Business case: ICT Non-Recurrent - Customer Program: Customer Portals Consolidation

2025 – 30 Regulatory Proposal

Supporting document 5.12.18

January 2024

SA Power Networks

Empowering South Australia

Contents

Glossary

Acronym / term	Definition
ABS	Australian Bureau of Statistics
AER	Australian Energy Regulator
AESCSF	Australian Energy Sector Cyber Security Framework
BAU	Business as usual
Capex	Capital expenditure
CER	Customer energy resources
CRM	Customer relationship management system
DXP	Digital experience platform
ERP	SAP Enterprise Resource Planning
EV	Electrical Vehicle
FTE	Full time equivalent
ICT	Information and Communication Technology
ISU	SAP Industry Standard Utilities
IT	Information Technology
MDI	Meter data insights
MFA	Multifactor authentication
NER	National Electricity Regulation
NPV	Net present value
Opex	Operating expenditure
RCP	Regulatory control period
SAAS	Software as a Service
SME	Subject matter expert
SOCI	Security of Critical Infrastructure Act
SSO	Single Sign-on
WACG	Website Accessibility Content Guidelines

1. About this document

1.1 Purpose

This document provides a business case to justify forecast expenditure for the 2025–30 Regulatory Control Period (**RCP**) on the replacement and consolidation of the various web-based customer-facing portals hosted by SA Power Networks, which comprises one input to our overall non-recurrent ICT replacement expenditure.

1.2 Expenditure category

- Non-network ICT capex: non-recurrent – major replacements or upgrades
- Non-network ICT opex: base year adjustment – Software as a Service

1.3 Related documents

Table 1: Related documents

Title	Author	Version / date
5.12.1 - IT Investment Plan 2025-30	SA Power Networks	Jan 2024
5.12.17 - Customer Program: Website replacement Business Case	SA Power Networks	Jan 2024
5.12.19 - Customer Program: Customer Notification System Replacement Business Case	SA Power Networks	Jan 2024
5.12.20 - Customer Program: Meter Data Insights System Replacement Business Case	SA Power Networks	Jan 2024
5.12.21 - Customer Program: CRM Replacement & Data Consolidation Business Case	SA Power Networks	Jan 2024
5.12.22 - Customer Program: Personalised on Demand Services Business Case	SA Power Networks	Jan 2024
5.12.27 - Program Overview - Customer Technology Program	SA Power Networks	Jan 2024
IT Asset Management Plan	SA Power Networks	Jan 2024

2. Executive summary

This business case details the justification for the non-recurrent ICT expenditure required to maintain our existing levels of services and risk through replacing and consolidating our customer portals onto a standard, more secure and easier-to-maintain platform.

Customers who currently interact with SA Power Networks' services – including residents, electricians, solar panel installers, local government councils, and others – do so via multiple web-based portals, which have different access points through SA Power Networks website. Our portals allow customers to view and report outages, sign up for notifications, and request new connections, among other things.

The current portals have been built over a long time on different technology platforms. The ages and technical diversity of the different platforms is resulting in increasingly costly maintenance of customer portals, which are failing to deliver to customer expectations and need to be replaced. In addition, one of the key portal platforms has been deemed end of life by the vendor in 2028[1].

The portal replacement and consolidation drivers include the need to:

- re-platform the legacy portal solution as it is end of life in 2028 and will no longer be supported by the vendor
- manage the cyber security risk – the platforms are ageing and have reached end of life, and these platforms manage sensitive customer data that needs to be appropriately secured
- manage the cost to the business – continuing to maintain these platforms is resulting in increasing risk, complexity, and cost
- manage complexity and user experience – each portal has grown organically and is underpinned by a disjointed variety of technologies, resulting in very inconsistent user experiences from portal to portal
- increasingly provide necessary capacity to service more complex customer needs in a timely manner
- support the realisation of **$21.4 million** of benefits identified in the Personalised on Demand Services business case
- enable scale-able portal operations that allow for changing regulatory obligations in a sustainable way.

Customer expectations for easy-to-use services that are available 24/7 at their convenience are increasing, and we are observing a 70% increase in demand for all online services year on year. Online services also play a critical role in supporting us to deliver services in the most cost-effective and scalable method possible.

The outcomes of this business case includes a solution that enables a single, consistent point for customers to engage with SA Power Networks through digital services and remediates the platform risk, escalating costs and issues created by multiple, disparate ageing systems, as illustrated in **Error! Reference source not found.**.

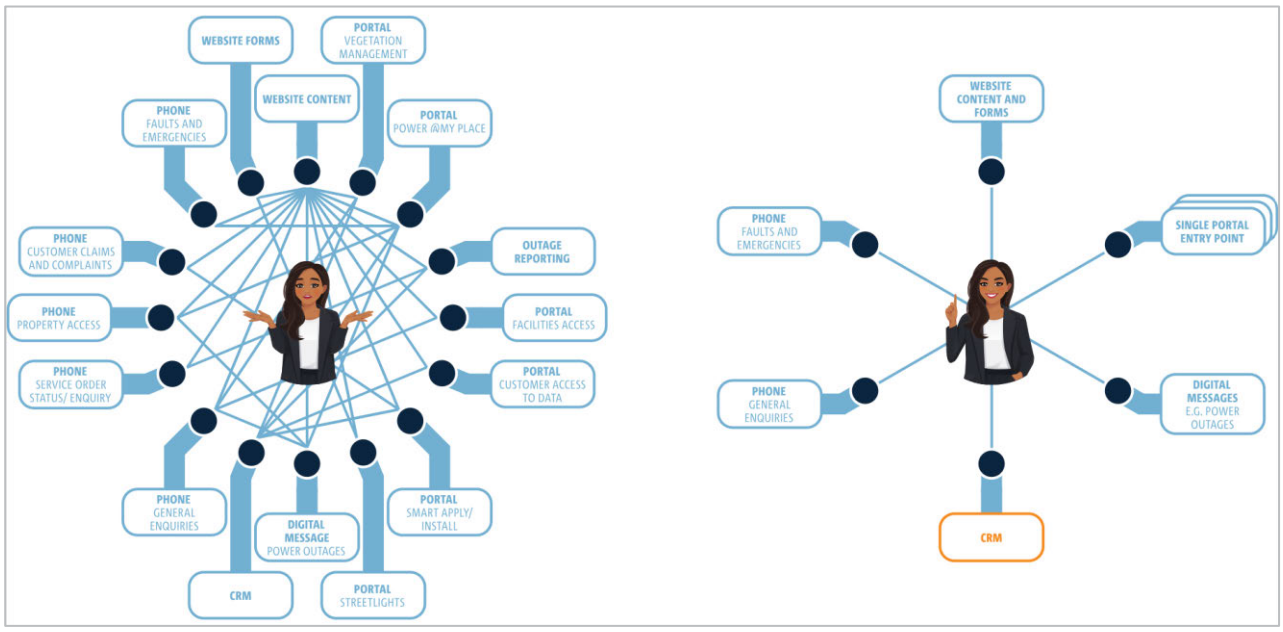
This business case recommends replacing the current legacy solutions and consolidating the portals onto the new solution. The total expenditure for this preferred option **is $17.8 million[2]. The 2025–30 RCP forecast is $13.7 million, including $2.7 million of non-recurrent capex, $9.7 million of non-recurrent opex and $1.2 million of recurrent opex[3].** The net present value (**NPV**) over the 10-year period is -$2.8 million and the overall residual risk rating is Low (see Table 2).

[1] Farewell, Neo! SAP BTP, multi-cloud environment – the deployment environment of choice | SAP Blogs

[2] The financial figures in this document are in June 2022 dollars unless specified otherwise.

[3] The recurrent opex will be funded through business efficiencies. This is included for completeness on the NPV and we are not proposing a step change. We will seek to offset the costs with expected benefits.

Figure 1: A representation of customer interfaces and services before and after legacy system replacement and portal consolidation



Other options considered were:

- **Option 0 - Maintain the existing systems and services as is**: This option is not possible as the key portal platform has been deemed end of life. This option also does not decrease the cyber security risk, and results in increasing the cost of maintaining current levels of service. There were no quantified benefits, so the NPV is $0[4] and the residual risk is High.
- **Option 2 - Upgrade portals with no consolidation:** This does not result in the desired customer experience outcomes, nor does it provide the most cost-effective solution. The NPV is -$4.2 million and the residual risk is Medium.

Table 2: Costs, benefits and risks of alternative options relative to the base case over the 10-year period, $m, $ June 2022 real[5].

	Total program costs			2025–2030 costs			Benefits	NPV[6]	Risk level[7]
Option	**Capex**	**Opex**	**Total**	**Capex**	**Opex**	**Total**			
Option 0 – Maintain the existing systems and services as is[8]	–	–	–	–	–	–	–	–	High
Option 1 – Replace the current legacy solutions and consolidate the portals onto the new solution **(Recommended)**	3.4	14.5	17.8	2.7	10.9	13.7	16.2	-2.8	Low
Option 2 – Replace portals, with no consolidation	2.6	14.5	17.1	2.1	10.2	12.3	13.5	-4.2	Medium

The recommended option (replace and consolidate portals) was selected because:

[4] The costs and NPV of option 0 (base case) have been set to zero as the costs associated with this option have been included as benefits of other options as appropriate

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

[6] Net present value (NPV) of the proposal over 10-year cash flow period from 1 July 2025 to 30 June 2035, based on discount rate of 4.05%.

[7] The overall risk level for each option after the proposed option is implemented.

[8] The costs and NPV of option 0 (base case) have been set to zero as the costs associated with this option have been included as benefits of other options as appropriate.

- it reduces the risk of a solution deemed end of life in 2028;
- re-platforming customer portals will simplify the user experience by implementing modern user interfaces and streamlined workflows, and directly addressing existing customer pain-points;
- security will be standardised across the various portals, ensuring that all portals are up to date with the latest security measures and that customer data is protected at all times;
- [redacted]
- [redacted]
- a unified customer data system will be created, enabling a single source of truth for our customers' data and their history of interactions with SA Power Networks, in concert with a refreshed Customer relationship management system (**CRM**).

3. Background

3.1 The scope of this business case

The scope of this business case refers to the nine web-based, customer-facing portals hosted by SA Power Networks to enable a range of services to be provided to several hundred thousand customers accessing the services each year.

