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**PRELIMINARY BUSINESS CASE  
METER, MARKET AND CUSTOMER SYSTEMS CAPABILITY**

**FOR INFORMATION**

**Date Prepared:** 16 December 2022

**Recommendation**

That Essential Energy endorses this preliminary business case for investment in Meter, Market and Customer Systems capability.

As a preliminary business case, this paper analyses the drivers for investment and the options to address those drivers. It identifies the likely costs, benefits, risks and impacts of the proposed investment in order to inform organisational planning and forecasting.

Consistent with Essential Energy's investment governance processes, prior to proceeding with the proposed investment a detailed delivery business case will be developed and evaluated.

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### Executive Summary

This business case proposes investment in renewal or replacement of Essential Energy's Meter, Market and Customer systems and associated business processes, including:

- The in-house developed EDDiS Meter Data Management (MDM) system,
- The Hansen "PeacePlus" Customer Information System (CIS),
- The Hansen Market Interactions (MI) capabilities (including "Gatekeeper" and the Peace "Market Solution"), and
- The Energetiq "Network Billing Management" (NBM) solution.

It also proposes to further build on that core capability, with improvements in Customer Relationship Management (CRM) and Customer Online Portal (COP) capabilities.

As a Distribution Network Service Provider (DNSP) in the National Electricity Market (NEM), Essential Energy must continue to meet its market obligations, including the management of accurate customer connection data, meter data, networking billing and reconciliations.

In the current Regulatory Control Period (RCP) the company has undertaken prudent "life extension" technology upgrades to the existing Hansen MI and CIS platforms, as well as the in-house developed EDDiS MDM system. These technology upgrades have enabled compliance with the new 5 Minute Settlements & Customer Switching obligations, in parallel with delivery and integration of the new Oracle Cloud ERP Financial Management system.

While the technology upgrades have enabled market compliance throughout this RCP, the underpinning software remains heavily aged, with significant supportability risks in the medium term. It is therefore proposed to perform a generational replacement of these systems in the coming RCP, to ensure supportability and flexibility through the 2030s.

The existing systems have evolved progressively over their 20+ year lifespan in the company. While they have supported Essential Energy's market compliance to-date, much of the associated processing is overly manual, labour intensive and potentially error prone. The current systems operating model is therefore not suitable for ongoing use through the coming RCP given the introduction of the Sun Soaker two-way tariff, migration away from Type 6 metering, and increased retail market volatility.

Through 2021 and 2022, extensive customer and stakeholder consultation has also been undertaken to inform Essential Energy's Customer Strategy and Vision. Through this consultation, the need for improved CRM practices has been highlighted, including improvements in enquiry and case management, and provision of tailored online customer information.

The recommended option in this business case therefore aims to leverage the MDM, MI, CIS and NBM systems sustainability renewal, building on this new platform to enable the required CRM and COP improvements in customer service.

The proposed investment is required to address the following drivers:

- **Compliance and Risk:** Risk of non-compliance with Essential Energy's evolving and increasingly complex electricity market obligations.
- **Business Improvement:** Opportunity for improved customer services through introduction of CRM capability and an online customer portal.

This business case considers three options, contrasted with the counterfactual base case:

- **Base Case:**  
Continue to operate the existing systems, with minimal incremental investment.
- **Option 1: Integrated meter, market and customer system (Recommended)**  
Replace the existing MDM, MI, CIS and NBM capabilities with a modern integrated solution. Then leverage the new solution to also provide CRM and COP capability.
- **Option 2: Integrated meter and market system, with a separate customer system**  
Replace the existing MDM, MI, CIS and NBM capabilities with a modern integrated solution. Deploy separate CRM and COP capability.
- **Option 3: Separate market and customer systems, with redeveloped meter data system**  
Replace the existing MI, CIS and NBM platform with a modern solution. Rebuild the in-house MDM system. Deploy separate CRM and COP capability.

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Option 1 is recommended with investment beginning in FY25. Total project expenditure is [REDACTED]

This investment will support the customer and community through:

- Continued provision of reliable market interaction services, thereby avoiding potential customer service disruption;
- Flexibility to efficiently support the introduction of new tariff structures and market obligations; and
- Improved customer service through enhanced enquiries and case management, online customer interactions, and a single datastore for all customer data (i.e. no need to “tell us twice”).

### Program/Project Summary

Preliminary Business Case - Meter, Market and Customer Systems		
Investment Value	<b>Expenditure (Recommended Option)</b>	<b>\$M FY24 Real Terms<sup>1</sup></b>
	Seed funding (actual)	[REDACTED]
	This approval:	
	Project Capex - Market Systems, Meter Data and Network Billing	[REDACTED]
	Project Capex - CRM and Portal	[REDACTED]
	Project Opex - Market Systems, Meter Data and Network Billing	[REDACTED]
	Project Opex - CRM and Portal	[REDACTED]
	<b>Total program/project expenditure</b>	[REDACTED]
	Ongoing Opex p.a.	[REDACTED]
Benefits	<b>Financial Benefits p.a. (Recommended Option)</b>	<b>\$M FY24 Real Terms</b>
	Avoided hosting and support charges for existing legacy systems.	[REDACTED]
	-	[REDACTED]
	<b>Ongoing Benefit Value (p.a.)</b>	[REDACTED]
Corporate Strategy	<ul style="list-style-type: none"><li>• Network of the Future</li><li>• Resilience and Reliability</li><li>• Pricing</li><li>• Other Essential Services</li></ul>	
Business Drivers	<ul style="list-style-type: none"><li>• Compliance and Risk</li><li>• Business Improvement</li></ul>	
Date Needed	The Sun Soaker two-way tariff is being introduced progressively. By 1 July 2028 it is planned that existing smart meter customers will have Sun Soaker two-way charges applied to their default tariff. The Meter Systems, Meter Data and Network Billing investment must be completed prior to that transition.	

<sup>1</sup> All figures presented in this document are provided in middle of the year 2023/24 real dollar terms and represent whole-of-business values prior to application of the Cost Allocation Model (CAM).

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### 1. Business Drivers

As a DNSP (and LNSP) operating in the NEM, Essential Energy must continue to meet its market obligations, including:

- **Connection Point Management** – including new connections, additions and alterations (“adds & alts”), customer information management, life support management, site access details, outages/planned interruption letters;
- **Service Order Management** – including connects, disconnects, reconnects tariff change management, controlled load configurations;
- **Requests and Notifications** – B2B CATS and NEM Market Transactions including MPB, MDP, LNSP notifications;
- **Meter Data Management** – including meter route management, meter data upload/download, special reads, meter data exceptions management; and
- **Network Billing Management** – including billing calculation, retailer invoice generation, remittance management, reconciliation, exceptions and dispute management, ERP general ledger posting.

In the current RCP, Essential Energy has undertaken prudent “life extension” technology upgrades to the following core business systems:

- The Hansen **“PeacePlus”** CIS and **“Gatekeeper”** / **“Market Solution”** MI capabilities, operating together with the **Energetiq** NBM system; and
- The **“EDDiS”** in-house MDM system.

These “life extension” upgrades have included hardware (server) replacements, upgrades to Database Management System (DBMS) software, and VMWare vSphere virtualisation. These technology upgrades enabled compliance with the new 5 Minute Settlements and Customer Switching obligations, in parallel with delivery and integration with the new Oracle Cloud ERP Financial Management system. However, the core software operating on these renewed technology layers remains heavily aged and requiring replacement.

The Hansen PeacePlus product, currently operating on “version 9” of the software, is now outside of standard vendor support. An extended services agreement has been established with Hansen to provide continued hosting operation for PeacePlus version 9, potentially up to June 2027 if two one-year contract extensions are exercised. A software transition is needed prior to conclusion of that agreement.

The EDDiS MDM system is a custom-built application, dependent on the Microsoft Visual Basic 6 (VB6) software programming environment which is well out of Microsoft operational support, as well as the VB6 “runtime libraries” which now have limited Windows Server operating system support. It has also become difficult to retain access to experienced technical staffing, skilled in this ageing software environment.

It is therefore proposed to perform a generational replacement of these systems in the coming RCP, to ensure supportability and flexibility through the 2030s.

While the existing systems have supported Essential Energy’s market compliance to-date, much of the associated processing is overly manual, labour intensive and potentially error prone. The current system-set is therefore not suitable for ongoing use through the coming RCP given the introduction of the Sun Soaker two-way tariff, migration away from Type 6 metering and increased retail market volatility.

Extensive customer and stakeholder consultation has also been undertaken as part of developing Essential Energy’s Customer Strategy and Vision. Through this consultation, the need for improved customer service practices has been highlighted, including requirements for:

- A “single customer view” with a common datastore, avoiding the need for customers to “tell us twice”;
- Timely, proactive and tailored information on network service status, planned and unplanned outages, and estimated times of recovery (ETRs);
- Efficient contact, enquiry and issue management;
- Ability to interact through a choice of channels, including an online portal with mobile enablement; and
- The ability for large customers and other stakeholders (including councils) to define specific contacts for individual locations or divisions within their organisational structure.

The recommended option in this business case therefore aims to leverage the MDM, MI, CIS and NBM systems lifecycle replacement, building on this new platform to enable the required CRM and COP improvements in customer service.

### 1.1. Compliance Obligations

Through this investment, Essential Energy will ensure compliance with legislation, regulations, codes and standards as summarised below.

Instrument	Obligations	Investment relationship to obligation
<b>Obligations for MSATS CATS and NEM B2B transaction processing, as enabled through clause 7.17.4(g) of the NER and as defined through:</b> <ul style="list-style-type: none"> <li>“CATS Procedure Principles and Obligations”</li> <li>“AEMO MSATS CATS Procedure Principles and Obligations v4.91, October 2021”</li> <li>“AEMO Information Exchange Committee (IEC) B2B Guide v1.3 February 2019”</li> <li>“AEMO Retail Electricity Market Procedures – Glossary and Framework v2.1 December 2017”</li> </ul>	<p>MSATS CATS procedures include:</p> <ul style="list-style-type: none"> <li>Create and Maintain NMI transactions</li> <li>Change of Retailer transactions</li> <li>Change of Role transactions</li> <li>Metering transactions</li> </ul> <p>NEM B2B procedures include:</p> <ul style="list-style-type: none"> <li>Services Order transactions (incl. supply service, meter installations and moves, energise/de-energisation, special reads, etc)</li> <li>Customer and Site Details notifications (customer and life-support details, site access details etc)</li> <li>One Way Notifications (incl. planned interruption notifications etc)</li> <li>Meter Data Process transactions (incl. meter data provision etc)</li> </ul>	<p>The proposed investment will replace Essential Energy’s MDM, MI, CIS and NBM capabilities for long-term supportability, enabling compliance with all market obligations.</p>
<b>Additional DER rule changes:</b> <ul style="list-style-type: none"> <li>AEMC determination on the Integration of Distributed Energy Resources (12 August 2021)</li> </ul>	<p>Rule changes regarding:</p> <ul style="list-style-type: none"> <li>Two-way energy flows</li> <li>Export tariff safeguards and requirements</li> </ul>	<p>Support for Essential Energy’s Sun Soaker two-way tariff</p>

The proposed investment is aligned with the National Electricity Rules “capital expenditure objectives” (NER 6.5.7(a)) as described below<sup>2</sup>.

NER Capital Expenditure Objectives	Alignment
<b>6.5.7(a)(2)</b> <i>the forecast capital expenditure complies with all applicable regulatory obligations or requirements associated with the provision of standard control services</i>	<p>The proposed investment will ensure Essential Energy’s ability to maintain compliance with all market obligations, consistent with the market roles of a DNSP/LNSP.</p>
<b>6.5.7(a)(3)</b> <i>the forecast capital expenditure maintains the quality, reliability and security of supply of standard control services</i>	<p>Through effective and efficient market transaction management, Essential Energy will maintain secure and reliable supply of standard control services to our customers.</p>

The proposed investment addresses the NER “capital expenditure criteria” (NER 6.5.7(c)) as described below.

