reduced risk to safety of workforce and community	4
3	Culture and Workforce	✓ Improved workforce culture due to the improved state of facilities and work environment	4
4	Deliverability	✓ Improved deliverability compared to Option 2 due to the ability to phase the required scope of works based on criticality	3
5	Socio-economic and environmental impacts	✓ High socio-economic benefits due to volume of work to be delivered and opportunities for local employment ✓ Reduced environmental risk due to identification and mitigation actions considered in the development of the maintenance strategies ✓ Carbon Footprint Reduction through energy efficient building designs and EV charging provisions.	4
		Total Score (out of 25)	**19**

5.9.4 Summary

Option 2 addresses the identified need as it is based on a long-term strategic forecast of asset investment which considers the impact of asset failure, condition and reliability on the property portfolio. This option:

- encourages stable investments in the RCP due to the risk-based prioritisation of renewal and replacement needs. It also proactively reduces the total cost of operations across the asset lifecycle in the long-term and eliminates redundant investments to improve asset performance. This will ensure that recurrent property expenditure is prudent and efficient; and
- is aligned with good industry practice and optimises the existing asset management practices of our Property Management team. This option also aligns with the recommendations of customers, as reflected in the recommendation of the People's Panel.

6 Deliverability of recommended option

The construction market is under pressure with high levels of demand, low levels of supply, and high rates of price increases. Delivering the portfolio of projects has been factored into forward resource planning including key activities including project scope, cost and timeline and will be continuously managed throughout until handover to manage these issues.

The increase from FY 2024 is feasible and manageable by SA Power Networks because it is a continuation of the trend from the previous year. We have commissioned a number of pre-feasibility studies to progress work on design for rebuild of two depots.

A number of projects will be undertaken in the 2025-30 period, particularly major works that impact multiple sites. These projects will be scheduled well in advance to ensure timelines are met and plans are realistically achievable.

Similarly, the timing of scoping assessments and design packages will be appropriately planned to ensure projects are effectively scoped and costed to be completed in the funding year. This will ensure the time allowed is realistic and reasonable plus provide opportunities for programs and projects to be rescheduled to later years, as required.

In contrast to Option 2, Option 1 involves more expenditure across additional depots and all current and outstanding replacement works within the RCP. This additional scope may not be deliverable within the five-year timeframe as it represents a large and fast increase from current expenditure levels.

Deliverability of recommended **Option 2** has been assessed based on the following criteria:

- **Timeliness of delivery** dependent on market capacity and supply chain risks. This will impact the ability of proposed works that can be achieved during the desired timeframes.
- **Alignment of the proposed program of works** with other strategic projects to ensure alignment of timing and organisational constraints.
- **Capacity, capability and appetite** to ensure that the organisation has sufficient capacity and experience to deliver the proposed scope of works.

7 How the recommended option aligns with our engagement

A series of stakeholder engagement sessions were held throughout the course of developing our Regulatory Proposal for 2025-30. Figure 14 outlines the general approach adopted in our stakeholder engagement process.[33]

Figure 14: Key stages of engagement

Engagement with customers and community began in 2021 where we sought broad input on key factors that customers value in the delivery of the distribution network services. We presented an overview of the property portfolio including asset management plans and the proposed systematic and proactive approach to portfolio management to achieve strategic objectives.

This was followed in early 2022 by broad engagement across South Australia with geographically and socially diverse groups of customers, and then six months of Focused Conversations on critical issues with a selection of stakeholders with deep knowledge.

This process culminated in a People's Panel early in 2023, where advice was sought from a representative group of 51 South Australian customers as to the most appropriate overall balance between price and service in the 2025-30 period, considering all aspects of trade-offs between price and service.

Our total property forecast and the needs it responds to were discussed in detail with customers in our Focused Conversations, and ultimately deliberated on and supported by the People's Panel recommendations. The sections below provide further detail of core components of the process where we engaged our customers and the community on the Recurrent expenditure investment decision and options.

Throughout the engagement process, customers recognised the need to respond to the condition of our property assets to maintain safe, suitable and efficient working environments to support our service provision. Customers have asked us to consider the broad benefits of investment in the property portfolio.

The outcomes of the customer engagement process to date was that we should invest at the levels required to enable service provision and undertake the preferred recurrent expenditure option. Customers supported the need to invest in renewing, refurbishing and replacing property assets so that they are fit-for-purpose to support future service delivery.

