CER Data Exchange Industry Co-Design

April 2025

Attachment B: Cost Assessment

An overview of the methodology, assumptions and results of the cost assessment to implement the CER Data Exchange.

Important notice

Purpose

This publication presents a high-level cost evaluation of the CER Data Exchange, including expenditure requirements, assumptions, and benefits. It provides decision-makers with financial insights necessary to assess the viability of the recommended approach.

Acknowledgements

AEMO would like to thank the many individuals and organisations who have contributed time and expertise through the project's Expert Working group, stakeholder meetings and workshops. These stakeholder contributions have informed AEMO's work towards a national CER Data Exchange as presented in this paper. This Project received funding from the Australian Renewable Energy Agency (ARENA) as part of ARENA's Advancing Renewables Program.

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We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.
AEMO Group is proud to have launched its first Reconciliation Action Plan in May 2024 (scan QR code to read).

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Glossary and Abbreviations

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
API	Application Programming Interface
ARENA	Australian Renewable Energy Agency
CBA	Cost Benefit Analysis
CDR	Consumer Data Right
CER	Consumer Energy Resources
CIM	Common Infrastructure Model
DER	Distributed Energy Resources
DERMS	Distributed Energy Resource Management System
DNSP	Distribution Network Service Provider
DOE	Dynamic Operating Envelope
DSO	Distribution System Operator
ENTSO-E	European Network of Transmission System Operators for Electricity
EWG	Expert Working Group
EY	Ernst & Young
FCAS	Frequency Control Ancillary Services
FFR	Fast Frequency Response
FTE	Full Time Equivalent
GDPR	General Data Protection Regulation
IDAM	Identity and Access Management
IDSP	Integrated Distribution System Planning
IDX	Industry Data Exchange
IEC	Information Exchange Committee
IPRR	Integrating Price Responsive Resources
ISP	Integrated System Plan
LNSS	Local Network Support Services
MITE	Market Interface Technology Enhancements
MVP	Minimum Viable Product
NEM	National Energy Market
NEO	National Electricity Objective

Term	Definition
NER	National Electricity Rules
NETP	National Energy Transformation Partnership
NMI	National Metering Identifier
NSP	Network Service Provider
OEM	Original Equipment Manufacturer
PC	Portal Consolidation
PII	Personally Identifiable Information
PM	Project Management
RBAC	Role-Based Access Control
RERT	Reliability and Emergency Reserve Trader
SOCI	Security of Critical Infrastructure
SWIFT	Society for Worldwide Interbank Financial Telecommunication
SWIS	South West Interconnected System
UI	User Interface
VPP	Virtual Power Plant