NER Capital Expenditure Criteria	Alignment
<b>6.5.7(c)(1)</b> <i>(i) the forecast capital expenditure reasonably reflects the efficient costs of achieving the capital expenditure objectives</i> <i>(ii) the forecast capital expenditure reasonably reflects the costs that a prudent operator would require to</i>	<p>Investment costs have been forecast with reasonable estimates derived from industry analysis, historical expenditure, and cost planning using standard labour rates.</p> <p>The costs have been further validated through consultation with industry peer businesses and advisors, regarding the costs of equivalent MDM, MI, CIS, NBM, CRM and COP implementation / upgrade projects.</p>

<sup>2</sup> Note that due to the International Financial Reporting Standards (IFRS) Interpretation Committee’s 2021 decision on the accounting treatment of cloud computing investments, expenditure associated with implementing or upgrading Software-as-a-Service (SaaS) systems must now be expensed (i.e. treated as Opex). As a result a material portion of this proposed investment is forecast as Opex, rather than Capex as would traditionally have been the case for equivalent ICT investments. The Capex objectives remain relevant however, given the requirement for prudence and efficiency of the full investment to provision and maintain standard control services.



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<i>achieve the capital expenditure objectives</i> <i>(iii) the forecast capital expenditure reasonably reflects a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objective</i>	Currently this document is a preliminary business case for investment planning purposes. Prior to investment, the costs will be further validated in preparation of the final business case, informed through formal market procurement processes.  Delivery cost efficiency is further assured through the use of as-a-service (aaS) solutions. Essential Energy is focussed on the use of as-a-service market provisioned solutions. This includes software-as-a-service (SaaS) public and private cloud software, platform-as-a-service (PaaS) hosted operating systems and databases, and infrastructure-as-a-service (IaaS) server hosting.
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### 1.2. Corporate Strategy Alignment

The table below describes how the proposed investment supports Essential Energy's business strategic themes.

Essential Energy strategic themes	Investment relationship to strategic themes
<b>Network of the Future</b> delivering the services customers want today and into the future	Modern MDM, MI, CIS and NBM capabilities will support the flexible introduction of new network tariff structures. Improved CRM and COP capabilities will also allow Essential Energy to better engage with customers about their use current and planned use of the network.
<b>Resilience and Reliability</b> shaping our investment decisions consistent with a prudent risk appetite	Replacement of the legacy systems with a modern solution, will mitigate high risks <sup>3</sup> to business continuity, ensuring resilience and reliability of Essential Energy's market processes through the 2030s.
<b>Pricing</b> fairness and affordability	The new solutions will support flexible tariff structures, focused on provision of affordable services for our customers.
<b>Other Essential Services</b> customer service and more	The proposed CRM and COP capabilities will enable improved customer service through enhanced enquiries and case management, online customer interactions, and a single datastore for all customer data (i.e. no need to "tell us twice").

### 1.3. Current State

The current state of Essential Energy's Market, Meter Data and Customer systems are as depicted in the following diagram.

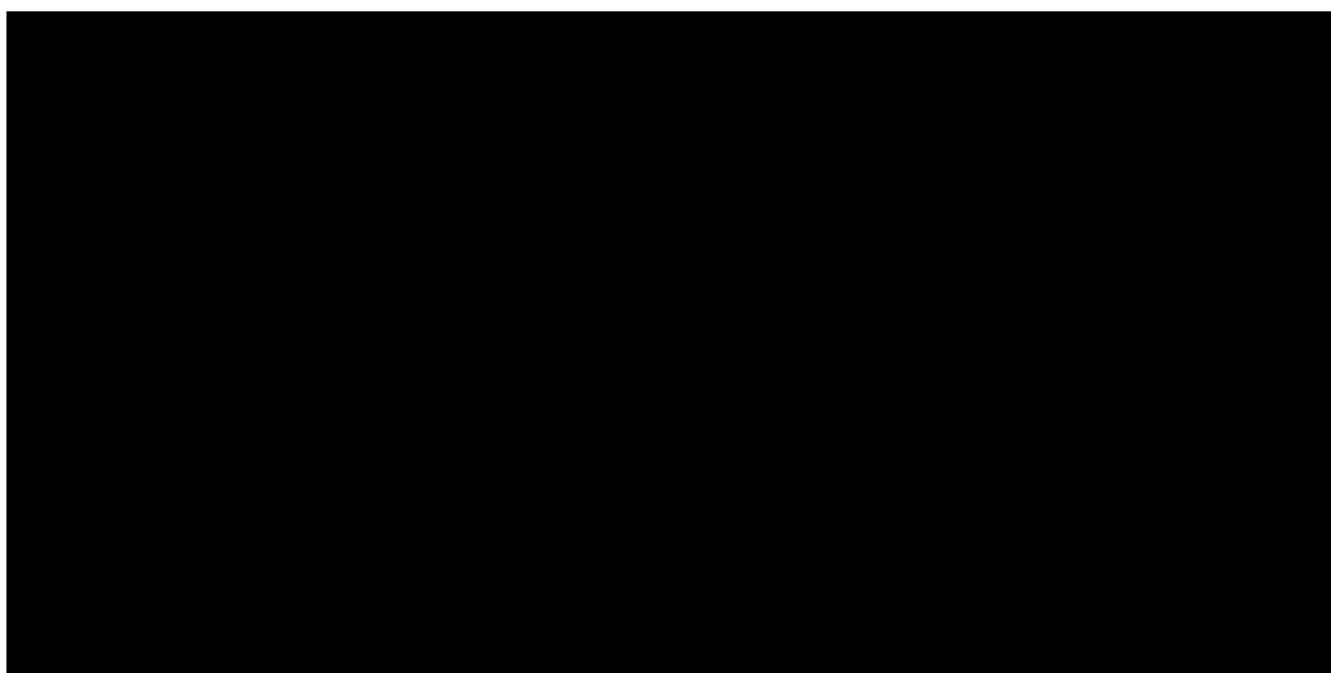


Figure 1: Current State – Key Systems

Essential Energy currently maintains market compliance through a combination of the following systems.

<sup>3</sup> See Inherent Risks, Section 1.6 (Page 16)

Hansen “PeacePlus9” CIS		In-Scope
Summary	<ul style="list-style-type: none"> <li>The Hansen Peace CIS was implemented in 2001 and is currently operating on version 9 of the product (known as PeacePlus9).</li> <li>PeacePlus9 (and EDDiS) serve as Essential Energy’s primary systems for managing market data and coordinating market transactions.</li> <li>In the current RCP, the product was updated with bespoke customisation to achieve mandatory compliance with the 5 Minute Settlements &amp; Customer Switching obligations.</li> <li>To prudently extend the operational service life of the product, in the current RCP the underlying technical platform and database for the system have been migrated to new Unix infrastructure hosted by the product vendor (Hansen).</li> <li>PeacePlus9 is a superseded legacy Hansen product, operating under a vendor extended support agreement through to June 2025, with extension options concluding in June 2027.</li> <li>A transition path to migrate from PeacePlus9 must therefore be finalised by the end of FY27.</li> </ul>	
Business Functions Supported	Connection Point Management	<ul style="list-style-type: none"> <li>Manage New Connections</li> <li>Manage Additions &amp; Alterations (“Adds &amp; Alts”)</li> <li>Manage Supply Abolishment</li> <li>Manage Customer Details*</li> <li>Manage Site Access Details</li> <li>Manage Life Support</li> <li>Manage Faults &amp; Emergencies</li> <li>Manage Connection Point Reference Data</li> <li>Manage Exceptions</li> <li>Manage Connection Point Updates</li> <li>Manage Network Tariff</li> <li>Manage Unmetered Supply</li> <li>Manage Planned Interruption</li> <li>Manage Master/Sub-Metering Configurations</li> <li>Manage Credit Control</li> <li>Manage Enquiries &amp; Complaints*</li> </ul> <p><i>* Indicates PeacePlus functionality currently providing limited CRM-type capability</i></p>
	Service Order Management	<ul style="list-style-type: none"> <li>Manage Supply Service Works</li> <li>Manage Metering Service Works</li> <li>Manage Miscellaneous Service Works</li> <li>Manage Disconnects and Reconnects</li> </ul>
	Requests & Notifications	<ul style="list-style-type: none"> <li>Manage CATS Change Request Notifications</li> <li>Manage CATS Change Request Objections</li> <li>Manage Notified Parties</li> </ul>
	Other	<ul style="list-style-type: none"> <li>Type 6 Meter Route Management</li> </ul>
Market Transactions Processed	CATS Transactions	<ul style="list-style-type: none"> <li>Change Retailer (FRMP)</li> <li>Create NMI</li> <li>Maintain NMI</li> <li>Maintain Metering [Installation]</li> <li>Maintain Datastream</li> <li>Update Tariffs for Type 6 Meters</li> <li>Change Roles (LNSP, MDP, MC, MPB, Retailer of Last Resort etc)</li> <li>Auto Change Roles</li> </ul>
	B2B Transactions	<ul style="list-style-type: none"> <li>Service Orders <ul style="list-style-type: none"> <li>- Allocate NMI</li> <li>- Abolish Supply</li> <li>- Tariff Change</li> </ul> </li> </ul>



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Other		<ul style="list-style-type: none"> <li>- Energise / De-energise</li> <li>- Install / Move / Exchange Meter</li> <li>• Install Controlled Load               <ul style="list-style-type: none"> <li>- Meter Investigation</li> <li>- Special Read (Check Read, Final Read, Other)</li> <li>- Adhoc Service Request</li> </ul> </li> <li>• Customer and Site Details Notifications               <ul style="list-style-type: none"> <li>- Customer and Life-Support Detail Request / Notification</li> <li>- Hazard Notifications</li> <li>- Site Access Request / Notification</li> </ul> </li> <li>• One Way Notifications               <ul style="list-style-type: none"> <li>- Notice of Metering Works</li> <li>- Meter Fault Notification</li> <li>- Planned Interruption Notification</li> <li>- Network Tariff Notification</li> <li>- Meter Exchange Notifications</li> <li>- Remote De-energisation and Re-energisation</li> </ul> </li> </ul>
	Essential Water	<ul style="list-style-type: none"> <li>• Customer Management</li> <li>• Meter Data Management</li> <li>• Billing</li> <li>• Credit Control</li> </ul>
	Night Vision (Security Lighting)	<ul style="list-style-type: none"> <li>• Billing</li> <li>• Credit Control</li> </ul>

“EDDiS” MDM System		In-Scope
Summary	<ul style="list-style-type: none"> <li>• The EDDiS MDM system was in-house developed by North Power / Country Energy (predecessors to Essential Energy) using the Microsoft Visual Basic 6 (VB6) programming environment.</li> <li>• In Essential Energy's roles as MDP and MPB, EDDiS works together with PeacePlus in the processing of market transactions, and serves as the meter data repository and management system.</li> <li>• EDDiS manages meter data read by Essential Energy (including Type 6 and Unmetered Supply Data). It also records all meter data acquired through the market from other MDPs, to facilitate Network Billing (via PeacePlus9 and the NBM system).</li> <li>• In the current RCP, the product was extended to achieve mandatory compliance with the 5 Minute Settlements &amp; Customer Switching obligations.</li> <li>• To prudently extend the operational service life of the application, hosting is now provided on virtualised Windows Server infrastructure, ensuring “runtime” support for the VB6 software into the coming RCP. However, the VB6 programming environment is now well outside of Microsoft support and it is becoming increasingly difficult to acquire skilled software developers experienced in the use of the ageing 1990's era VB6 coding language and libraries.</li> <li>• A transition path to migrate away from the VB6-based EDDiS MDM system must therefore be finalised by mid-way through the coming RCP.</li> </ul>	

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Business Functions Supported	Meter Data Management	<ul style="list-style-type: none"> <li>Acquire and Store Meter Reads (from Meter Reading Systems including iTron MV90 and MIMTR)</li> <li>Receive and Store Meter Reads (from the market)</li> <li>Process Meter Data</li> <li>Manage Missing Meter Data</li> <li>Publish Meter Data (provided to the market) - NEM13 for Type 6 and NEM12 for UMS and Manually Read Interval Meters (MRIMs)</li> <li>Manage Special Read Requests</li> <li>Manage Meter Data Compliance</li> <li>Manage and publish Next Scheduled Read Date</li> <li>Manage and publish Average Daily Load (ADL)</li> <li>Manage Meter Data Exceptions</li> <li>Manage Unauthorised Usage</li> <li>Manage Unmetered Profiles</li> <li>Manage Street Light Use of System (SLUOS)</li> <li>Aggregate and Calculate Meter Data for Type 7 and Non-Contestable Unmetered Load (NCONUML)</li> </ul>
	CATS Transactions	<ul style="list-style-type: none"> <li>Create Meter Standing Data</li> <li>Maintain Meter Standing Data</li> <li>Create Data Streams</li> <li>Maintain Data Streams</li> <li>Complete Data Requests for NMI transfer</li> <li>Object to CR transactions as MDP/MPB</li> <li>Accept all CATS CRs and update EDDiS</li> </ul>
	B2B Transactions	<ul style="list-style-type: none"> <li>One Way Notifications (partly co-processed together with PeacePlus9) <ul style="list-style-type: none"> <li>Notice of Metering Works</li> <li>Meter Fault Notification</li> <li>Network Tariff Notification</li> <li>Meter Exchange Notifications (exchange processing is largely manual)</li> </ul> </li> <li>Meter Data Process <ul style="list-style-type: none"> <li>Provide Meter Data</li> <li>Verify Meter Data</li> <li>Meter Data Notification</li> </ul> </li> </ul>