[33] Focused Conversation: Property Workshop and Peoples Panel Recommendation November 2022, 2023.

7.1 Alignment to other stakeholders

In the second half of 2022 we held over 40 Focused Conversations with 300 stakeholders. The aim of these conversations was to dive deeper into specific priorities and key issues identified in the earlier engagement and narrow options on service and price outcomes.

A Property Focused Conversation workshop was held on 11 November 2022 to seek feedback on the proposed property methodology and approach:

- we consulted on renewal and refurbishment of property assets and strategic projects responding to asset age, work volume, and operational efficiencies;
- we presented the work undertaken and findings of the condition assessment, risk assessment, building asset register and portfolio AMPs;
- to allow stakeholders to explore the trade-offs in the service outcomes posed by the different scenarios on network investments, three scenarios were presented to help frame the engagement and facilitate discussions on a preferred recommendation:
  - Scenario 1 – Basic: BAU spend;
  - Scenario 2 – Maintain: Renew, refurbish and replace existing properties to meet the additional capacity needed in several depots; and
  - Scenario 3 – New Value: Additional expenditure to deliver new or improved capabilities and value to our customers. Scenario 3 included a new transformer workshop and several other strategic projects.
- this approach allowed participants to understand the expenditure requirements and price outcomes needed to maintain or improve customer outcomes and provide transparency on how we align forecast expenditure to customer expectations. From the Focused Conversations, workshop participants recommended to the People's Panel that SA Power Networks should invest in alignment with Option 2, the preferred option presented in this business case:
  - to enable service provision under the Scenario 2, Maintain, by renewing, refurbishing and replacing property assets; and
  - the Transformer Workshop upgrade as a strategic project under Scenario 3, New Value.

Customers supported an uplift in investment from historical levels to support additional renewal and refurbishment activities, which reflect good practice asset management set out under Option 2.

7.2 Alignment to customer expectations

In February 2023, the People's Panel deliberated on a portion of the recurrent expenditure and the transformer workshop strategic project. The People's Panel recommended that we include in our Regulatory Proposal the recommendations made by the Focused Conversation. The People's Panel recognised that property expenditure is a critical part of our service and maintaining property is essential, and the importance of having purpose-build facilities that provide safe workspaces.

7.3 Submissions on Draft Proposal

Since conducting the People's Panel process, we published a Draft Proposal to play back how we have given effect to customer recommednations and to confirm that those recommendations remain valid given continued cost of living pressuress and to obtain further input to refine our Regulatory Proposal. Submissions received on our Draft Proposal suggest that the recommendations of the People's Panel remain valid with respect to property, noting that:

- members of the People's Panel affirmed that their recommendations, including in respect of property expenditure as set out in this business case, remain current;[34]
- in other submissions:
  - some parties such as that from SACOSS[35] and the Department of Energy and Mining[36] urged further consideration of the overall magnitude of our forecast capital expenditure across in totality;
  - no other submission received has raised concerns in relation to property expenditure; and
  - a submission received from a sub-group of our Community Advisory Board which took the lead in engaging on property issues (the Asset Condition and Risk Sub-Committee) endorsed the recommendation on property reflected in this business case, on the basis that it is an appropriate level of risk mitigation that will deliver a fit-for-purpose, safe and compliant property portfolio of assets that meets the needs of our customers and employees.[37]

[34] DemocracyCo, *Submission: SA Power Networks Draft Regulatory Proposal 2025-30*, 30 August 2023.

[35] SACOSS, *South Australian Council of Social Service Submission on SA Power Networks' 2025-30 Draft Regulatory Proposal*, September 2023.

[36] DEM, South Australian Department of Energy and Mining – Submission, October 2023.

[37] AC&RSC, *Submission on behalf of the Asset Condition and Risk Sub-Committee: Draft Regulatory Proposal 2025-30*, 17 August 2023.

8 Alignment with our vision and strategy

Our Property Strategy is a key enabler for the property portfolio to support the safe and reliable provision of electricity distribution services to the community. **Option 2- Risk-based program** aligns with the operational objectives of undertaking optimised asset renewals and replacements and the Property Strategy's objectives that are aligned with the six focus areas of our corporate vision and strategies. Table 16 describes how Option 2 satisfies the requirements outlined within the Corporate Strategy.