These portals are:

- **Online Outage Reporting:** Used by customers to report outage information to SA Power Networks
- **Streetlights Out Reporting:** Used by customers to report faults of public lighting assets
- **Power @ My Place:** A service that allows customers to specify their digital communication preferences with SA Power Networks
- **Public Lighting Portal:** Used by local government councils to manage public lighting assets
- **Connections Services Portal:** Primarily used by electricians for new connection requests
- **Smart Apply/Install:** Used by solar installers to submit customer energy resource requests
- **Vegetation Management Portal:** Provides a method of exchanging service orders between SA Power Networks and the vegetation management service provider (ie, tree trimming)
- **Customer Access to Data Portal:** Provides customers with access to their energy consumption information, which is a regulatory obligation
- **Facilities Access Portal:** Provides customers with the ability to seek permission for attaching their assets to our infrastructure.

Customers currently have multiple sign-ons to these portals, depending on which services they engage with. The separate portals and systems creates unnecessary technical overloads and inefficiencies, and also means that our staff and customers cannot see a history and summary of their interactions with SA Power Networks. Being able to draw insights from across various customer interactions will enable us to provide a better, more tailored service that saves customers time and directly meets their needs and also supports our management of the network.

[redacted]

In addition to the disparate portal logins with the attendant cyber threats, there is an inconsistency in customer-facing map interfaces, with the look and feel across the various public portals providing different user experiences.

Examples of the various portals have been provided, below. There is no consistency between them, they are not necessarily easy to find, all have a different look and feel, and those that require authentication have different sign-on and password requirements. This leads to a poor, inefficient customer experience for the hundreds of thousands of users of these portals.

Figure 2: Smart Apply/Install

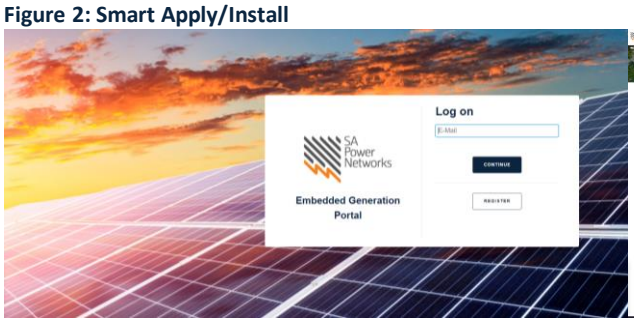


Figure 3: Vegetation Management Map

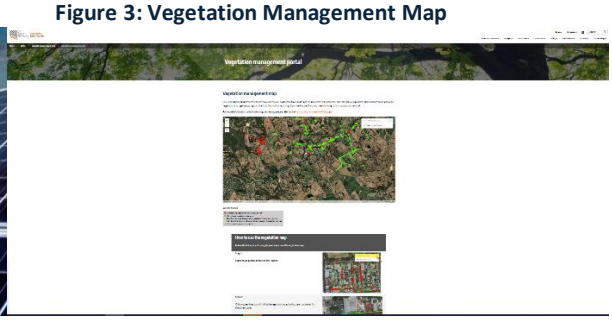


Figure 4: Street Light Out

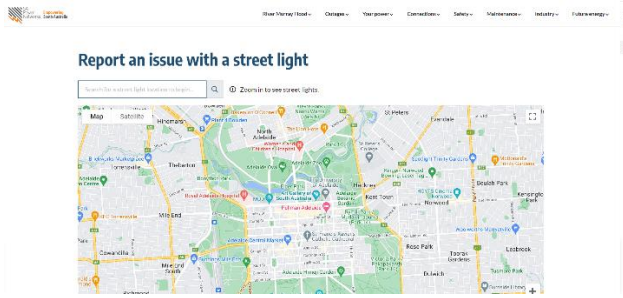


Figure 5: Power @ My Place

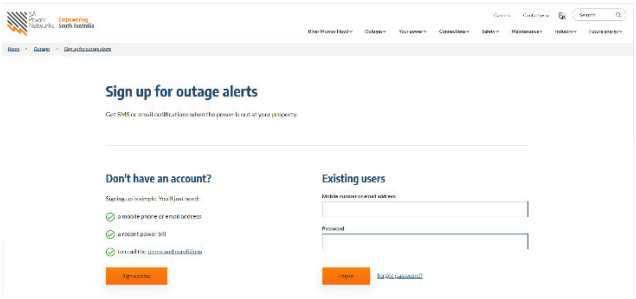


Figure 6: Online Outage Reporting

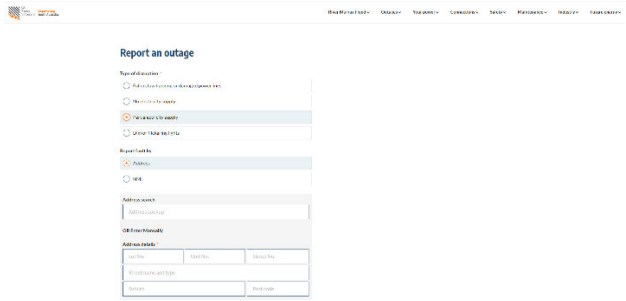


Figure 7: Customer Access to Data

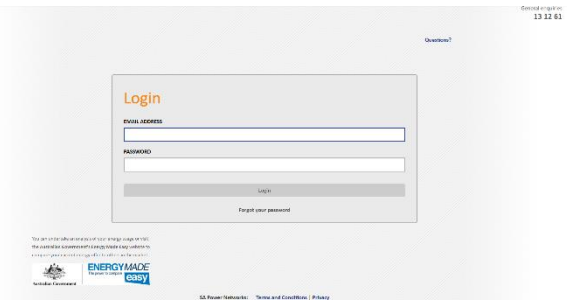


Figure 8: Public Lighting Portal

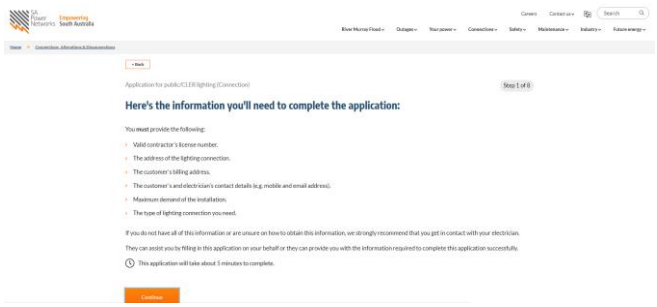
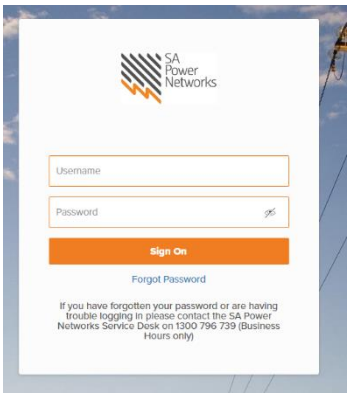


Figure 9: Connection Portal



3.2 Our performance to date

Each portal has been developed individually, over time, to meet different customer needs as they have evolved. This has resulted in a series of portals that are underpinned by different systems that hold customer data. The age and complexity of the overall technology architecture of our portals and their supporting systems contributes to a need to provide additional governance and oversight by our ICT and Cyber Security teams. This creates an administrative burden for our internal teams, who need to stay updated with the various security measures required across the different customer portals. Each portal can only be maintained individually, and that applies to making necessary changes to the portals, thus multiplying the cost of each change or maintenance activity.

While the portals to be consolidated each service different customer segments, these segments may overlap and can be broadly grouped into categories of users of these portals. They may be residential customers (e.g., Customer Access to Data, Online Outage Reporting, Power @My Place, and Street Light Out), local government councils (e.g., Public Lighting) or vendors and businesses (e.g., Connection Portal, Smart Apply/Install, Vegetation Management Map), all of whom find it faster, easier and more readily traceable to engage digitally. By consolidating and re-platforming, there is an opportunity to reduce service delivery risk and maintenance costs, increase security of customer data, and continue to meet customer expectations, in a more sustainable manner.

To address some of the known customer pain-points, we have begun work to consolidate some aspects of our customer-facing portals to date, beginning with the consolidation of maps interfaces used for the Public Lighting Portal. This work has allowed us to prove the concept and viability of map consolidation with a small, experienced customer group (i.e., councils). The learnings from this small exercise can be applied at scale to other portals that use maps, including Street Light Out, Online Outage Reporting, and Vegetation Management. These applications, which have not yet been consolidated to share a single map, form part of the initiatives proposed in this business case, scheduled for the following Reset period.

The recommended option will also utilise and build upon investments made in CRM Replacement and Data Consolidation business case, with the intent to reuse technology capabilities for the purpose of delivering improved self-service portal experiences.

3.3 Drivers for change

End-of-life software

The platforms that a number of these services are hosted on are ageing and have reached end of life, posing a risk to our cyber security posture, and/or they do not fit into our planned future application architecture. They are becoming increasingly complex to maintain, requiring significant financial and resource investment.

Maintaining the various security measures required across the different customer portals is also becoming increasingly complex. Maintaining a strong security posture across the portals, each with unique data security requirements, becomes more difficult as the cyber threat continues to escalate. [redacted]

Security requirements and risk profile

The need for change to the current customer portal architecture is also driven by the significant risk to data quality and security posed by the varying approaches to managing sensitive information and other portal-specific useability limitations. These risks and limitations impact our ability to deliver a reliable and secure standard of customer service and add complexity to the interactions between our staff and customers that result in inefficiencies and resourcing overcommitments.

Legacy systems hold separate sets of customer data. To centralise this information for SA Power Networks staff to access, some of this data must be collected, copied, and moved to one location. In replicating data, some customer information may be copied incorrectly, or may not be updated as required, resulting in poor data quality. Consequently, this poses a potential data security risk that must be managed while ensuring compliance with our Privacy Policy[9]. It also means there is no true consolidated record of customer interactions that would allow us to provide better services to customers by understanding their evolving needs.

Higher costs with increased customer activity

SA Power Networks has long worked to provide online services for our customers. Online services have evolved over time, with individual solutions put in place as needed, to provide our customers with online access to meet their information and reporting needs. However, the effectiveness of these solutions is rapidly diminishing. Ageing technology poses an increasing cyber security risk and has made maintenance of these solutions much more time consuming and costly.

Continuing to maintain these platforms will come at increasing cost to the business, with the overall management of the environment growing more complex. The net result will be, if nothing is done to address this risk, that we will begin to incur technical debt to maintain the old technology, missing the opportunity to invest those funds in modern technology capable of delivering to customer expectations.

