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## 1 Document Background

### 1.1 Purpose of this document

The purpose of this document is to outline a business case for a proposed program of work that will form part of Endeavour Energy’s ICT Asset Strategy 2024-2029.

### 1.2 References

| Document  | Version                   | Author           |
|---|---------------------------|------------------|
| Future Investment Scenario Planning   | Final report – March 2022 | Endeavour Energy |
| Business Narrative Regulatory Reset 2024-29   | Draft V2 – February 2022  | Endeavour Energy |
| Endeavour Energy Stakeholder & Community Reputation Benchmark Study   | 05 February 2022          | Endeavour Energy |
| Sustainability issues – Report back & Endeavour leadership discussion   | September 2021            | Endeavour Energy |
| ICT Asset Strategy 2024-2029  | Draft V0.1 – June 2022    | Endeavour Energy |
| SEC Newgate Research Focus Group Outcome Report   | December 2021             | Endeavour Energy |
| Future Grid Strategy A summary of the key focus areas for our Future Grid Strategy that underpins the 2024 – 2029 Regulatory Proposal | November 2022             | Endeavour Energy |

### 1.3 Document History

| Date              | Version | Comment  | Author |
|-------------------|---------|--|--------|
| 20 June 2022      | 0.1     | Initial Draft  |        |
| 09 September 2022 | 0.2     | Updated initiatives, costs and structure as per feedback from Barry Pendle |        |
| 30 September 2022 | 1.0     | Updated with feedback from Barry Pendle                                    |        |

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|------------------|-----|-----------------------------|--|
| 02 November 2022 | 1.2 | Refreshed financial details |  |
| 20 December 2022 | 2.0 | Final version               |  |

#### 1.4 Approvals

| Position           | Date       |
|--------------------|------------|
| Head of Technology | 21/12/2022 |

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## 2 Strategic Context

There are four priority themes that underpin Endeavour Energy’s Purpose, Vision and Strategic Goals. These inform development of our expenditure plans and forecasts for the 2024 - 2029 regulatory period.

This investment brief addresses the non-system ICT investment required to support the priority theme “Enabling customers’ future energy choices for a sustainable future, moving us towards the future integrated and low carbon energy system”. As customers seek to connect more distributed energy resources (DER) and increasingly use sophisticated digital platforms, the network and its management must evolve. This forms the fundamental objective of this investment theme. Our investments focus on ensuring that customers who choose to take up these new technologies can maximise the value derived and preventing the need for curtailment as a tool to manage reliability issues.

This investment theme links closely to our strategic goals: “Customer & Communities”, “Performance” and “Growth through Innovation”. Additionally, it supports our vision to be among the best performing networks in Australia as measured by safety, customer engagement and financial performance metrics and ensure overall cost of providing electricity services is efficient.

In developing our non-system ICT programs, we also consider the National Electricity Objective (NEO) “to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to:

- price, quality, safety and reliability and security of supply of electricity
- the reliability, safety and security of the national electricity system.”

In a Customer Panel conducted with Endeavour Energy customers, the participants highlighted the importance of enabling customer’s future energy choices for a low carbon energy system through the following verbatim responses:

- “I think in the long run it would be investing and exploring all the options available, instead of waiting for evident trends. Also, customers would have more options to explore what would be the best solution for them.” – *Residential, Innovator, high-energy user, South-west Sydney*
- “Other than EV, PV and batteries, what else do we ‘forecast’ might help CER / DER supply? And how do we help enable communities to reach Net Zero?” – *Participant, South-west Sydney*
- “When is residential solar no longer for residential support, but a generator for profit i.e. a business, and why should all customers pay for this business?” – *Participant, South-west Sydney*

Endeavour Energy’s priority themes underpin our Purpose, Vision and Strategic Goals from 2024 – 2029 as identified in **Figure 1**. The priority themes are reliant on investment in information technology to deliver the information, infrastructure, and capability across the breadth of our customer base, and to support the ecosystems of employees, contractors and suppliers who deliver the services that customers expect.

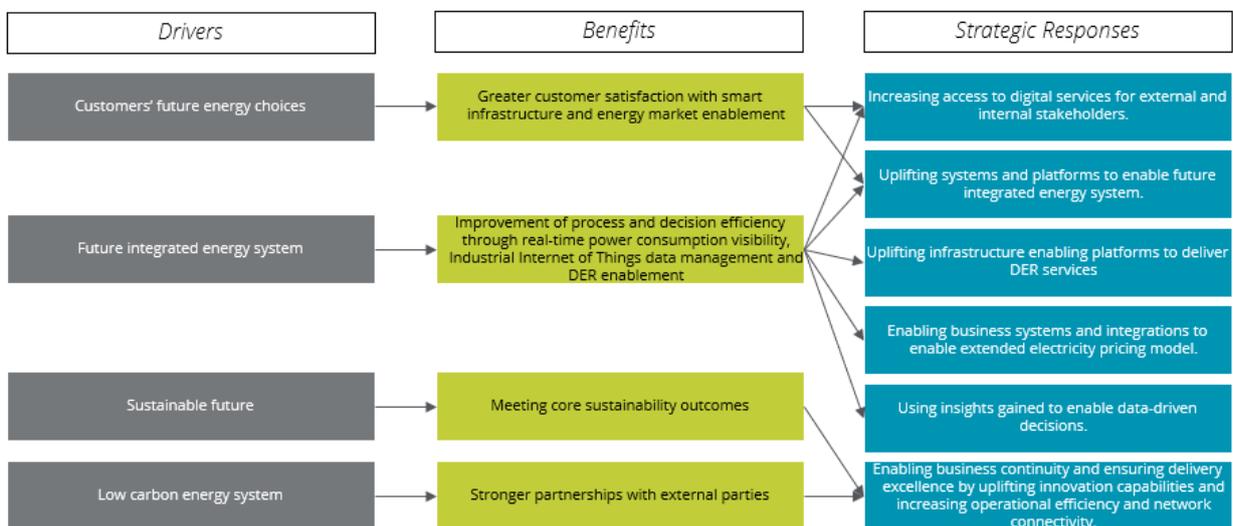
● **ICT Asset Strategy 2024 – 2029**  
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|                        |   |  |  |   |   |
|------------------------|---|--|--|---|---|
| <b>Purpose</b>         | Powering communities for a brighter future  |  |  |   |   |
| <b>Vision</b>          | To be amongst the best performing networks in Australia as measured by safety, customer engagement and financial performance metrics                    |  |  |   |   |
| <b>Strategic Goals</b> | 1. Health, safety & environment   | 2. Employee engagement   | 3. Customer & communities  | 4. Performance  | 5. Growth through innovation  |
|                        | <ul style="list-style-type: none"> <li>Establish an organisation-wide culture of safety</li> <li>Establish streamlined systems and processes</li> </ul> | <ul style="list-style-type: none"> <li>Lift Performance through clear expectations and performance-oriented mindsets</li> <li>Build leadership capability</li> </ul> | <ul style="list-style-type: none"> <li>Establish easy connection with customers</li> <li>Enhance recognition by customers through valued interactions and relationships</li> </ul> | <ul style="list-style-type: none"> <li>Optimise work program and risk allocation</li> <li>Improve quality, speed and cost to deliver</li> </ul> | <ul style="list-style-type: none"> <li>Leverage existing asset base to create value</li> <li>Augment network with smart investments and new technology</li> </ul> |
| <b>Priority Themes</b> | <b>Safe, affordable &amp; reliable</b>  | <b>Resilience</b>  | <b>Sustainable growth</b>  | <b>Future Energy Choice</b>   |   |

**Figure 1: Priority Themes**

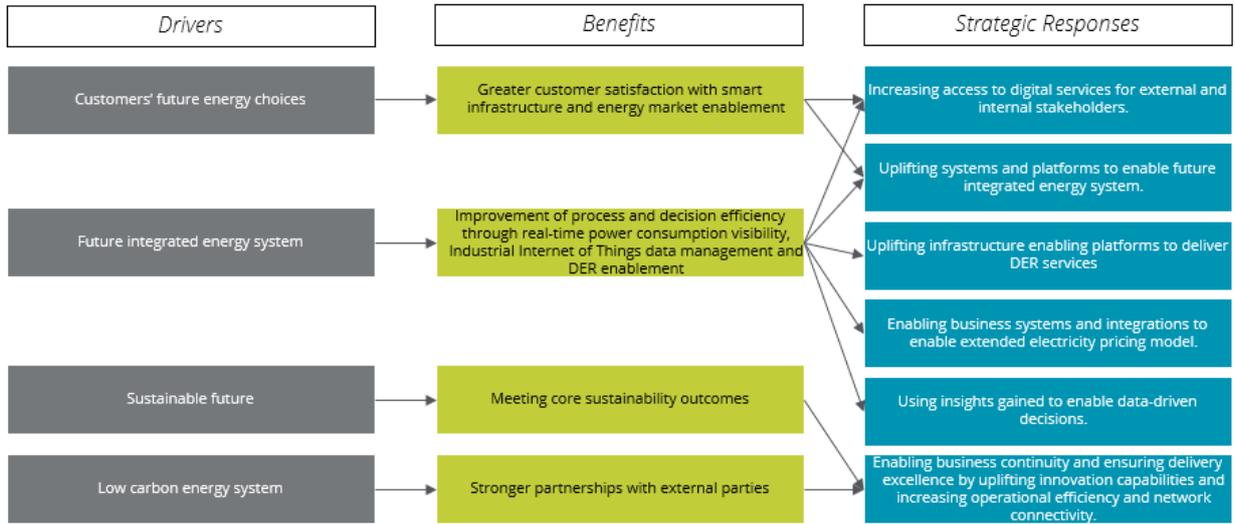
This investment brief identifies four key drivers related to the priority theme. For each of these drivers, we have identified the drivers and challenges for investment, the benefits that can be realised, and the objectives that can be met and outcomes achieved through delivery of a strategic response (i.e., programs).

The drivers, core benefits and strategic responses are illustrated at a high level through an Investment Logic Map in



**Figure 2.**

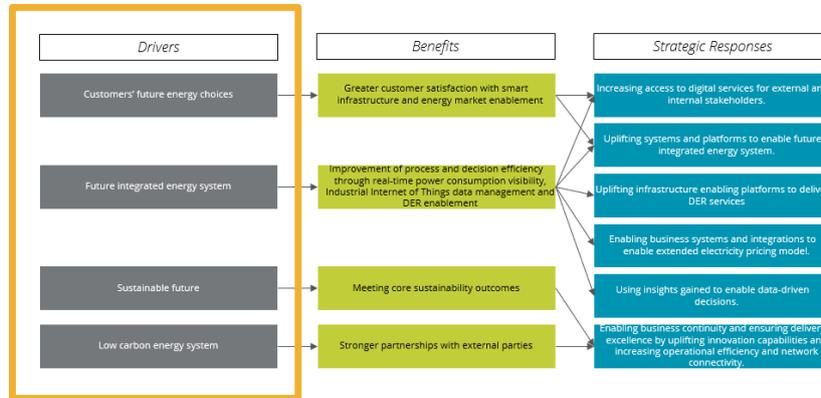
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**Figure 2: Investment Logic Map**

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## 2.1 Drivers and challenges



**Figure 3: Investment Logic Map identifying four key drivers of sustainable future, low carbon energy system, future integrated energy system and customers’ future energy choices.**

The four key drivers for investment for this priority theme are:

- **Customers’ future energy choices.** The network and its management must evolve as customers connect to more DER and increasingly access and integrate with sophisticated digital platforms. Increased access to digital services for internal and external stakeholders supports customer energy choices and the long-term interests of consumers.

Endeavour Energy will need to ensure customers, in choosing to access new technologies and services related to their energy usage, are able to maximise the derived value. A more dynamic system of incorporating these new technologies into the electricity network will allow us to monitor and collect useful information for our customers and workforce. New energy market opportunities can leverage on these insights and the alignment between the two parties to enable customers’ future energy choices. This will accommodate customers’ needs for reliable and efficient electricity supply and enable customers to optimise their household usage.

There are challenges for us in investing in the creation of enablers for consumers to derive the maximum utility from their DER, whatever their energy choices may be. These include the opportunity to expand the visibility and analytics of the low voltage network.