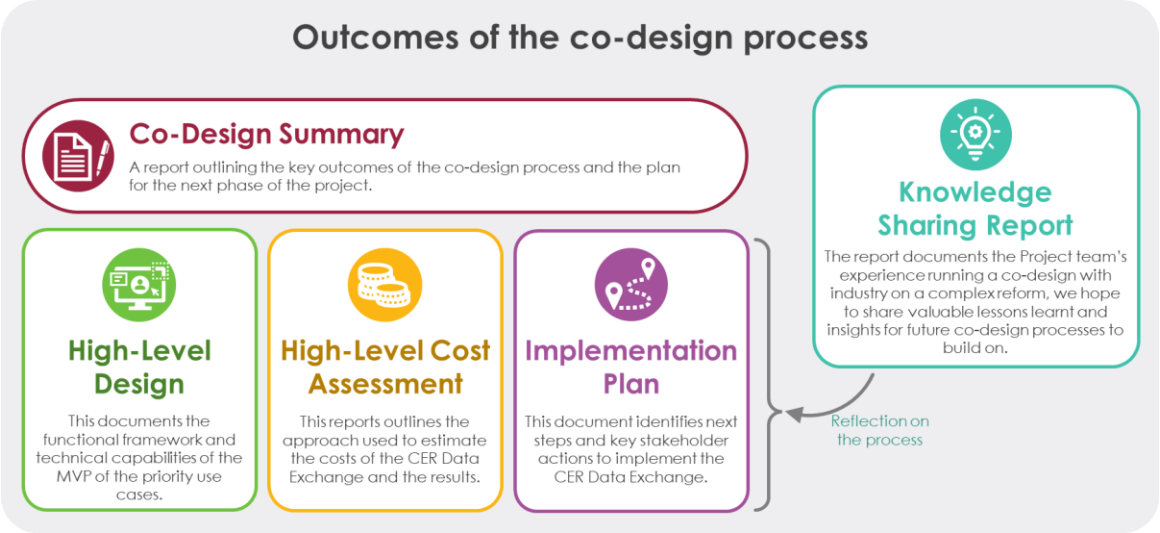
1 Introduction

1.1 The CER Data Exchange Industry Co-Design initiative

The Consumer Energy Resources Data Exchange (CER Data Exchange) Industry Co-design is a joint initiative between the Australian Energy Market Operator (AEMO) and AusNet with support from the Australian Renewables Energy Agency (ARENA) to work collaboratively with industry to co-design a national CER Data Exchange. It is part of a long-term, multistage process to build the digital foundation that will support the efficient integration of CER into the energy system in Australia. This phase of the CER Data Exchange will conclude with a final public webinar in late **April 2025** to present the findings and recommendations on next steps.

This document is part of a series of reports marking the conclusion of the high-level design phase of this project. This report should be read in conjunction with the reports depicted in Figure 1 below. AEMO will also publish a knowledge sharing report to outline the project team's journey of applying a co-design framework to progress customer outcomes and key learnings from the process.

Figure 1. Reports for the CER Data Exchange Industry Co-design project



1.2 This Cost Assessment

The purpose of this document is to:

1. Outline the scope, assumptions and methodology (collectively, 'the approach') used to estimate the costs of the CER Data Exchange, and
2. Provide the results of the cost assessment applying that approach.

2 Scope, assumptions and methodology

2.1 Scope and assumptions

AEMO commenced a co-design phase of work in mid-2024 to work with industry to develop a high-level design for the CER Data Exchange. Industry engagement over the co-design phase involved 15 meetings with an Expert Working Group, three whole-of-industry workshops, and a public consultation document. Industry workshop presentations and the consultation paper are available on AEMO's website: AEMO | CER Data Exchange Industry Co-Design.

Through this process, industry identified its preference for:

- AEMO to own and operate the CER Data Exchange;
- The CER Data Exchange to build on AEMO's Market Interface Technology Enhancements (MITE) project;
- The CER Data Exchange to start small and progressively grow to gain more capability;
- The CER Data Exchange to start with use cases that address the industry's most pressing needs. Three priority use cases were identified to be delivered by the CER Data Exchange: Broader Access to CER Standing Data, Efficient Sharing of Network Limits and Network Support & Flexibility Capability Discovery; and
- Specifically with respect to the cost assessment, industry highlighted that:
    - The methodology and assumptions underpinning the cost assessment are reasonable given the stage of the project, but individual participant's implementation costs and timings will vary based on differences in scale, technical capabilities, starting points and regulatory cycles;
    - Participants will incur additional costs, outside the scope of implementing the CER Data Exchange, to operationalise use cases such as processes to calculate network limits;
    - Another checkpoint at the end of detailed design would be helpful to further refine cost estimates, and validate that the design of the use cases will delivery benefits.

These preferences provide valuable input to the cost assessment, but it is important to note that even with these design choices, the CER Data Exchange is still in early stages of development. As a result, the cost assessment is based on a number of assumptions relating to the scope of functionality determined in this process that will be provided by the CER Data Exchange, the timeline over which those functions will be delivered, and how the CER Data Exchange will be governed and operated going forward. The design is likely to continue evolving which may impact the assumptions and the cost estimates.

Key assumptions underpinning the cost assessment are outlined in Table 1.

Table 1. Key assumptions

Assumption category	Assumption

Implementation approach	• CER Data Exchange will build on functionality being implemented by AEMO's MITE project.
	• The MITE timeline will therefore determine the earliest possible go live for CER Data Exchange functionality.
	• CER Data Exchange will have a phased implementation.
	• Over the implementation period:
	  ○ AEMO will project manage the CER Data Exchange project and provide resources to drive the detailed design
	  ○ Working groups consisting of industry representatives (technical and governance) will be formed to oversee the detailed design, build, test and deploy activities, and design the governance and operational frameworks to support ongoing operation of the CER Data Exchange.
	  ○ It is anticipated that broader industry will continue to be engaged including through whole-of-industry workshops and through formal (written) consultation processes.
	• Once live:
	  ○ AEMO will be responsible for ongoing operation of the CER Data Exchange.
	  ○ Industry representatives will form (or join existing) working groups to oversee the ongoing operation of the CER Data Exchange, including managing the implementation of future functionality.