Making it easier for customers to request services and receive updates on their progress

The current service offered by the various portals does not align to our commitments to "*be easy to deal with*" and "*keeping customers informed*", as outlined in our Customer Charter.

For our customers, they need a separate login for each authenticated portal. For unauthenticated portals, customers have no opportunity to register for status updates on their reports. We know that customers who go to the effort to notify us, frequently want to know the progress status of their request, which we are currently unable to consistently provide.

In the current state, our customers find online outage and street-light-out reports time-consuming to submit. We are reliant on customers to report lighting faults for rectification, to enable us to ensure lighting levels are maintained in accordance with the public lighting standards.

Customer accessibility standards and compliance with Web Content Accessibility Guidelines (WCAG) are currently not met by the ageing technologies these portals sit on.

Specific customer-reported issues for particular portals include:

- Customer Access to Data usage download limitations
- Issues with internal and external data consolidation on Smart Apply/Install
- Manual forms on some portals that increase customer time spent on the form and reduce their visibility of progress on requests.

Meeting ongoing obligations to provide usage data to customers

Customers may also experience difficulty in extracting large volumes of electricity usage. This difficulty means that we risk being unable to fulfil our regulatory requirement of providing usage data to customers, and receiving a regulatory penalty[10] as a result.

[9] SA Power Networks Privacy Policy – September 2021

[10] Retail Rule 86A requires distributors to provide energy consumption data to customers upon request. A breach of this Retail Rule is a Tier 3 civil penalty.

3.4 Industry practice

[redacted]

As of 27 June 2022, the Clean Energy Regulator introduced a multi-factor authentication (**MFA**) login process for all customers, who now require a username and password, as well as a unique code generated and sent to them via text, call or email to login to their accounts. By introducing MFA, the Clean Energy Regulator was able to consolidate portals, including the REC Registry and applications for Emissions Reduction Fund projects, and implement a single sign-on (**SSO**) process via a client portal. The client portal is used to provide client access to online forms, Clean Energy Regulator-based systems and other important information.

United Energy has also developed its myEnergy portal, which is a consolidation of its portals for residents, small businesses, electricians and solar installers into one single portal login. It allows those customers to register from a single screen, allowing them to choose communication preferences for outages or to apply for services to connect or make changes to the electricity supply network. It also allows customers to lodge feedback about the service provided or even a claim for compensation.[11]

Ergon Energy and Energex also allow customers to access its various portals and services through dedicated customer, electrical partner and retailer portals and online services. Customers can access self services for a range of matters including tracking service orders, requesting connection application requests, making a claim and more.

Presently, SA Power Networks is unable to align itself with its peers or standard industry practice.

[11] https://myenergy.ue.com.au/s/login/SelfRegister

4. The identified need

The driver for investment action being considered in this business case is the customer requirement for easy and secure access to critical and personal energy service information and the containment of increasing costs to provide our customer portals. The key issue is that customers need to access multiple portals and retain multiple usernames and passwords to interact with SA Power Networks, and at no stage are they able to see a complete picture of their interactions with us, resulting in inconvenience for customers and a cyber risk for us. These issues will escalate as customers become more dependent on the electricity network in their daily lives and will drive up our costs for managing the legacy technology that is delivering these services.

In considering potential responses to this driver, we engaged with our customers on their desired service-level outcomes, balanced against price outcomes and considered our regulatory requirements under the NER, National Electricity Law and jurisdictional regulations. As a result of these considerations, the identified need for our portal consolidation is as follows:

- To respond to customers' concerns[12], identified through our consumer and stakeholder engagement process, regarding their explicit service-level recommendations that we:
- provide easy-to-access and consume information when they want it, through self-service
- ensure the customer information is protected and private through effective cyber security capabilities.
- To comply with applicable regulatory obligations/requirements[13], in this case with specific reference to:
  - [redacted]
- To maintain the safety of our distribution network and system, in relation to the risks of harm to workers, consumers and community, through the provision of easy-to-access and clear information for all customers when they need it.
- To ensure the best long-term efficient cost for our portal services.
- To be compliant with reasonable and relevant consumer standards, in this case with reference to universal Website Accessibility Content Guidelines (**WACG**)[16].

[12] This is pursuant to Clause 6.5.7(c)(5A) of the NER, which requires regard to be had to the extent to which forecast expenditure seeks to address the concerns of distribution service end users identified by the distributor's engagement process.

[13] This is pursuant to Clause 6.5.7(a)(2) of the NER, which requires expenditure in order to comply with all appliable regulatory obligations or requirements associated with the provision of standard control services.

[14] [redacted]

[15] [redacted]

[16] WCAG 2 Overview | Web Accessibility Initiative (WAI) | W3C

5. Comparison of options

In this section we discuss the three options considered for portal services.

5.1 The options considered

Table 3: Summary of options considered

Option	Description
Option 0– Maintain the existing systems and services as is (Base case)	SA Power Networks will continue to host the various customer-facing portals on different legacy systems, and update those systems as required to ensure the individual portals remain fit-for-purpose.
Alternative options	
Option 1 – Replace the current legacy solutions and consolidate the portals onto the new solution (Recommended)	All existing (and future) SA Power Networks customer portals will be implemented on a single technology platform (enabled by the CRM Replacement and Data Consolidation Business Case), with a single identity management solution to allow us to provide a personalised and digital on-demand experience for SA Power Networks customers. Option 1 is the most prudent option, taking into account the management of the cyber risk associated with a single, consistently managed and monitored portal solution, compared to multiple logons and passwords.
Option 2 – Replace portals with no consolidation	The various web-based customer-facing portals currently used by SA Power Networks customers will be re-platformed and upgraded individually, with a consistent look and feel applied across each portal. These upgrades will be implemented gradually and address the existing pain-points identified by customers who engage regularly with these portals.

5.2 Options investigated but deemed non-credible

The option of not providing customer portal solutions was considered and deemed non-credible on the basis that:

- customers would be forced to contact SA Power Networks via telephone only for their service requests, with interactions resulting in an unsustainable increase in cost for customer services
- customer self-service portals are heavily used by customers, so not providing an easy-to-access self-service interface for service requests and interactions will result in negative customer feedback and frustration and not meet the identified customer needs.

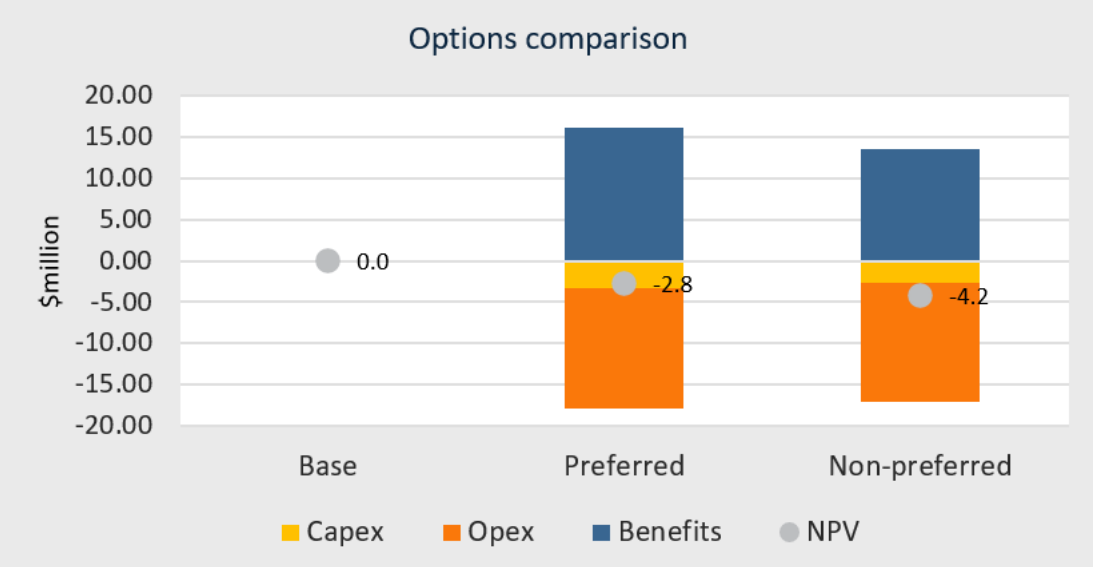
5.3 Analysis summary and recommended option

5.3.1 Options assessment results

Table 4: Costs, benefits and risks of alternative options relative to the base case over the 10-year period, $m, $ June 2022 real.

	Total program costs			2025–2030 costs			Benefits[17]	NPV[18]	Risk level[19]	Ranking
Option	**Capex[20]**	**Opex[21]**	**Total**	**Capex[22]**	**Opex[23]**	**Total**				
Option 0 – Maintain the existing systems and services as is (Base case)[24]	–	–	–	–	–	–	–	–	High	Not credible
Option 1 – Replace the current legacy solutions and consolidate the portals onto the new solution **(Recommended)**	3.4	14.5	17.8	2.7	10.9	13.7	16.2	-2.8	Low	1
Option 2 – Replace portals with no consolidation	2.6	14.5	17.1	2.1	10.2	12.3	13.5	-4.2	Medium	2

Figure 10: Option comparison



[17] Represents the total capital and operating benefits, including any quantified risk reductions compared to the risk of Option 0 (base case), over 10-year cash flow period from 1 July 2025 to 30 June 2035 expected across the organisation as a result of implementing the proposed option.
[18] NPV of the proposal over 10-year cash flow period from 1 July 2025 to 30 June 2035, based on discount rate of 4.05%.
[19] The overall risk level for each option after the proposed option is implemented. Refer Appendix C – Risk assessment for details.
[20] Represents the total capex associated with the proposed option over the 10-year cash flow period from 1 July 2025 to 30 June 2035.
[21] Represents the total opex increase associated with the proposed option above the current level of opex, over the 10-year cash flow period from 1 July 2025 to 30 June 2035.
[22] Represents the total capex associated with the proposed option over the 5-year cash flow period from 1 July 2025 to 30 June 2030.
[23] Represents the total opex increase associated with the proposed option above the current level of opex, over the 5-year cash flow period from 1 July 2025 to 30 June 2030.
[24] The costs and NPV of option 0 (base case) have been set to zero as the costs associated with this option have been included as benefits of other options as appropriate.