- **Future integrated energy system.** As the grid continues to evolve, Endeavour Energy needs to find better ways of delivering and installing new technologies. This can be done through new commercial capabilities or stronger partnerships with existing organisations and new entrants. We also need to ensure optionality that allows us to respond to changing pace and direction of the market and technologies.

New commercial capabilities and stronger partnerships will be essential to unlocking the potential for our business and our customers of new technologies and services on the network, including the efficiency and accuracy of the data managed and collected by us. Our innovation fund will trial new technologies, while we will work with partners and the regulator to optimise outcomes for customers. We need to have the right capabilities to integrate existing and emerging technologies and to provide inter-operability with our future partners to promote a more integrated energy system.

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- **Sustainable future.** Endeavour Energy has corporate KPIs linked to sustainability outcomes and is developing its sustainability strategy.

Significant work has been undertaken to-date to establish the foundations of our sustainability strategy, including development of a materiality assessment report in September 2021. One key insight from this report is our customers, stakeholders and employees are becoming more environmentally conscious. Technology capabilities and automation drive innovation to deliver sustainable solutions aligning with expanding customer choices in a renewable energy future. It is important these solutions are supported by information and insights gained from appropriate tools, governance and processes to improve the quality of reporting and monitoring of outcomes. This ensures we are well placed to deliver optimal customer outcomes and meet the long-term interests of customers in both the environmental and social sustainability of the network. This is based on the results from our Focus Group Outcomes report (December 2021), which show customers also care about the sustainability of our network for their communities, those more vulnerable and future generations. While we need to ensure these long-term outcomes for the customers, we need to make sure we can do this using the most efficient investment possible, and this means we will need to start now.

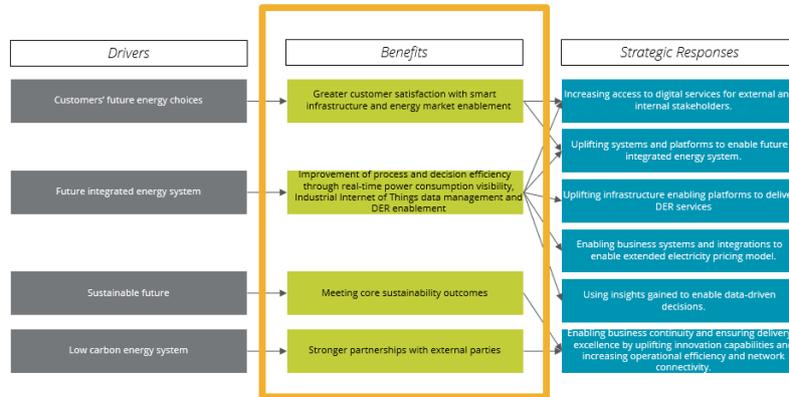
Reporting and monitoring of the key sustainability outcomes are increasingly important to aligning sustainability outcomes with business strategies and to build stakeholder confidence in our management of environmental impacts. ICT investments can be used as the solutions to address these challenges by improving the efficiency and accuracy of our reporting and monitoring of sustainability outcomes.

- **Low carbon energy system.** Governments, businesses and communities are setting increasingly ambitious emissions reduction targets to limit the impacts of climate change. Endeavour Energy is well placed to support its customers in achieving these targets by making sure its network can cater for the increasing demand of renewables and DER such as solar PV, battery storage, and electric vehicles. Clear communication and investment strategies must be supported by new ICT capabilities including enabling low voltage visibility and analytics, and DER hosting capacity.

The pursuit of a net zero economy will transform the way we generate and consume energy. As customers take up technologies such as solar, batteries and electric vehicles, the network will need to evolve to allow for two-way flows and active participation from customers and third parties. Over time, more sophisticated digital platforms will seek to interact with a more dynamic, integrated network that orchestrates the low carbon energy system. This means Endeavour Energy will face challenges in ensuring we can integrate future low carbon energy options in an effective and efficient way and to do this, we need to continue investing in our ICT capability.

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## 2.2 Way forward benefits



**Figure 4: Investment Logic Map identifying four benefits that can be realised.**

Endeavour Energy is focused on the identification of solutions aligned to the priorities and expectations of our customers and which reflect their long-term interests through our plans to invest in, operate and provide, electricity services. By addressing new challenges identified by our customers and stakeholders, there are opportunities to derive different types of benefits. For example, through enhanced technology capabilities, customers’ future energy choices can occur in a way which minimises overall system cost and avoids the need to invest in new generation and capacity. These benefits can either be quantitative or qualitative.

We have identified the following benefit categories for this investment brief. Please refer to sections 4.4 and 5.5 for an analysis of the quantifiable and qualitative benefits associated with the investment:

- **Greater customer satisfaction with smart infrastructure and energy market enablement.** Customers expect provision of new products and services that align with the advancement of new technologies, and customer satisfaction improves by offering customers the opportunity to maximise value from their technology investments. More efficient processes can lead to higher levels of customer satisfaction, additional cost savings and improved pricing outcomes over time. Customers will find new ways of participating in the future energy market and we will need to ensure the right capabilities are in place to cater for this and continue to deliver outcomes for customers that reflect their long-term interests with respect to price, quality, safety and reliability and security of supply.

The benefits from investments in the next regulatory period are realised by ensuring we can minimise any potential disruptions to customers from future energy market transition and support growth in demand for DER. These relate to the enablement of *customers’ future energy choices*.

The table below provides the information on the benefits and their measures.

Endeavour Energy Benefits:

- Improve customer satisfaction with communication of planned/unplanned outages through better and more timely information, reliability of key business

Benefit Measures:

- Customer time savings benefit
- Avoided system failure costs

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Endeavour Energy Benefits:

- processes/operations and reduced impact on customers (particularly vulnerable customers)
- Improve efficiency of technology delivery through convergence of IT and OT.
- Enable customers to make reliable and affordable energy choices and adopt renewable energy decisions.

Benefit Measures:

- Agent time savings benefit
- Reduction in network curtailment value due to DER integration

- **Improvement of process and decision efficiency through industrial Internet of Things (IOT) data management and DER enablement.** It is important we continue to look for ways to improve the operational efficiency of our processes, including in service delivery and data collection and analysis.

Solutions targeting these areas will improve both our processes and deliver greater insights for the efficient delivery of services to our customers and the management of our network with respect to price, quality, safety and reliability and security of supply. For this area, we mainly address the price and quality of electricity delivery by ensuring those processes are efficient and fit-for-purpose in the long term.

We need to ensure we have the right capabilities to integrate existing and emerging technologies. The future of our energy system is *low carbon* and customers are already using a range of technologies that reflect this market shift. The benefits from the investments in the next regulatory period can be realised by addressing the challenges related to this market shift.

The table below provides the information on the benefits and their measures.

Endeavour Energy Benefits:

- Improve efficiency of service management through enhancement and/or automation of back-end, asset management and work-order processes.

Benefit Measures:

- Customer time savings benefit
- Avoided system failure costs
- Agent time savings benefit
- Reduction in network curtailment value due to DER integration

- **Meeting core sustainability outcomes.** The Focus Group Outcomes report (December 2021) shows that while affordability remains a priority for customers, there is increasing interest in both the environmental and social sustainability of the network to deliver services for customers and their communities, more vulnerable customers and future generations.

Endeavour Energy’s sustainability objectives form part of our corporate KPIs. It is important we are building the right ICT capabilities to ensure our sustainability objectives can be achieved and we have the right system in place to monitor and report on our sustainability outcomes. For example, two of the sustainability outcomes are related to the diversion of waste from landfill and the reduction in CO2 emissions. By ensuring these *sustainability* outcomes are measured and monitored accurately, we can

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achieve benefits in terms of improved reporting, analytics and statistics capabilities related to our internal business services.

The table below provides the information on the benefits and their measures.

Endeavour Energy Benefits:

- Support future decision making and planning through enhancements to technology capabilities
- Increase transparency of sustainability outcomes through improved reporting, analytics and statistics capabilities
- Enhance decision making and day-to-day tasks by improving visibility of customer energy consumption.

Benefit Measures:

- Avoided system failure costs
- Productivity improvements

- **Stronger partnerships with external parties.** Endeavour Energy wants to build stronger relationships with external parties to deliver new and improved services to customers and stakeholders. This can be done through new platforms that allow safe and efficient knowledge sharing between parties. Investments in new ICT capabilities will help us manage these relationships better and ensure these relationships are sustainable over time. By automating processes and ensuring minimal errors when engaging with us, we become more approachable to new stakeholders and organisations looking to expand their innovation and through this, support market development and customer choice.

*Future integrated energy system* will mean there are many ways of doing specific tasks and we need to maximise our investments to ensure we can complete these tasks using the most efficient ways. One of the efficient methods is to form partnerships with other organisations to share our expertise by allowing for a more integrated energy system through secured data sharing platform.

The table below provides the information on the benefits and their measures.

Endeavour Energy Benefits:

- Efficient and secure operational sharing of information with partners through enhanced integration and data controls.

Benefit Measures:

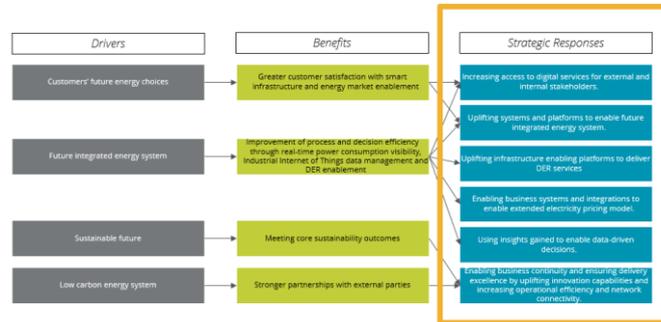
- Technology innovation and reuse benefit

There are a number of qualitative benefits related to building greater customer aspirations related to:

- New energy choices;
- Community productivity gains;
- Stronger positive reputation related to the achievement of sustainability outcomes;
- Increased confidence in the products and serviced by customers in dealing with potential disruptions;
- Promote a mindset of innovation in the business through better support systems.

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## 2.3 Objectives and outcomes



**Figure 5: Investment Logic Map identifying six strategic responses to deliver against the investment drivers and realise benefits identified.**

The following strategic responses are proposed to meet our investment drivers, address the development challenges, and realise the benefits identified.

- **Strategic Response 1. Increasing access to digital services for external and internal stakeholders.**

This strategic response will enhance foundational platforms for the delivery of digitally enabled services to customers, particularly partner and supplier self-service capability. This program addresses the *customers’ future energy choices* and *future integrated energy system* drivers.

Key objectives and outcomes in this strategic response include:

- Enhance staff productivity through external workforce portals and apps. Improve customer satisfaction by enabling self-service capability through the development of omnichannel partner and supplier portal and applications.
- **Strategic Response 2. Uplifting systems and platforms to enable future integrated energy system.**

This strategic response will transform platforms to reduce reliance on unsupported and non-functional systems and provide capabilities to enable future integrated energy system. This program addresses the *customers’ future energy choices* and *future integrated energy system* drivers.

Key objectives and outcomes in this strategic response include:

- Transform customer connections. Transformation of customer connections systems to enable consumers/businesses to generate their own renewable energy through solar and microgrids and sell excess back to the grid.
- Enable smart IoT management. Implementation of smart IoT management systems to maintain, monitor, diagnose and configure devices (particularly household appliances) operating as part of the IoT environment and support their functional capabilities.
- **Strategic Response 3. Uplifting infrastructure enabling platforms to deliver DER services.**

This strategic response will uplift infrastructure enabling platforms to deliver DER enablement and management services. This program addresses the *future integrated energy system* driver.

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Key objectives and outcomes in this strategic response include:

- Enable DER capabilities. Enhancements to infrastructure enabling platforms to provide DER enablement services and DER management.
- **Strategic Response 4. Enabling business systems and integrations to enable extended electricity pricing model.**

This strategic response will enhance organisational efficiency, increase integration and inter-operability and enhance flexibility to adapt to regulatory changes. This program addresses the *future integrated energy system* driver.

Key objectives and outcomes in this strategic response include:

- Enable extended electricity pricing model. Uplift in business systems to enable extended electricity pricing model and drive operational efficiencies.
- Enhanced data exchange between enterprise applications. Integration of core back-end environments linking technical enabling platforms to provide patterns for data exchange.
- **Strategic Response 5. Using insights gained to enable data-driven decisions.**

This strategic response will enhance the efficiency and accuracy of data insights and enable data-driven decisions. This program addresses the *future integrated energy system* driver.