Technical functionality	• The cost assessment will focus on delivering functionality for 'minimum viable product' (MVP) versions of three priority use cases:
	  ○ Broader Access to CER Standing Data
	  ○ Efficient Sharing of Network Limits
	  ○ Network Support & Flexibility Capability Discovery
	• Functionality to support further use cases can be added to the CER Data Exchange in the future, using the ongoing operational approach to be agreed with industry.

Cost types included	• Only costs that are incremental to MITE are included in the cost assessment. ○ Incremental costs are those that industry participants incur as a result of the CER Data Exchange being the means by which data is exchanged. The scope of the cost assessment does not extend to system or process changes that individual participants need to undertake regardless of the means by which CER data is exchanged, such as DERMS platform implementation or performing Dynamic Operating Envelope (DOE) calculations. • Both upfront and ongoing costs are included (provided they are incremental). • Costs incurred by all relevant industry participant types are included.
Core modelling assumptions	• Model period of 10 years • Cost commences from 1 July 2025 (FY26), representing the move from co-design phase into the Phased implementation. • The detailed design component of the implementation period runs for approximately 12 months, from 1 July 2025 to 30 June 2026. • The build, test, deploy component of the implementation period runs for approximately 12 months, from 1 July 2026 to 30 June 2027. • Internal labour rate: $150/hour. • External labour rate for project management and delivery support: $350/hour. • Inputs are in FY25 dollars.

2.2 Benefits of a CER Data Exchange

Several projects have quantified the benefits of orchestrated DER as part of the energy system. These benefits are in the billions of dollars and are predominantly related to avoided spend on large-scale generation and transmission infrastructure.

The ability to exchange high volumes of CER data in a secure, timely manner is a necessary component of the ecosystem needed to unlock the benefits. Therefore, some projects have specifically quantified the costs and benefits of options to exchange CER data. These projects compare the use of common infrastructure (in the form of a data exchange) to standardise the exchange of CER-related data versus a counterfactual that involves the point-to-point exchange of data.

A summary of the key projects that have quantified the benefits of CER and enabling infrastructure appears below. Whilst the timeframes over which net benefits are quantified differs from project to project, they nonetheless provide important references for the size of benefits available.

2.2.1 Project EDGE

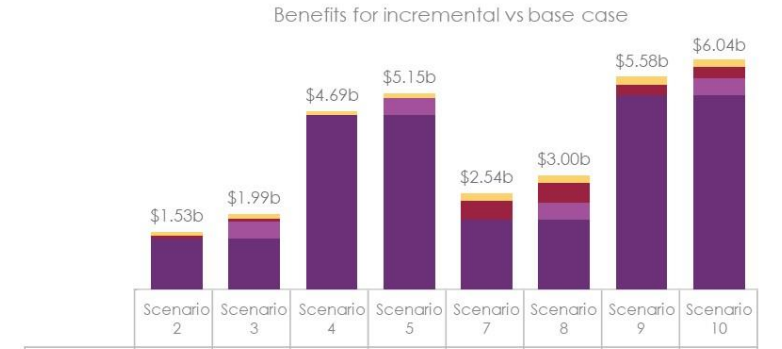
Project EDGE was undertaken by AEMO, AusNet and Mondo over 2021 to 2023 to demonstrate a proof-of-concept DER Marketplace that enabled efficient and secure co-ordination of aggregated DER to provide wholesale and local network services. Project EDGE involved a series of in field trials that tested various options for Dynamic Operating Envelopes (DOE) configuration and data exchange to gather evidence on how DER responded when called on to provide services.

A comprehensive cost benefit analysis (CBA) was undertaken as part of Project EDGE. With respect to data exchange, Project EDGE's CBA considered three configuration options for the scalable exchange of DER data:

1. Data Hub – centralised (which is similar to the CER Data Exchange concept developed with industry as outlined in this document);
2. Data Hub – decentralised; and
3. Point-to-point.