Energetiq NBM System		In-Scope
Summary	<ul style="list-style-type: none"> <li>The Energetiq NBM system (previously known as “Shine”) was first deployed by Essential Energy in the 2000s, to enable opening of full retail contestability in New South Wales (NSW). The product has been progressively updated to version 4.2 of the software.</li> <li>The product works together with the Hansen Peace CIS (now PeacePlus9) to generate network billing for Financially Responsible Market Participants (FRMPs) – i.e. primarily Retailers operating in the National Energy Market.</li> <li>The product also processes Remittances and manages Network Bill Payment Reconciliations.</li> <li>Given the highly customised interfacing between PeacePlus and the NBM, the CIS transition will necessitate revisiting the NBM system and integration for long term sustainability.</li> </ul>	

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<b>Business Functions Supported</b>	<b>Network Billing</b>	<ul style="list-style-type: none"> <li>• Manage Network Bills (for most FRMPs)</li> <li>• Manage Unmetered Supply Bills (excluding Nightvision and SLUOS)</li> <li>• Perform Payment Reconciliations</li> <li>• Manage Payment Remittances</li> <li>• Manage Revenue Exceptions</li> <li>• Manage Disputes</li> </ul>
<b>Market Transactions</b>	<b>N/A</b>	<i>NBM: Network billing and reconciliation operate peer-to-peer.</i>

<b>Hansen MI Capabilities (including “Gatekeeper” and the Peace “Market Solution”)</b>		<b>In-Scope</b>
<b>Summary</b>	<ul style="list-style-type: none"> <li>• The Hansen MI capabilities, including “Gatekeeper” and the Peace “Market Solution”, provide lifecycle transaction management, interfacing with the NEM.</li> <li>• The MI capabilities serve as a central point of coordination and recording for all transactions received from the market, all responses provided to market requests, and all data published to the market.</li> <li>• The software currently in use by Essential Energy is closely integrated with the companion Hansen PeacePlus9 system. A migration may therefore be required with the transition from PeacePlus9.</li> </ul>	

### 1.4. Existing Issues (Market Processing)

Several current and growing issues exist with use of the current systems and business processes in meeting our market and customer obligations.

#### System supportability and sustainability issues

As indicated in Section 1.3 (above), the core systems supporting our meter, market and customer business processes are heavily aged and due for lifecycle replacement based on established asset lifecycle management principles.

In the current RCP, prudent steps have been taken to extend the lifespan of the existing systems through until mid-way through the coming RCP. These actions have enabled Essential Energy to deliver on our obligation for compliance with the 5 Minute Settlements rule change, while also implementing the transformational migration to the Oracle Cloud ERP and EAM platforms.

However as described in Section 1.3 (Current State) and Section 1.6 (Inherent Risks), it is critical that transition from the existing meter, market and customer systems occurs no later than the conclusion of the PeacePlus9 extended support arrangement at the end of FY27.

#### Manual handling of tariff changes

The electricity market is continuing to change, with the trialling and introduction of new tariffs which better reflect consumers’ usage patterns and expectations regarding use of the electricity network and connected resources. Customers are increasingly taking up the opportunities brought by market competition, to select modern tariffs best suited to their individual circumstances.

This evolution of the market, and of consumer and retailer activity, is highly valuable to the community. However, our legacy systems were not designed to efficiently develop, trial and apply new tariffs in the manner which is now required.

New types of tariff include:

- Two-way energy charging (Sun Soaker);
- Time of Use (ToU), demand response and load control tariffs;
- Battery and other distributed energy resource (DER) tariffs;

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- Electric vehicle specific tariffs; and
- Other alternative tariffs.

Our existing systems have no ability to simulate or batch test the introduction of new tariff designs. Deployment and rollout of new tariffs at-scale is therefore highly labour intensive, with no batch load, or automated validation and roll-back facility. Each NMI which is subject to a tariff change must be updated through PeacePlus to MSATS manually for each affected register.

Changes in tariff charging parameters also require the manual updating of individual register configurations in PeacePlus and EDDiS, with each register representing a separate datastream provided to the market.

The existing systems also require mid-month tariff changes (and meter exchanges and FRMP changes) records to be split manually, and handled by the internal billing team. In the event that customers need to be “off boarded” from a tariff trial, the reversal process is also fully manual.

All of these manual activities are time consuming, inefficient, potentially error prone and are growing over time.

Where the processing of new tariffs requires software changes in the legacy systems, substantial regression and user testing of the systems is necessary to ensure the continued stable operation of our market processes.

The above issues and inefficiencies drive the requirement to complete the systems replacement and process improvement prior to large scale transition to the new Sun Soaker tariff, which will apply two-way charges to existing smart meter customers’ default tariff by 1 July 2028 (see Figure 2).

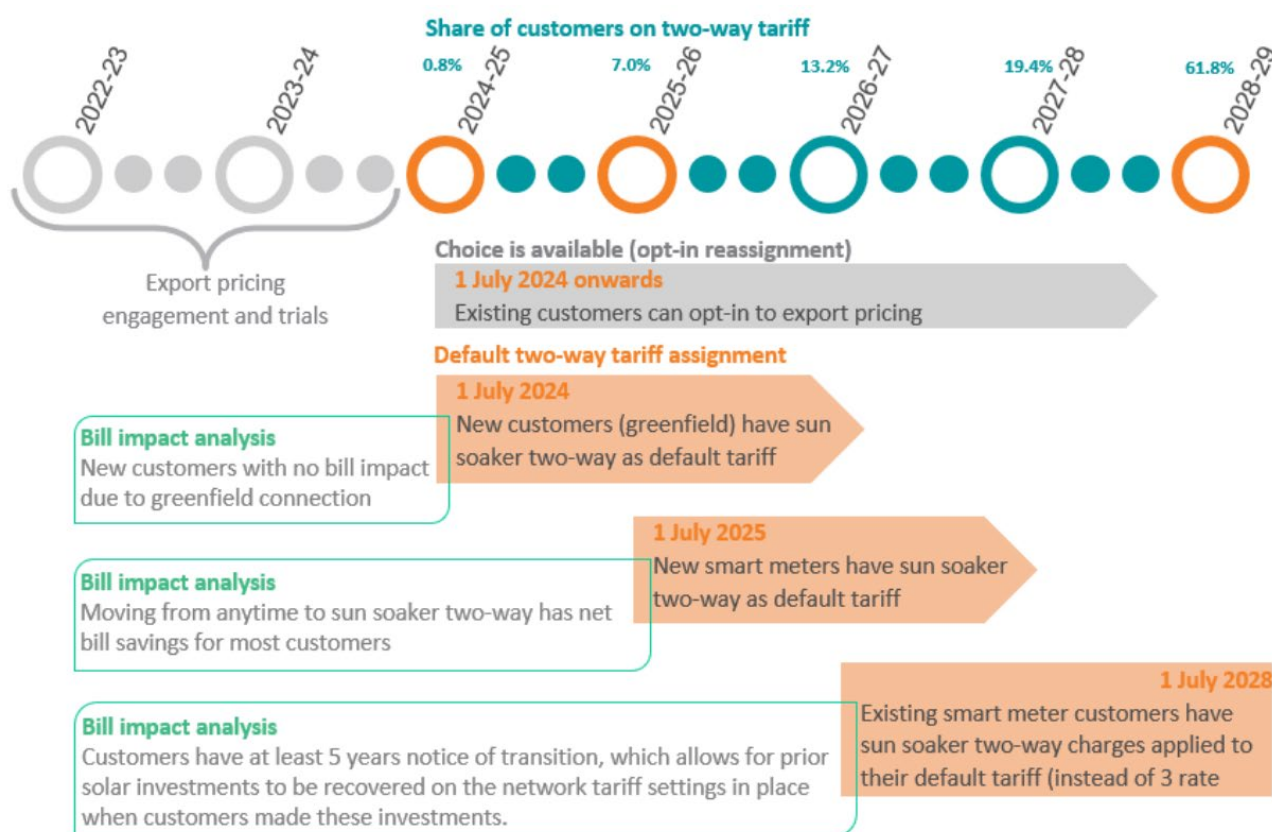


Figure 2: Sun Soaker Introduction Timing (as at October 2022)

### Market volatility and throughput issues

With our existing systems and practices, there are currently eight different billing processes to accommodate the following meter data sources:

- Basic Meters;



- Smart Meters;
- Logger Meters (C&I);
- Manually Read Advanced Meters;
- Streetlighting;
- Nightvision;
- Unmetered Supply; and
- Turtle Meters.

As the existing systems have been heavily customised over their 20+ year lifespan, the processes are inconsistent and highly dependent on operator knowledge, manual procedures and checklists. Limited consolidated reporting is available, and data verification checking is also largely manual.

Over time, the market is seeing greater mobility with customers switching retailers, leveraging the benefits of competition for retail energy supply. With these changes in retailer (FRMP), the exchange of Type 6 accumulation meters to interval based (smart) meters also continues to grow. In our existing systems, configuration of this exchange process is highly manual, as we move the customer from one meter data processing method to another.

### 1.5. Existing Issues (Customer Service)

Through 2021-2022, Essential Energy has undertaken a detailed process of customer engagement and consultation.

The consultation process was facilitated with our customers and business partners by Woolcott Research & Engagement, and resulted in a set of detailed Journey Maps describing the target state for customers' expected service scenarios.

The concepts were assessed through in-depth interviews and surveys with our customers and business partners, as well as a series of workshops involving Essential Energy staff.

The Customer Journey Mapping Project entailed workshops with staff as well as telephone surveys, online surveys and in-depth interviews with **22 customer personas** to understand the **current state customer experience** and define the **ideal future state** experience.

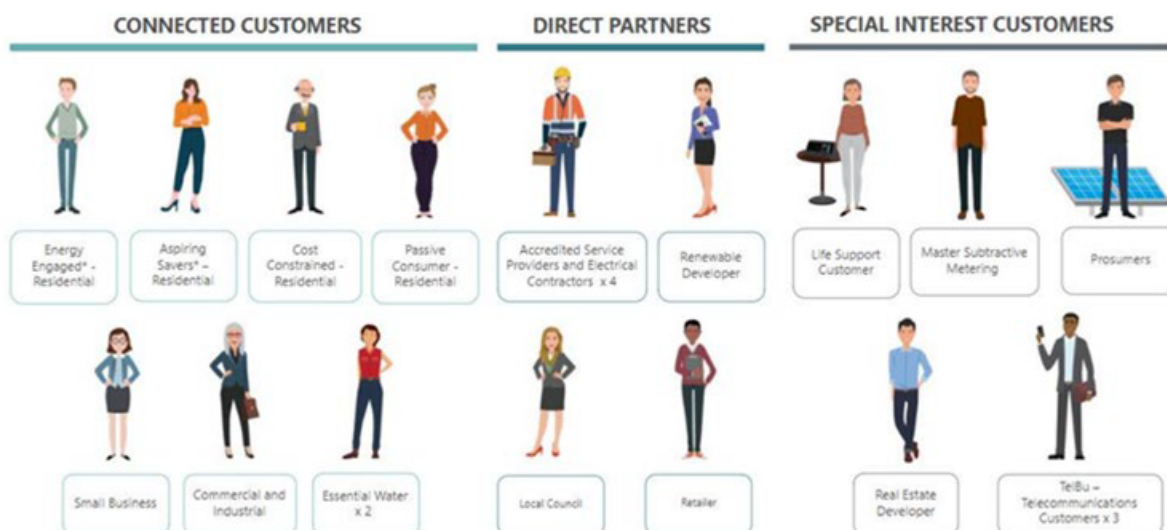


Figure 3: Customer engagement and consultation

The sections below summarise the identified **Key Customer Service Issues**, the **Customer Service Vision**, **Required Service Improvements** and the **Enabling Capabilities**.