Key objectives and outcomes in this strategic response include:

- Enable customer analytics and insights. Uplift of analytics capability to enable customer insights from dynamic datasets and adopt modern asset management capabilities from Industrial IoT customer data management.
- Enable customer visibility of DER. Development and implementation of DER register and DER customer portal for customers to view DER.
- **Strategic Response 6. Enabling business continuity and ensuring delivery excellence by uplifting innovation capabilities and increasing operational efficiency and network connectivity.**

This strategic response will uplift technology capabilities to deliver solutions aligned to business outcomes. This program addresses the *sustainable future* and *low carbon energy system* drivers.

Key objectives and outcomes in this strategic response include:

- Workforce training to uplift innovation capabilities. Develop technology team capabilities and services in design thinking, agile delivery and establish an innovation lab to lead and support the deployment of new technology services.
- Increase operational efficiency. Update IT service continuity response plans to ensure reliable management of services and reducing risk from disaster events, optimising IT Service Management processes for the established technology operating model and enhancing technology team capabilities and services to continually uplift process optimisation.

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- Ensuring business continuity and delivery excellence. Delivering short lead-time responses to emerging issues and business requirements and streamlining execution of routine technology operational tasks by orchestration, automation and workflow tools.

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### 3 Investment Options

#### 3.1 Options Description

Three options were considered to address the drivers and challenges outlined earlier and deliver the benefits described above.

##### 3.1.1 Option 1: Meeting core sustainable outcomes

The focus of Option 1 is to *meet core corporate goals associated with purposeful decision making related to environmental and social outcomes, thereby improving reputation for customers and workplace culture.*

This option addresses one driver:

- **Sustainable future.** Endeavour Energy has corporate KPIs for its sustainability outcomes. We are undertaking a new sustainability strategy supported by Republic of Everyone in completing the strategy and preparing to take it to market. Technology capabilities and automation drive innovation in response to business engagement to deliver sustainable solutions aligning with expanding customer choices in a renewable energy future. It is important these solutions are supported by information and insights gained from appropriate tools, governance and processes to improve the quality of reporting and monitoring of the sustainability outcomes. This ensures we are best placed in delivering optimal customer outcomes through improved analytics.

This option is dependent on investment decisions in the investment brief “Meeting core expectations for a safe, affordable and reliable electricity supply” to provide the uplift of enterprise data management capabilities. It is also dependent on investment decisions in the investment brief “Providing a resilient network for the community against increasing external hazards” to invest in data management, analytics and insights capabilities.

This Option has a lack of initiatives supporting three of the key strategic drivers which support the delivery of this investment brief. Additionally, it does not meet the core customer expectations related to the investment in new technologies through installing or developing stronger partnerships to deliver these technologies.

##### 3.1.2 Option 2: Meeting core sustainable outcomes and customer expectations

The focus of Option 2 is to meet customer expectations to *enable customer future energy choices.* Option 2 builds upon the drivers that are the focus of Option 1 by addressing the evolving nature of the network towards low energy carbon options. Endeavour Energy will need to build on its existing ICT capabilities to allow customers the choices to participate more actively in the energy market.

In addition to the drivers addressed under Option 1, Option 2 addresses two additional drivers:

- **Customers’ future energy choices.** As customers seek to connect to more DER and increasingly use sophisticated digital platforms, the network and its management must evolve. Increasing access to digital services for internal and external stakeholders enables future energy choices for customers. Greater level of customer satisfaction will be linked to improvement in the number of energy choices available to customers.

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- **Future integrated energy system.** As the grid continues to evolve, Endeavour Energy will need to find better ways of delivering and installing new technologies. This can be done through new commercial capabilities or stronger partnerships with other existing and emerging organisations. We will also need to ensure optionality allows us to respond to changing pace and direction of trends.

This option is dependent on investment decisions in the investment brief “Meeting core expectations for a safe, affordable and reliable electricity supply” to uplift digitised services platforms required to drive customer energy choices. It is also dependent on investment decisions in the investment brief “Providing a resilient network for the community against increasing external hazards” to uplift integration, analytics and insights and Internet of Things capabilities required to provide low carbon energy system options.

This Option has a lack of initiatives which deliver stronger partnerships with external parties to improve the service of customer expectations and operational efficiencies. Additionally, in the following regulatory period, Endeavour Energy is transitioning to a Distributed Service Organisation Model which is not supported by investments under this option.

### 3.1.3 Option 3: Meeting core sustainable outcomes and customer expectations, and building capabilities and stronger partnerships

The focus of Option 3 is *building new capabilities and stronger partnerships to unlock potential for new technologies and services*. This option additionally shows transition of Endeavour Energy from DNSP to Distributed Service Organisation Model. Option 3 builds upon the drivers that are the focus of Option 2.

Option 3 addresses one additional driver:

- **Low carbon energy system.** Endeavour Energy wants to build stronger relationships with external parties to deliver better services to customers and stakeholders. This can be done through new platforms that allow safe and efficient knowledge sharing between different parties. Investments in new ICT capabilities will help us manage these relationships better and ensure these relationships are able to maintain in the long run. By automating the process and ensuring minimal errors when engaging with us, we become more approachable to new stakeholders and organisations looking to expand their innovation.

By building partnerships with external parties specialising in specific areas of low carbon technologies, we can maximise the benefits across our organisation and the community.

This option is dependent on an uplift in innovation and technology team capabilities.

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### 3.2 Criteria Description

The three options were analysed across the following criteria to arrive at a balanced score for each option. These criteria were informed by the Endeavour Energy business case framework and tailored to the considerations and context of this specific investment brief.

- **Strategic alignment with Drivers.** The strategic alignment perspective assesses the extent to which the initiatives address the challenges in meeting the four **key drivers** in the investment brief *Customers’ future energy choices, Sustainable future, Low carbon energy system and Future integrated energy system.*
- **Alignment with customer priorities:** The alignment with customer priorities perspective assesses the alignment with customer priority insights elicited from exploratory focus groups of mixed customer segments to gain insight into what’s important to them<sup>1</sup>: Providing a reliable supply; Responding to emergencies; Prudent and efficient management of the network; Researching, trialling and installing new technologies; and Keeping customers informed.
- **Risk mitigation associated with investment:** The risks perspective assesses the **qualitative** likelihood of mitigating Endeavour Energy corporate risks (corresponding low to high) associated with investment in each of the initiatives within the options.
- **Benefits associated with investment:** The benefits perspective assesses the **quantitative and qualitative** benefits to Endeavour Energy and the Customer community of the proposed option and how these will be realised.
- **Costs associated with investment:** The cost perspective assesses the **quantitative** project one-off and recurrent cost impacts of the proposed option. For this criterion the scores have been allocated as follows: a score of 3 for lowest cost option, 2 for middle cost option, and 1 for the highest cost option.

For each criterion, a score between 0 and 4 was awarded where 0 denotes very low alignment, 2 denotes medium alignment, and 4 denotes very high alignment.

With the level of industry change to be expected in the next regulatory period, the weighting of the criteria reflects a priority for investment options that align with drivers for change and the customer priorities (30% across both criterion), mitigate Endeavour Energy’s corporate risks (25%), and provide a contribution to benefits and cost profile (45% across both criterion). **Table 1** provides a summary of these weightings across the three options to demonstrate the recommended option for investment.

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<sup>1</sup> Endeavour Energy, “Business Narrative Regulatory Reset 2024 – 2029”, March 2022.

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#### 3.3 Summary of Options Analysis

Table 1 summarises the analysis of the three options and the weighted score. Detailed analysis of each option against the criteria is in the Appendix.

|  | Weighting | Option 1 – Meeting core sustainable outcomes   | Score       | Option 2 – Addressing customer expectations   | Score       | Option 3 – Building new capabilities and partnerships   | Score       |
|--|-----------|--|-------------|---|-------------|---|-------------|
| <b>Strategic Alignment with Drivers</b>  | 10%       | This option is exclusively focused on enabling decision-making related to environmental outcomes rather than investments to support future energy sources  | 1           | This option addresses customer expectations for investment in technologies and services supporting low carbon and distributor energy choices.   | 2           | This option enables customer future energy choices through investment in new commercial capabilities and partnerships.  | 4           |
| <b>Alignment with customer priorities</b>  | 20%       | This option has medium alignment to most of the customer priorities and a low alignment with increased communication of outage information.  | 1           | This option has increased alignment with providing reliable supply, prudent and efficient management of the network, new technologies and keeping customers informed.   | 3           | This option has increased alignment to researching, trialling and installing new technologies.  | 3           |
| <b>Risk mitigation associated with investment</b>  | 25%       | This option increases network reliability through investment to anticipate impact of new products and services on the network.   | 1           | This option ensures increased focus on customers and the safety of employees, plus supporting reductions in environmental impacts.  | 3           | No increased risk mitigation as compared to Option 2.   | 3           |
| <b>Benefits associated with Investment</b><br><i>Note: the qualitative benefits are cumulative and quantitative benefits are based on a 10-year period</i> | 30%       | Quantitative Benefits: <ul style="list-style-type: none"> <li>New Capability Benefits: \$0.32M</li> <li>Recurrent Capability Benefits: \$1.15M</li> </ul> Qualitative Benefits: <ul style="list-style-type: none"> <li>Improved positive reputation related to the achievement of sustainability outcomes</li> <li>Increased community productivity</li> </ul> | 1           | Quantitative Benefits: <ul style="list-style-type: none"> <li>New Capability Benefits: \$5.19M</li> <li>Recurrent Capability Benefits: \$17.09M</li> </ul> Qualitative Benefits: <ul style="list-style-type: none"> <li>Increased confidence in the products and serviced by customers in dealing with potential disruptions</li> </ul> | 3           | Quantitative Benefits: <ul style="list-style-type: none"> <li>New Capability Benefits: \$5.19M</li> <li>Recurrent Capability Benefits: \$17.59M</li> </ul> Qualitative Benefits: <ul style="list-style-type: none"> <li>Greater customer aspirations related to new energy choices</li> <li>Promoted a mindset of innovation in the business through better support systems.</li> </ul> | 4           |
| <b>Costs associated with investment</b><br><i>Note: this excludes non-project costs</i>  | 15%       | <ul style="list-style-type: none"> <li>New Capability Capital Expenditure: \$1.07M</li> <li>Recurrent Capability Capital Expenditure: \$4.28M</li> <li>Operating Expenditure: \$1.98M</li> </ul>   | 3           | <ul style="list-style-type: none"> <li>New Capability Capital Expenditure: \$2.65M</li> <li>Recurrent Capability Capital Expenditure: \$10.48M</li> <li>Operating Expenditure: \$6.36M</li> </ul>   | 2           | <ul style="list-style-type: none"> <li>New Capability Capital Expenditure: \$2.65M</li> <li>Recurrent Capability Capital Expenditure: \$10.60M</li> <li>Operating Expenditure: \$6.85M</li> </ul>   | 1           |
| <b>WEIGHTED SCORE</b>  |           |  | <b>1.30</b> |   | <b>2.75</b> |   | <b>3.10</b> |

Table 1: Summary of Options Analysis

Scored from 0 – 4. 0 = Very low alignment. 2 = Medium. 4 = Very high alignment to Endeavour Energy desired outcomes.

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### **3.4 Recommended Option**

Option 3 “Building new capabilities and partnerships” is the most prudent and efficient option.

Option 1 “Minimum Investment” does not address the strategic external drivers supporting the intent of the investment brief to be an enabler of customers’ future energy choices. With a low alignment to customers’ priorities and minimal mitigation of Endeavour Energy’s corporate risks, this option cannot be pursued to support Endeavour Energy’s growth.

Option 2 “Addressing Customer Expectations” has a higher Alignment with most of the strategic external drivers. There is also a high alignment to the customer priorities which support Endeavour Energy’s mission to be a key enabler of a reliable, prudent and efficient network while also investing in technologies which ensure a sustainable future.