Table 16: Strategic alignment of preferred option

No.	Corporate strategy objectives	Property strategy objectives	How will Option 2 addresses the objectives
1	Network Performance Growth Safety Sustainability	**Meeting the needs of the business** *We assess how our property portfolio will meet the current and future needs of the business*	• Creates agility and flexibility within the property portfolio • Provides ability to align with asset performance measures set for the property portfolio within the strategic asset management framework • Improves the ability to manage risks and proactively manage the portfolio
2		**Understanding our property assets** *We have the data, systems and processes required to undertake a strategic approach to property portfolio planning and delivery*	• Driven by comprehensive and current asset performance data • Provides a foundation to develop data maturity and capability to automate the monitoring of asset performance and asset management delivery • Provides effective alignment of assets to business requirements through improved visibility of assets and asset performance
3		**Property Management, Maintenance & Renewal** *We apply good practice asset management principles to manage, maintain and renew our property assets*	• Applies a whole-of-life perspective to asset renewals and replacements • Tailors required investments based on asset condition, performance, reliability and criticality • Driven by criticality which reflects the risk of failure in terms of consequences to safety, compliance, cost and operations • Creates a structured approach to recurrent expenditure through categorisation of activities within strategic, planned and reactive renewals and replacements
4		**Strategic Project Planning & delivery** *We have a strong basis for strategic investments, ensuring that they achieve business objectives and offer value for money*	• Creates a long-term portfolio planning strategy using structured asset performance data to inform capital investment decisions • Balances cost, risk and performance from proposed scope of works to provide value for money • Considers benefits to the business through the assessment of portfolio risks and asset criticality

9 Reasonableness of cost estimates

We obtained cost estimates for all items in the recurrent property expenditure program from independent experts. KPMG provided cost estimates for the asset replacement at end of life, current and outstanding work activities and items for maintenance of all assets. Studio Nine architects provided estimates for the cost of rebuilding depots Port Augusta based on concept design stage of costing[38].

The condition for the main assets at 40 properties out of 43 in the portfolio[39] were assessed by KPMG's team of qualified engineering and building services subject matter experts.

9.1 Asset replacement

The number of items installed was counted or measured. Cost of each asset was logged in the asset register and provided by the appropriate unit of measurement for the asset. Unit costs are based on the current market rate for like-for-like replacement as at 2021/22. Industry rates were selected for South Australia, includes metropolitan and regional location, database continuously updated for changes in unit rates. The database is up to date with best practice cost estimates sourced from Rawlinsons Australian Construction Handbook.

Table 17 provides a list of the assets by subsystems mapped against the asset systems. There are over 150 asset types listed in the register by property location resulting in approximately 3,100 separate asset type-building locations. The current asset life, its expected life and the year in which the asset is expected to be replaced and the current condition rating is noted in the asset register.

Table 17: System and Subsystem Assets included in the Asset Register

No.	System	Subsystem
1	Electrical Services	Communications System
	Electrical Services	DC Power System
	Electrical Services	Electrical Distribution
	Electrical Services	Emergency & Exit Lighting
	Electrical Services	Emergency Power
	Electrical Services	Security System
	Electrical Services	UPS System
2	Fire Services	Fire Alarm System
	Fire Services	Fire Hydrant System
	Fire Services	Fire Sprinkler System
	Fire Services	Fire System
	Fire Services	Hose Reel System
	Fire Services	Portable Fire Equipment
	Fuel Services	Fuel Storage
3	Grounds & Gardens	Gates and Fences
4	Hydraulic Services	Domestic Cold Water
	Hydraulic Services	Domestic Hot Water
	Hydraulic Services	Water System
	Hydraulic Services	Water Treatment System

[38] See Appendix F

[39] 4 commercial offices, 31 operational depots, 2 training centres, and 5 industrial facilities

No.	System	Subsystem
5	Mechanical Services	Auto Doors
	Mechanical Services	BMS
	Mechanical Services	Compressed Air System
	Mechanical Services	HVAC
6	Security Systems	Communications System
7	Transportation Services	Crane
	Transportation Services	Lifts

9.2 Works register

The activities and the costs for priority works are listed in the asset register. Approximately 250 items are logged with priority ratings between 1-3. The costs are estimated typical costs for the activities, including the dimensions for square meters.