Assumptions

Key assumptions to note in relation to the NPV results above include:

- While Section 5.5.2, below, includes projected cost increases under Option 0, the NPV of these has been assumed to be a cost avoidance benefit of Options 1 and 2 when calculating their NPVs. This enables them to be more easily compared to a zero base for Option 0.
- The most likely solutions options are software as a service (**SaaS**) and hence most of the implementation costs are considered operating expenditure.
- The program delivery approach assumes shared project resources across multiple projects (program manager and a pool of skilled delivery full time equivalent (**FTE**), including architect, business analyst, developers and testers). This approach avoids ramp-down/ramp-up costs and supports a lower cost/more efficiency delivery. This approach is consistent with the program delivery methodology used for similar projects at SA Power Networks. If a program approach is not adopted, the efficiency opportunity is missed, resulting in an increase of 15-20% in costs per business case.

5.3.2 Recommended option: Option 1 – Replace the current legacy solutions and consolidate the portals onto the new solution

It is recommended that SA Power Networks leverage the customer service platform implemented as a part of the CRM Replacement and Data Consolidation business case to replace and consolidate existing legacy portal solutions. A single, consistent identity management approach and a standard customer data model will underpin the new solution. All existing customer portals will be migrated and consolidated onto this single platform.

This recommended option provides significant benefits, including the following:

- Re-platforming customer portals will simplify the user experience by implementing a standard user interface and streamlined workflows, and directly address existing customer pain-points. This would make it easier for customers to interact with our portals and access the information and services they need.
- By leveraging capabilities developed as part of the CRM Replacement and Data Consolidation business case, we can execute the solution in a cost-effective manner.
- [redacted]
- The consolidated portal will be supported by integration with the CRM, which will provide a single source of truth for our customers' data and their history of interactions with SA Power Networks.
- Reducing the risk of a system failure or security breach by implementing a platform with long-term support.

Appendix A lists the cost and benefit models for each option. Appendix B details the SaaS opex adjustments request for the preferred option. Appendix C provides the detailed risk analysis for each option.

5.4 Comparison of Options: Option 0 – Maintain the existing systems and services as is

5.4.1 Description

The existing multiple portal solutions hosted on various legacy technologies will continue as is. The portal technology will reach end of life, resulting in an increased risk in our ability to continue to deliver these services, as well as an increased cyber security risk related to operating software that is out of support and not receiving the required maintenance updates.

As the platforms continue to age, they become more expensive to maintain, requiring additional effort to deliver current service levels.

The inconsistencies in look, feel and user experience between each portal will continue to compromise the ease of use and navigation between our various services for customers and will create a fragmented collection of customer data across our portals, increasing data security risks.

Portal services that customers have become reliant on to support their service requests with SA Power Networks may deteriorate. The pain-points associated with individual portals, including the Customer Access to Data usage limitations and issues with internal and external data consolidation on Smart Apply/Install, will continue to negatively impact customer experience.

The capabilities that will be made available through the CRM Replacement and Data Consolidation business case will go underutilised, missing opportunities to improve outcomes for our customers and decrease technical complexity and cyber security of our portal landscape.

The current customer portal risks are not mitigated by this option.

Based on the above, Option 0 is not recommended.

5.4.2 Costs

Table 5: Option 0 – Costs by cost type ($m June 2022 real)

Cost type	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025–30	2030–31	2031–32	2032–33	2033–34	2034–35	Total 2025–35
Capex	–	–	–	–	–	–	–	–	–	–	–	–
One Off Opex	–	–	–	–	–	–	–	–	–	–	–	–
Recurrent Opex	0.0	0.1	0.1	0.2	0.2	0.6	0.2	0.2	0.2	0.2	0.2	1.4
Total	0.0	0.1	0.1	0.2	0.2	0.6	0.2	0.2	0.2	0.2	0.2	1.4

5.4.3 Risks

Table 6: Option 0 – Risk assessment summary

Risk consequence category	Risk description	Current risk level[25]
Customers – Failure to deliver on customer expectations	Customers are not provided status updates on light and asset maintenance, and instead increasingly turn to SA Power Networks support services to seek further information.	Medium
Customers – Failure to deliver on customer expectations	Customers experience difficulty gaining access to the various SA Power Networks portals due to the multiple sign-in processes, and are not able to view/report outages, sign up for notifications, request a new	Medium

[25] The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

Risk consequence category	Risk description	Current risk level[25]
Performance and growth – Financial impact – Cash loss or earning impacts	connection, and complete other tasks enabled through SA Power Networks customer portals.	
Customers – Failure to deliver on customer expectations **Performance and growth** – Financial impact – Cash loss or earning impacts	SA Power Networks cannot fulfil their regulatory requirement of providing usage data to customers, and risk receiving a regulatory penalty because there is an increase in the volume of meter data resulting from use of smart meters.	Medium
Performance and growth – Financial impact – Cash loss or earning impacts	Legacy systems are ageing and becoming increasingly complex and costly to manage.	High
Governance – Litigation and/or penalties	Cyber threat is increased by virtue of various portals with their own cyber capabilities and maturity.	High
Governance – Non-compliance with regulatory legislative and/or other obligations	[redacted]	High
Overall risk level		**High**

Table 7: Option 0 – Risk cost by category

Risk consequence category	Risk description	Risk cost[26]
Performance and growth – Financial impact – Cash loss or earning impacts	Legacy systems are ageing and becoming increasingly complex and costly to manage.	$5M – $25M
Governance – Litigation and/or penalties	[redacted]	$2M – $10M
Overall risk costs		**$7M – $35M**

5.4.4 Quantified benefits

Any cost savings attributable to the lack of investment in technology is offset by the growing cost of maintaining and securing the individual legacy portals.

5.4.5 Unquantified benefits

This option does not require any material capital expenditure. However, this benefit is offset by increasing operating support costs.

[26] Estimated cost of consequence(s) to SA Power Networks or its customers in an event this risk eventuates over the NPV analysis period

While some customer portals require redevelopment and re-platforming, other portals, such as the Public Lighting Portal and Vegetation Management Map, do not require additional work or upgrades to be fit for purpose. This will likely shift as customer experience expectations evolve and portals continue to age.

5.5 Comparison of options: Option 1 – Replace the current legacy solutions and consolidate the portals onto the new solution (Recommended)

5.5.1 Description

All existing (and future) SA Power Networks customer portals would be implemented on a single technology platform, with a single identity management solution to allow a secure and consistent experience for our customers. The technology platform will be enabled through the CRM Replacement and Data Consultation business case. It will address customer frustrations with the state of existing services, and bring our systems up to a modern standard, in line with other utilities and sectors.

In our Focused Conversations customer engagement, customers recognised the value of proactive and responsive services in saving them time and making it easier to interact with SA Power Networks. The platform replacement will also enable portals to comply with customer accessibility standards that are currently not met by the ageing technologies these portals sit on.

Our existing identity management solution will facilitate a customer-centric model, as all interactions will be under the same identification details regardless of the service or channel being used, making it easier for customers to access services without the need for multiple login credentials. A consistent look-and-feel across portals will improve the overall customer experience and enable ease of use and navigation through the various services being offered.

This option mitigates the current state risks by enabling a single and complete view of customer interactions, which will increase our ability to deliver a personalised customer experience based on reliable, consolidated customer data. [redacted]

This option also supports SA Power Networks' energy transition plan. The increased use of Customer Energy Resources (**CER**) demands a higher and more complex level of engagement with customers, and this option creates the capability to do that cost-effectively into the future. As the energy transition gathers pace and customers need more and more information, this option – having defined the portal and identity management requirements – will enable us to efficiently provide customers with a greater ability to self-serve at a time and in a manner of their choosing. Delivering this option creates a necessary foundation that will enable us to deliver on a new self-service capability outlined in the Personalised-on Demand Services business case.

Option 1 is considered the most prudent option as it not only delivers the required cyber security standards, it also utilises and builds upon investments to be made in the CRM Replacement and Data Consolidation business case. While this option has a lower NPV than Option 2, it manages the cyber risk far more effectively and enables delivery of the benefits for the overall Customer technology program.

The risk cost for Option 2 is $7.5 million –$40 million compared to low-to-negligible risk for Option 1. Adding the risk costs to the NPV would shift it significantly in favour of Option 1.

Option 1 is the recommended option.

5.5.2 Costs

Table 8: Option 1 – Costs by cost type ($m June 2022 real)

Cost type	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025–30	2030–31	2031–32	2032–33	2033–34	2034–35	Total 2025–35
Capex	-	-	0.8	1.0	1.0	2.7	0.6	-	-	-	-	3.4
One Off Opex	-	-	3.4	3.2	3.1	9.7	1.8	-	-	-	-	11.5
Recurrent Opex	0.0	0.1	0.1	0.5	0.5	1.2	0.4	0.3	0.3	0.3	0.3	3.0
Total	0.0	0.1	4.3	4.6	4.6	13.7	2.8	0.3	0.3	0.3	0.3	17.8

5.5.3 Risks

Table 9: Option 1 – Risk assessment summary

Risk consequence category	Risk description	Residual risk level[27]
Customers – Failure to deliver on customer expectations	Customers are not provided status updates on light and asset maintenance, and instead increasingly turn to SA Power Networks support services to seek further information.	Negligible
Customers – Failure to deliver on customer expectations **Performance and growth** – Financial impact – Cash loss or earning impacts	Customers experience difficulty gaining access to the various SA Power Networks portals due to the multiple sign-in processes, and are not able to view/report outages, sign up for notifications, request a new connection, and complete other tasks enabled through SA Power Networks customer portals.	Negligible
Customers – Failure to deliver on customer expectations **Performance and growth** – Financial impact – Cash loss or earning impacts	SA Power Networks cannot fulfil their regulatory requirement of providing usage data to customers, and risk receiving a regulatory penalty because there is an increase in the volume of meter data resulting from use of smart meters.	Negligible
Performance and growth – Financial impact – Cash loss or earning impacts	Legacy systems are ageing and becoming increasingly complex and costly to manage.	Low
Governance – Litigation and/or penalties.	Cyber threat is increased by virtue of various portals with their own cyber capabilities and maturity.	Low
Governance – Non-compliance with regulatory legislative and/or other obligations	[redacted]	Low
Performance and growth – Financial impact – Cash loss or earning impacts	Re-platforming and re-designing technologies to leverage the new data model will introduce implementation delays and integration complexity, thereby increasing cost.	Low
Overall risk level		Low

The risk cost calculation is not applicable given the very low residual risk levels.

[27] The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

5.5.4 Quantified benefits

The quantified benefits of Option 1 include the following.