The minimal cost difference between Option 2 “Addressing customer expectations” and Option 3 “Building new capabilities and partnerships” in comparison to the qualitative benefits generated from the increased alignment with strategic drivers and customer priorities under Option 3 “Building new capabilities and partnerships”, results in Option 3 “Building new capabilities and partnerships” being the more cost-effective and strategically aligned option.

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## 4 Implementation of the Recommended Option

To realise the significant benefits planned, the “Enabling customers’ future energy choices for a sustainable future, moving us towards the future integrated and low carbon energy system” investment brief will require an appropriate approach to increase the likelihood the investment is delivered successfully on time and budget.

### 4.1 Delivery Roadmap

The implementation of the recommended option will be delivered through six programs of work, each program focused on the delivery of one strategic response, whose vision, objectives and outcomes are described in **Section 2.3**. The programs and the vision for each are described below:

- 1. Increase access to digital services.** Increasing access to digital services for external and internal stakeholders. This strategic response will enhance foundational platforms for the delivery of digitally enabled services to customers, particularly partner and supplier self-service capability. This program addresses the *customers’ future energy choices* and *future integrated energy system* drivers.
- 2. Enable future integrated energy system.** Uplifting systems and platforms to enable future integrated energy system. This strategic response will transform platforms to reduce reliance on unsupported and non-functional systems and provide capabilities to enable future integrated energy system. This program addresses the *customers’ future energy choices* and *future integrated energy system* drivers.
- 3. Deliver DER services.** Uplifting infrastructure enabling platforms to deliver DER services. This strategic response will uplift infrastructure enabling platforms to deliver DER enablement and management services. This program addresses the *future integrated energy system* driver.
- 4. Enable extended electricity pricing model.** Enabling business systems and integrations to enable extended electricity pricing model. This strategic response will enhance organisational efficiency, increase integration and inter-operability and enhance flexibility to adapt to regulatory changes. This program addresses the *future integrated energy system* driver.
- 5. Enable data-driven decisions.** Using insights gained to enable data-driven decisions. This strategic response will enhance the efficiency and accuracy of data insights and enable data-driven decisions. This program addresses the *future integrated energy system* driver.
- 6. Ensure delivery excellence.** Enabling business continuity and ensuring delivery excellence by uplifting innovation capabilities and increasing operational efficiency and network connectivity. This strategic response will uplift technology capabilities to deliver solutions aligned to business outcomes. This program addresses the *sustainable future* and *low carbon energy system* drivers.

To support the delivery of the programs of work, it is proposed projects be split into two phases:

- **Plan.** The intent of the Plan phase is to establish the Project Management team, define the solution architecture, define the sourcing strategy and procure any solution components, and setup the development environment and practices for the following tranches.
- **Design, build, test and deploy.** The intent of this phase is to implement the solution for the project and decommission any legacy applications as appropriate.

The investment brief has two distinct phases:

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- **Enable (FY25-27).** Setting up Endeavour Energy to simplify capabilities and build on current foundations that will unlock value in the years to come. The key objectives to be achieved for this phase include:
  - Enhance staff productivity through external workforce portals and apps;
  - Enable customer analytics and insights;
  - Enable extended electricity pricing model;
  - Enhanced data exchange between enterprise applications;
  - Transform customer connections;
  - Enable smart IoT management;
  - Workforce training to uplift innovation capabilities; and
  - Increase operational efficiency.
- **Transform (FY28-29).** Implementing strategic technology capabilities that will change the way things have been done previously to save time and equip Endeavour Energy with the best decision-making tools. The key objectives to be achieved for this phase include:
  - Enable customer visibility of DER;
  - Enable DER capabilities; and
  - Ensuring business continuity and delivery excellence.



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## 4.2 Governance Arrangements

The programs will comply with Endeavour’s framework for program planning and delivery illustrated below.



**Figure 7: Endeavour's Program Planning and Delivery Framework**

Key governance arrangements from Endeavour’s delivery framework that are considered for this investment brief include Program Planning (Quarterly Review and Program Governance), Project Delivery (all governance arrangements), Project Completion and Business Benefit Realisation (project activities, approvals and acceptances). For further details, please refer to ICT Asset Strategy 2024-2029.

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### 4.3 Program Resource Sourcing Strategy

The sourcing strategy for the investment brief is designed to complement and support the acquisition of the capabilities required to deliver the scope of the programs of work. Given that this investment brief will involve the sourcing of multiple solutions throughout the regulatory period, it is proposed that a detailed procurement strategy be developed during the Program Planning phase for the rolling five-year ICT Capital Program.

The table below summarises the program capabilities that need to be sourced, and the sourcing options and the approach taken in the estimation of the costs. Endeavour Energy is proposing to go out to market for five of the six program capabilities to acquire the breadth of business and technology related capabilities required to deliver the investment brief.

| Program Capability   | Sourcing option   |
|--|---|
| <p><b>Strategic Program, Project, Deployment and Organisational Change Management</b></p> <p>Advice, expertise and capability across program, project, organisational change management and deployment</p> | <p><b>Augmentation:</b> Endeavour Energy uses internal resources to deliver capability, but augments by contracting industry-leading specialists to leverage best practice, or to fill temporary gaps.</p> <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p> |
| <p><b>Assurance</b></p> <p>Advice and quality assurance over aspects of program delivery.</p>  | <p><b>Augmentation:</b> Endeavour Energy uses internal resources to deliver capability, but augments by contracting industry-leading specialists to leverage best practice, or to fill temporary gaps.</p> <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p> |
| <p><b>Solution Architecture</b></p> <p>Solution architecture across programs of work under the investment brief.</p>   | <p><b>In-house:</b> Endeavour Energy uses internal resources to deliver.</p> <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p>   |
| <p><b>Data Management</b></p> <p>Provides industry-leading expertise to data.</p>  | <p><b>Augmentation:</b> Endeavour Energy augments by contracting industry-leading specialists to leverage best practice.</p> <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p>   |
| <p><b>Application Development</b></p> <p>Vendor sources / provides the requisite hardware, software, application development</p>   | <p><b>Augmentation:</b> Endeavour Energy augments by outsourcing to industry-leading specialists to leverage best practice</p>  |

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| Program Capability   | Sourcing option   |
|--|---|
| <p>for Software as a Service projects and industry-leading specialists provides application development capability for projects not involving Software as a Service.</p> | <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p> <p>An alternative sourcing option considered for Application Development includes:</p> <p><b>Prime Integrator:</b> Endeavour Energy engages a range of specialist industry-leading vendors to orchestrate delivery as a prime integrator for any projects.</p> |
| <p><b>Systems and Network and testing</b></p> <p>Provides industry-leading expertise for systems and network and testing capabilities.</p>                               | <p><b>Augmentation:</b> Endeavour Energy augments by outsourcing to industry-leading specialists to leverage best practice.</p> <p>In this investment case we have assumed that these resources use contractor rates, based in Sydney.</p>  |

**Table 2: Sourcing Options for Program Capabilities**

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#### 4.4 Investment Benefits

The recommended option delivers to all benefits described in Section 2.2. These benefits have been categorised as Recurrent and Non-Recurrent – New Capability benefits associated with the categorisation of the projects which deliver the benefits.

The quantitative benefits reaped from this investment include ICT enablement of the reduction in network curtailment value due to increasing integration of distributed energy resources (DER) into the network and the benefit generated from reuse of technology or investment in technology that can be reused.

The investment in ICT integration and data technologies will enable the reduction in network curtailment value related to the reduction experienced as customers begin to install and connect DER to the Endeavour Energy grid, replacing older energy sources. This provides greater reliability and security of the grid, demonstrating the interrelationship of low carbon sources with network stability and sustainability. This benefit is calculated according to the June 2022 AER publication *Customer export curtailment value (CECV) methodology* and estimates a yearly 1% improvement in network curtailment generated from an uptake in renewable energy sources. We have assumed that investment in ICT integration and data technologies enable 10% of the DER benefits above. Please refer to Endeavour Energy’s Future Grid Strategy.

The technology innovation and reuse benefit is related to an increase in investment in resources and technologies which can be reduced, reused and recycled. This is calculated by estimating a reuse percentage of technologies as Endeavour Energy develops capabilities to improve innovation management in the next regulatory period.

A summary of the quantitative benefits is provided in the table below.

|                                 | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years  | Total 10 years |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| <b>Economic Benefits</b>        |               |               |               |               |               |                |                |
| Non-Recurrent – New Capability  | \$0.1M        | \$0.3M        | \$0.6M        | \$0.9M        | \$1.0M        | \$2.9M         | \$5.2M         |
| Recurrent                       | \$0.1M        | \$1.7M        | \$1.7M        | \$2.4M        | \$2.5M        | \$8.3M         | \$17.6M        |
| <b>Total Estimated Benefits</b> | <b>\$0.2M</b> | <b>\$1.9M</b> | <b>\$2.3M</b> | <b>\$3.3M</b> | <b>\$3.5M</b> | <b>\$11.3M</b> | <b>\$22.8M</b> |

Table 3: Quantitative Benefits

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## 4.5 Investment Costs

The categories of investment are shown in the tables below. Non-system ICT capex is categorised as Recurrent and Non-Recurrent expenditure. Further sub-categorisation of non-recurrent ICT investments are apportioned between:

- Maintaining existing services, functionalities, capability and/or market benefits
- Complying with new / altered regulatory obligations / requirements
- New or expanded ICT capability, functions and services

Endeavour Energy’s ICT costs have been assigned across these categories and estimated using a combination of existing costing models and input from subject matter experts. Further detail on how these costs have been developed and the assumptions that underpin them is provided in **Appendix 6**.

### 4.5.1 Investment Costs – definitions and key assumptions

The costs for ICT investments have been estimated based on the following definitions and key assumptions:

- **Program Costs.** Costs related to the resources required to manage the Program including the running of the program, the management of strategic response projects, assurance and policy and legislative analysis. Considering the Program Capability sourcing approach, the costs have been calculated using a time and material allocation to individual program delivery schedules.
- **Other Program Costs.** Costs related to any travel and hotel accommodation requirements for project team members, the consumption of technology resources, and the office accommodation requirements. The costs have been calculated as a percentage of overall program costs.
- **Develop and Deploy.** Costs related to the resources required to support the planning, design, build, test and deployment of solution components under new capability projects. Considering the Program Capability sourcing approach, the costs have been calculated using a time and material allocation to individual project resource requirements and project delivery schedules.
- **Infrastructure Acquisition.** Costs related to the provision of solution components including compute power, digital storage, network devices, bandwidth equipment and rentals, software licences and security equipment. The costs have been calculated using a standard price per size of project.
- **Infrastructure Upgrades.** Where applicable, the costs associated with maintaining existing ICT services, functionalities, capability and/or market benefits, and occurs at least once every five years.
- **Contingency.** Costs related to the increases due to risks that are known, as well as unknown. The costs have been calculated as 19% of overall non-recurrent – new capability total expenditure costs
- **Infrastructure Maintenance.** Where applicable, a recurrent percentage of 5.78% of project costs have been applied to cover licence, break fix, and support calls for technology devices, digital storage, network devices, bandwidth equipment and rental, software licences and security equipment.
- **Service Management.** Costs related to an uplift in costs required to cover additional operational support, likely from additional capacity from ICT service providers.