9.3 Depot rebuilds

We commissioned pre-feasibility cost estimates from experts Turner and Townsend/Studio Nine Architects to determine the cost of rebuilding the Mount Barker and Port Augusta Depots.

The construction cost estimates used for the Depot Rebuilds in the two options where they are relevant are as follows:

Table 18: Construction cost estimates ($million)

	Quote	Option 1	Option 2
Mount Barker Depot	$12.5	$10.3	$10.3
Port Augusta Depot	$12.9	$7.5	$7.5

The quotes are considered to be elevated because the construction market was constrained and experiencing rapid inflation as well as interest rate rises, when the costs were obtained in early 2023. For this reason large contingencies were included of 10%, that may not apply.

9.4 Building refurbishments

The key rates that are used in the Building Refurbishments are:

- historic experience of previous refurbishments;
- recent costings obtained for Seaford depot new build;
- internal statement of works; and
- insights from depot rebuild pre-feasibility quotes.

9.5 Electric vehicles

There are no EV charging investments under the BAU option. The costs in option 1 and 2 are for establishing charging stations and associated cabling infrastructure at all depots for light passenger vehicles.

10 Reasonableness of input assumptions

We engaged independent property experts KPMG to provide their professional advice on the bottom-up recurrent program of work.

10.1 Assumptions in the bottom-up recurrent program of work

The recurrent program of work developed from data in the asset register and current and outstanding works register.

10.1.1 Asset register

The main assumptions used in developing the bottom-up recurrent program of work are the inputs used to decide the year of replacement of each asset listed in the asset register. The main inputs are the key drivers of asset condition and asset age.

- The condition ratings were developed by independent property experts KPMG. The detailed asset condition assessments were assessed against the *Institute of Public Works Engineering Australasia (IPWEA) Building Condition and Performance Assessment Guidelines – Building Practice Note 3 v2 2016.* The date of condition rating is recorded in the asset register.
- The asset age data was obtained during field visits to sites from the sighting of named year on the asset, SAPN records of asset age or KPMG estimate based on manufacturers age range of asset model types.

Definitions for the Condition ratings are listed below.

	Condition Rating	Condition Explanation
5.0	Excellent	Excellent. No defects
4.0	Good	Good, Minor defects, wear and non-compliance exist. Little to no impact on operation or intended use. 80% to 60% of asset useful life remaining.
3.0	Fair	Fair, Wear and degradation to external surfaces require maintenance, Defects or wear to 5%-20% affected. 60% to 30% of asset useful life remaining. Equipment operating on older technology and less efficient compared to modern equivalent.
2.0	Poor	Poor, Significant defects, wear and non-compliance exist, Rehabilitation of asset required. Component replacement more costly than maintenance. 30% to 20% of asset useful life remaining. Equipment operating on older technology and less efficient compared to modern equivalent.
1.0	Very Poor / Failed	Very Poor, Potential structural, operational problems or not operational.Major defects, wear and non-compliance exist. Extensive defect or wear, 20% to 0% of asset useful life remaining. Cost to maintain is no longer viable. Replacement essential. Equipment outdated or redundant tech technology and less efficient compared to modern equivalent.

10.1.2 Current and outstanding works register

This works register is a list of KPMG property expert advice on tasks required to remediate immediate deficiencies. Priority rating of 1 to 3 was assigned to each task. Descriptions of the work required to be done and the approximate cost. Comments were placed in the register to explain the impacts of the current condition on the property, such as water damage.

This is reliable database created by independent property experts inspecting every building and conducting assessments.

Definitions for the Priority ratings are listed below.

Work Priority Definitions		Timeframe
1	statutory obligation immediate health and safety threat significant disruption to building/site function/activities high consequence of failure and/or high consequential cost	less than 1 year
2	impact operational capacity lead to serious deterioration if not addressed	1-2 years
3	minimal functional impact / consequence aesthetic improvements can be safely deferred	3yrs+

10.2 Assumptions in the optimisation of the recurrent program of work

10.2.1 Criticality assessment

We customised our Enterprise Risk Framework to better capture the characteristics of the property portfolio. The property portfolio has no extreme ratings because:

- there is a considerable opportunity for redundancy of operations, which reduces the likelihood of an extreme event happening. For example, neighbouring depots could be used in most circumstances; and
- the severity of impacts on reliability are difficult to measure because of the indirect nature of the services that properties provide to the network by storing equipment and locating the field services staff.