Cost savings

- Reduced maintenance overheads as multiple portals are consolidated into one ($0.6 million)

Cost avoidance

- Avoidance of staff time as the volume of calls to the contact centre is reduced ($2.2 million)
- Avoidance of reliance on legacy systems that are no longer supported by the vendor, leading to technical debt overhead to maintain ($3.6 million)
- Reduction in written query response time ($1.3 million)
- Reduced staff time to manage the various customer portals and consolidating customer information fragmented across those portals ($0.9 million)
- Avoided increase in costs that would be incurred under the Option 0 – Base Case ($1.4 million)

Customer benefit

- Reduced time customers spend on calls with SA Power Networks as customers can easily navigate the website and access the portal they need through one access point ($1.0 million)
- Reduced time customers spend on creating and submitting online outage reports ($1.8 million)
- Reduced time for customers to submit written query ($0.4 million)

Risk monetisation

- Reduced cyber-related overhead costs required to manage various portals with their own cyber capabilities and maturity, and avoidance of customer-facing cyber breaches and the remediation effort required after an incident ($2.9 million)

Table 10: Option 1 – Benefits by expenditure type ($m June 2022 real)

Cost type	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025–30	2030–31	2031–32	2032–33	2033–34	2034–35	Total 2025–35
Cost savings	-	-	-	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Cost avoidance	0.0	0.2	0.2	0.7	0.9	2.0	1.2	1.4	1.5	1.7	1.7	9.5
Customer benefit[28]	-	-	-	0.3	0.3	0.6	0.4	0.5	0.5	0.6	0.6	3.2
Risk monetisation	-	-	-	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	2.9
Total	0.0	0.2	0.2	1.4	1.7	3.5	2.2	2.4	2.6	2.8	2.9	16.2

5.5.5 Unquantified benefits

Re-platforming customer portals will simplify the user experience and make it easier for customers to interact with our portals and access the information and services they need. The solution will be cost-effective, simplified, and gradual because it will leverage existing capabilities, which mitigates any dependencies that may be introduced through other customer technology business cases. Security

[28] Distinguishing the business benefits from direct benefit to customers, calculated as Customer Value of Time, which is consistent with submissions by other DNSPs such as CitiPower, Ausgrid, and Endeavour Energy.

architecture will be standardised across the various portals, ensuring that all portals are up-to-date with the latest security measures and that customer data is protected at all times.

In addition to these benefits, the identity management solution will make it easier for customers to access all the SA Power Networks services they need without having to remember multiple login credentials.

A unified customer data system will be created, providing a consolidated source of truth for our customers' data and their history of interactions with SA Power Networks through the integration of the portals with the CRM.

5.6 Comparison of options: Option 2 – Replace portals with no consolidation

5.6.1 Description

The various web-based customer-facing portals currently used by our customers will be re-platformed and upgraded, with a consistent look and feel applied across each portal. These upgrades will be implemented gradually and address the existing pain-points identified by customers who engage regularly across our eight portals.

The requirements of SA Power Networks employees, who need to utilise the information captured by these portals and who may need to further engage with customers, will also be addressed in design. These improvements will include creating consistency in the way that forms are submitted and customer information is collected in order to reduce time and effort, and improve administrative efficiency of these processes. As portals require update, they will be upgraded and hosted on a single platform. However, each of these applications have been designed with a different identity management solution overlay, and this will not be changed.

We will leverage existing technical capability to execute the upgrades gradually in a cost-efficient manner, which will address core security, technical and user pain-points with the current systems. This will improve customer experience, insofar as the existing portals will continue to service the needs of our customers and their various personas with a similar look-and-feel over time.

This option will not implement a single identity management solution. Therefore, whilst the various customer portals will provide a more consistent user experience, our customers will still need multiple log-ins (a separate log-in per persona per portal) in order to access them. Furthermore, this option will not result in the streamlined customer experiences and customer time savings to the same extent as option 1 due to the multiple entry points that will continue to exist.

In order to service customers in a way that reflects their preferences and meets their expectations, SA Power Networks staff will continue to require additional time and resources to collect and consolidate information from the various applications, to ensure we have a full view of customer needs and expectations based on their various interactions with SA Power Networks services.

This option simplifies the way that our customers submit information across the various portals, such as Online Outage and Street Light Out. The time customers need to spend filling in forms will be reduced as will the level of support and effort spent on manual workarounds by SA Power Networks staff. Consistency of forms across the various portals will need to be carefully managed and governed, with appropriate structures needing to be implemented.

Whilst refreshing and upgrading customer portals will address the core issues facing our customers and our technology support teams, there is still a fundamental gap in our ability to manage complexity of the user experience as needs and regulatory obligations change. The cost to the business will not be significantly altered as the individual portal security requirements will need to be maintained. [redacted]

For the above reasons, option 2 is not recommended.

5.6.2 Costs

Table 11: Option 2 – Total cost by cost type ($m June 2022 real)

Cost type	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025–30	2030–31	2031–32	2032–33	2033–34	2034–35	Total 2025–35
Capex	-	-	0.8	0.7	0.6	2.1	0.6	-	-	-	-	2.6
One-off Opex	-	-	3.7	2.7	2.6	9.0	2.6	-	-	-	-	11.6
Recurrent opex	0.0	0.1	0.1	0.5	0.5	1.2	0.4	0.3	0.3	0.3	0.3	3.0
Total	0.0	0.1	4.7	3.9	3.6	12.3	3.5	0.3	0.3	0.3	0.3	17.1

5.6.3 Risks

Table 12: Option 2 – Risk assessment summary

Risk consequence category	Risk description	Residual risk level[29]
Customers – Failure to deliver on customer expectations	Customers are not provided status updates on light and asset maintenance, and instead increasingly turn to SA Power Networks support services to seek further information.	Negligible
Customers – Failure to deliver on customer expectations **Performance and growth** – Financial impact – Cash loss or earning impacts	Customers have trouble gaining access to the various SA Power Networks portals due to the multiple sign-in processes, and are not able to view/report outages, sign up for notifications, request a new connection, and complete other tasks enabled through SA Power Networks customer portals.	Medium
Customers – Failure to deliver on customer expectations **Performance and growth** – Financial impact – Cash loss or earning impacts	SA Power Networks cannot fulfil our regulatory requirement of providing usage data to customers, and risk receiving a regulatory penalty because there is an increase in the volume of meter data resulting from use of smart meters.	Low
Performance and growth – Financial impact – Cash loss or earning impacts	Legacy systems are ageing and becoming increasingly complex and costly to manage.	Medium
Governance – Litigation and/or penalties.	Cyber threat is increased by virtue of various portals with their own cyber capabilities and maturity.	High
Governance – Non-compliance with regulatory legislative and/or other obligations	[redacted]	Low
Performance and growth – Financial impact – Cash loss or earning impacts	Re-platforming and re-designing technologies to leverage the new data model will introduce implementation delays and integration complexity, thereby increasing cost.	Low
Overall risk level		High

[29] The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

Table 13: Option 2 – Risk cost by category

Risk consequence category	Risk description	Risk cost[30]
Performance and growth – Financial impact – Cash loss or earning impacts	Overcommitment of resources required to address customer support queries, which could otherwise be addressed via a better functioning and accessible customer portal	$500K – $5M
Performance and growth – Financial impact – Cash loss or earning impacts	Legacy systems are ageing and becoming increasingly complex and costly to manage.	$5M – $25M
Governance – Litigation and/or penalties	Cyber threat is increased by virtue of various portals with their own cyber capabilities and maturity.	$2M – $10M
Overall risk cost		**$7.5M – $40M**

5.6.4 Quantified benefits

The quantified benefits related to Option 2 are:

Cost avoidance

- Avoidance of staff time as volume of calls to the Contact Centre is reduced ($2.2 million)
- Avoidance of relying on legacy systems that are no longer supported by the vendor, leading to technical debt overhead in order to maintain ($3.6 million)
- Reduction in written query response time ($1.3 million)
- Avoided Option 0 – Base case costs ($1.4 million)

Customer benefit

- Reduced time customers spend on calls with SA Power Networks as they can easily navigate the website and access the portal they need ($0.9 million)
- Reduced time customers spend on creating and submitting online outage reports ($1.8 million)
- Reduced time for customers to submit written query ($0.4 million)

Risk monetisation

- Avoidance of customer-facing cyber breaches and the remediation effort required after an incident ($1.9 million)

Table 14: Option 2 – Benefits by expenditure type ($m June 2022 real)

Cost type	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025–30	2030–31	2031–32	2032–33	2033–34	2034–35	Total 2025–35
Cost savings	-	-	-	-	-	-	-	-	-	-	-	-
Cost avoidance	0.0	0.2	0.2	0.5	0.7	1.7	1.1	1.2	1.4	1.5	1.6	8.6
Customer benefit[31]	-	-	-	0.2	0.3	0.6	0.4	0.4	0.5	0.6	0.6	3.1
Risk monetisation	-	-	-	0.4	0.3	0.7	0.3	0.2	0.2	0.2	0.2	1.9
Total	0.0	0.2	0.2	1.2	1.4	3.0	1.8	1.9	2.1	2.3	2.4	13.5

[30] Estimated cost of consequence(s) to SA Power Networks or its customers in an event this risk eventuates over the NPV analysis period

[31] Distinguishing the business benefits from direct benefit to customers, calculated as Customer Value of Time, which is consistent with submissions by other DNSPs such as CitiPower, Ausgrid, and Endeavour Energy.

5.6.5 Unquantified benefits

Re-platforming customer portals will simplify the user experience by implementing modern user interfaces and streamlined workflows, and directly address existing pain-points. This would make it easier for customers to interact with our portals and access the information and services they need.

By leveraging existing capability, we can execute the solution through a cost-effective, simplified, and gradual process, which mitigates any dependencies that may be introduced through other customer technology business cases.

However, this option does not provide the customer nor business benefits of a single customer sign on and secure source of truth of customer data.