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#### 4.5.1 Non-Recurrent – New capabilities expenditure

Non-Recurrent – New Capability costs are estimated to be the following:

|   | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Non-Recurrent – New Capability Costs</b> |               |               |               |               |               |               |
| Program Costs                               | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.1M        |
| Other Program Costs                         | \$0.0M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.1M        |
| Develop and Deploy                          | \$0.3M        | \$1.7M        | \$0.0M        | \$0.0M        | \$0.6M        | \$2.5M        |
| Infrastructure Acquisition                  | \$0.0M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.1M        |
| Contingency                                 | \$0.1M        | \$0.5M        | \$0.0M        | \$0.0M        | \$0.2M        | \$0.8M        |
| <b>Total Non-Recurrent Costs</b>            | <b>\$0.5M</b> | <b>\$2.4M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.8M</b> | <b>\$3.6M</b> |

Table 4: Non-Recurrent– New Capability project investment costs funded through capital expenditure

|   | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Non-Recurrent – New Capability Costs</b> |               |               |               |               |               |               |
| Program Costs                               | \$0.0M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.1M        | \$0.2M        |
| Other Program Costs                         | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| Develop and Deploy                          | \$0.4M        | \$0.4M        | \$0.0M        | \$0.0M        | \$0.2M        | \$1.0M        |
| Infrastructure Acquisition                  | \$0.0M        | \$0.3M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.3M        |
| Contingency                                 | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| <b>Total Non-Recurrent Costs</b>            | <b>\$0.4M</b> | <b>\$0.8M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.2M</b> | <b>\$1.5M</b> |

Table 5: Non-Recurrent– New Capability project investment costs funded through operating expenditure

A requirement for the Non-Recurrent new capability expenditure is that it has a positive NPV. The table shows the quantifiable benefits and costs for this investment brief. Please refer to section 4.4 for a description of the quantifiable and qualitative benefits.

| \$FY24M                    | New Benefit | New Cost | NPV    |
|----------------------------|-------------|----------|--------|
| #2 Customer Future Choices | \$5.2M      | \$3.6M   | \$1.4M |

Table 6 NPV Calculations

#### 4.5.2 Non-Recurrent – Maintaining existing capabilities expenditure

No projects under this investment brief are categorised as maintaining existing capabilities in the following regulatory period.

#### 4.5.3 Non-Recurrent – Complying with regulatory obligations expenditure

No projects under this investment brief are categorised as undertaken to comply with regulatory obligations in the following regulatory period.

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#### 4.5.4 Recurrent expenditure

The uplift in capability to support the investment case will also result in an increase in recurrent costs related to maintenance and support for new technology. Recurring costs are estimated to be the following:

|                              | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years  |
|------------------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| <b>Recurrent Costs</b>       |               |               |               |               |               |                |
| Program Costs                | \$0.1M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.2M         |
| Other Program Costs          | \$0.2M        | \$0.1M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.4M         |
| Infrastructure Acquisition   | \$0.0M        | \$0.0M        | \$0.2M        | \$0.0M        | \$0.0M        | \$0.2M         |
| Infrastructure Upgrades      | \$4.8M        | \$1.6M        | \$1.8M        | \$1.5M        | \$0.8M        | \$10.4M        |
| Contingency                  | \$1.5M        | \$0.4M        | \$0.8M        | \$0.3M        | \$0.2M        | \$3.2M         |
| <b>Total Recurrent Costs</b> | <b>\$6.6M</b> | <b>\$2.0M</b> | <b>\$2.9M</b> | <b>\$1.8M</b> | <b>\$1.0M</b> | <b>\$14.4M</b> |

Table 7: Recurrent project investment costs funded through capital expenditure

|                              | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years |
|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Recurrent Costs</b>       |               |               |               |               |               |               |
| Program Costs                | \$0.2M        | \$0.1M        | \$0.2M        | \$0.2M        | \$0.1M        | \$0.7M        |
| Other Program Costs          | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| Infrastructure Acquisition   | \$0.0M        | \$0.0M        | \$0.9M        | \$0.0M        | \$0.0M        | \$0.9M        |
| Infrastructure Upgrades      | \$2.8M        | \$0.2M        | \$1.1M        | \$0.1M        | \$0.0M        | \$4.2M        |
| Contingency                  | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| <b>Total Recurrent Costs</b> | <b>\$2.9M</b> | <b>\$0.3M</b> | <b>\$2.2M</b> | <b>\$0.2M</b> | <b>\$0.1M</b> | <b>\$5.7M</b> |

Table 8: Recurrent project investment costs funded through operating expenditure

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#### 4.5.5 Ongoing – New capabilities expenditure

The ongoing costs related to ongoing support and maintenance of ICT infrastructure for project related ICT investments. This is assumed to be completely funded by operating expenditure.

A summary of these costs is provided in the table below.

|                            | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Ongoing Costs</b>       |               |               |               |               |               |               |
| Infrastructure Maintenance | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| Service Management         | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| Contingency                | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        | \$0.0M        |
| <b>Total Ongoing Costs</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> |

Table 9: Ongoing - New Capability investment costs funded through capital expenditure

|                            | FY2025        | FY2026        | FY2027        | FY2028        | FY2029        | Total 5 years |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Ongoing Costs</b>       |               |               |               |               |               |               |
| Infrastructure Maintenance | \$0.0M        | \$0.1M        | \$0.2M        | \$0.0M        | \$0.0M        | \$0.3M        |
| Service Management         | \$0.0M        | \$0.1M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.2M        |
| Contingency                | \$0.0M        | \$0.0M        | \$0.1M        | \$0.0M        | \$0.0M        | \$0.1M        |
| <b>Total Ongoing Costs</b> | <b>\$0.0M</b> | <b>\$0.3M</b> | <b>\$0.4M</b> | <b>\$0.0M</b> | <b>\$0.0M</b> | <b>\$0.6M</b> |

Table 10: Ongoing - New Capability investment costs funded through operating expenditure

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## 5 Appendix – Options Analysis

This section summarises the options against the criteria analysed in defining the investment proposed in this investment brief.

### 5.1 Initiatives within each Option

Table 11 outlines the initiatives included in each option against the strategic responses.

| Strategic response   | Option 1   | Option 2   | Option 3   |
|--|--|--|--|
| <b>Increasing access to digital services for external and internal stakeholders</b>            | No initiatives in this strategic option for Option 1.  | There are the following additional initiatives: <ul style="list-style-type: none"> <li>• External Workforce Portals and Apps</li> <li>• DER customer portal</li> <li>• DERMS register</li> </ul> | No additional initiatives in this strategic option for Option 3. |
| <b>Uplifting systems and platforms to enable future integrated energy system</b>               | Option 1 invests in the following initiatives: <ul style="list-style-type: none"> <li>• Customer connections transformation (ongoing)</li> <li>• Smart IoT management (ongoing)</li> </ul>                   | No additional initiatives in this strategic option for Option 2.   | No additional initiatives in this strategic option for Option 3. |
| <b>Uplifting infrastructure enabling platforms to deliver DER services</b>                     | No initiatives in this strategic option for Option 1.  | There are the following additional initiatives: <ul style="list-style-type: none"> <li>• DER enablement services</li> <li>• DER integrations</li> </ul>  | No additional initiatives in this strategic option for Option 3. |
| <b>Enabling business systems and integrations to enable extended electricity pricing model</b> | Option 1 invests in the following initiatives: <ul style="list-style-type: none"> <li>• Extended electricity pricing model</li> <li>• Enterprise application integration transformation (ongoing)</li> </ul> | No additional initiatives in this strategic option for Option 2.   | No additional initiatives in this strategic option for Option 3. |
| <b>Using insights gained to enable data-driven decisions</b>                                   | No initiatives in this strategic option for Option 1.  | There are the following additional initiatives: <ul style="list-style-type: none"> <li>• IOT data management (behind the meter/customer)</li> </ul>  | No additional initiatives in this strategic option for Option 3. |

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| Strategic response   | Option 1  | Option 2  | Option 3   |
|--|---|---|--|
| <b>Enabling business continuity and ensuring delivery excellence by uplifting innovation capabilities and increasing operational efficiency and network connectivity</b> | Option 1 invests in the following initiatives: <ul style="list-style-type: none"> <li>• Update IT service continuity response plans (ongoing)</li> <li>• Six sigma and design thinking for process optimisation (ongoing)</li> <li>• Operations orchestration, automation and workflows (ongoing)</li> <li>• Application performance testing and testing automation tools</li> <li>• Small Works remediations and improvements</li> </ul> | In addition to initiatives in Option 1, there are the following additional initiatives: <ul style="list-style-type: none"> <li>• Converged IT/OT operating model</li> </ul> | In addition to initiatives in Option 2, there are the following additional initiatives: <ul style="list-style-type: none"> <li>• Innovation lab (ongoing)</li> <li>• Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing))</li> </ul> |

Table 11: Initiatives within each option

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#### 5.2 Strategic Alignment with Drivers

Table 12 conveys the strategic alignment with the four key drivers against the three options.

| Driver                                  | Option 1  | Score    | Option 2  | Score    | Option 3  | Score    |
|---|---|----------|---|----------|---|----------|
| <b>Customers’ future energy choices</b> | <b>Very Low Alignment</b><br>Option 1 lacks initiatives aligned with service needs and enabling new technologies to support future customer energy choices.   |          | <b>High Alignment</b><br>Option 2 includes investment which meets customer expectations to enable customer future energy choices.   |          | <b>Very High Alignment</b><br>Option 3 includes investment in all initiatives to enable customer future energy choices.   |          |
| <b>Sustainable future</b>               | <b>High Alignment</b><br>Option 1 includes minimum investment to maintain regulatory requirements associated with purposeful decision making with an emphasis on environmental and social outcomes. |          | <b>High Alignment</b><br>Option 2 includes investment which meets customer expectations associated with purposeful decision making with an emphasis on environmental and social outcomes.                   |          | <b>Very High Alignment</b><br>Option 3 includes investment in all initiatives associated with purposeful decision making with an emphasis on environmental and social outcomes. |          |
| <b>Low carbon energy system</b>         | <b>Very Low Alignment</b><br>Option 1 lacks initiatives aligned with meeting growing customer uptake of DER through the delivery of new services.   |          | <b>High Alignment</b><br>Option 2 includes investment which meets customer expectations associated with new services to support the growing customer uptake of DER.   |          | <b>Very High Alignment</b><br>Option 3 includes investment in all initiatives associated with new services to support the growing customer uptake of DER.                       |          |
| <b>Future integrated energy system</b>  | <b>Very Low Alignment</b><br>Option 1 lacks initiatives aligned with developing new commercial capabilities and stronger partnerships.  |          | <b>Very Low Alignment</b><br>Option 2 lacks initiatives aligned with developing new commercial capabilities and stronger partnerships.  |          | <b>Very High Alignment</b><br>Option 3 includes investment in all initiatives associated with new commercial capabilities and stronger relationships.                           |          |
| <b>SCORE</b>                            | Exclusively focused on enabling decision-making related to environmental outcomes rather than investments to support future energy sources.   | <b>1</b> | Invests in technologies and services which supports low carbon energy choices and uptake of distributed energy choices, as well as informing decision making relating to social and environmental outcomes. | <b>2</b> | Enables customer future energy choices through investment in new commercial capabilities and partnerships.  | <b>4</b> |

Table 12: Alignment of options against external drivers

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#### 5.3 Alignment with Customer Priorities

Table 13 conveys the alignment to the five customer insights.

| Customer Priority   | Option 1  | Score | Option 2   | Score | Option 3   | Score |
|---|---|-------|--|-------|--|-------|
| <b>Providing a reliable supply</b>                            | <b>Medium Alignment</b><br>Option 1 invests in initiatives to update IT service continuity response plans to ensure reliable management of services and reduce risk from disaster events, and small works remediations and improvements to deliver short lead-time responses to emerging issues and requirements. |       | <b>Very High Alignment</b><br>In addition to investments in Option 1, Option 2 is focused on enabling distributed energy resources and enhanced industrial internet of things customer data management to enable predictive and prescriptive asset management.   |       | <b>Very High Alignment</b><br>No additional investments specifically to address providing reliable supply, beyond those in Option 2.                                 |       |
| <b>Responding to emergencies</b>                              | <b>Very Low Alignment</b><br>Option 1 does not invest in initiatives aligned with responding to emergencies.  |       | <b>Very Low Alignment</b><br>Option 2 does not invest in initiatives aligned with responding to emergencies.   |       | <b>Very Low Alignment</b><br>Option 3 does not invest in initiatives aligned with responding to emergencies.   |       |
| <b>Prudent and efficient management of the network</b>        | <b>Medium Alignment</b><br>Option 1 invests in smart internet of things management, operations orchestration, automation and workflows, enterprise application integration transformation and enabling extended electricity pricing model to drive operational efficiencies.                                      |       | <b>Very High Alignment</b><br>In addition to investments in Option 1, Option 2 invests in implementation and integration of distributed energy resources, optimising IT service management processes for the technology operating model and developing self-service capability for workforce portals and applications. |       | <b>Very High Alignment</b><br>No additional investments specifically to address providing prudent and efficient management of the network, beyond those in Option 2. |       |
| <b>Researching, trialling and installing new technologies</b> | <b>Medium Alignment</b><br>Option 1 invests in smart internet of things management, application performance testing and testing automation tools, and enhancing technology team capabilities and services through design thinking and six sigma training.   |       | <b>High Alignment</b><br>Option 2 additionally invests in enabling distributed energy resources and industrial internet of things customer data management.  |       | <b>Very High Alignment</b><br>Option 3 additionally invests in an innovation lab and uplifting technology team capabilities and services.                            |       |