10.2.2 Smoothing across years

In order to ensure the program was deliverable with other property activities, such as the preferred option for the Transformer Workshop, where most construction costs arise in 2026/27, the profile of recurrent expenditure was smoothed as per Table 19.

Table 19: Smoothing CAPEX across the period

2025-26	2026-27	2027-28	2028-29	2029-30	Total
20%	15%	20%	20%	25%	100.00%

Appendix A – Recurrent expenditure options

Table 20: Components of Options Assessed for RCP 2025-2030

Category	Site Location	BAU	Option 1 (Forward Program)	Option 2 (Risk Based)
Building Renewal Program: Rebuilds	Mount Barker	N	Y ($ from MB Business Case Option 2)	Y (Reduced $ from MB Business Case Option 2)
	Port Augusta	N	Y ($ from PA Business Case Option 2)	Y (Reduced $ from PA Business Case Option 2)
Building Renewal Program: Major Refurbishments	Mount Barker	Y ($ from MB Business Case BAU)	N	N
	Port Augusta	Y ($ from PA Business Case BAU)	N	N
	Transformer Workshop	Y	Y	Y
	Elizabeth	Y	Y	Y
	Ceduna	Y	Y	2025-2030 = 60% 2030-2035 = 40%
	Naracoorte	Y	Y	2025-2030 = 83% 2030-2035 = 17%
Building Renewal Program: External Refurbishments	Other depots	Y	Y	2025-2030 = 68% 2030-2035 =32%
Asset replacement program: Current & Outstanding works	Mount Barker	N	N	N
	Port Augusta	N	N	N
	Transformer Workshop	N	N	N
	Other Depots	P1, 30%P2	P1, P2, P3	P1, P2
Asset replacement program: End	Mount Barker	N	N	N

Category	Site Location	BAU	Option 1 (Forward Program)	Option 2 (Risk Based)
of Life Replacements				
	Port Augusta	N	N	N
	Transformer Workshop	N	N	N
	Elizabeth	N	N	N
	Ceduna	N	N	N
	Naracoorte	N	N	N
	Other Depots	H, M	Y	High criticality
EVs		N	Y	Y

Appendix B - Risk Assessment

				Current risk Baseline			Residual risk BaU			Residual risk Forward program			Residual risk Risk-based program		
ID	Risk scenario	Consequence description	Consequence category	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level
1	Unpredictability of repairs and maintenance	Unplanned maintenance resulting in building asset and/or equipment failure that was not anticipated, leading to a misalignment with Property Strategy	**Advocacy of partnerships**	3	4	Medium	3	3	Medium	2	2	Low	2	2	Low
			Customers	3	4	Medium	3	3	Medium	2	3	Low	2	3	Low
2	Deferred maintenance	Impact on workforce and public due to lack of (fit for purpose) buildings and facilities	**Culture & workforce**	3	4	High	3	3	Medium	2	2	Low	2	2	Low
		Potential safety impacts due to asset failure	**Safety**	3	4	High	3	4	High	1	2	Low	2	2	Low
3	Deteriorating assets	Increased condition and age profiles of building assets- resulting in risk of asset failure, and potentially impacting operations.	**Sustainability**	3	4	High	3	4	High	2	2	Low	2	2	Low
4	Aging asset base	Major risk as a result of not undertaking asset renewal for depots, raising a need to budget for short- or medium-term renewal lifecycle costs	**Performance & Growth**	3	4	Medium	3	3	Medium	2	2	Low	2	2	Low
			Overall Risk Level			High			Medium			Low			Low

Appendix C – Summary of criticality analysis methodology

An independent criticality and risk assessment was undertaken across the entire property portfolio. The assessment guidelines were aligned with industry asset management standards and relevant, up-to-date high-quality asset condition and performance data. Building assets were ranked by their criticality for asset inspections, maintenance and replacement applied according to that priority. This approach can generate savings over the asset lifecycle, founded on a risk management approach, and provide a basis for optimising future property asset investments.

The criticality analysis allowed us to optimise investment and prioritise building works required within a portfolio of property assets that are largely at or beyond end of life and in a deteriorated condition.