6. Deliverability of recommended option

6.1 Customer Technology program

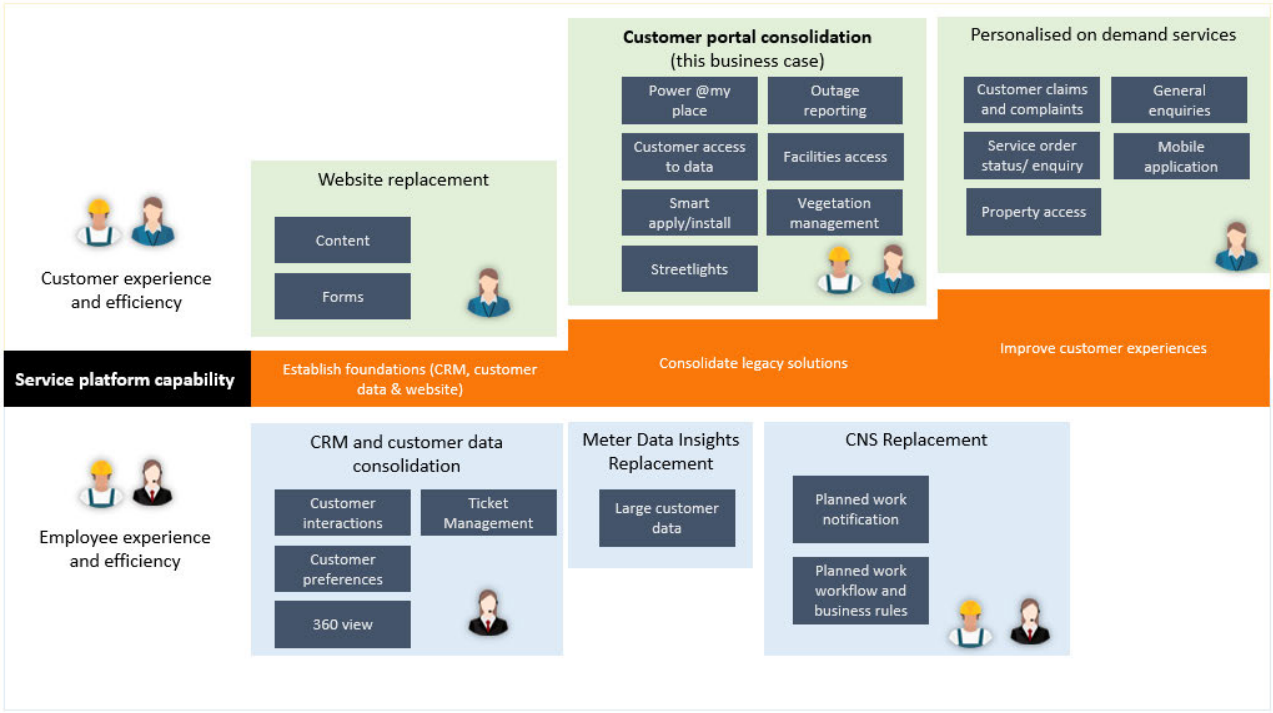
This Customer Portal Consolidation project forms the key foundational part of the Customer Technology program of work. The program is comprised of an integrated set of six initiatives. These are designed to replace or upgrade a number of our core customer systems and deliver the expected long-term technology capabilities needed to maintain current levels of service, meet the increasing customer demand – resulting from the energy transition – as well as our overall increase in network activity, and to do so in secure, cost-effective manner.

Key benefits are:

- **For our customers:** save time when interacting with SA Power Networks, an improved customer experience, and improved access to data and service requests.
- **For our employees:** decrease maintenance risk, and efficiently manage enquiries, requests and resolution status to customers.

This program is summarised in Figure 11, below. We expect this program will deliver significant benefits to customers.

Figure 11: Proposed 2025–2030 Customer Technology Program



The program is underpinned by shared core technology capabilities. A number of capabilities will be implemented as part of the CRM and Customer Data Consolidation business case and reused by this business case (see Figure 12). We have built an effective program that iteratively and cost-effectively builds capability, manages risk and delivers on long-term customer requirements. The program of work allows a prudent approach to portal consolidation while maximising the customer experience outcomes. If the CRM and Customer Data Consolidation business case is not allowed, there will be an increase in cost to the delivery of portal consolidation.

Figure 12: Customer Technology program – Initiative to capability mapping

	Initiatives/Business Cases					
Customer Technology Program – Technology Capability Requirements	**Replacement Business Cases**					**New Value Business Case**
	CRM and Customer Data Consolidation	**Customer Portals Consolidation**	**CNS Replacement**	**Website Replacement**	**MDI Replacement**	**Personalised & On-Demand Services**
Customer Centric Data Model	Replace	Reuses	Reuse		Reuse	Reuse
Notification Preference Management	Replace		Reuse			Reuse
Customer Account Detail Management (service console)	Replace	Reuse	Reuse			
Alerts and notifications	Replace	Reuse	Reuse			Reuse
Interaction history	Replace	Reuse	Reuse			Reuse
Integration	Replace	Reuse	Reuse		Reuse	Reuse
CRM & Telephony Integration	New					
Case Management	Replace	Reuse				Reuse
Document Exchange and Collaboration	Replace	Reuse				
Payment Gateway	Replace	Reuse				
Consolidated self-service interface		Replace	Reuse			Reuse
Customer feedback/surveys	Replace	Reuse	Reuse	Replace		Reuse
Reporting and analytics	Replace	Reuse	Reuse	Replace	Replace	Reuse
Website content management				Replace		Reuse
Digital Forms and workflow	Replace	Reuse		Replace		

New software/capability
Reuse software/capability added by a replacement business case

The delivery approach assumes shared project resources across the Customer program (program manager and a pool of skilled delivery FTE, including architect, business analyst, developers and testers). This approach avoids ramp-down/ramp-up costs and supports a lower cost/more efficiency delivery. This approach is consistent with the program delivery methodology used for similar projects at SA Power Networks. If a program approach is not adopted, the efficiency opportunity is missed, resulting in an estimated increase of 15-20% in costs for this replacement.

The delivery of portal consolidation is likely to extend to the next 2030–2035 period.

Key delivery risks relate to:

- complex integration points to existing back-office systems including SAP, ISU and ERP systems
- embedding a new platform capability within appropriate teams and ensuring appropriate change management to maximise value derived from the solution.

The noted risks are mitigated through a delivery approach which will ensure:

- highly skilled project delivery staff who have previous experience in delivering similar solutions at SA Power Networks
- access to highly skilled technical SMEs who have built a strong understanding of integration methods to SAP-related solutions
- access to vendor capabilities offered in the market to support implementation activities

- access to business SMEs who have a strong understanding of the processes and access to a comprehensive knowledge repository, which continues to be maintained.

7. How the recommended option aligns with our engagement

7.1 Alignment to customer expectations

The inconsistent digital customer experience provided by SA Power Networks has been called out by our customers numerous times. Our customers noted that a lot of our digital services are not only disjointed, they are also SA Power Networks-centric and do not consider the customer experience.

7.1.1 Focused Conversations

The full Customer Program was discussed during the "Customer Experience and Interaction" Focused Conversation workshop in September 2022. Three scenarios were presented to six groups of customer representatives and advocates (18 people):

- **Scenario 1 basic self-service** – the base scenario and represented "as is" no change scenario.
- **Scenario 2 customer system replacement and consolidation** – this scenario was composed of all the projects within the Customer Technology Program involving replacements and upgrades (including the CRM and customer data replacement)– reflecting what needs to be done to maintain our existing levels of customer service in a rapidly transitioning energy environment.
- **Scenario 3 digital customer experience uplift** – this scenario added significant customer experience and digital channel improvements – reflecting 'new value' for customers.

The customer representatives were presented with details and the pricing impacts for each scenario (outlined above). Following detailed conversations, four of the six groups strongly supported Scenario 3, and two groups supported Scenario 2 as well as parts of Scenario 3. Hence the replacements and upgrades were unanimously supported by all groups, while there was majority support for Scenario 3.

Specific comments and discussion items relevant to the Customer Portal Consolidation were:

- *A lot of [SA Power Networks'] services are not only disjointed, but they are also SA Power Networks-centric and do not consider the customer's experience*
- *A single location to manage service requests would be welcome and would save time searching and following up for information*
- *The ability to self-manage personal information and self-serve is very important (opt-in as needed)*
- *Getting more personal with customers, provide greater levels of visibility regarding data SA Power Networks has*
- *Good to have a single login capability and simple layout, being able to see history of interaction will be helpful for customers*
- *Security and data management needs to be considered as part of the design of digital services; cyber security is very important, especially with personalised services requiring customer details*
- *Important for SA Power Networks to bring customer service solutions in line with other service sectors*[32]

There was strong consensus from our customers that an integrated digital service capability, accessible through one simple login point, is highly conducive to supporting good customer experiences. The proposed consolidation and upgrade solution would meet the expectations articulated and desired by our customers.

[32] Customer Experience and Interactions | Talking Power

7.1.2 People's Panel

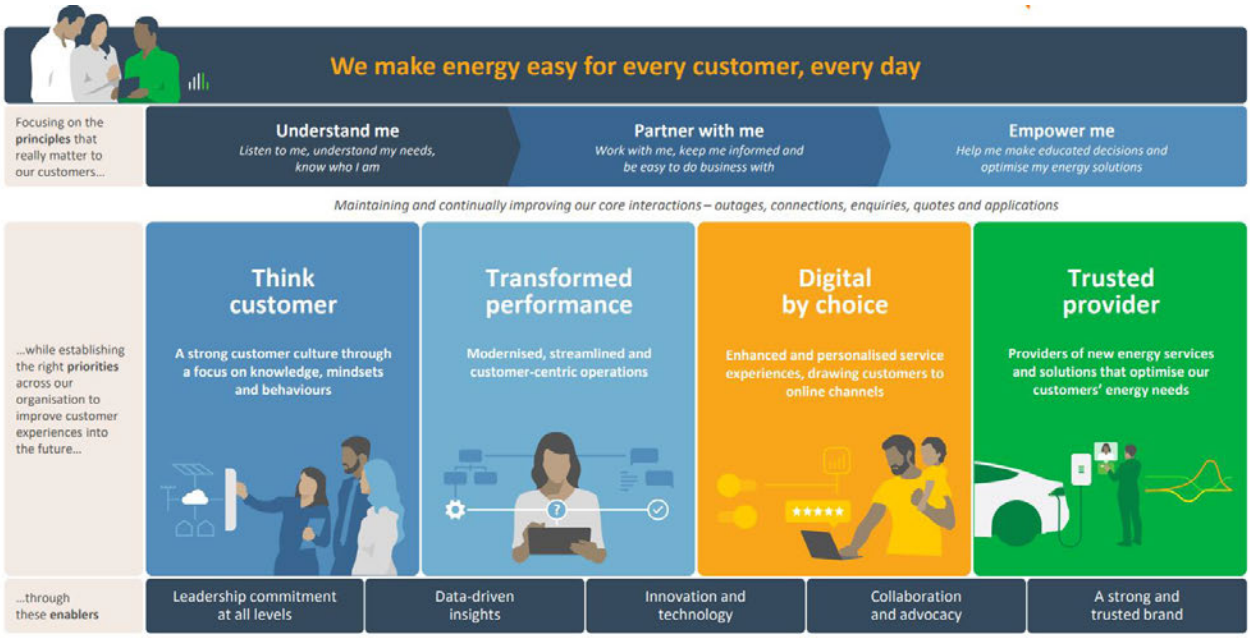
Given the strong support from the Focused Conversation, Scenario 2 was presented as 'for information' to the People's Panel so they had an understanding of the costs and bill impacts. The People's Panel was asked to discuss and provide input to Scenario 3. This is discussed further in the Personalised-on Demand Services Customer Technology program business case.