### Key Customer Services Issues

The verbatim Key Issues identified through the consultation include the following:

#### > General Issues

- “Some C&Is are frustrated that they do not have a **direct contact** to call for information.”

#### > Outage Communications

- “Notifications are not always well directed, especially for customers such as **C&Is and councils with multiple sites**.”
- “Estimated Times of Recovery (**ETRs**) are not [always] available during most outages [through the customer’s channel of choice].”
- “Not receiving more **information about a lengthy outage** is a negative experience and may cause customers to feel powerless and/or frustrated.”

#### > New Connections Engagement

- “Customers who are installing a new connection often lack information [...] about the **status of their application**. They often do not have contextual information about the cause of delays”
- “Some customers and developers find it **hard to contact Essential Energy** if they have questions about new connections, as they are not registered as the end customer of the asset.”

#### > Meter and Meter Data Management Issues

- “Some customers only become aware of **access issues or meter faults** when they get the bill.”
- “Complaints from retailers, or escalated via a retailer, are often related to estimated reads or solar related issues. Lack of clarity about where responsibility lies can lead to ‘back and forth’, especially with regards to **metering issues** arising from solar installation.”
- “Many retailers find that **Essential Energy are too slow to respond**, which can lead to complaints/queries being further escalated by the customer.”
- “Many customers had experienced faulty meters and underwent a lengthy process with their retailer to challenge their retail bill and resolve their metering issue. **Contact from Essential Energy can come too late** in these cases.”
- “Often the **rectification step occurs over several visits**.”

### Customer Service Vision

The verbatim Future State Vision for customer engagement identified through the consultation process includes the following:

#### > General

- “Developers and [large] customers are assigned an **Account Manager**”
- “Customers have a more positive experience when making [an enquiry or] a complaint as **they do not need to repeat themselves**, receive a reference number and an indicative time to expect a reply.”
- “They may not [need to] speak to the same [Essential Energy] employee each time, however **Detailed Customer Files [Database]** ensure that staff are knowledgeable about the customer and their [enquiry or] complaint”.

#### > Outages

- “**ETRs** and updates are available **for most unplanned outages** [and customers can choose how to receive this information and when].”
- “The Outage App may **inform customers of an outage if they are not home**, which is particularly useful for SMEs and C&Is when outages occur outside business hours.”
- “Customers have access to **personalised outage information** via the Outage App. C&I customers also can access personalised information via the **Customer Information Portal**.”
- “The **Detailed Customer Database** for local councils ensures that relevant contacts are informed of upcoming outages for particular council sites.”

### > Meters and Meter Data Management

- “Retailers can use the process set out by the Customer Decision Tree, and/or the contacts provided in the Retailer Operations Contact List to refer customer **complaints/enquiries** to the right person at Essential Energy.”
- “Customers are **alerted to the upcoming process** to replace their meter. [They can also submit self-reads where this has been missed, to avoid estimated bills].”
- “If their meter develops a fault, **the customer knows who to contact.**”

### > New Connections

- “Customers and developers who use the New Connections Videos and/or FAQs have a **strong understanding of the new connections process**, including requirements, costs and timeframes.”
- “Renewable developers who use the **Renewable Capacity Map** can make more strategic site selections for new applications.”

## Required Service Improvements

Through the consultation process, a number of Required Service Improvements were identified to address the Key Issues and enable the Future State Vision, as summarised below.

### > Required Service Improvement 1: Account Managers (utilising CRM capability)

- Large (C&I) customers, local councils, business prosumers, real estate and renewable developers are assigned an account manager who acts as a single point of contact, and may proactively suggest opportunities to create mutual value, where relevant.
- The account manager is able to access a single view of the customer or stakeholder's dealings with Essential Energy through a “single source of truth” CRM facility.
- The CRM also tracks the customers and maintains lifecycle information for the customer's enquiries, applications, claims and complaints.
- Through better understanding of our customers' needs, we can support and enable growth in emerging technologies and energy requirements.

#### BENEFITS For customers

- Access to a regular, consistent contact who understands their organisation.
- Able to gain feedback in a timely manner.
- Increased customer satisfaction.
- Able to engage with Essential Energy at a strategic level – including opportunities for mutual value.

#### BENEFITS For Essential Energy

- Account managers can proactively suggest opportunities for mutual value.
- Makes Essential Energy more accountable for follow-up queries.
- Increased alignment with Corporate Strategy and Values, and Customer Experience Strategy.
- Improved reputation as a Distribution System Operator (DSO).

### > Required Service Improvement 2: Detailed Customer Files/Database (utilising CRM capability)

- A detailed customer database is developed for all customers, and updated when customers make enquiries, complaints or claims, or when a customer reports an issue (e.g. tree trimming complaint, meter reading access issue or request to reschedule planned outage).
- This database is available to Contact Centre staff, other internal stakeholders and contractors so that the issue can be avoided in the future.

### BENEFITS

#### For customers

- Interactions with field staff and customers can easily be recorded and added to customers' files, so their full interaction history is available to staff.
- Reduced need to repeat themselves when they follow up queries and complaints.
- Recurrent issues may be better addressed and avoided.
- Increased customer satisfaction.

### BENEFITS

#### For Essential Energy

- Increased information is available about the Essential Energy customer base.
- Follow-up interactions are quicker.
- Useful for stakeholder engagement, account management and Telecommunications customers.
- Repeat concerns can be addressed, where possible.
- Increased customer satisfaction.
- Alignment with Customer Experience Strategy.

### > Required Service Improvement 3: Detailed Council Database (utilising CRM capability)

- Councils provide Essential Energy with detailed information about each council asset, including the physical address, NMI(s), points of contact and preferred means of contact.
- This will include information about the impact of an unplanned outage as well as preferences for the scheduling of planned outages.
- This will also include information about key contacts for specific service areas (e.g. vegetation or streetlighting).

### BENEFITS

#### For customers

- Communication is directed to relevant staff within the council.
- Useful for Essential Energy to have an increased awareness of Council assets and activities.
- Useful for Essential Energy to know the relevant contact for specific tasks or service areas.

### BENEFITS

#### For Essential Energy

- Increased customer satisfaction for councils.
- Alignment with Customer Experience Strategy.
- Increased knowledge of local council activities may identify opportunities for alignment with the Corporate Strategy.

### > Required Service Improvement 4: Improved Enquiry and Complaint Handling (utilising CRM and COP capabilities)

- Customers who are making an enquiry or complaint submit a short form online or over the phone to collect all relevant information.

### BENEFITS

#### For customers

- Queries and complaints from customers are addressed in a timely manner.
- Customers receive an indicative timeframe in which to expect a response.
- Customers are provided a reference number to easily follow up their enquiry or complaint.

### BENEFITS

#### For Essential Energy

- All the relevant information is collected from the customer to address the query or complaint.
- Reduced need for follow up by the Contact Centre or relevant teams.
- Quicker resolution of queries and complaints.
- Increased customer satisfaction.
- Alignment with Customer Experience Strategy.

### > Required Service Improvement 5: ETR Updates and Outage App (utilising CRM and COP capabilities)

- Customers receive updates through an online app/portal or via text message when ETRs are available or changed for an ongoing outage.
- Customers receive the outage information through their preferred communication method.

### BENEFITS

#### For customers

- Customers are kept up to date about the status of an ongoing unplanned outage.
- Removes need to contact Essential Energy to obtain updates.
- ETR information allows customers to make informed decisions about how to respond to an ongoing outage.

### BENEFITS

#### For Essential Energy

- Reduces pressure on Contact Centre staff, as updates can be provided to customers through their channel of choice.
- Improved customer experience during an outage.
- Aligns with Corporate Strategy and values.

### > Required Service Improvement 6: Customer Information Portal (utilising CRM and COP capabilities)

- C&I customers have access to a password protected 'one stop shop' online portal which contains information about energy consumption, planned outages, current contact details and ongoing enquiries.

### BENEFITS

#### For customers

- Easily able to access relevant information in one place.
- Able to be accessed by multiple staff within a single business (particularly useful for those with a large geographic footprint).
- C&Is are able to easily see the status and additional information about an ongoing new connection application independent of their ASP.

### BENEFITS

#### For Essential Energy

- Aligns with Corporate Strategy and values.
- Easier process to communicate planned outage information to C&Is and minimise the incidence of missed notifications.
- Decreased reputational risk associated with new connections, as customers have access to information independent of their ASP.

### > Required Service Improvement 7: Renewable Capacity Map (utilising CRM and COP capabilities)

- Renewable developers and business prosumers have access to a user friendly and up to date interactive map that shows capacity on the network.
- Note: While this improvement will utilise the CRM and COP capabilities proposed in this business case, the cost to develop and publish the "renewable capacity map" (through the COP) are included within the separate "Network of the Future" business case.

### BENEFITS

#### For customers

- Customers have more visibility of capacity on the network.
- Customers can be more strategic in their approach to renewable developments and DER installations.
- The incidence of rejected applications associated with insufficient capacity in the area may be minimised for customers who use the capacity map.

### BENEFITS

#### For Essential Energy

- Improved customer experience.
- Fewer connections applications may need to be rejected as customers can be more strategic in their applications.
- Minimised reputation risk associated with rejected applications.
- Strongly aligns with Corporate Strategy.



### Enabling Capabilities


As described above, the service improvements consulted on with our customers, stakeholders and business partners are dependent on system functions not currently enabled by the limited CRM capabilities of our legacy CIS.

It is therefore proposed to leverage the required investment in Meter, Market and Customer systems renewal (including CIS renewal) to also provide the necessary CRM and COP capabilities identified above, including:

- A “single source of truth” for all customer and stakeholder data, including market standard data, enquiries, complaints and claims, application tracking, and electricity network services data (i.e. connection feeder asset data etc).
- Customer account management capabilities, enabling dedicated Essential Energy account managers to maintain records of customer and stakeholder contacts, and act as a central point of communication for large customer (C&I) and stakeholder dealings.
- The ability for large customers and other stakeholders (including councils) to define specific contacts for individual locations or divisions within their organisational structure.
- The ability for customers to choose their preferred mode of communications, particularly (but not limited to) communications regarding planned and unplanned outages and up-to-date ETRs.
- A secure, modern online portal (i.e. COP), where the customer can view all information held about them, as well the status of their network service, metering, enquiries, complaints, claims and applications.
- The COP should be accessible in the manner expected of a modern online service, including through the web and mobile (or app).
- The COP should (through the “Network of the Future” business case) provide a renewable capacity map relevant to the customer’s network connection, or the developer’s network area of interest.

### 1.6. Inherent Risks

The table below summarises the inherent risks requiring mitigation through this investment, with likelihoods forecast as at the end of the coming RCP (i.e. 30 June 2029) if no remedial actions are taken.

Inherent Risk	Likelihood	Consequence	Risk Rating	Risk Impacts
<b>Risk R1</b> <b>Market non-compliance risk</b> Failure of the MDM, MI, CIS or NBM systems, due to unsupportability of the software or underlying platforms, results in Essential Energy not meeting its market compliance obligations.	<b>Likely</b> Support options exist for the existing Hansen CIS and MI systems through to end-FY27. Thereafter there is high likelihood the systems become unsupportable, leading to operational failure prior to the end of the RCP. Similarly, the existing MDM VB6 platform will be well beyond supportability.	<b>Major</b> Customer service disruption through inability to process market transactions, including Service Order transactions, Customer and Site Detail Notifications, and Meter Data Processing. Also potential for non-compliance penalties and continuity risk for Essential Energy’s revenue base.	 <b>High</b>	Societal impacts through failure to process market transactions. Potential risk to life support customers. Costs of potential interim manual processing. Potential non-compliance penalties and corresponding reputational impacts. Potential revenue continuity impacts. Costs associated with then needing to urgently implement a remediated solution.