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| Customer Priority                 | Option 1   | Score   | Option 2  | Score   | Option 3   | Score   |
|-----------------------------------|--|---|---|---|--|---|
| <b>Keeping customers informed</b> | <b>Low Alignment</b><br>Option 1 is focused on investing in transformation of customer connections system to enable customer trading platform. |  | <b>Medium Alignment</b><br>Option 2 additionally invests in development of a customer portal and linked register for distributed energy resources.                    |  | <b>Medium Alignment</b><br>No additional investments specifically to address keeping customers informed, beyond those in Option 2. |  |
| SCORE                             | This option has medium alignment to most of the customer priorities and a low alignment with increased communication of outage information.    | <b>1</b>  | This option has increased alignment with providing reliable supply, prudent and efficient management of the network, new technologies and keeping customers informed. | <b>3</b>  | This option has increased alignment to researching, trialling and installing new technologies.                                     | <b>3</b>  |

**Table 13: Alignment of options against customer priorities**

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#### 5.4 Risk mitigation associated with investment

Table 14 assesses the contribution of the three options to mitigation of the five corporate risks associated with this investment brief.

| Risks   | Option 1   | Score   | Option 2   | Score   | Option 3   | Score   |
|---|--|---|--|---|--|---|
| <b>R1.1 Safety</b><br>Fostering a workplace culture where leaders, employees, contractors and service providers are safety-focused, biased towards the identification and control of operational risk to ensure minimisation of injuries, work-related illnesses and fatalities.  | <b>Very low contribution to risk mitigation</b><br>No investments within this option to specifically address safety risk.  |    | <b>Medium contribution to risk mitigation</b><br>Investments in external workforce portals and applications.   |    | <b>Medium contribution to risk mitigation</b><br>No additional investments specific to addressing safety risk, beyond those in Option 2.                                 |    |
| <b>R1.2 Network</b><br>Maintaining network reliability and capacity, health, currency and sustainability of assets to ensure timely provision of infrastructure or solutions to service customers whilst considering future energy consumption. This includes building and maintaining a set of security capabilities that meet critical infrastructure obligations and minimise the threats arising from malicious attacks and/or risks to the availability and integrity of network or systems which support critical business functions. | <b>Medium contribution to risk mitigation</b><br>Investments in enterprise application integration transformation, customer connections transformation, updating IT service continuity response plans, operations orchestration, automation and workflows, small works remediations and improvements, and testing automation to anticipate the impact of new products or services on data network. |    | <b>Very high contribution to risk mitigation</b><br>In addition to investments made in Option 1, this option also invests in industrial internet of things data management to adopt predictive and prescriptive asset management capabilities, enabling distributed energy resources capabilities and converged IT/OT operating model. |    | <b>Very high contribution to risk mitigation</b><br>No additional investments specific to addressing network risk, beyond those in Option 2.                             |    |
| <b>R1.3 Customer</b><br>Maintaining a customer-centred and performance-driven culture to act to resolve customer complaints promptly and fairly, analyse trends to drive continuous improvement.  | <b>Medium contribution to risk mitigation</b><br>Investments in customer connections transformation and smart internet of things management.   |  | <b>High contribution to risk mitigation</b><br>In addition to investments made in Option 1, this option also invests in development of a customer portal and linked  |  | <b>High contribution to risk mitigation</b><br>Beyond investments in Option 2, No additional investments specific to addressing customer risk, beyond those in Option 2. |  |

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| Risks  | Option 1  | Score   | Option 2   | Score   | Option 3   | Score   |
|--|---|---|--|---|--|---|
|  |   |   | register for distributed energy resources.   |   |  |   |
| <b>R1.4 Finance</b><br>Maintaining a predictable revenue stream whilst pursuing opportunities to deliver new revenue streams. This includes interest rate risk, liquidity risk, capital expenditure funding, financial flexibility, refinancing risk, foreign exchange rate risk, counterparty credit risk, operational risk, compliance risk. | <b>Low contribution to risk mitigation</b><br>Investment in enabling extended electricity pricing model to drive operational efficiencies.  |    | <b>Low contribution to risk mitigation</b><br>No additional investments specific to addressing finance risk, beyond those in Option 1.       |    | <b>Low contribution to risk mitigation</b><br>No additional investments specific to addressing finance risk, beyond those in Option 1.       |    |
| <b>R1.5 Environment</b><br>Minimising adversely affecting the environment (including ecosystems, heritage items and environmentally sensitive areas) whether biologically or physically, both short-term and long-term.  | <b>Very low contribution to risk mitigation</b><br>No investments within this option to specifically address environment risk.  |    | <b>High contribution to risk mitigation</b><br>Investments in enabling distributed energy resources capabilities.                            |    | <b>High contribution to risk mitigation</b><br>No additional investments specific to addressing environment risk, beyond those in Option 1.  |    |
| <b>R1.6 Compliance</b><br>Ensuring a high level of compliance with relevant legislation, regulation, industry codes and standards, as well as internal policies and corporate governance principles.   | <b>Medium contribution to risk mitigation</b><br>Investments to update IT service continuity response plans to ensure reliable management of services and reducing risk from disaster events, as well as small works remediation and improvements to deliver short lead-time responses to emerging issues and requirements. |  | <b>Medium contribution to risk mitigation</b><br>No additional investments specific to addressing compliance risk, beyond those in Option 1. |  | <b>Medium contribution to risk mitigation</b><br>No additional investments specific to addressing compliance risk, beyond those in Option 1. |  |
| SCORE  | This option ensures some compliance with network reliability through  | 1   | This option ensures increased focus on customers and the safety of   | 3   | No increased risk mitigation as compared to Option 2.  | 3   |

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| Risks | Option 1   | Score | Option 2  | Score | Option 3 | Score |
|-------|--|-------|---|-------|----------|-------|
|       | investment to anticipate impact of new products and services on the network. |       | employees, as well as supporting reductions in environmental impacts. |       |          |       |

**Table 14: Mitigation of risks across Options**

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### 5.5 Benefits associated with investment

Table 15 and Table 16 highlights the quantitative and qualitative benefits associated with the investment in the three options. It should be noted that the quantitative benefits are based on a 10-year period.

| Driver                                  | Option 1  | Score | Option 2   | Score | Option 3   | Score |
|---|---|-------|--|-------|--|-------|
| <b>Customers’ future energy choices</b> | <ul style="list-style-type: none"> <li>New Capability projects: \$0.00M</li> <li>Recurrent projects: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$1.03M</li> <li>Recurrent projects: \$4.27M</li> </ul>  | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$1.03M</li> <li>Recurrent projects: \$4.27M</li> </ul>  | N/A   |
| <b>Sustainable future</b>               | <ul style="list-style-type: none"> <li>New Capability projects: \$0.32M</li> <li>Recurrent projects: \$1.15M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$0.32M</li> <li>Recurrent projects: \$1.15M</li> </ul>  | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$0.32M</li> <li>Recurrent projects: \$1.15M</li> </ul>  | N/A   |
| <b>Low carbon energy system</b>         | <ul style="list-style-type: none"> <li>New Capability projects: \$0.00M</li> <li>Recurrent projects: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$3.84M</li> <li>Recurrent projects: \$11.66M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$3.84M</li> <li>Recurrent projects: \$11.66M</li> </ul> | N/A   |
| <b>Future integrated energy system</b>  | <ul style="list-style-type: none"> <li>New Capability projects: \$0.00M</li> <li>Recurrent projects: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$0.00M</li> <li>Recurrent projects: \$0.00M</li> </ul>  | N/A   | <ul style="list-style-type: none"> <li>New Capability projects: \$0.00M</li> <li>Recurrent projects: \$0.51M</li> </ul>  | N/A   |
| SCORE                                   | New Capability Benefits: \$0.32M<br>Recurrent Capability Benefits: \$1.15M  | 1     | New Capability Benefits: \$5.19M<br>Recurrent Capability Benefits: \$17.09M  | 3     | New Capability Benefits: \$5.19M<br>Recurrent Capability Benefits: \$17.59M  | 4     |

Table 15: Quantitative Benefits associated with investment in the three options

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| Benefit category   | Option 1  | Score | Option 2   | Score | Option 3   | Score |
|--|---|-------|--|-------|--|-------|
| <b>Increased efficiency in IT operations and processes</b> | <ul style="list-style-type: none"> <li>Enhanced decision making and day-to-day tasks by improving visibility of customer energy consumption.</li> </ul>   | N/A   | <ul style="list-style-type: none"> <li>Single point of engagement and self-service enablement for services</li> <li>Digital service enablement for improved customer experience and perception Endeavour Energy service quality</li> <li>Digital service enablement for business partners, contractors and vendors participating in enabling network services for customers</li> <li>Operational efficiencies of Endeavour Energy staff through automation and orchestration between systems</li> <li>Cost savings from less time spent following up and doing mundane tasks</li> <li>Enhanced decision making and day-to-day tasks by improving visibility of customer energy consumption.</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>Alignment of security, governance, architecture of innovation assets and strategy across Endeavour Energy</li> <li>Upskill of technology team to new technology services and capabilities through partnerships and investment in new services.</li> </ul> | N/A   |
| <b>Improved sustainability outcomes</b>                    | <ul style="list-style-type: none"> <li>Increased transparency of sustainability outcomes through improved reporting, analytics and statistics capabilities.</li> </ul>  | N/A   | <ul style="list-style-type: none"> <li>Improved transparency of sustainability outcomes through improved accuracy and completeness of reporting against sustainability KPIs.</li> <li>Supporting customer new energy technology decisions through greater customer visibility of energy use.</li> </ul>  | N/A   | <ul style="list-style-type: none"> <li>Enabling climate threat modelling to improve resilience and response to extreme weather events</li> <li>Reduction in constrained DER through improved forecasting and visibility of DER.</li> </ul>   | N/A   |
| <b>Diversion of waste from landfill</b>                    | <ul style="list-style-type: none"> <li>Improved data accessibility and visibility of customer energy consumption and transparency of sustainability outcomes to improve sustainability practices e.g., reduction in diversion of waste to landfill</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>Reduction in percentage diversion of waste from landfill from improved visibility of customer energy consumption and sustainability outcomes.</li> </ul>  | N/A   | No additional investments to specifically create benefits under this benefit category  | N/A   |

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| Benefit category | Option 1   | Score    | Option 2   | Score    | Option 3   | Score    |
|------------------|--|----------|--|----------|--|----------|
|                  | <ul style="list-style-type: none"> <li>Improved accuracy and completeness of reporting against sustainability KPIs.</li> </ul>                         |          |  |          |  |          |
| SCORE            | <ul style="list-style-type: none"> <li>Increased confidence in the products and serviced by customers in dealing with potential disruptions</li> </ul> | <b>1</b> | <ul style="list-style-type: none"> <li>Increased confidence in the products and serviced by customers in dealing with potential disruptions</li> </ul> | <b>3</b> | <ul style="list-style-type: none"> <li>Greater customer aspirations related to new energy choices</li> <li>Promoted a mindset of innovation in the business through better support systems.</li> </ul> | <b>4</b> |

**Table 16: Qualitative Benefits associated with investment in the three options**

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### 5.6 Costs associated with investment

Table 17 illustrates the estimated project expenditure over the regulatory period across the three options

| Driver                                  | Option 1  | Score | Option 2  | Score | Option 3  | Score |
|---|---|-------|---|-------|---|-------|
| <b>Customers’ future energy choices</b> | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.00M</li> <li>Operating Expenditure: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.77M</li> <li>Operating Expenditure: \$0.63M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.77M</li> <li>Operating Expenditure: \$0.63M</li> </ul> | N/A   |
| <b>Sustainable future</b>               | <ul style="list-style-type: none"> <li>New Capability: \$1.07M</li> <li>Recurrent: \$4.28M</li> <li>Operating Expenditure: \$1.98M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$1.07M</li> <li>Recurrent: \$4.28M</li> <li>Operating Expenditure: \$1.98M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$1.07M</li> <li>Recurrent: \$4.28M</li> <li>Operating Expenditure: \$1.98M</li> </ul> | N/A   |
| <b>Low carbon energy system</b>         | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.00M</li> <li>Operating Expenditure: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$1.59M</li> <li>Recurrent: \$5.42M</li> <li>Operating Expenditure: \$3.76M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$1.59M</li> <li>Recurrent: \$5.42M</li> <li>Operating Expenditure: \$3.76M</li> </ul> | N/A   |
| <b>Future integrated energy system</b>  | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.00M</li> <li>Operating Expenditure: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.00M</li> <li>Operating Expenditure: \$0.00M</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>New Capability: \$0.00M</li> <li>Recurrent: \$0.12M</li> <li>Operating Expenditure: \$0.49M</li> </ul> | N/A   |
| SCORE                                   | New Capability Capital Expenditure: \$1.07M<br>Recurrent Capability Capital Expenditure: \$4.28M<br>Operating Expenditure: \$1.98M            | 3     | New Capability Capital Expenditure: \$2.65M<br>Recurrent Capability Capital Expenditure: \$10.48M<br>Operating Expenditure: \$6.36M           | 2     | New Capability Capital Expenditure: \$2.65M<br>Recurrent Capability Capital Expenditure: \$10.60M<br>Operating Expenditure: \$6.85M           | 1     |

This excludes the Contingency and Other Program Costs associated with investment.