8. Alignment with our vision and strategy

We provide services for 1.7 million South Australians, and this recommended portal replacement and consolidation supports our Customer Strategy 2022–2026. This initiative will support us to deliver our priorities to '*transform performance*' by modernising and streamlining customer-centric operations and being '*digital by choice*', enhancing and personalising service experiences, drawing customers to online channels. This initiative will specifically support providing consistent and secure experiences across our contact channels, so we can provide customers with secure choice in how they interact with us. We can ensure the equity of access and experience for all our customers.

We understand the future of energy across Australia is progressing at an extraordinary rate. We are planning ahead for what this world of new technologies, changed community expectations and innovative energy services will hold, evidenced by our Customer Strategy[33], as summarised in Figure 13.

Figure 13: Customer Strategy 2022–2026 on a page



Through our Customer Charter[34], we have made the commitment to our customers that "*we will keep you informed and be easy to deal with*" and that '*we will make it easy for you to contact us when and how you want to…'*. These expectations of customers were more clearly articulated to SA Power Networks through extensive qualitative and quantitative research that occurred across the SA Power Networks customer base in late 2021.

[33] Customer Strategy 2022–2026

[34] https://www.sapowernetworks.com.au/public/download.jsp?id=10324#:~:text=At%20SA%20Power%20Networks%20we,supply%20point%20on%20your%20property.

9. Reasonableness of cost and benefit estimates

The proposed costs for each option were estimated through completing a detailed project cost model that was structured according to our standard IT project methodology. This approach structures an IT project into six phases, which are further broken down into a total of 20 sub-phases that are then used to plan and cost the project. (Refer Table 15)

Table 15: Structure of SA Power Networks IT Project Methodology

Phase	Sub-phase
Phase 1 – Planning, project management and coordination	Planning, project management and coordination
Phase 2 – Feasibility, innovation and POCs	Feasibility, innovation and POCs
Phase 3 – Develop and plan	Plan
	Requirements
	Business case
	Vendor selection
Phase 4 – Implement – Design and architecture	Implement – Design and architecture
Phase 5 – Implement – Build and test	Software licensing (12-month upfront purchase)
	Hardware infrastructure changes
	Client device purchases
	Development
	Configuration
	Integration
	Data conversion and migration
	Testing
Phase 6 – Implement – Deploy	Training delivery
	Training materials and preparation
	Warranty
	Change management
	SME backfill

The nature of each project was flagged as to whether it was to be based on a software-as-a-service (SaaS) solution or was to be an on-premise implementation. This ensured that the modelling resulted in the appropriate accounting treatment of the expenditure – as operating or capital expense.

The effort required for the specific roles relevant to each phase of the project (eg, project manager, architect, developer, tester etc) was estimated based on our staff and our external consultants' experience of similar past projects at SA Power Networks and at other organisations. This effort was split according to our standard internal staff/external services mix of 20% internal staff and 80% external services, and costed using our standard IT cost-estimation methodology and standard resource rate card.

Where possible, external expenses, such as licence fees and external system integrator costs, were based on actual quotes, published licence fees/rates etc or market research[35]. In other cases, staff and external consultants' experience of the costs incurred in similar projects at SA Power Networks and other organisations was used to provide a reasonable estimate of the costs. All costs were initially calculated bottom-up and then validated/refined with top-down analysis. Cost worksheets are included as an attachment.

[35] SAPN-DXP Market scan results (v2.0) – BDO 2021

9.1 Benefit estimates

An extensive and iterative process involving business and IT representatives was undertaken to define a set of reasonable benefits for this project. A summary of the process undertaken, and the key benefit types identified, is shown in Section 9.1.1.

This process aligns with our Value Framework and our ICT forecasting methodology. The use of factual historical data and future forecasts derived, where possible, from external sources, such as AEMO, ensures an industry best-practice approach that meets AER and community expectations and results in a justifiable and reasonable estimate of the benefits. Where relevant, we have undertaken sensitivity analysis to understand the degree to which the benefits vary with changes in the key assumptions, to ensure the robustness of the calculations.

9.1.1 Benefit estimation process overview

Avoiding increases in costs incurred under Option 0 – BAU

- Estimates were made as to the projected increase in relevant costs under a BAU scenario (ie, without the proposed investment). These typically related to increases in Contact Centre call volumes and SMS communications resulting from the planned increase in network maintenance activity and the general increase in the complexity of the electricity industry being experienced by customers. The volume increases vary according to the call type/subject matter and therefore impact each technology/service area differently.
- These projected cost increases were initially used in costing Option 0 as they represent a cost of not undertaking any additional investment. Subsequently, when calculating and comparing the NPVs of the individual options, the part of these costs that was also being treated as a cost avoidance benefit was removed from the total benefits related to Options 1 and 2. This ensured that they weren't being double counted in the initial calculations.
- Following this, the NPV of Option 0 was set to NIL and instead treated as a cost avoidance benefit in the other options (refer 5.3.1). This ensures that these BAU cost increases were being properly reflected as an avoided cost increase from undertaking the proposed investment under Options 1 and 2.
- While the assessed options above would actually result in a number of the projected costs being reduced below their assumed FY25 baseline, to be conservative, we have capped any claimed benefits to the increase above that baseline. These benefits are therefore fully characterised as *avoidance of future cost increases*, rather than as a reduction in the existing cost base.
- The time saving from the reduced number of Contact Centre calls, including on-hold time etc, was also translated into a saving in time for the customer. This was costed using the average South Australian weekly earnings rate from the Australian Bureau of Statistics (ABS). (Note: this was NOT part of the Option 0 costs referred to above, as it does not represent a direct cost to the business.)

Other cost savings and efficiency gains

- Several other cost savings and efficiency gains were identified through discussion with business representatives. Estimates of the impact of the investment on these cost areas were made based on actual current costs being incurred, the knowledge and experience of our business and IT staff, and advice from external consultants, as appropriate. In all cases, the benefits were assumed to start from the year following completion of the investment. The benefits were also 'phased in' such that the full calculated annual benefit took time to be realised, where appropriate to do so. For example, as take-up and use of the new website and portals is projected to grow over time.
- A significant contributor to the benefits from this (and other) customer technology business cases is avoiding the future cost impact of 'Technical Debt'. Continuing to use and maintain old and out of date IT infrastructure and systems has significant implications for the future cost of not only that specific infrastructure, but of any maintenance and development activity in the IT environment. There is an increased cost overhead involved in the ongoing maintenance of compatibility and integration of these

old systems with any new developments, as well as with each other. This has been estimated, based on the level of dependency with key projects and systems in the IT portfolio. The benefit of avoiding this cost of technical debt has been phased in and apportioned between relevant projects, based on the estimated reusability of the capability delivered by each project.

[redacted]

Growth projections

- Wherever possible, when % growth projections were used in the modelling, these were derived from actual cost and volume trends, external data (eg, AEMO-projected electric vehicle take-up by customers) or future plans from the business (eg, increase in network asset maintenance). The advice of our external consultants and the experience of key business representatives were used to derive the likely future decreases in costs resulting from the investment. The growth factors used for this particular business case are summarised in Section 10.

Shared benefits

- Where an estimated cost avoidance/reduction was considered to result from the combination of more than one investment (eg, it required both the new website and consolidated portals), then the derived benefit was apportioned between the relevant projects according to their estimated contribution to achievement of those benefits.

10. The Reasonableness of input assumptions

The following growth/trend assumptions have been used in developing the costs and benefits for this project.

Table 16: Input assumptions

Assumption	Source	Impact
Growth in contact centre calls related to unplanned outages	Annualised compound growth of such calls from 2017 to 2022 based on actual call centre statistics and projected to continue.	Staff and customer time spent on calls to the contact centre
Growth in contact centre calls related to general enquiries and 'other' matters	Estimate by external consultants and business representatives	Staff and customer time spent on calls to the contact centre
Growth in website visitors (unique)	Annualised compound growth of such visits from 2017 to 2022 based on actual website statistics and projected to continue.	Increased traffic to various entry points via website and portals and expectations for customer experience to be consistent throughout.
Growth in written enquiries to the contact centre	Calculated straight line trend of actual enquiries received from Q1 2021/22 to Q3 2022/23.	Staff and customer time spent on writing and responding to written enquiries to the contact centre

These are considered the best available sources for each of the above assumptions and therefore represent a reasonable basis from which to calculate the cost increases that will be avoided under Options 1 and 2.

Other inputs to the benefit calculations are documented in Section 9, above, and in the Benefits Model.

11. Scenario and sensitivity analysis

The following scenarios were adopted or tested to analyse the sensitivity of key forecast inputs.

Table 17: Scenario testing

Scenario	Source	Test result
20% growth and decline in contact centre calls based on: • Increased work on the network and associated customer interaction rates • Unplanned outages based on severe weather events • Energy transition factors including customer energy resource adoption demanding higher and more complex engagement with customers.	Annual compound growth of such calls from 2017 to 2022 based on actual call center statistics and historic call volumes and lengths, with average handle times and hold times from the last 5 years (2017–2022). Projected increase in customer uptake of energy resources based on AEMO's 2022 Forecasting Assumptions Update. SA Power Networks historic call data for customer energy resource related enquiries.	The upper sensitivity scenario showed $18.8 million in quantified benefits and the lower sensitivity scenario yields $17.5 million in quantified benefits. The testing demonstrated that there isn't a significant impact to the benefits. The benefits remain significantly higher than the cost to execute the program under the recommended option.