## PRELIMINARY BUSINESS CASE – Meter, Market and Customer Systems Capability




Inherent Risk	Likelihood	Consequence	Risk Rating	Risk Impacts
<b>Risk R2</b> <b>Cyber security risk</b> <p>Aged software platforms fall subject to a successful cyber security attack, resulting in breach of data privacy, or an inability to transact in the market.</p>	<b>Possible</b> <p>Possible the risk may occur within the coming RCP due to aged software versions falling out of vendor support and lacking further software patches.</p>	<b>Major</b> <p>Exposure of customer data, in breach of the Australian Privacy Act.</p> <p>Customer service disruption through inability to process market transactions.</p>	 <b>High</b>	<p>Societal impacts associated with exposure of sensitive customer data.</p> <p>Potential risk to life support customers.</p> <p>Societal impacts through failure to process market transactions.</p> <p>Costs of potential interim manual processing.</p> <p>Potential non-compliance penalties and corresponding reputational impacts.</p> <p>Costs associated with then needing to urgently implement a remediated solution.</p>
<b>Risk R3</b> <b>Inability to support new market obligations risk</b> <p>New market requirements cannot be built into the aged MDM, MI, CIS and NBM systems due to lack of vendor or platform support, or due to inflexibility of the legacy system designs.</p> <p>Also inability to introduce new market tariffs (including Sun Soaker) due to inefficiency of existing system processes.</p>	<b>Likely</b> <p>Support options exist for the existing Hansen CIS and MI systems through to end-FY27. At or before that time, there is high likelihood that further market changes cannot be applied to the solutions. Similarly, the MDM VB6 platform will be well beyond supportability, with high likelihood that changes cannot be applied.</p>	<b>Major</b> <p>Customer service disruption through inability to process market transactions in compliance with new or changed obligations.</p> <p>Potential for non-compliance penalties.</p> <p>Tariff changes (including Sun Soaker two-way charging) not rolled out to plan.</p>	 <b>High</b>	<p>Societal impacts through failure to process market transactions.</p> <p>Costs of potential interim manual processing.</p> <p>Potential non-compliance penalties and corresponding reputational impacts.</p> <p>Costs associated with then needing to urgently implement a remediated solution.</p>
<b>Risk R4</b> <b>Customer responsiveness risk</b> <p>Ineffective customer relationship management causes substantial customer dissatisfaction.</p>	<b>Likely</b> <p>Recent customer consultation and feedback has highlighted inadequacies in some aspects of our customer service processes and capability, due to lack of coordinated CRM and modern COP capabilities.</p> <p>It is therefore very likely that this escalates to a high level of dissatisfaction within the coming RCP.</p>	<b>Major</b> <p>Customer satisfaction with Essential Energy's services falls below expected standards, including through inadequacies in enquiry and case management and continued decentralisation of customer data.</p>	 <b>High</b>	<p>Societal impacts through inefficiency in interactions with Essential Energy.</p> <p>Reputational impacts to Essential Energy as a modern provider of customer services.</p> <p>Costs of potential interim manual processing.</p>

Table 1: Inherent Risks

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	<b>Almost Certain</b> > 5 times within a year	Low	Medium	High	Extreme	Extreme
	<b>Likely</b> 1-5 times within a year	Low	Medium	High	High R1 R3 R4	Extreme
	<b>Possible</b> Once within 1-3 years	Low	Medium	Medium	High R2	High
	<b>Unlikely</b> Once within 3-10 years	Low	Low	Medium	Medium	High
	<b>Rare</b> Once within 10-100 years	Low	Low	Low	Medium	Medium
	<b>Very Rare</b> < Once within 100 years	Low	Low	Low	Low	Low


 Inherent Risks R1 to R4, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework

Figure 4: Inherent Risks

## 2. Options Analysis

The following options have been considered to address the investment drivers.

Options Considered:	Assessment
<b>Base Case</b>	Continue to operate the existing systems, with minimal incremental investment.
<b>1. Integrated meter, market and customer system (Recommended)</b>	Replace the existing MDM, MI, CIS and NBM capabilities with a modern integrated solution. Then leverage the new solution to also provide CRM and COP capability.
<b>2. Integrated meter and market system, with a separate customer system</b>	Replace the existing MDM, MI, CIS and NBM capabilities with a modern integrated solution. Deploy separate CRM and COP capability.
<b>3. Separate market and customer systems, with redeveloped meter data system</b>	Replace the existing MI, CIS and NBM platform with a modern solution. Rebuild the in-house MDM system. Deploy separate CRM and COP capability.

Table 2: Business Case Options

### 2.1. Base Case: Continue to operate the existing systems, with minimal incremental investment

The base case represents a “counterfactual” assessment of Essential Energy’s likely expenditure if none of the proposed options proceed.

Without investment to replace or redevelop the existing MDM, MI, CIS and NBM systems, implications include the following.

#### System supportability and sustainability

##### PeacePlus CIS and Gatekeeper / Market Solution MI

- At the end of FY27, the vendor extended support agreement (and remaining further renewal options) for the PeacePlus CIS and MI expire.
- As the software is currently hosted by the software vendor, some other form of hosting arrangement would be required to enable further use – either through negotiation with the vendor, or through alternative hosting method.
- The software at that point would be effectively in a “change freeze” with limited ability to meet any further market obligation changes. As a result, there is a “High” risk of market non-compliance prior to the end of the FY25-FY29 RCP.
- The software would also likely receive no further software “patches” to address emerging cyber security threats.

##### EDDiS MDM

- The 1990s era Microsoft VB6 software programming environment is already well outside of vendor support.
- In the coming RCP, experienced skills will become harder to obtain, meaning it is increasingly more difficult to apply any change in order to meet changing market obligations.

#### Manual handling, tariff changes and market volatility

As indicated in section 1.4 (Existing Issues (Market Processing)), the existing handling of meter exchanges (Type 6 to interval), processing of some categories of meter data, and the introduction of new tariffs, are all highly manual and potentially error prone. Without renewal or replacement of the existing systems and processes there is a high likelihood that new market tariffs cannot be introduced (including Sun Soaker two-way charging) due to inefficiency of existing system processes

## Customer service

As indicated in section 1.5 (Existing Issues (Customer Service)), our customers and stakeholders have very reasonable expectations regarding the nature and quality of customer service that Essential Energy should provide, as a modern business. These expectations include requirements for:

- A “single customer view” with a common datastore, avoiding the need for customers to “tell us twice”;
- Efficient contact, enquiry and issue management;
- Ability to interact through a choice of channels, including an online customer portal with mobile enablement; and
- The ability for large customers and other stakeholders (including councils) to define specific contacts for individual locations or divisions within their organisational structure.

Without investment in the planned Customer Strategy improvements, including implementation of required CRM and COP capabilities, these customer service expectations will not be met.

### 2.1.1 Assumptions – Base Case Option

The following assumptions apply for this option:

- From end-FY27, a new hosting arrangement must be established for the legacy Hansen CIS and MI software. This new arrangement is assumed to be provided at a cost premium over the existing vendor-provided hosting arrangement, i.e., an incremental cost of approx. [REDACTED]
- A migration project to the new hosting arrangement will also be required, at an estimated cost of [REDACTED] (inclusive of planning, technical effort and regression testing to ensure market compliance).
- Due to the lack of replacement or redevelopment in the coming RCP, various forms of “off system” work-arounds are developed as interim measures. These may include development of macros, scripting, Excel spreadsheets and end-user databases (at an assumed cost of [REDACTED]). Plus, in order to partially address manual handling issues associated with meter exchange and market volatility, further market processing staffing will be employed (at an assumed cost of [REDACTED]).
- In this Base Case option, the legacy systems are not replaced or redeveloped in the coming RCP (FY25-29). However this does not allow the systems to operate indefinitely into the future. Therefore the renewal investment would instead be undertaken in the following RCP, with assumed costs equivalent to those in Option 1 (in real terms).

### 2.1.2 Residual Risks – Base Case Option

The table below summarises the risk position at the end of the coming RCP (FY29) in the event that the Base Case option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.6 (Page 18).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.6		Mitigated Risk for this Option i.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
<b>Risk R1</b> <b>Market non-compliance risk</b> Failure of the MDM, MI, CIS or NBM systems, due to unsupportability of the software or underlying platforms, results in Essential Energy not meeting its market compliance obligations.	● High	None	Likely	Major	● High
<b>Risk R2</b> <b>Cyber security risk</b> Aged software platforms fall subject to a successful cyber security attack, resulting in breach of data privacy, or an inability to transact in the market.	● High	None	Possible	Major	● High



## PRELIMINARY BUSINESS CASE – Meter, Market and Customer Systems Capability

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.6		Mitigated Risk for this Option i.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
<b>Risk R3</b> <b>Inability to support new market obligations risk</b> New market requirements cannot be built into the aged MDM, MI, CIS and NBM systems due to lack of vendor or platform support, or due to inflexibility of the legacy system designs. Also inability to introduce new market tariffs (including Sun Soaker) due to inefficiency of existing system processes.	● High	Partial work arounds which may include development of "off system" macros, scripting, spreadsheets and end-user databases  Plus further market processing staffing will be employed to address meter exchanges and market volatility.  However the residual risk remains high, including inability to introduce new market tariffs (including Sun Soaker)	Possible	Major	● High
<b>Risk R4</b> <b>Customer responsiveness risk</b> Ineffective customer relationship management causes substantial customer dissatisfaction.	● High	None	Likely	Major	● High

Table 3: Residual Risks - Base Case Option

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	<b>Almost Certain</b> > 5 times within a year	Low	Medium	High	Extreme	Extreme
	<b>Likely</b> 1-5 times within a year	Low	Medium	High	High R1 R3 R4	Extreme
	<b>Possible</b> Once within 1-3 years	Low	Medium	Medium	High R2 R3	High
	<b>Unlikely</b> Once within 3-10 years	Low	Low	Medium	Medium	High
	<b>Rare</b> Once within 10-100 years	Low	Low	Low	Medium	Medium
	<b>Very Rare</b> < Once within 100 years	Low	Low	Low	Low	Low

 Inherent Risks R1 to R4, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework


 Residual Risks R1 to R4 only shown if different to the Inherent Risk

Figure 5: Residual Risks - Base Case Option



### 2.2. Option 1: Integrated meter, market and customer system (Recommended)

Through this option, Essential Energy will replace the ageing MDM, MI, CIS and NBM systems with an integrated commercial solution for long term sustainability, business process efficiency and cyber security. The opportunity will also be taken to leverage the systems and process renewal to provide improved customer services, enabled through CRM and COP capabilities in alignment with customers' expectations for a modern business.

This option addresses all the business drivers identified in section 1, including as summarised below.

#### System supportability and sustainability

Transition from the existing PeacePlus CIS, EDDiS MDM, NBM and MI systems to an integrated replacement solution will complete prior to the end of the negotiated Hansen extended support agreement (which concludes at end-FY27, including remaining renewal options).

This transition therefore mitigates the risk of the core PeacePlus CIS falling outside of extended support. It similarly mitigates the risk of the in-house EDDiS Microsoft VB6 MDM system becoming unsupported. Through these mitigations, and corresponding investment in integrated NBM and MI capabilities, Essential Energy can continue to apply updates as necessary to meet the requirements for new market compliance changes and to address cyber security threats.

With close integration with Essential Energy's new Oracle Cloud ERP Financial Management system, further support efficiency can be achieved through streamlining our core system interfacing, including the General Ledger interface for Network Billing, Reconciliations and Remittances.

Following this investment, Essential Energy will have achieved generational renewal of its critical business systems (specifically including ERP, EAM, CIS, MDM, MI and NBM), enabling sustainable business operations through the 2030s.

#### Manual handling, tariff changes and market volatility

The new integrated solution will be selected and configured to minimise manual handling, and to thereby automate market transaction processing to the full extent feasible.

Improvements will specifically include:

- Automation of meter exchange processing and configuration;
- Standardisation of meter data collection processes and network billing;
- Ability to dynamically configure and trial new tariff models;
- Ability to bulk apply new tariff configurations to multiple meters, and to revert to previous configurations where necessary, including as required for introduction of Sun Soaker two-way charging; and
- Ability to handle alternative tariff models which cannot currently be processed through automated handling in the existing systems (e.g. combination demand tariffs with load control).

Through the removal of manual handling, Essential Energy will have the capacity to meet its market obligations on an ongoing basis, including in the event of rapid growth in meter exchanges and the introduction of the Sun Soaker tariff.