The Project EDGE CBA found that, across a 20-year time horizon, **a Data Hub approach would reduce costs by $0.44b to $0.45b** (under a centralised and decentralised model respectively) compared to a point-to point approach, as outlined in Figure 2.

Figure 2. Project EDGE benefits



	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 7	Scenario 8	Scenario 9	Scenario 10
DOE	1.33	1.33	4.56	4.56	1.83	1.83	5.08	5.08
Data Hub		0.45		0.45		0.45		0.45
LSE	0.07	0.08		0.01	0.5	0.51	0.29	0.3
Visibility of DER	0.12	0.12	0.12	0.12	0.2	0.2	0.2	0.2

Scenarios 3, 5, 8 and 10 have a Data Hub

All other scenarios involve point-to-point exchange of data

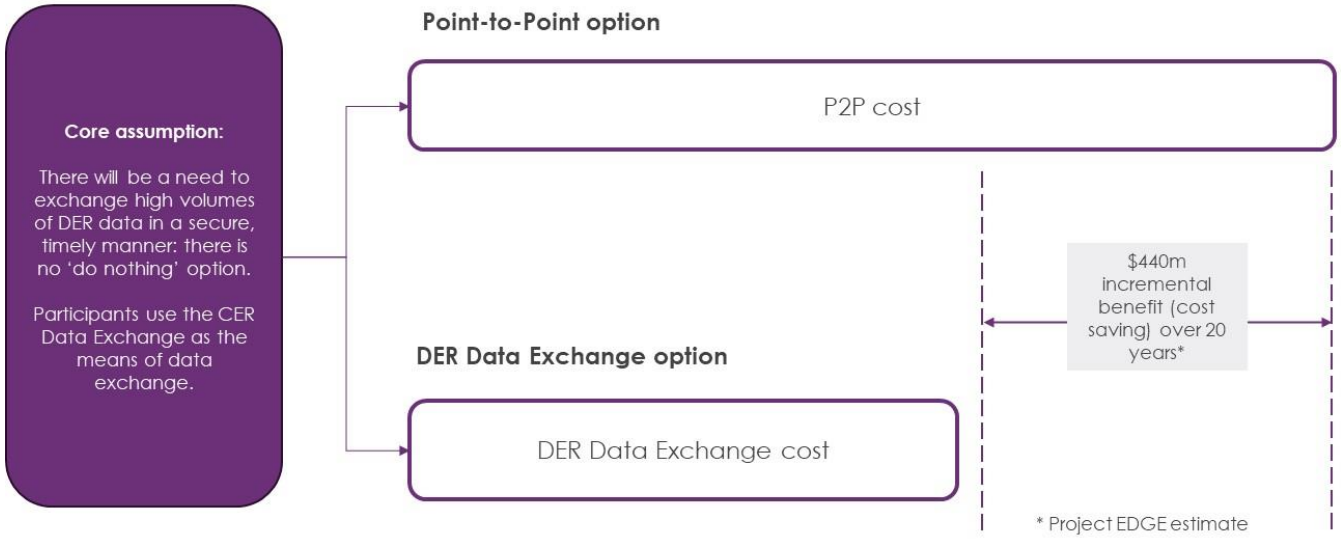
The reduced cost of a Data Hub is a result of avoiding the challenges of a point-to point approach, which include:

- Integration burdens as a result of different technology integrations, causing inefficient coupling at scale;
- Administrative inefficiencies from bespoke contracts, legal and collaboration delays, and duplicative administration;
- Fragmented availability of data from inconsistent access conditions.

In addition, the CBA found that a Data Hub compared to a point-to point approach could deliver further upside through facilitating new DER-based service innovations more easily and at lower cost as it simplifies integration, identity verification and reporting between participants.

Figure 3 presents the incremental cost saving between a Data Hub and point-to-point option visually. Even though there is a cost to implement the exchange, it is estimated to be materially lower than the counterfactual of developing point-to-point integrations.

Figure 3. Incremental cost saving of CER Data Exchange



The cost avoidance benefits associated with a Data Hub-style exchange form part of the broader net benefits identified in the CBA which concluded that greater co-ordination of active DER in the NEM can result in up to $6b benefits over 20 years.