Table 17: Costs associated with investment in the three options

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## 6 Appendix – Project Summaries

Table 18 provides summaries of the projects within this investment brief. Projects within an Option are cumulative, so that each option also contains the projects within the prior option.

| Driver                           | Proj # | Project  | Description  |
|----------------------------------|--------|--|--|
| <b>Option 1</b>                  |        |  |  |
| Future integrated energy system  | 145    | Update IT service continuity response plans (ongoing)            | Update of IT service continuity response plans to ensure reliable management of services and reducing risk from disaster events to an acceptable level |
|                                  | 147    | Six sigma and design thinking for process optimisation (ongoing) | Enhancement of technology team capabilities and services (Six Sigma training, design thinking) to continually uplift process optimisation              |
|                                  | 148    | Operations orchestration, automation and workflows (ongoing)     | Streamline execution of routine technology operational tasks through the use of orchestration, automation and workflow tools                           |
|                                  | 150    | Application performance testing and testing automation tools     | Enhancement of ability to anticipate the impact of new products or services on the data network through performance testing and test automation tools  |
|                                  | 151    | Small Works remediations and improvements                        | Delivering short lead-time responses to emerging issues and business requirements  |
| <b>Option 2</b>                  |        |  |  |
| Customers' future energy choices | 6      | External Workforce Portals and Apps                              | Development of omnichannel partner and supplier portal and applications to enable self-service capability  |
|                                  | 90     | Customer connections transformation (ongoing)                    | Transformation of customer connections systems to enable smart infrastructure and customer trading platform  |

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| Driver             | Proj # | Project   | Description  |
|--------------------|--------|---|--|
| Sustainable future | 43     | IOT data management (behind the meter/customer)             | Enhancement of Industrial Internet of Things (IIOT) customer data management to adopt modern predictive and prescriptive asset management capabilities   |
|                    | 70     | Extended electricity pricing model                          | Uplift in business systems to enable extended electricity pricing model and drive operational efficiencies   |
|                    | 78     | Enterprise application integration transformation (ongoing) | Integration of core back-end environments linking technical enabling platforms to provide patterns for data exchange   |
|                    | 103    | Smart IoT management (ongoing)                              | Implementation of smart IoT management systems to maintain, monitor, diagnose and configure devices (particularly household appliances) operating as part of the IoT environment and support their functional capabilities |
|                    | 146    | Converged IT/OT operating model                             | Optimisation of IT Service Management processes for the established technology operating model   |
|                    | 152    | DER enablement services                                     | Design and implementation of DER enablement services, mainly for ICT infrastructure  |
|                    | 153    | DER integrations  | Enhancement in integration to enable DER management, particularly with SAP   |
|                    | 154    | DER customer portal   | Development of a customer portal for DER   |
|                    | 155    | DERMS register  | Productionising of a DERMS register linked to the customer portal for Endeavour Energy and customers to view DER   |

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| Driver                   | Proj # | Project  | Description  |
|--------------------------|--------|--|--|
| <b>Option 3</b>          |        |  |  |
| Low carbon energy system | 143    | Innovation lab (ongoing)   | Use of corporate-wide collaboration to develop capability for innovation management from conception to justification                             |
|                          | 144    | Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing)) | Uplift of technology team capabilities and services to develop skills (e.g. Agile) to lead and support the deployment of new technology services |

**Table 18** Project summaries for the three considered options

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## 7 Appendix – Costing Assumptions

By defining the costs and benefits associated with individual investment programs under this investment brief with consideration of the real value of money, Endeavour Energy can predict the net present value of investment under this investment brief.

**Table 19** demonstrates this investment profile and the assumptions behind the cost and benefits categories which form part of this brief.

| ID | Assumption Type | Category            | Assumption   | Metric    |
|----|-----------------|---------------------|--|-----------|
| 1  | Both            | General Assumptions | Program Start Date   | 1/07/2024 |
| 2  | Both            | General Assumptions | Model Start Financial Year   | 2025      |
| 3  | Both            | General Assumptions | 10-year model duration   | 10        |
| 4  | Both            | General Assumptions | Sensitivity Analysis   | +/-20%    |
| 5  | Both            | General Assumptions | Discount rate (pre-tax nominal WACC)   | 5.77%     |
| 6  | Both            | General Assumptions | The Resource Rate Card records the assumptions made for Program, Project and Ongoing Roles. It uses Hayes Technology Contractor Rates Guide FY22/23 and Deloitte Allocation Base for Use rates | N/A       |
| 7  | Both            | General Assumptions | The nominal 2.5% of wage growth on labour from FY25 onwards  | 2.50%     |
| 8  | Both            | General Assumptions | The Program Master Schedule provides the assumption on Ramp Up / Down of Resources during the lifecycle of the Program Roll-Outs   | N/A       |

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| ID | Assumption Type | Category            | Assumption   | Metric   |
|----|-----------------|---------------------|--|----------|
| 9  | Both            | General Assumptions | Inflation rate   | 2.42%    |
| 10 | Benefit         | Benefits            | <p><b>Number of impacted customers from planned and unplanned outages</b></p> <p>Impacted customers from planned and unplanned outages is based on the average of the total of customers impacted by unplanned outages in FY16-FY21 and multiplied by two to estimate unplanned and planned outages.</p> | 645      |
| 11 | Benefit         | Benefits            | <p><b>Average outage resolution time</b></p> <p>Average outage resolution time is based on the average network outage resolution time (in minutes) for distribution and low voltage divided by 2. All other inputs are in hours unit, so this input is divided by 60 to convert into hours.</p>          | 8.37     |
| 12 | Benefit         | Benefits            | <p><b>Average hourly rate for an employee</b></p> <p>Average hourly rate is based on the Endeavour Energy average hourly wage rate.</p>  | \$ 83.25 |
| 13 | Benefit         | Benefits            | <p><b>Percentage of improvement in productivity</b></p> <p>Assumed improvement in productivity</p>   | 0.005    |
| 14 | Benefit         | Benefits            | <p><b>Number of impacted employees from greater investment</b></p> <p>Impacted employees from investment who will experience productivity improvement (<b>Business Services - Technology staff</b>)</p>  | 78       |
| 15 | Benefit         | Benefits            | <p><b>Employee usage level</b></p> <p>Usage level for all employees</p>  | 0.25     |
| 16 | Benefit         | Benefits            | <p><b>Average minute rate for an employee</b></p> <p>Average hourly rate is based on the Endeavour Energy average hourly wage rate divided by 60-minute hour.</p>  | \$ 1.39  |

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| ID | Assumption Type | Category      | Assumption   | Metric    |
|----|-----------------|---------------|--|-----------|
| 17 | Benefit         | Benefits      | <b>Growth in NSW population</b><br>Population growth in NSW based on September 2021 ABS population data<br><a href="https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/sep-2021#states-and-territories">https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/sep-2021#states-and-territories</a> | 30%       |
| 18 | Benefit         | Benefits      | <b>Number of Endeavour Energy customers</b><br>Number of customers in FY21   | 2,500,000 |
| 19 | Benefit         | Benefits      | <b>Reduction in network curtailment value due to DER integration</b><br>Percentage of improvement  | 1%        |
| 20 | Benefit         | Benefits      | <b>Plans for reuse</b>   | 50%       |
| 21 | Benefit         | Benefits      | <b>Percentage of project that is an enabler</b>  | 30%       |
| 22 | Cost            | Program Costs | <b>Program 7: Increasing access to digital services for external and internal stakeholders</b> <ul style="list-style-type: none"> <li>• Project 6: External Workforce Portals and Apps</li> <li>• Project 154: DER customer portal</li> <li>• Project 155: DERMS register</li> </ul>   | N/A       |
| 23 | Cost            | Program Costs | <b>Program 8: Using insights gained to enable data-driven decisions</b> <ul style="list-style-type: none"> <li>• Project 43: IOT data management (behind the meter/customer)</li> </ul>  | N/A       |
| 24 | Cost            | Program Costs | <b>Program 9: Enable business systems and integrations to enable extended electricity pricing model</b> <ul style="list-style-type: none"> <li>• Project 70: Extended electricity pricing model</li> <li>• Project 78: Enterprise application integration transformation (ongoing)</li> </ul>  | N/A       |

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| ID | Assumption Type | Category      | Assumption  | Metric |
|----|-----------------|---------------|---|--------|
| 25 | Cost            | Program Costs | <p><b>Program 10: Uplift in systems and platforms to enable future integrated energy system</b></p> <ul style="list-style-type: none"> <li>• Project 90: Customer connections transformation (ongoing)</li> <li>• Project 103: Smart IoT management (ongoing)</li> <li>• Project 152: DER enablement services</li> <li>• Project 153: DER integrations</li> </ul>   | N/A    |
| 26 | Cost            | Program Costs | <p><b>Program 11: Enhance cybersecurity platforms to ensure IoT and BYOD internal security</b></p> <ul style="list-style-type: none"> <li>• Project 143: Innovation lab (ongoing)</li> <li>• Project 144: Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing)</li> <li>• Project 145: Update IT service continuity response plans (ongoing)</li> <li>• Project 146: Converged IT/OT operating model</li> <li>• Project 147: Six sigma and design thinking for process optimisation (ongoing)</li> <li>• Project 148: Operations orchestration, automation and workflows (ongoing)</li> <li>• Project 150: Application performance testing and testing automation tools</li> <li>• Project 151: Small works remediations and improvements</li> </ul> | N/A    |
| 27 | Cost            | Program Costs | <p><b>Program Management Resourcing</b></p> <ul style="list-style-type: none"> <li>• 2 Program Managers will be resourced at 0.1 FTE full-time for the duration of the Program and 1 Program Manager will be resourced at 0.1 FTE full-time until FY27.</li> <li>• Quality Assurance Manager will be resourced at 0.1 FTE full-time for the duration of the Program</li> <li>• Quality Assurance Team Member will be resourced quarterly for 0.1 FTE for the duration of the projects underneath the Programs</li> <li>• Please refer to Program Master Schedule for roll start and end dates</li> </ul>  | N/A    |