#### Customer service

This option will leverage the new integrated solution, building on the mandatory CIS capabilities required for market compliance to also provide higher order CRM and COP capabilities to address the service expectations of our customers and stakeholders, as identified in section 1.5 (Page 13).

These expectations include requirements for:

- A "single customer view" with a common datastore, avoiding the need for customers to "tell us twice";
- Efficient contact, enquiry and issue management;
- Ability to interact through a choice of channels, including an online customer portal with mobile enablement; and
- The ability for large customers and other stakeholders (including councils) to define specific contacts for individual locations or divisions within their organisational structure.

## PRELIMINARY BUSINESS CASE – Meter, Market and Customer Systems Capability

Leveraging the CIS replacement to also enable required CRM and COP capabilities de-risks the program, avoiding the need for complex integration or synchronisation of customer market data between the CIS and CRM. It also enables delivery efficiency through establishment and operation of a single integrated project governance function.

### 2.2.1 Assumptions – Option 1

The following assumptions apply for this option:

- The existing MDM, MI, CIS and NBM systems will continue operating with current business processes, until transition to the new solution in FY27. (Noting that the negotiated vendor extended support agreement for PeacePlus concludes end-Feb 27).
- The integrated replacement solution will be selected through a market evaluation and formal procurement process, to ensure prudent and efficient project delivery and operations.
- The initiative will be delivered as a coordinated project comprising two primary delivery stages with **Stage 1: Meter, Market and Network Billing** implemented by Dec 2026, and **Stage 2: CRM and Portal** implemented by Oct 2027.

Stage 1: Meter, Market and Network Billing (Start: Jul 2024, End: Dec 2026)				
Duration	Plan / Procure	6	Months	
	Design	4	Months	
	Construct / Test	16	Months	
	Deploy / Hypercare	4	Months	
	<b>Total</b>	<b>30</b>	<b>Months</b>	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	<b>Total</b>			
Support Costs	\$M FY24 Real Terms			Opex p.a.
	CIS, MDM & NBM SaaS fees			
	MI SaaS fees			
	Integration SaaS fees			
	<b>Total</b>			
Streams	Stream 1	Project Management, Procurement, E2E Design, Process Change & Training		
	Stream 2	CIS & Standing Data		
	Stream 3	MDM & Network Billing		

Stage 2: CRM and Portal (Start: Jan 2026, End: Oct 2027)				
Duration	Plan / Procure	3	Months	
	Design	4	Months	
	Construct / Test	12	Months	
	Deploy / Hypercare	3	Months	
	<b>Total</b>	<b>22</b>	<b>Months</b>	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	<b>Total</b>			

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Support Costs	\$M FY24 Real Terms		Opex p.a.
	CRM SaaS fees		
	COP SaaS fees		
	integration SaaS fees		
	Total		

Table 4: Assumptions – Option 1

### 2.2.2 Benefits – Option 1



The table below summarises the benefits enabled through selection of this option. Financial benefits are provided as the “ongoing per annum (p.a.)” amounts which will be achieved following implementation of the investment.

Benefit	Type and Value
Avoided hosting and support charges for existing legacy CIS, MI and NBM systems	<b>Tangible Cost Reduction</b> (FY24 Real)
Avoided manual processing of meter exchanges (Type 6 to Interval)	<b>Contributor to Productivity Improvement Target</b>
Avoided manual configuration of new tariffs	<b>Contributor to Productivity Improvement Target</b>
Reduced support effort for the legacy MDM system.	<b>Contributor to Productivity Improvement Target</b>
Ability to enable higher levels of market volatility, including through the introduction of new tariffs, through elevated rates of retailer churn and meter exchange – as described in section 1.4 (see page 11)	<b>Non-Financial</b>
Improved customer service, consistent with the identified expectations of our customers and stakeholders. See section 1.5 (from page 13) for a summary of the extensive customer consultation undertaken with the facilitation of Woolcott Research & Engagement.	<b>Non-Financial</b>
Risk mitigation benefits (see section 2.2.3 below)	<b>Non-Financial</b>

Table 5: Benefits – Option 1

### 2.2.3 Residual Risks – Option 1

The table below summarises the risk position at the end of the coming RCP (FY29) in the event that this option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.6 (Page 18).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.6		Mitigated Risk for this Option i.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
<b>Risk R1</b> <b>Market non-compliance risk</b> Failure of the MDM, MI, CIS or NBM systems, due to unsupportability of the software or underlying platforms, results in Essential Energy not meeting its market compliance obligations.	 <b>High</b>	Through the lifecycle replacement of the legacy systems, the new platform(s) will be fully supported through the 2030s, making the likelihood “rare”. In the event of a supportability issue, the consequence is also reduced to “moderate” as a pro-active vendor support arrangement will be in-place to address the issue.	<b>Rare</b>	<b>Moderate</b>	 <b>Low</b>








<b>Risk R2</b> <b>Cyber security risk</b> Aged software platforms fall subject to a successful cyber security attack, resulting in breach of data privacy, or an inability to transact in the market.	 <b>High</b>	<p>Through the lifecycle replacement of the legacy systems, the new platform(s) will be fully supported through the 2030s, making the likelihood “rare”.</p> <p>In the event of a cyber security issue, the consequence is also reduced to “moderate” as a pro-active vendor support arrangement will be in-place to address the issue.</p>	<b>Rare</b>	<b>Moderate</b>	 <b>Low</b>
<b>Risk R3</b> <b>Inability to support new market obligations risk</b> New market requirements cannot be built into the aged MDM, MI, CIS and NBM systems due to lack of vendor or platform support, or due to inflexibility of the legacy system designs. Also inability to introduce new market tariffs (including Sun Soaker) due to inefficiency of existing system processes.	 <b>High</b>	<p>The new integrated solution and business processes will provide the flexibility to support market changes and new obligations. The solution will also markedly reduce the reliance on manual handling.</p> <p>Through these improvements, Essential Energy can be confident in the ability to support new market obligations through the 2030s, including full introduction of Sun Soaker two-way charging by 1 July 2028.</p> <p>In the event that a new obligation cannot be directly handled through the new solution, the consequence is reduced as a pro-active vendor support arrangement will be in-place to address the issue.</p>	<b>Rare</b>	<b>Moderate</b>	 <b>Low</b>
<b>Risk R4</b> <b>Customer responsiveness risk</b> Ineffective customer relationship management causes substantial customer dissatisfaction.	 <b>High</b>	<p>Extensive consultation has been undertaken with our customers and stakeholders to identify the improvements required in our service (see section 1.5, page 13).</p> <p>Through the investments in CRM and COP capabilities proposed in this option, Essential Energy will make the necessary process and organisational changes required to address the service expectations of our customers and partners.</p>	<b>Rare</b>	<b>Moderate</b>	 <b>Low</b>

Table 6: Residual Risks – Option 1

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		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	<b>Almost Certain</b> > 5 times within a year	Low	Medium	High	Extreme	Extreme
	<b>Likely</b> 1-5 times within a year	Low	Medium	High	High R1 R3 R4	Extreme
	<b>Possible</b> Once within 1-3 years	Low	Medium	Medium	High R2	High
	<b>Unlikely</b> Once within 3-10 years	Low	Low	Medium	Medium	High
	<b>Rare</b> Once within 10-100 years	Low	Low	Low R1 R3 R2 R4	Medium	Medium
	<b>Very Rare</b> < Once within 100 years	Low	Low	Low	Low	Low



 **Inherent Risks R1 to R4, with likelihoods forecast as at the end of the coming RCP**  
mapped to the Essential Energy Risk Framework

 **Residual Risks R1 to R4**  
only shown if different to the Inherent Risk

Figure 6: Residual Risks – Option 1

### 2.2.4 Project Delivery Risks – Option 1

The table below summarises the project delivery risks associated with implementation of this option.

Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<b>Project Risk 1</b> <b>Project Delivery Complexity</b> Projects involving interaction with the NEM are inherently complex, with strict market requirements, multiple data sources and types, and extensive testing requirements. Billing system projects are also well known for their complexity and delivery risk, with the need for high accuracy, traceability and auditability.	 <b>High</b>	Essential Energy will undertake structured, formal procurement process to select and acquire systems capability and external delivery services experienced in Australian NEM system and process implementations. In the current RCP, Essential Energy has also established strong program delivery governance and management practices which have successfully guided delivery of the Oracle ERP and EAM program. This same governance and delivery experience will be leveraged to mitigate the delivery risks associated with Meter, Market and Customer Systems implementation. The risks are further mitigated through leveraging the selected CIS capability to also deliver the requirements for CRM and COP, thereby minimising program dependencies, systems integration and data synchronisation.	 <b>Medium</b>



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<p><b>Project Risk 2</b> <b>NEM Changes During Project Delivery</b></p> <p>Market changes are likely to occur in the course of delivering the project. These changes may impact the solution design, configuration or delivery timeline.</p>	<p>● <b>High</b></p>	<p>The project will be planned with consciousness of likely market changes and the need to assess and apply changes at key checkpoints within the project lifecycle.</p>	<p>● <b>Medium</b></p>
<p><b>Project Risk 3</b> <b>Skills Availability</b></p> <p>The project will require a highly skilled delivery team, with knowledge and experience of NEM processes, the selected software platform(s), legacy systems and Essential Energy's existing processes.</p> <p>Internal expertise will be limited in capacity, while external skills are reliant on market availability.</p>	<p>● <b>High</b></p>	<p>The project will be strictly planned, scheduled and governed, consistent with the Enterprise Program Management Office (EPMO) practices which have matured through delivery of the ERP and EAM projects in the current RCP.</p> <p>Program and project plans will be scheduled to identify and minimise scarce resourcing conflicts.</p> <p>Selection and procurement of the target solution will occur together (or in coordination) with the acquisition of external skills, experience and capacity, thereby ensuring that the necessary resourcing is available for the chosen product(s), platform(s) and delivery method.</p>	<p>● <b>Medium</b></p>

Table 7: Project Risks - Option 1

### 2.3. Option 2: Integrated meter and market system, with a separate customer system

As with Option 1, Essential Energy will replace the ageing MDM, MI, CIS and NBM systems with an integrated commercial solution for long term sustainability, business process efficiency and cyber security.

However unlike Option 1, this option will separately acquire and deploy new CRM and COP capabilities, to address our customers' expectations for modern customer service. The CRM and COP solution must therefore be separately integrated and synchronised with the new CIS.

This option addresses all the business drivers identified in section 1, including as summarised below.

#### System supportability and sustainability

System supportability and sustainability will be achieved as similarly described for Option 1.

#### Manual handling, tariff changes and market volatility

Issues associated with manual handling, tariff changes and market volatility will be addressed as similarly described for Option 1.

#### Customer service

This option will address the service expectations of our customers and stakeholders, as similarly described for Option 1.

However unlike Option 1, this option does not de-risk the program delivery by leveraging the CIS replacement to also enable required CRM and COP capabilities. It therefore has a greater requirement for complex system integration and/or synchronisation of customer market data between the CIS and CRM.

#### 2.3.1 Assumptions – Option 2

The following assumptions apply for this option:

- The existing MDM, MI, CIS and NBM systems will continue operating with current business processes, until transition to the new solution in FY27. (Noting that the negotiated vendor extended support agreement for PeacePlus concludes end-Feb 27).
- The integrated MDM, MI, CIS and NBM solution will be selected through a market evaluation and formal procurement process.
- The CRM and COP solution will be selected through another market evaluation and formal procurement process.
- The initiative will be delivered as two separate related projects with **Project 1: Meter, Market and Network Billing** implemented by Dec 2026, and **Project 2: CRM and Portal** implemented by May 2028.