The methodology used in determining the asset criticality is summarized below.

1 Modify the Risk Matrix

The criticality process was developed to align with the principles of the SA Power Networks Enterprise Risk Management Framework (Appendix B). The Enterprise risk matrix was modified to align with the property assets in three key areas: a) risk type; b) risk levels from a corporate to building asset level; and c) combining the overlapping risk categories. For example, on a corporate level, a failure that leads to a loss of $1 million in revenue is considered minimal, but on a building asset level, it is considered moderate.

2 Engage with SA Power Networks Stakeholders

A baseline criticality profile was developed in consultation with the SA Power Networks Property Team where criticality assessment and ratings were assigned at **site**, **building**, **asset system** and **asset subsystem** level. The input of stakeholders was important as they had operational understanding of asset function and provided value to the criticality scoring.

3 Assign criticality scores

Criticality was determined as a weighted product of consequence and likelihood using factors listed below. The assets were scored based on failure consequence (from minimal to catastrophic).

Risk category	Risk type descriptor	Minimal 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
WHS	People safety	Incident but no injury	Medical treatment only	Lost time injury	Death or permanent disability	Multiple fatalities
Financial	Loss of revenue due to unavailability of facility Maintenance/replacement cost	<$250K (Failure at an asset level)	$250K - $1M (Failure at an asset level)	$1M - $2.5M (Failure at a system/sub-system level)	$2.5M - $10M (Failure at a multi-system/major system level)	>$10M (Loss of total building and associated assets)
Reliability	Quality of services delivered from facility/asset	Negligible impact on facility/asset, sufficient redundancy in place	Minor impact on facility/asset which can be mitigated within 1 month	Moderate impact on facility/asset which can be mitigated within 1 week	Major impact on facility/asset which can be mitigated within 1 day	Critical loss of facility or total asset failure
Environment	Impact on environment	Negligible damage that is contained on-site and does not require any clean up	Minimal damage to the environment and small clean up, immediately contained on site	Moderate damage to the environment and significant clean up cost	Significant environmental damage with wide spread impacts, damage may be permanent	Long term environmental harm, permanent irriparable damage
Reputation/ Customer	Reputation impact on internal and external customers due to unavailability of facility/asset	Localised customer complaint that can be rectified promptly	Multiple customer complaints that can be rectified promptly	Customer dissatisfaction resulting in statewide media coverage.	Widespread customer dissatisfaction resulting in state and/or national media coverage	Customer dissatisfaction resulting in regulator or government intervention
Organisational	Staff morale on state of facility	Insignificant impact on staff, no impariment to performance and work/life balance, no workplace/union related issues	Employee impact localised within a certain department Employees concerned for their wellbeing/future, Isolated incidences of employee discomfort, minimal impairment on performance	Employee impact extends to multiple departments/ functions and/or site Increased risk to employees' wellbeing and risk, noticeable drop in morale and culture, noticeable increased in stress	All employees potentially impacted, increased workforce turnover, Stress related workplace injuries, union action	Employee brand and employees impacted, Organisation-wide dissatisfaction, stress levels dangerously high, long-term industrial relations impact
Legislative and Regulatory	Legislative & regulatory impacts on asset failure	Minor breaches by employees resulting in customer compliants or publicity	Act or Code infringments resulting in minor fines	Severe Company or Officer fines for Act or Code breaches	Severe negative impact on both regulated and unregulated businesses	Loss of Distribution Licence

The likelihood of asset failure was scored (from rare to almost certain) depending on asset condition determined by condition inspections (conducted in 2021), asset health determined by asset age recorded during condition inspections and maintenance regime to indicate early fault detection determined based on existing planned maintenance schedules.

Rating	Likelihood	Perception
5	Almost Certain	Is expected to occur
4	Likely	It will probably occur
3	Possible	May occur
2	Unlikely	Not likely to occur
1	Rare	Most unlikely to occur

The risk rating (consequence x likelihood) was determined at a site, building, system and subsystem levels using the risk matrix below.