The impact of replacing ageing network assets was factored into calculations, projecting the average annual increase of unplanned outage reporting, based on historical average of 2017–2022, that will cause an increased volume of calls to the Contact Centre. The customer portal consolidation will benefit customers and staff by saving both parties time from calls, as customers will have the ability to access services via one online entry point. Online outage reporting is one of the most used applications, and consolidation will particularly improve the time it takes to submit an online outage form. This reduced time of 2 minutes was extrapolated from statistics tracked by our Digital Channels team, with 79,280 customer outage reports per annum, and the current average time to submit being five minutes.

The variation in benefits outcome is noticeable due to opex avoidance in the Contact Centre and customer time saved being substantial benefit categories, given the time and effort to manage call volumes and meet service level agreements and regulatory obligations.

Electric vehicle (EV) adoption numbers used in benefits modelling are based on the AEMO's 2022 Forecasting Assumptions Update[36], where the Step Change scenario was adopted with 45% average yearly growth of the number of EVs between 2025 and 2035. The Slow Change scenario from AEMO was tested and yielded a slightly lower benefits outcome, with 41% average yearly growth of the number of EVs between 2025 and 2035. Consequently, in a Slow Change scenario, there would be a lesser volume of Contact Centre calls and subsequent customer time saved with service order enquiries relating to the installation of chargers and the connections process around EV ownership.

[36] 2022 Forecasting Assumptions Update

A. Appendix A – Cost models

Option 0:

Customer Technology Program estimate – No change.xlsm

Option 1:

Customer Technology Program estimate – Preferred.xlsm

Option 2:

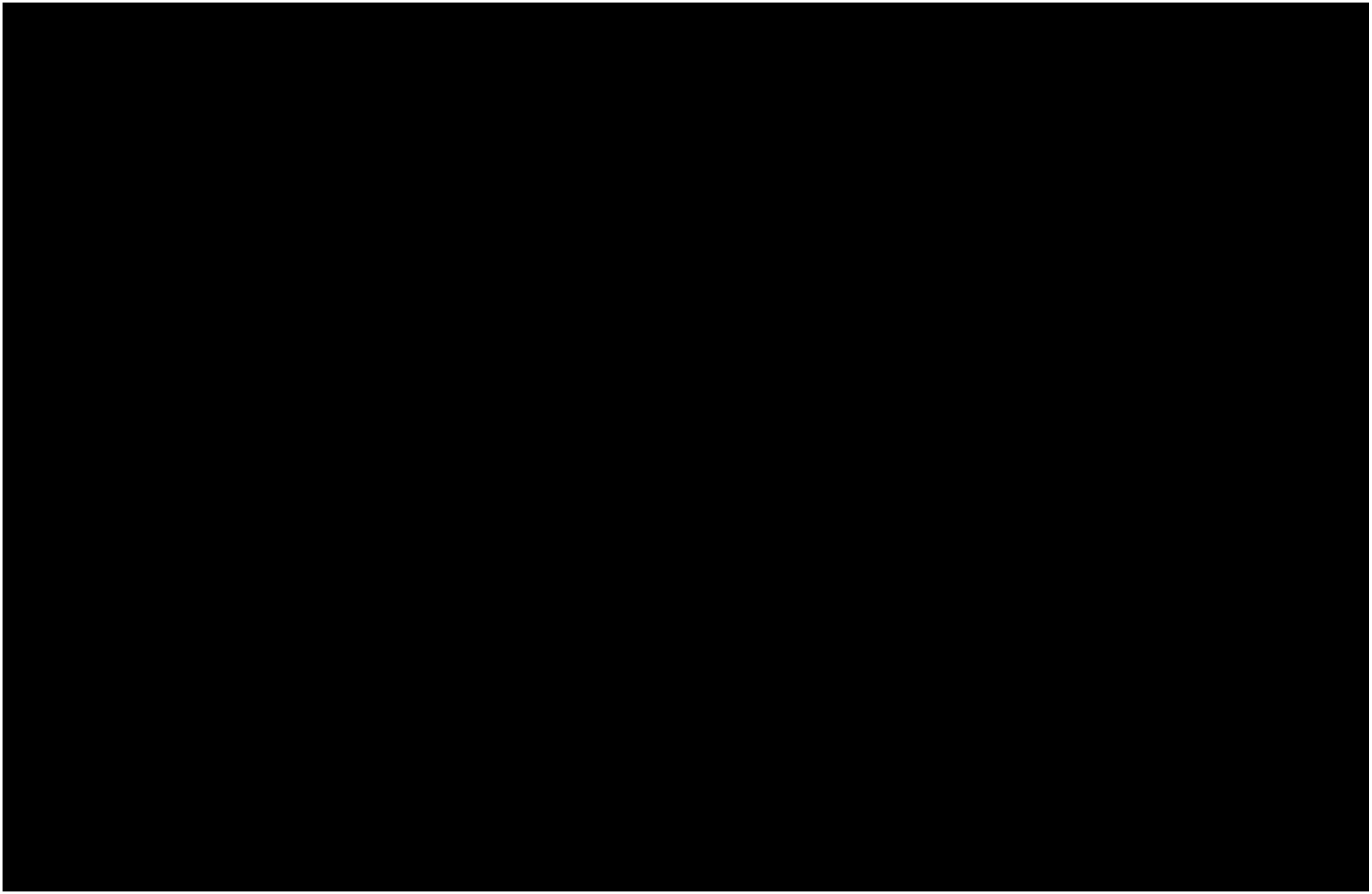
Customer Technology Program estimate – Non-Preferred.xlsm

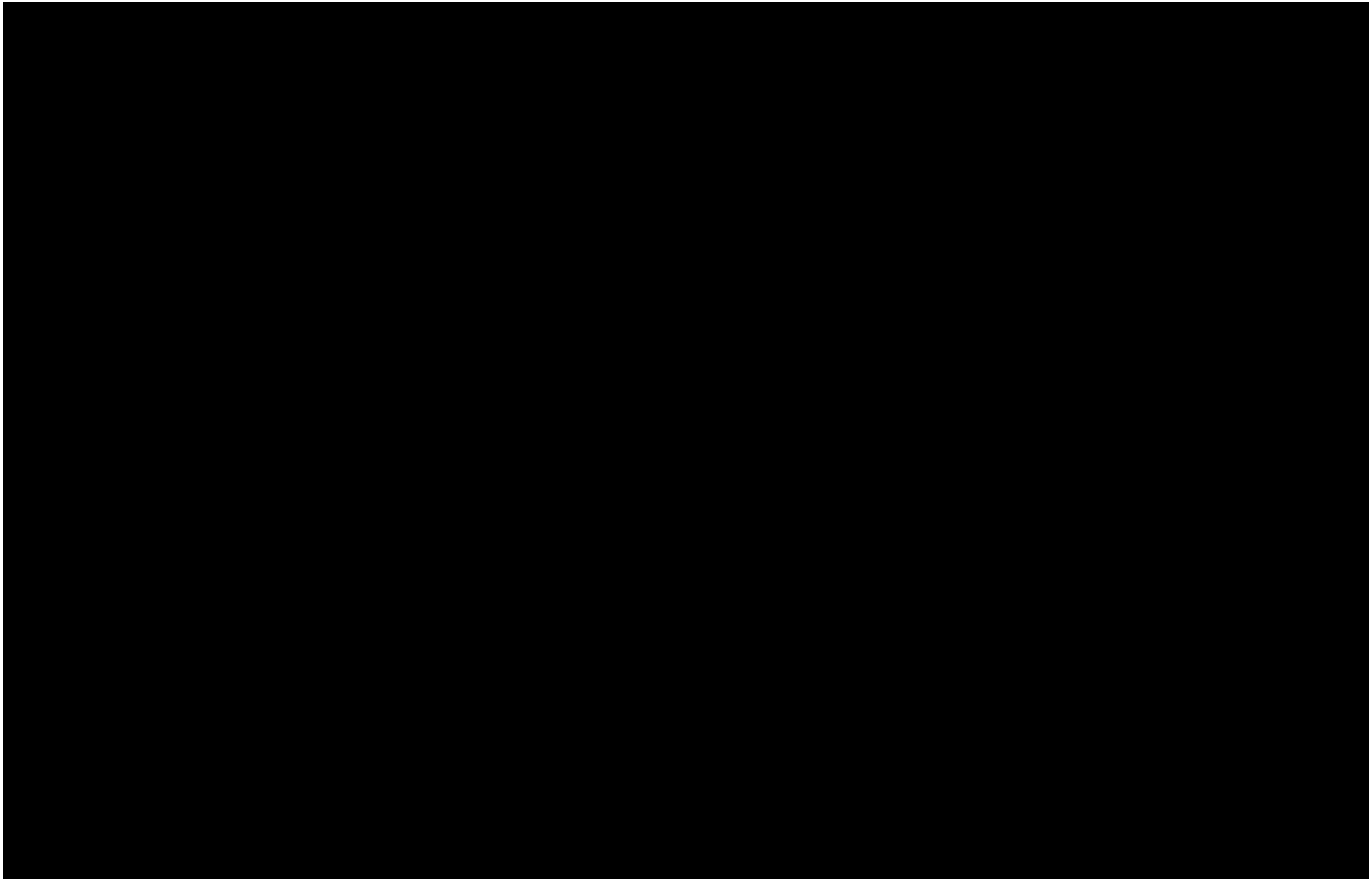
B. Appendix B - Base-year opex adjustment (preferred option)

Category	Project/Business Case	2025–26	2026–27	2027–28	2028–29	2029–30	Total 2025 – 30
Base-year adjustment: Accounting treatment change	Website Replacement	-	-	1.2	0.9	-	2.1
	Portal Consolidation (this business case)	**-**	**-**	**3.4**	**3.2**	**3.1**	**9.7**
	MDI Replacement	1.7	-	-	-	-	1.7
	CRM Replacement and Customer Data Consolidation	3.7	5.1	0.5	-	-	9.4
	Personalised on Demand Services	-	-	-	1.4	6.0	7.4
	Total base-year opex adjustment	**5.5**	**5.1**	**5.1**	**5.5**	**9.1**	**30.3**

Accounting treatment change

Topic	Detail
Background	Accounting rule clarification in early 2021 confirmed that the costs of configuring and customising application software in a cloud-computing or SaaS arrangement should not be capitalised, with the business no longer having control over the asset. The impact for the Portal Consolidation is switching from capex to opex as these products are more readily offered as SaaS solutions.
Request	A base-year opex adjustment of $9.7 million as a component of the overall Customer Technology Program adjustment of $30.3 million.





[redacted]

[38] For each option, the overall risk level is the highest of the individual risk levels.