Project 1: Meter, Market and Network Billing (Start: Jul 2024, End: Dec 2026)				
Delivery and cost assumptions are as per <b>Option 1 - Stage 1</b> . I.e.:				
Duration	Plan / Procure	6	Months	
	Design	4	Months	
	Construct / Test	16	Months	
	Deploy / Hypercare	4	Months	
	<b>Total</b>	<b>30</b>	<b>Months</b>	
Project Expenditure	<b>\$M FY24 Real Terms</b>	<b>Capex</b>	<b>Opex</b>	<b>Totex</b>
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	<b>Total</b>			

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Support Costs	\$M FY24 Real Terms		Opex p.a.	
	CIS, MDM & NBM SaaS fees			
	MI SaaS fees			
	integration SaaS fees			
	Total			
Streams	Stream 1	Project Management, Procurement, E2E Design, Process Change & Training		
	Stream 2	CIS & Standing Data		
	Stream 3	MDM & Network Billing		

**Project 2: CRM and Portal (Start: Jan 2026, End: May 2028)**

Delivery and cost assumptions are based on **Option 1 - Stage 2**, but with longer durations and effort for Plan/Procure (due to procurement of a separate CRM and Portal product) and Construct/Test (due to the need for further complex integration and/or data synchronisation). I.e.:

Duration	Plan / Procure	6	Months	
	Design	4	Months	
	Construct / Test	16	Months	
	Deploy / Hypercare	3	Months	
	Total	29	Months	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	Total			
Support Costs	\$M FY24 Real Terms		Opex p.a.	
	CRM SaaS fees			
	COP SaaS fees			
	integration SaaS fees			
	Total			

Table 8: Assumptions – Option 2

### 2.3.2 Benefits – Option 2

The table below summarises the benefits enabled through selection of this option. Financial benefits are provided as the “ongoing per annum (p.a.)” amounts which will be achieved following implementation of the investment.

Benefit	Type and Value
Avoided hosting and support charges for existing legacy CIS, MI and NBM systems	<b>Tangible Cost Reduction</b> (FY24 Real)
Avoided manual processing of meter exchanges (Type 6 to Interval)	<b>Contributor to Productivity Improvement Target</b>
Avoided manual configuration of new tariffs	<b>Contributor to Productivity Improvement Target</b>
Reduced support effort for the legacy MDM system	<b>Contributor to Productivity Improvement Target</b>
Ability to enable higher levels of market volatility, including through the introduction of new tariffs, through elevated rates of retailer churn and meter exchange – as described in section 1.4 (see page 11)	<b>Non-Financial</b>

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Improved customer service, consistent with the identified expectations of our customers and stakeholders. See section 1.5 (from page 13) for a summary of the extensive customer consultation undertaken with the facilitation of Woolcott Research & Engagement.	<b>Non-Financial</b>
Risk mitigation benefits (see section 2.3.3 below)	<b>Non-Financial</b>

Table 9: Benefits – Option 2

### 2.3.3 Residual Risks – Option 2

The table below summarises the risk position at the end of the coming RCP (FY29) in the event that this option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.6 (Page 18).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.6		Mitigated Risk for this Option i.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
<b>Risk R1</b> <b>Market non-compliance risk</b> Failure of the MDM, MI, CIS or NBM systems, due to unsupportability of the software or underlying platforms, results in Essential Energy not meeting its market compliance obligations.	● High	Through the lifecycle replacement of the legacy systems, the new platform(s) will be fully supported through the 2030s, making the likelihood "rare". In the event of a supportability issue, the consequence is also reduced to "moderate" as a pro-active vendor support arrangement will be in-place to address the issue.	Rare	Moderate	● Low
<b>Risk R2</b> <b>Cyber security risk</b> Aged software platforms fall subject to a successful cyber security attack, resulting in breach of data privacy, or an inability to transact in the market.	● High	Through the lifecycle replacement of the legacy systems, the new platforms will be fully supported through the 2030s, making the likelihood "rare". In the event of a cyber security issue, the consequence is also reduced to "moderate" as pro-active vendor support arrangements will be in-place to address the issue.	Rare	Moderate	● Low
<b>Risk R3</b> <b>Inability to support new market obligations risk</b> New market requirements cannot be built into the aged MDM, MI, CIS and NBM systems due to lack of vendor or platform support, or due to inflexibility of the legacy system designs. Also inability to introduce new market tariffs (including Sun Soaker) due to inefficiency of existing system processes.	● High	The new solution and business processes will provide the flexibility to support market changes and new obligations. The solution will also markedly reduce the reliance on manual handling.  Through these improvements, Essential Energy can be confident in the ability to support new market obligations through the 2030s, including full introduction of Sun Soaker two-way charging by 1 July 2028.  In the event that a new obligation cannot be directly handled through the new solution, the consequence is reduced as a pro-active vendor support arrangement will be in-place to address the issue.	Rare	Moderate	● Low
<b>Risk R4</b> <b>Customer responsiveness risk</b> Ineffective customer relationship management causes substantial	● High	Extensive consultation has been undertaken with our customers and stakeholders to identify the improvements required in our service (see section 1.5, page 13). Through the investments in CRM	Rare	Moderate	● Low



## PRELIMINARY BUSINESS CASE – Meter, Market and Customer Systems Capability

customer dissatisfaction.		and COP capabilities proposed in this option, Essential Energy will make the necessary process and organisational changes required to address the service expectations of our customers and partners.			
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Table 10: Residual Risks – Option 2

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain > 5 times within a year	Low	Medium	High	Extreme	Extreme
	Likely 1-5 times within a year	Low	Medium	High	High R1 R3 R4	Extreme
	Possible Once within 1-3 years	Low	Medium	Medium	High R2	High
	Unlikely Once within 3-10 years	Low	Low	Medium	Medium	High
	Rare Once within 10-100 years	Low	Low	Low R1 R3 R2 R4	Medium	Medium
	Very Rare < Once within 100 years	Low	Low	Low	Low	Low

 Inherent Risks R1 to R4, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework




 Residual Risks R1 to R4 only shown if different to the Inherent Risk

Figure 7: Residual Risks – Option 2

### 2.3.4 Project Delivery Risks – Option 2

The table below summarises the project delivery risks associated with implementation of this option.

Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<b>Project Risk 1</b> <b>Project Delivery Complexity</b> Projects involving interaction with the NEM are inherently complex, with strict market requirements, multiple data sources and types, and extensive testing requirements. Billing system projects are also well known for their complexity and delivery risk, with the need for high accuracy, traceability and auditability. The inherent (and residual) risks for Option 2 are higher than	 <b>Extreme</b>	Essential Energy will undertake structured, formal procurement process to select and acquire systems capability and external delivery services experienced in the Australian NEM implementations. In the current RCP, Essential Energy has also established strong program delivery governance and management practices which have successfully guided delivery of the Oracle ERP and EAM program. This same governance and delivery experience will be leveraged to mitigate the delivery risks	 <b>High</b>

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Option 1, through the implementation of separate CIS and CRM solutions requiring complex integration and/or data synchronisation.		associated with Meter, Market and Customer Systems implementation.  Unlike Option 1 however, risks are not mitigated through leveraging the selected CIS capability to also deliver on the requirements for CRM and COP.	
<b>Project Risk 2 NEM Changes During Project Delivery</b>  Market changes are likely to occur in the course of delivering the project. These changes may impact the solution design, configuration or delivery timeline.	● High	The project will be planned with consciousness of likely market changes and the need to assess and apply changes at key checkpoints within the project lifecycle.	● Medium
<b>Project Risk 3 Skills Availability</b>  The project will require a highly skilled delivery team, with knowledge and experience of NEM processes, the selected software platforms, legacy systems and Essential Energy's existing processes.  Internal expertise will be limited in capacity, while external skills are reliant on market availability.	● High	The project will be strictly planned, scheduled and governed, consistent with the Enterprise Program Management Office (EPMO) practices which have matured through delivery of the ERP and EAM projects in the current RCP.  Program and project plans will be scheduled to identify and minimise scarce resourcing conflicts.  Selection and procurement of the target solutions will occur in coordination with the acquisition of external skills, experience and capacity, thereby ensuring that the necessary resourcing is available for the chosen products, platforms and delivery method.	● Medium

Table 11: Project Risks - Option 2

### 2.4. Option 3: Separate market and customer systems, with redeveloped meter data system

As with Options 1 and 2, Essential Energy will replace the ageing MI, CIS and NBM systems with an integrated commercial solution for long term sustainability, business process efficiency and cyber security.

However unlike Options 1 and 2, the legacy Microsoft VB6 EDDiS MDM will be redeveloped using a modern software programming platform, rather than acquisition of a package product.

As with Option 2, this option will separately acquire and deploy new CRM and COP capabilities, to address our customers' expectations for modern customer service. The CRM and COP solution must therefore be separately integrated and synchronised with the new CIS.

This option addresses all the business drivers identified in section 1, including as summarised below.

#### System supportability and sustainability

MI, CIS and NBM system supportability and sustainability will be achieved as similarly described for Option 1 and 2.

However unlike Options 1 and 2, sustainability of MDM capability will be achieved through redevelopment of the EDDiS MDM system using a modern a modern software programming platform.

#### Manual handling, tariff changes and market volatility

Issues associated with manual handling, tariff changes and market volatility will be addressed as similarly described for Option 1 and 2.

#### Customer service

This option will address the service expectations of our customers and stakeholders, as similarly described for Option 2.

#### 2.4.1 Assumptions – Option 3

The following assumptions apply for this option:

- The existing MDM, MI, CIS and NBM systems will continue operating with current business processes, until transition to the new solutions in FY27. (Noting that the negotiated vendor extended support agreement for PeacePlus concludes end-Feb 27).
- The integrated MI, CIS and NBM solution will be selected through a market evaluation and formal procurement process.
- The CRM and COP solution will be selected through another market evaluation and formal procurement process.
- A further procurement for software development services will be required, in order to resource and manage the MDM system redevelopment.
- The initiative will be delivered as two separate related projects with **Project 1: Meter, Market and Network Billing** implemented by Feb 2027, and **Project 2: CRM and Portal** implemented by May 2028.

#### Project 1: Meter, Market and Network Billing (Start: Jul 2024, End: Feb 2027)

Delivery and cost assumptions are as per **Option 1 - Stage 1**. However,

- Duration, effort and costs associated with Plan/Procure increase, due to the need for a further procurement of software development services for the EDDiS MDM.
- Effort and costs for the MDM & Network Billing sub-stream increase, due to the greater complexity of redeveloping the EDDiS MDM, as well as greater integration and testing complexity.
- Annual SaaS fees are lower, due to the in-sourcing of EDDiS MDM support.

I.e.:

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Duration	Plan / Procure	8	Months	
	Design	4	Months	
	Construct / Test	16	Months	
	Deploy / Hypercare	4	Months	
	Total	32	Months	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	Total			
Support Costs	\$M FY24 Real Terms	Opex p.a.		
	CIS & NBM SaaS fees			
	MI SaaS fees			
	integration SaaS fees			
	Total			
Streams	Stream 1	Project Management, Procurement, E2E Design, Process Change & Training		
	Stream 2	CIS & Standing Data		
	Stream 3	MDM & Network Billing		

### Project 2: CRM and Portal (Start: Jan 2026, End: May 2028)

Delivery and cost assumptions are based on **Option 2 - Project 2**. I.e.:

Duration	Plan / Procure	6	Months	
	Design	4	Months	
	Construct / Test	16	Months	
	Deploy / Hypercare	3	Months	
	Total	29	Months	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	Total			
Support Costs	\$M FY24 Real Terms	Opex p.a.		
	CRM SaaS fees			
	COP SaaS fees			
	Integration SaaS fees			
	Total			

Table 12: Assumptions – Option 3

### 2.4.2 Benefits – Option 3

The table below summarises the benefits enabled through selection of this option. Financial benefits are provided as the “ongoing per annum (p.a.)” amounts which will be achieved following implementation of the investment.