2.2.2 Project Symphony

Project Symphony was undertaken by AEMO, Western Power and Synergy over 2021 and 2022. Similar to Project EDGE, it involved in field trials in Western Australia's South West Interconnect System (SWIS) through enrolling customers' DER into Virtual Power Plant (VPP) to test various aspects of DER integration, including the exchange of data between participants.

Project Symphony's CBA concluded that orchestrating DER could result in **up to $920m benefits over 10 years,** as outlined in Figure 4Figure 4. Positive value accrued to all participants when value stacking network and market services in an orchestrated scenario and greater levels of participation result in greater value.

Figure 4. Project Symphony reported benefits

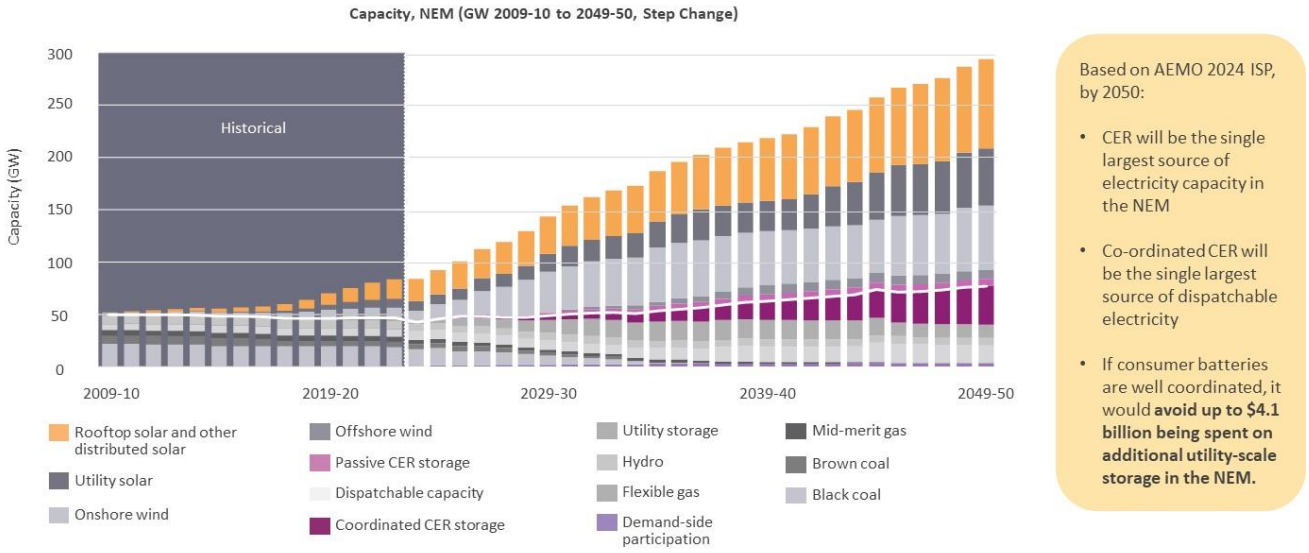
2.2.3 Integrated System Plan

Every two years, AEMO develops an Integrated System Plan (ISP) to outline the optimal suite of investment needed to meet Australia's energy and decarbonisation goals over the next 20 years. The ISP involves developing detailed electricity supply and demand forecasts.

In the 2024 ISP, AEMO estimated that by 2050, CER will be the single largest source of electricity capacity in the NEM, and co-ordinated CER will be the single largest source of dispatchable electricity (see Figure 5).

AEMO estimates that co-ordinated CER will save **up to $4.1 billion of avoided spend** on additional utility-scale storage in the NEM if CER is co-ordinated.