Risk Matrix					
	Consequence				
Likelihood	Minimal 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Almost Certain 5	Medium 5	Medium 10	High 15	Extreme 20	Extreme 25
Likely 4	Low 4	Medium 8	High 12	High 16	Extreme 20
Possible 3	Low 3	Medium 6	Medium 9	High 12	High 15
Unlikely 2	Low 2	Low 4	Medium 6	Medium 8	Medium 10
Rare 1	Low 1	Low 2	Low 3	Low 4	Medium 5

To ensure that the criticality analysis approach was streamlined and efficient, scoring was undertaken top-down. It was beneficial to define how critical the individual sites and buildings were, then determine which asset systems and subsystems served those spaces. For example, the consequences of failure for air-conditioning systems in a high rated building (Keswick head office) would be higher than compared to a similar system in a lower criticality rated building (Cleve depot).

At the asset level, similar assets were assigned to a group (i.e. systems and subsystems) and that group scored. For example, all of the fire alarm systems for a building were classified into a single group and given the same score. Typically, groups of assets share the same service and consequences of failure. An example spreadsheet for grouping and scoring at the asset system level is provided below.

Location ID	Systems	Consequence				Likelihood							Criticality
		System CoF rating	Location CoF rating	Final CoF rating	Consequence Driver	System Condition	Condition PoF	System RL (%)	System Health	System Health PoF	Maintenance regime	Regime PoF	Likelihood rating	
ADE11E-Building 1	Building Fabric	1.9	3.7	**2.8**	WHS	4.0	2.0	44%	Good	2.0	No	4.0	**2.4**	**4**
ADE11E-Building 1	Hydraulic Services	3.4	3.7	**3.5**	Reliability	3.0	3.0	-12%	Very poor	5.0	Yes	2.0	**3.2**	**11**
ADE11E-Building 1	Mechanical Services	3.1	3.7	**3.4**	Reliability	4.0	2.0	58%	Very good	1.0	No	4.0	**2.2**	**7**
ADE11E-Building 1	Electrical Services	3.3	3.7	**3.5**	Reliability	3.5	2.0	71%	Very good	1.0	Yes	2.0	**1.8**	**6**
ADE11E-Building 1	Grounds & Gardens	1.7	3.7	**2.7**	Financial	3.0	3.0	80%	Very good	1.0	No	4.0	**2.8**	**5**
ADE11E-Building 1	Security Systems	3.3	3.7	**3.5**	Reliability	3.5	2.0	73%	Very good	1.0	Yes	2.0	**1.8**	**6**
ADE11E-Building 1	Fire Services	4.0	3.7	**3.8**	WHS	4.0	2.0	42%	Good	2.0	No	4.0	**2.4**	**9**
AGL480-Building 1	Electrical Services	3.3	2.7	**3.0**	Reliability	3.0	3.0	38%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 1	Security Systems	3.3	2.7	**3.0**	Reliability	3.0	3.0	10%	Average	3.0	Yes	2.0	**2.8**	**9**
AGL480-Building 1	Fire Services	4.0	2.7	**3.3**	WHS	3.0	3.0	26%	Average	3.0	Yes	2.0	**2.8**	**11**
AGL480-Building 1	Hydraulic Services	3.4	2.7	**3.0**	Reliability	3.0	3.0	32%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 1	Building Fabric	1.9	2.7	**2.3**	WHS	2.5	3.0	5%	Poor	4.0	No	4.0	**3.4**	**6**
AGL480-Building 1	Mechanical Services	3.1	2.7	**2.9**	Reliability	3.0	3.0	10%	Poor	4.0	No	4.0	**3.4**	**11**
AGL480-Building 2	Electrical Services	3.3	3.7	**3.5**	Reliability	2.0	4.0	34%	Good	2.0	Yes	2.0	**3.2**	**11**
AGL480-Building 2	Fire Services	4.0	3.7	**3.8**	WHS	2.0	4.0	-1%	Very poor	5.0	Yes	2.0	**3.8**	**15**
AGL480-Building 2	Hydraulic Services	3.4	3.7	**3.5**	Reliability	2.0	4.0	10%	Poor	4.0	Yes	2.0	**3.6**	**12**
AGL480-Building 2	Mechanical Services	3.1	3.7	**3.4**	Reliability	2.0	4.0	-15%	Very poor	5.0	No	4.0	**4.2**	**13**
AGL480-Building 2	Building Fabric	1.9	3.7	**2.8**	WHS	1.0	5.0	68%	Very good	1.0	No	4.0	**4.0**	**7**
AGL480-Building 3	Electrical Services	3.3	2.1	**2.7**	Reliability	3.0	3.0	42%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 3	Fire Services	4.0	2.1	**3.0**	WHS	3.0	3.0	50%	Very good	1.0	No	4.0	**2.8**	**11**
AGL480-Building 3	Hydraulic Services	3.4	2.1	**2.7**	Reliability	3.0	3.0	32%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 3	Building Fabric	1.9	2.1	**2.0**	WHS	3.0	3.0	13%	Average	3.0	No	4.0	**3.2**	**6**
AGL480-Building 3	Mechanical Services	3.1	2.1	**2.6**	Reliability	3.0	3.0	27%	Average	3.0	No	4.0	**3.2**	**10**
AGL480-Building 4	Electrical Services	3.3	2.1	**2.7**	Reliability	3.0	3.0	46%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 4	Fire Services	4.0	2.1	**3.0**	WHS	3.0	3.0	21%	Average	3.0	Yes	2.0	**2.8**	**11**
AGL480-Building 4	Hydraulic Services	3.4	2.1	**2.7**	Reliability	3.0	3.0	45%	Good	2.0	Yes	2.0	**2.6**	**9**
AGL480-Building 4	Building Fabric	1.9	2.1	**2.0**	WHS	3.0	3.0	31%	Good	2.0	No	4.0	**3.0**	**6**
AGL480-Building 4	Mechanical Services	3.1	2.1	**2.6**	Reliability	3.0	3.0	8%	Poor	4.0	No	4.0	**3.4**	**11**
AGL480-Building 5	Electrical Services	3.3	2.1	**2.7**	Reliability	3.0	3.0	37%	Good	2.0	Yes	2.0	**2.6**	**9**