Benefit	Type and Value
Avoided hosting and support charges for existing legacy CIS, MI and NBM systems	<b>Tangible Cost Reduction</b> (FY24 Real)



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Avoided manual processing of meter exchanges (Type 6 to Interval)	Contributor to Productivity Improvement Target
Avoided manual configuration of new tariffs	Contributor to Productivity Improvement Target
Ability to enable higher levels of market volatility, including through the introduction of new tariffs, through elevated rates of retailer churn and meter exchange – as described in section 1.4 (see page 11)	Non-Financial
Improved customer service, consistent with the identified expectations of our customers and stakeholders. See section 1.5 (from page 13) for a summary of the extensive customer consultation undertaken with the facilitation of Woolcott Research & Engagement.	Non-Financial
Risk mitigation benefits (see section 2.4.3 below)	Non-Financial

Table 13: Benefits – Option 3

### 2.4.3 Residual Risks – Option 3

The table below summarises the risk position at the end of the coming RCP (FY29) in the event that this option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.6 (Page 18).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.6		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
<b>Risk R1</b> <b>Market non-compliance risk</b> Failure of the MDM, MI, CIS or NBM systems, due to unsupportability of the software or underlying platforms, results in Essential Energy not meeting its market compliance obligations.	● High	Through the lifecycle replacement of the legacy systems, the new platform(s) will be fully supported through the 2030s, making the likelihood "rare".  In the event of an MI, CIS or NBM supportability issue, the consequence may be lower as a pro-active vendor support arrangement will be in-place to address the issue. However this may not be the case for the custom redeveloped MDM system.	Rare	Major	● Medium
<b>Risk R2</b> <b>Cyber security risk</b> Aged software platforms fall subject to a successful cyber security attack, resulting in breach of data privacy, or an inability to transact in the market.	● High	Through the lifecycle replacement of the legacy systems, the new platforms will be fully supported through the 2030s, making the likelihood "rare".  In the event of an MI, CIS or NBM cyber security issue, the consequence may be lower as a pro-active vendor support arrangement will be in-place to address the issue. However this may not be the case for the custom redeveloped MDM system.	Rare	Major	● Medium
<b>Risk R3</b> <b>Inability to support new market obligations risk</b> New market requirements cannot be built into the aged MDM, MI, CIS and NBM systems due to lack of vendor or platform support, or due to	● High	The new solution and business processes will provide the flexibility to support market changes and new obligations. The solution will also markedly reduce the reliance on manual handling.  Through these improvements, Essential Energy can be confident in the ability to support new	Rare	Major	● Medium

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inflexibility of the legacy system designs. Also inability to introduce new market tariffs (including Sun Soaker) due to inefficiency of existing system processes.		market obligations through the 2030s, including full introduction of Sun Soaker two-way charging by 1 July 2028.  In the event that a new obligation cannot be directly handled through the new CIS, MI or NBM solution, the consequence is reduced as a pro-active vendor support arrangement will be in-place to address the issue. However this may not be the case for the custom redeveloped MDM system.			
<b>Risk R4</b> <b>Customer responsiveness risk</b> Ineffective customer relationship management causes substantial customer dissatisfaction.	● High	Extensive consultation has been undertaken with our customers and stakeholders to identify the improvements required in our service (see section 1.5, page 13). Through the investments in CRM and COP capabilities proposed in this option, Essential Energy will make the necessary process and organisational changes required to address the service expectations of our customers and partners.	Rare	Moderate	● Low

Table 14: Residual Risks – Option 3

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain > 5 times within a year	Low	Medium	High	Extreme	Extreme
	Likely 1-5 times within a year	Low	Medium	High	High R1 R3 R4	Extreme
	Possible Once within 1-3 years	Low	Medium	Medium	High R2	High
	Unlikely Once within 3-10 years	Low	Low	Medium	Medium	High
	Rare Once within 10-100 years	Low	Low	Low	Medium R4 R1 R2 R3	Medium
	Very Rare < Once within 100 years	Low	Low	Low	Low	Low

● Inherent Risks R1 to R4, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework

○ Residual Risks R1 to R4  
only shown if different to the Inherent Risk

Figure 8: Residual Risks – Option 3

2.4.4 Project Delivery Risks – Option 3

The table below summarises the project delivery risks associated with implementation of this option.








Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<p><b>Project Risk 1</b> <b>Project Delivery Complexity</b></p> <p>Projects involving interaction with the NEM are inherently complex, with strict market requirements, multiple data sources and types, and extensive testing requirements.</p> <p>Billing system projects are also well known for their complexity and delivery risk, with the need for high accuracy, traceability and auditability.</p> <p>The inherent (and residual) risks for Option 3 are higher than Option 1, through the custom redevelopment of the EDDiS MDM system, as well as through the implementation of separate CIS and CRM solutions requiring complex integration and/or data synchronisation.</p>	<p> <b>Extreme</b></p>	<p>Essential Energy will undertake structured, formal procurement process to select and acquire CIS, MI, and NBM systems capability and external delivery services experienced in Australian NEM implementations.</p> <p>In the current RCP, Essential Energy has established strong program delivery governance and management practices which have successfully guided delivery of the Oracle ERP and EAM program. This same governance and delivery experience will be leveraged to mitigate the delivery risks associated with Meter, Market and Customer Systems implementation.</p> <p>Unlike Option 1 however, risks are not mitigated through leveraging the selected CIS capability to also deliver on the requirements for CRM and COP.</p> <p>Unlike Options 1 and 2, risks associated MDM implementation also remain very high, due to the custom redevelopment of a complex system and the need for extensive systems integration and testing.</p>	<p> <b>High</b>  / <b>Extreme</b></p>
<p><b>Project Risk 2</b> <b>NEM Changes During Project Delivery</b></p> <p>Market changes are likely to occur in the course of delivering the project. These changes may impact the solution design, configuration or delivery timeline.</p>	<p> <b>High</b></p>	<p>The project will be planned with consciousness of likely market changes and the need to assess and apply changes at key checkpoints within the project lifecycle.</p>	<p> <b>Medium</b></p>
<p><b>Project Risk 3</b> <b>Skills Availability</b></p> <p>The project will require a highly skilled delivery team, with knowledge and experience of NEM processes, the selected software platforms, legacy systems and Essential Energy's existing processes.</p> <p>Internal expertise will be limited in capacity, while external skills are reliant on market availability.</p>	<p> <b>Extreme</b></p>	<p>The project will be strictly planned, scheduled and governed, consistent with the Enterprise Program Management Office (EPMO) practices which have matured through delivery of the ERP and EAM projects in the current RCP.</p> <p>Program and project plans will be scheduled to identify and minimise scarce resourcing conflicts.</p> <p>Selection and procurement of the target solutions will occur in coordination with the acquisition of external skills, experience and capacity, thereby ensuring that the necessary resourcing is available for the chosen products, platforms and delivery method.</p>	<p> <b>High</b></p>

Table 15: Project Risks - Option 2

### 3. Financial Comparison

The table below provides a comparison of the Net Present Value (NPV) for each option.

Option	NPV
<b>Base Case</b>	
<b>Option 1 (Recommended):</b> Integrated meter, market and customer system	
<b>Option 2:</b> Integrated meter and market system, with a separate customer system	
<b>Option 3</b> Separate market and customer systems, with redeveloped meter data system	

Table 16: Financial NPV Comparison

The above NPV comparison has been performed using the NPV calculation workbook, with the following parameters.

- Discount Rate: 2.74% (Post-tax Real)
- Company Tax Rate: 30%
- Investment Modelling Period: 10 Years
- Asset Life: 7 years

### 4. Dependencies

Project Name	Nature of Dependency
<b>EAM Project</b>	<p>In the remainder of the current RCP, Essential Energy is heavily committed to completion of the Oracle EAM project delivery (building on the Oracle Cloud ERP implementation already undertaken).</p> <p>While the linkage between the EAM system and Meter Market &amp; Customer systems is limited, Essential Energy does not have the organisational capacity to deliver and absorb the change associated with both initiatives in parallel.</p> <p>Therefore, this Meter Market &amp; Customer project is planned to begin following implementation of the EAM system migration.</p>
<b>Cyber Security IPART DNSP Licence Compliance Project</b>	<p>In the remainder of the current RCP, Essential Energy is finalising implementation of the Cyber Security technology and practice improvements required for compliance with the company's revised Distributor Licence Conditions.</p> <p>The Meter Market &amp; Customer project could partly operate in parallel with the current Cyber Security works, but the new SaaS cloud based solutions would not "go live" until the Cyber Security works are complete.</p>
<b>Spatial Network Model Management Renewal</b>	<p>As indicated in section 1.3 (see page 7), the existing CIS interfaces with the General Electric (GE) Smallworld Geographic Information System (GIS) for connection point mapping, to support market life support processes. The current GE Smallworld platform requires lifecycle renewal in the early part of the coming RCP. Therefore, there is a mutual dependency between that renewal initiative and this Meter, Market and Customer systems project.</p>

Table 17: Project Dependencies



## 5. Organisational Change Impacts

A stakeholder assessment and impact analysis will detail the groups/roles impacted (internal and external), the nature of the change and the level of impact. The impact assessment will articulate the change in the following dimensions for each stakeholder grouping.

- **Process:** Procedures, work practices, reference guides, work instructions, operating guides
- **Organisation:** Accountabilities, reporting lines, position profiles, KPIs, behaviours/cultural attributes
- **Technology:** Systems, infrastructure, tools, support resourcing and contracts
- **Information:** Data and reporting

The impact assessment informs the interventions required, with tailoring to suit the nature of the change and the stakeholder groupings – a “one size fits all” approach is not appropriate.

The table below summarises the key impact areas for the proposed investment.

Business Area	Nature of Impact
<ul style="list-style-type: none"> <li>• Customer Transfers</li> <li>• Customer Connections</li> <li>• Market Operations</li> <li>• Network Billing &amp; Revenue Assurance</li> <li>• Meter Data</li> <li>• Meter Provision and Maintenance</li> <li>• Finance Operations</li> </ul>	<p>The renewal of these systems will impact a range of business areas and processes which are critical to Essential Energy’s compliance obligations as an DNSP/LNSP and MDP (Type 6 and Unmetered supply) in the NEM.</p> <p>Beyond the user interface changes of the new software, there will be a range of changes to existing intra-team / inter-team workflows (manual and automated), as well as the introduction of automation not possible with the incumbent systems.</p> <p>Impacts include users of PeacePlus, EDDIS, NBM and other minor system implementations (including ServiceNow and various non-core systems/spreadsheets etc),</p>
<ul style="list-style-type: none"> <li>• eTech ICT Support</li> </ul>	<p>Level 1 Help Desk support and triage training.</p> <p>Development of vendor management practices for Level 2 to 3 support.</p> <p>DevOps work practices for coordination and management of enhancement and market change releases.</p>

Table 18: Organisational Change Impacts

## 6. Conclusion

The preceding sections of this preliminary business case summarise the business drivers for investment, the options to address those drivers, and the corresponding likely costs, benefits, risks and impacts.

On this basis, the recommended option (“Option 1 - Integrated meter, market and customer system”) is proposed for the purposes of organisational planning and forecasting.

Consistent with Essential Energy’s investment governance processes, prior to proceeding with the proposed investment a detailed delivery business case will be developed and evaluated.

## ATTACHMENT 1: Glossary of Terms

The following terms or abbreviations are used within this document.

Term	Description
aaS	As a Service
ADL	Average Daily Load
AEMC	The Australian Energy Market Commission
AEMO	Australian Energy Market Operator
ALM	Asset Lifecycle Management
ASP	Accredited Service Provider
B2B	Business to Business
C&I	Commercial and Industrial Customers
Capex	Capital Expenditure
CATS	Consumer Administration and Transfer Solution
CIS	Customer Information System
COP	Customer Online Portal
CRM	Customer Relationship Management
DBMS	Database Management System
DNSP	Distribution Network Service Provider
EAM	Enterprise Asset Management
EDDIS	Energy Data Distribution System - the existing in-house MDM system
EPMO	Enterprise Program Management Office
ERP	Enterprise Resource Planning [System] including Financial Management and Supply Chain Management.
ETR	Estimated Time of Recovery/Restoration
FAQ	Frequently Asked Question(s)
FRMP	Financially Responsible Market Participant
GIS	Geographic Information System
IaaS	Infrastructure as a Services
ICT	Information & Communication Technology
KPI	Key Performance Indicator
LNSP	Local Network Service Provider
MDM	Meter Data Management
MDP	Meter Data Provider
MI	Market Interactions
MRIM	Manually Read Interval Meter
MSATS	Market Settlement and Transfer Solutions
NBM	Network Billing
NCONUML	Non-Contestable Unmetered Load
NEM	National Electricity Market
NEM12, NEM13	Meter data transaction files
NER	National Electricity Rules
NMI	National Meter Identifier
NPV	Net Present Value

## PRELIMINARY BUSINESS CASE – Meter, Market and Customer Systems Capability

Term	Description
<b>Opex</b>	Operating Expenditure
<b>PaaS</b>	Platform as a Service
<b>PeacePlus</b>	The existing CIS
<b>RCP</b>	Regulatory Control Period
<b>SaaS</b>	Software as a Service
<b>SLUOS</b>	Street Light Use of System
<b>SME</b>	Small Medium Enterprise
<b>Totex</b>	Total Expenditure (Capital + Operating)
<b>VB6</b>	Microsoft Visual Basic 6 programming language and run-time environment
<b>WACC</b>	Weighted Average Cost of Capital