Figure 5. ISP's forecasted NEM capacity



2.2.4 UK's Digital Spine Feasibility study

In 2022, the UK's Energy Digitalisation Taskforce made recommendations to develop a 'digital spine' for the energy sector in response to the rapid digitisation. The UK government then commissioned a feasibility study to scope what precisely a digital spine is, and how it might be developed to benefit the energy sector. The feasibility study identified the need for the energy sector to facilitate data sharing, and how these needs could be met through a common approach to data sharing infrastructure. Specifically, it found that common data sharing infrastructure creates the potential to:

- Reduce costs to consumers and businesses
- Improve energy system efficiency
- Improve energy system reliability
- Support decarbonisation

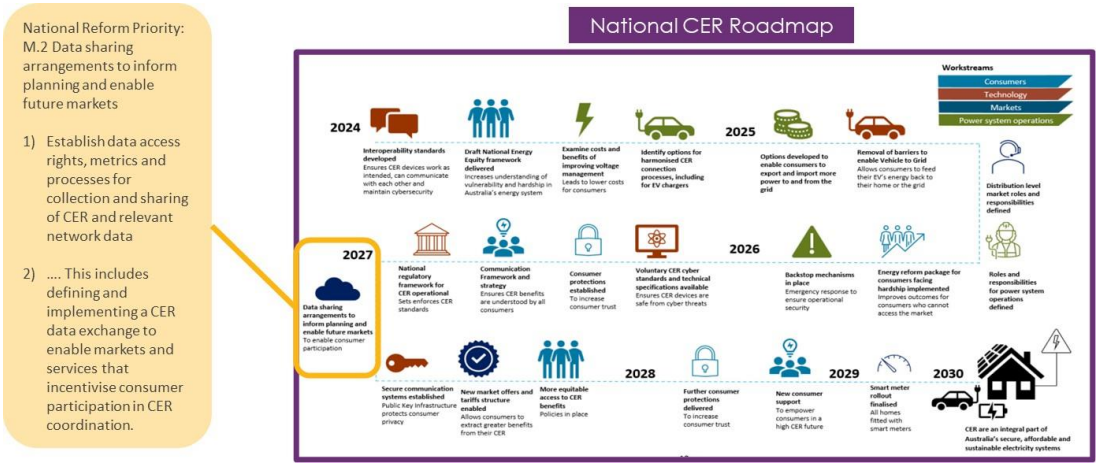
2.2.5 National CER Roadmap

National and global trials outlined above consistently demonstrate the benefits of CER co-ordination, including the benefits of common digital infrastructure that enables the secure flow of high volumes of DER data between participants. As a result, at the November 2023 Energy and Climate Change Ministerial Council (ECMC) meeting, Ministers agreed to the creation of a CER Taskforce to fast track priority CER-related projects. The CER Roadmap has been developed by the interjurisdictional CER Working Group established under the National Energy Transformation Partnership (NETP) and outlines a series of actions to progressively develop the ecosystem needed to integrate CER into Australia's electricity system and markets.

One action under the CER Roadmap, summarised in Figure 6, is to develop data sharing arrangements to inform planning and enable future markets. This includes:

- Establishing data access rights, metrics and processes for collection and sharing of CER and relevant network data; and
- Defining and implementing a CER data exchange to enable markets and services that incentivise consumer participation in CER coordination.

Figure 6. National CER Roadmap actions



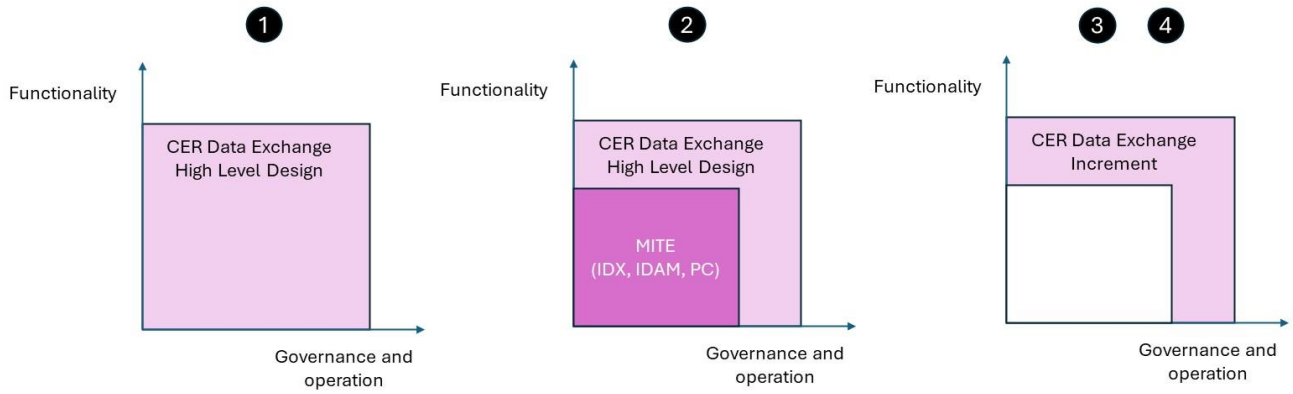
2.3 Methodology

The methodology to quantify costs of the CER Data Exchange was as follows:

1. Complete high-level design of the MVP for the implementation of the three priority use cases for CER Data Exchange;
2. Understand scope of the MITE business case and the timeline over which MITE functionality will be delivered;
3. Identify the incremental functionality needed to operationalise the CER Data Exchange three priority use cases on top of MITE; and
4. Estimate costs to deliver the incremental functionality.

The cost methodology is outlined graphically in Figure 7.

Figure 7. Cost methodology



2.3.1 High-level design of CER Data Exchange

A high-level design document for the CER Data Exchange has been prepared, see Attachment A: High-Level Design.

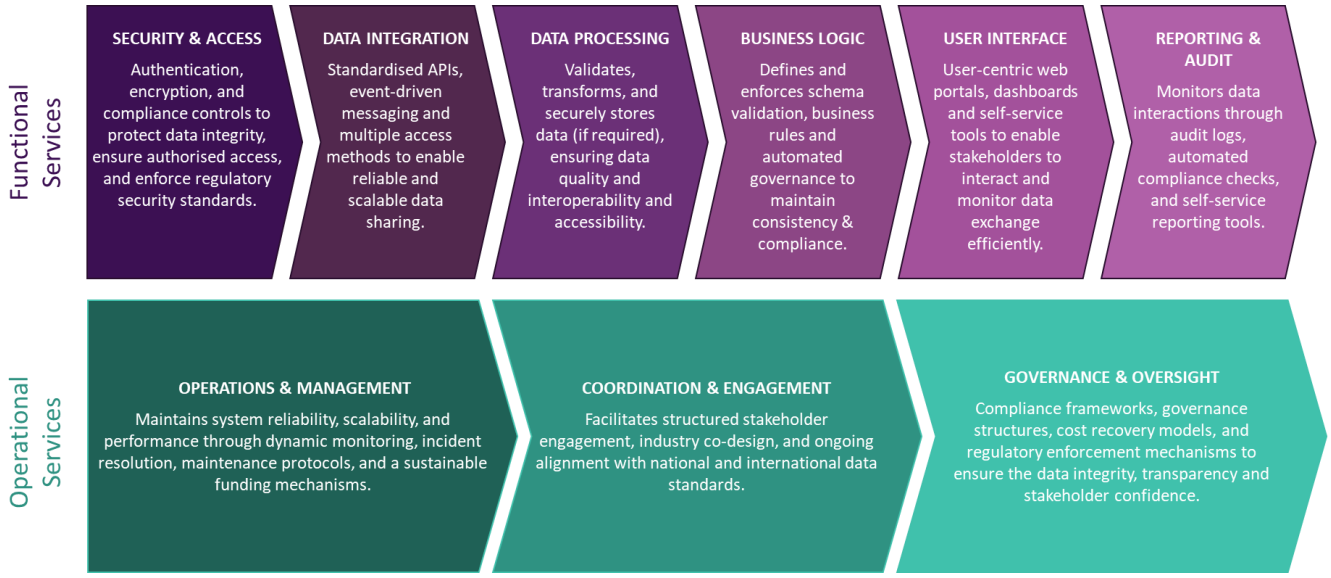
The design was based on input from industry, international insights and cross-industry best practices for data exchange. The scope of the design is the MVP required to deliver the three priority use cases:

- **Broader Access to CER Standing Data**: A secure, role-based access mechanism for managing and sharing verified CER standing data changes across authorised stakeholders. In the future, this use case will likely involve incorporating regular firmware updates to ensure device operational datasets are up to date, enable adherence to established technical standards, and implementing quality control measures. This use case will form a basis of the decentralised energy system insights and will significantly improve the overall data quality and efficiency outcomes in the energy system.
- **Efficient Sharing of Network Limits**: A standardised approach for distributing dynamic network limits across jurisdictions. This protocol will enable retailers and customer agents, to access and utilise accurate information about available network capacity. This will facilitate better decision-making and optimise the use of network resources.