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| ID | Assumption Type | Category           | Assumption  | Metric |
|----|-----------------|--------------------|---|--------|
| 28 | Cost            | Develop and Deploy | All costs for these are resourcing costs:<br>Please see Program Master Schedule for each option for the resourcing levels<br>Please see Resource Rate Card for each option for the rates  | N/A    |
| 29 | Cost            | Develop and Deploy | <b>Project Duration</b><br>Low Complexity = 3 month project<br>Medium Complexity = 6 month project<br>High Complexity = 12 month project<br>Other = Unique Resourcing Requirements  | N/A    |
| 30 | Cost            | Develop and Deploy | <b>Low Complexity Projects</b> <ul style="list-style-type: none"> <li>• Project 90: Customer connections transformation (ongoing)</li> <li>• Project 148: Operations orchestration, automation and workflows (ongoing)</li> <li>• Project 152: DER enablement services</li> <li>• Project 153: DER integrations</li> <li>• Project 154: DER customer portal</li> <li>• Project 155: DERMS register</li> </ul>                                 | N/A    |
| 31 | Cost            | Develop and Deploy | <b>Medium Complexity Projects</b> <ul style="list-style-type: none"> <li>• Project 6: External Workforce Portals and Apps</li> <li>• Project 43: IOT data management (behind the meter/customer)</li> <li>• Project 70: Extended electricity pricing model</li> <li>• Project 78: Enterprise application integration transformation (ongoing)</li> <li>• Project 150: Application performance testing and testing automation tools</li> </ul> | N/A    |
| 32 | Cost            | Develop and Deploy | <b>High Complexity Projects</b> <ul style="list-style-type: none"> <li>• Project 103: Smart IoT management (ongoing)</li> </ul>   | N/A    |
| 33 | Cost            | Develop and Deploy | <b>Other projects</b><br>Project 143: Innovation lab (ongoing)  | N/A    |

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| ID | Assumption Type | Category           | Assumption  | Metric |
|----|-----------------|--------------------|---|--------|
|    |                 |                    | <ul style="list-style-type: none"> <li>• Duration: Assumed to be low complexity (equivalent to 3 months).</li> <li>• Additional resources: 1 FTE for end user EUC</li> <li>• Change team not required</li> </ul>  |        |
| 34 | Cost            | Develop and Deploy | <p><b>Other projects</b><br/>Project 144: Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing))</p> <ul style="list-style-type: none"> <li>• Duration: Assumed to be low complexity (equivalent to 3 months).</li> <li>• Change team not required</li> <li>• Data team not required</li> </ul> | N/A    |
| 35 | Cost            | Develop and Deploy | <p><b>Other projects</b><br/>Project 145: Update IT service continuity response plans (ongoing)</p> <ul style="list-style-type: none"> <li>• Duration: Assumed to be medium complexity (equivalent to 6 months).</li> <li>• Change team not required</li> </ul>   | N/A    |
| 36 | Cost            | Develop and Deploy | <p><b>Other projects</b><br/>Project 146: Converged IT/OT operating model</p> <ul style="list-style-type: none"> <li>• Duration: Assumed to be medium complexity (equivalent to 6 months).</li> <li>• Additional resources: 1 FTE Process Specialist</li> </ul>   | N/A    |
| 37 | Cost            | Develop and Deploy | <p><b>Other projects</b><br/>Project 147: Six sigma and design thinking for process optimisation (ongoing)</p> <ul style="list-style-type: none"> <li>• Duration: Assumed to be medium complexity (equivalent to 6 months).</li> <li>• Additional resources: 1 FTE Six Sigma design thinking practitioner</li> </ul>                            | N/A    |

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| ID | Assumption Type | Category           | Assumption   | Metric |
|----|-----------------|--------------------|--|--------|
| 38 | Cost            | Develop and Deploy | <b>Other projects</b><br>Project 151: Small works remediations and improvements <ul style="list-style-type: none"> <li>• Capex: 750k per year for the regulatory period</li> </ul>   | N/A    |
| 39 | Cost            | Develop and Deploy | <b>Capital Expenditure/Operating Expenditure split</b><br>All projects in the pipeline have been allocated a project type based on the split of project and product costs between capital and operating expenditure: System implementation/major upgrade, SaaS/Cloud implementation/upgrades, SaaS/Cloud equivalent to 'On Prem' solution, Security/Infrastructure implementation/refresh, Strategy and planning   | N/A    |
| 40 | Cost            | Develop and Deploy | <b>Capital Expenditure/Operating Expenditure split: System implementation/major upgrade</b> <ul style="list-style-type: none"> <li>• Project 43: IOT data management (behind the meter/customer)</li> <li>• Project 90: Customer connections transformation (ongoing)</li> <li>• Project 103: Smart IoT management (ongoing)</li> <li>• Project 148: Operations orchestration, automation and workflows (ongoing)</li> </ul>   | N/A    |
| 41 | Cost            | Develop and Deploy | <b>Capital Expenditure/Operating Expenditure split: SaaS/Cloud implementation/upgrades</b><br>No projects under this Investment Brief  | N/A    |
| 42 | Cost            | Develop and Deploy | <b>Capital Expenditure/Operating Expenditure split: SaaS/Cloud equivalent to 'On Prem' solution</b> <ul style="list-style-type: none"> <li>• Project 6: External Workforce Portals and Apps</li> <li>• Project 70: Extended electricity pricing model</li> <li>• Project 78: Enterprise application integration transformation (ongoing)</li> <li>• Project 150: Application performance testing and testing automation tools</li> <li>• Project 151: Small works remediations and improvements</li> <li>• Project 154: DER customer portal</li> </ul> | N/A    |

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| ID | Assumption Type | Category           | Assumption   | Metric |
|----|-----------------|--------------------|--|--------|
|    |                 |                    | <ul style="list-style-type: none"> <li>• Project 155: DERMS register</li> </ul>  |        |
| 43 | Cost            | Develop and Deploy | <p><b>Capital Expenditure/Operating Expenditure split: Security/Infrastructure implementation/refresh</b></p> <ul style="list-style-type: none"> <li>• Project 152: DER enablement services</li> <li>• Project 153: DER integrations</li> </ul>  | N/A    |
| 44 | Cost            | Develop and Deploy | <p><b>Capital Expenditure/Operating Expenditure split: Strategy and planning</b></p> <ul style="list-style-type: none"> <li>• Project 143: Innovation lab (ongoing)</li> <li>• Project 144: Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing))</li> <li>• Project 145: Update IT service continuity response plans (ongoing)</li> <li>• Project 146: Converged IT/OT operating model</li> <li>• Project 147: Six sigma and design thinking for process optimisation (ongoing)</li> </ul> | N/A    |
| 45 | Cost            | Develop and Deploy | <p><b>Project Resourcing</b><br/>Refer to the Program Master Schedule tab for the project resourcing requirements:</p> <ul style="list-style-type: none"> <li>• Workstreams required for each project</li> <li>• Project organisational structure for each workstream</li> <li>• Procurement decisions on who is delivering the capability</li> <li>• Start/end dates for projects</li> <li>• Interim resource capacity planning</li> </ul>  | N/A    |
| 46 | Cost            | Develop and Deploy | <p><b>AER Capex Categories</b><br/>All projects in the pipeline have been allocated to a single AER Capex categorisation: Non-Recurrent Maintain, Non-Recurrent Compliance and Non-Recurrent New Capability or Recurrent</p>   | N/A    |
| 47 | Cost            | Develop and Deploy | <p><b>AER Capex Categories - Non-Recurrent New Capability</b></p> <ul style="list-style-type: none"> <li>• Project 43: IOT data management (behind the meter/customer)</li> <li>• Project 90: Customer connections transformation (ongoing)</li> </ul>   | N/A    |

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| ID | Assumption Type | Category                   | Assumption   | Metric     |
|----|-----------------|----------------------------|--|------------|
|    |                 |                            | <ul style="list-style-type: none"> <li>• Project 145: Update IT service continuity response plans (ongoing)</li> <li>• Project 148: Operations orchestration, automation and workflows (ongoing)</li> <li>• Project 150: Application performance testing and testing automation tools</li> <li>• Project 154: DER customer portal</li> <li>• Project 155: DERMS register</li> </ul>  |            |
| 48 | Cost            | Infrastructure Upgrades    | <p><b>AER Capex Categories – Recurrent</b></p> <ul style="list-style-type: none"> <li>• Project 6: External Workforce Portals and Apps</li> <li>• Project 70: Extended electricity pricing model</li> <li>• Project 78: Enterprise application integration transformation (ongoing)</li> <li>• Project 103: Smart IoT management (ongoing)</li> <li>• Project 143: Innovation lab (ongoing)</li> <li>• Project 144: Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing)</li> <li>• Project 146: Converged IT/OT operating model</li> <li>• Project 147: Six sigma and design thinking for process optimisation (ongoing)</li> <li>• Project 151: Small works remediations and improvements</li> <li>• Project 152: DER enablement services</li> <li>• Project 153: DER integrations</li> </ul> | N/A        |
| 49 | Cost            | Infrastructure Acquisition | <b>Small: relative size of procurement requirement.</b>  | \$ 100,000 |
| 50 | Cost            | Infrastructure Acquisition | <b>Medium: relative size of procurement requirement.</b>   | \$ 300,000 |
| 51 | Cost            | Infrastructure Acquisition | <b>Large: relative size of procurement requirement.</b>  | \$ 900,000 |
| 52 | Cost            | Infrastructure Acquisition | <b>Product procurement - None, ongoing:</b> no procurement because required assets have already been obtained.   | N/A        |

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| ID | Assumption Type | Category                   | Assumption   | Metric |
|----|-----------------|----------------------------|--|--------|
|    |                 |                            | <ul style="list-style-type: none"> <li>• Project 70: Extended electricity pricing model</li> <li>• Project 78: Enterprise application integration transformation (ongoing)</li> <li>• Project 90: Customer connections transformation (ongoing)</li> <li>• Project 103: Smart IoT management (ongoing)</li> <li>• Project 143: Innovation lab (ongoing)</li> <li>• Project 145: Update IT service continuity response plans (ongoing)</li> <li>• Project 147: Six sigma and design thinking for process optimisation (ongoing)</li> <li>• Project 148: Operations orchestration, automation and workflows (ongoing)</li> <li>• Project 151: Small works remediations and improvements</li> <li>• Project 152: DER enablement services</li> <li>• Project 153: DER integrations</li> <li>• Project 154: DER Customer portal</li> <li>• Project 155: DERMS register</li> </ul> |        |
| 53 | Cost            | Infrastructure Acquisition | <p><b>Product procurement - None, SaaS:</b> no procurement capital expenditure cost as projects leverage existing tools that have a cloud-based procurement nature.</p> <ul style="list-style-type: none"> <li>• Project 144: Uplift technology team capabilities and services (training, design thinking, agile delivery (ongoing))</li> </ul>  | N/A    |
| 54 | Cost            | Infrastructure Acquisition | <p><b>Product procurement – Small</b></p> <ul style="list-style-type: none"> <li>• Project 6: External Workforce Portals and Apps</li> <li>• Project 43: IOT data management (behind the meter/customer)</li> </ul>  | N/A    |
| 55 | Cost            | Infrastructure Acquisition | <p><b>Product procurement – Medium</b></p> <ul style="list-style-type: none"> <li>• Project 150: Application performance testing and testing automation tools</li> </ul>   | N/A    |
| 56 | Cost            | Infrastructure Acquisition | <p><b>Product procurement – Large</b></p> <ul style="list-style-type: none"> <li>• Project 146: Converged IT/OT operating model</li> </ul>   | N/A    |

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| ID | Assumption Type | Category                   | Assumption   | Metric |
|----|-----------------|----------------------------|--|--------|
| 57 | Cost            | Infrastructure Acquisition | <ul style="list-style-type: none"> <li>The Infrastructure Pattern worksheet provides per project the timing of acquisition of assets for the individual projects.</li> </ul> | N/A    |
| 58 | Cost            | Other Program Costs        | Infrastructure Maintenance as a proportion of project total expenditure  | 5.78%  |
| 59 | Cost            | Other Program Costs        | Support Costs as a proportion of project total expenditure   | 3.26%  |
| 60 | Cost            | Contingency                | Contingency Rates are based on a conservative assumption of the risk profile and complexity of the projects  | 19%    |
| 61 | Cost            | Other Program Costs        | Travel Costs for the Program are based on a proportion of the overall Program costs.   | 0.50%  |
| 62 | Cost            | Other Program Costs        | Office Accommodation Costs for the Program, including accommodation, stationery, and ICT equipment is based on a proportion of the overall Program Costs.                    | 2.00%  |

**Table 19: Assumptions related to Cost-benefit analysis of investment brief “Enabling customers’ future energy choices for a sustainable future, moving us future, moving us towards the future integrated and low carbon energy system”**

**Produced by Technology branch**

W [Endeavourenergy.com.au](http://Endeavourenergy.com.au)  
E [news@endeavourenergy.com.au](mailto:news@endeavourenergy.com.au)  
T 131 081



ABN 11 247 365 823