4 Prioritise investment

Appropriate investments in the property portfolio reflects the criticality of the asset and therefore is economically justified in terms of benefits gained (costs avoided). Assets with a high criticality score are managed on a risk-based program and assets that are not critical are safely deterred to the next RCP.

Other benefits from the criticality analysis include:

- Capital replacement planning (building renewal, asset replacement and current and outstanding works prioritisation).
- Efficient maintenance planning (focus maintenance where it's needed based on actual condition).
- Increased asset reliability and availability (with increased focus on condition, only intervene when the asset condition increases reliability).
- Increased safety performance (with increased reliability of asset there's a corresponding increase in safety performance).

5 Analysis summary – location rating

As discussed in the sections above, the criticality analysis is conducted on the by sites/building, system, subsystem, and asset to provide different levels of granularity. Further details on the system, subsystem, and asset level criticality are presented in the attached

Appendix D – Property criticality assessment overview

Property Criticality Assessment_Overview_Sept2023

Appendix E – MCA criteria and rating scale

Table 21 outlines the MCA criteria adopted in the qualitative benefits and costs assessment. These criteria were selected on the basis of concerns raised in customer engagement on property in accordance with NER 6.5.7 e)5a).

Table 21: Criteria for MCA Analysis

#	MCA criteria	Description
1	Network and Performance	The option is likely to support strategic focus areas: "Providing the foundation for the new energy future" and "Achieving operational excellence and delivering on our priorities" (Strategic Plan 2022-2026). The option indirectly supports the reliability and security of the standard control services and the distribution system.
2	Safety	The option is likely to support strategic focus areas of Safety "Ensuring the safety of our people and community, every day" (Strategic Plan 2022-2026) and safety of supply of electricity from NEO.
3	Culture and Workforce	This option is likely to support the critical enabler of "An engaged, aligned and high performing workforce" (Strategic Plan 2022-2026).
4	Deliverability	The option is capable of being delivered in practical terms, including market capacity to deliver any third-party requirements.
5	Socio-economic and environmental impacts	The option is likely to deliver positive broad socio-economic and environmental benefits including broader employment, local community, land use and environment benefits.

Table 22 outlines the MCA rating scale against each of the criterion.

Table 22: MCA Rating Scale

Score	MCA rating scale
1	Little to no attainment of the criterion
2	Low attainment of the criterion
3	Moderate attainment of the criterion
4	High attainment of the criterion
5	Very high attainment of the criterion

Appendix F – Pre-feasibility cost estimates for depot rebuild