- **Network Support & Flexibility Capability Discovery:** A comprehensive framework for coordinating the procurement of flexibility services based on CER capabilities. This framework will enable the management of network congestion through demand response and other flexibility services, reducing the need for costly physical infrastructure upgrades. It will also support the integration of CER into the broader energy network, enhancing the system's overall flexibility and resilience.

The core functions needed by the CER Data Exchange to deliver the MVP are outlined in Figure 8.

Figure 8. CER Data Exchange core functions



2.3.2 MITE scope and timeline

In 2024, industry and AEMO agreed to proceed with the foundational components of the MITE project to uplift the technology and processes used by AEMO to provide three foundational services: Identity and Access Management (IDAM), Industry Data Exchange (IDX), and Portal Consolidation (PC). Table 2 outlines the functionality of each foundational service, as well as the pain point it aims to address.

Table 2. MITE services

MITE component	Pain Point	MITE functionality
IDAM	AEMO's current IDAM services: • Are disparate, requiring users to retain multiple sets of credentials in order to access AEMO business services. • Do not meet best practices in cyber security controls (e.g. multifactor authentication) • Are insufficient to meet new industry obligations introduced under the SOCI Act.	A unified mechanism to authenticate and authorise external identity and entitlements when accessing AEMO services, consolidating and improving overall cyber security controls

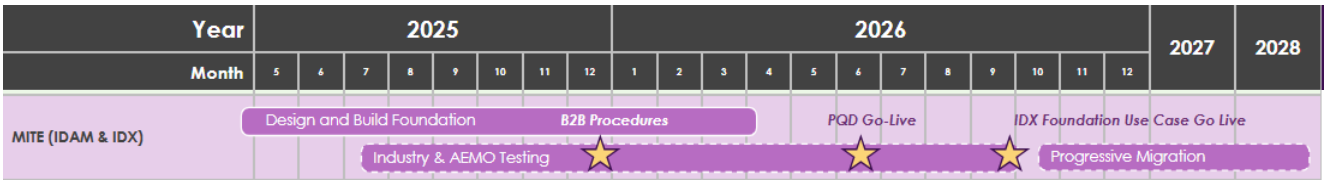
MITE component	Pain Point	MITE functionality
IDX	AEMO's existing data exchange systems have been variously acquired over the 10-15 years, and use inconsistent standards, protocols and formats across systems, fuels and jurisdictions. AEMO's markets are also undergoing significant transformation, resulting in new data exchange needs. Introducing new data exchange patterns without unified target state and roadmap is inhibiting participants from modernizing their systems.	A unified data exchange mechanism to support the secure and efficient exchange of data between energy stakeholders for new services required by NEM Reforms, existing legacy services and provide a framework extensible to other energy markets.
PC	AEMO browser services are exposed over a disparate range of end points and require multiple sets of credentials to consume these services This results in a suboptimal user experience for energy stakeholders. The requirement to access browser services via private networks creates technical barriers to consuming these services.	A new web and mobile user portal to provide a unified stakeholder experience. The portals framework is an enabling platform that supports energy market participants and other partners to consume AEMO browser services in a secure manner.

It is important to note that MITE is not CER-specific. Rather, it is designed to provide foundational capability on which new use cases/business services (such as the exchange of CER data) can be developed. For example:

- IDX will deliver industry-agreed integration patterns, protocols and payload standards. The CER Data Exchange will leverage the base platform, standards, channels, patterns, guard-rails, payload formats, and decision tree to develop the business services (use cases) without the need to build new target state capabilities;
- The CER Data Exchange will leverage the IDAM solution, authentication and authorisation mechanisms, advanced data sharing capabilities and advanced security features; aligning with the requirements of legislative compliance; and
- The CER Data Exchange User Interface will be built on the enhanced portal framework that can be internet-enabled and leverage the framework and patterns defined by the PC target state.

MITE is currently scheduled to go live with the bulk of the foundational capability by December 2026. A preliminary drop with limited capability is scheduled to occur in June 2026 to accommodate the Power Quality Data rule changes that come into effect from 1 July 2026. The timeline for implementation of MITE is outlined in Figure 9

Figure 9. MITE timeline

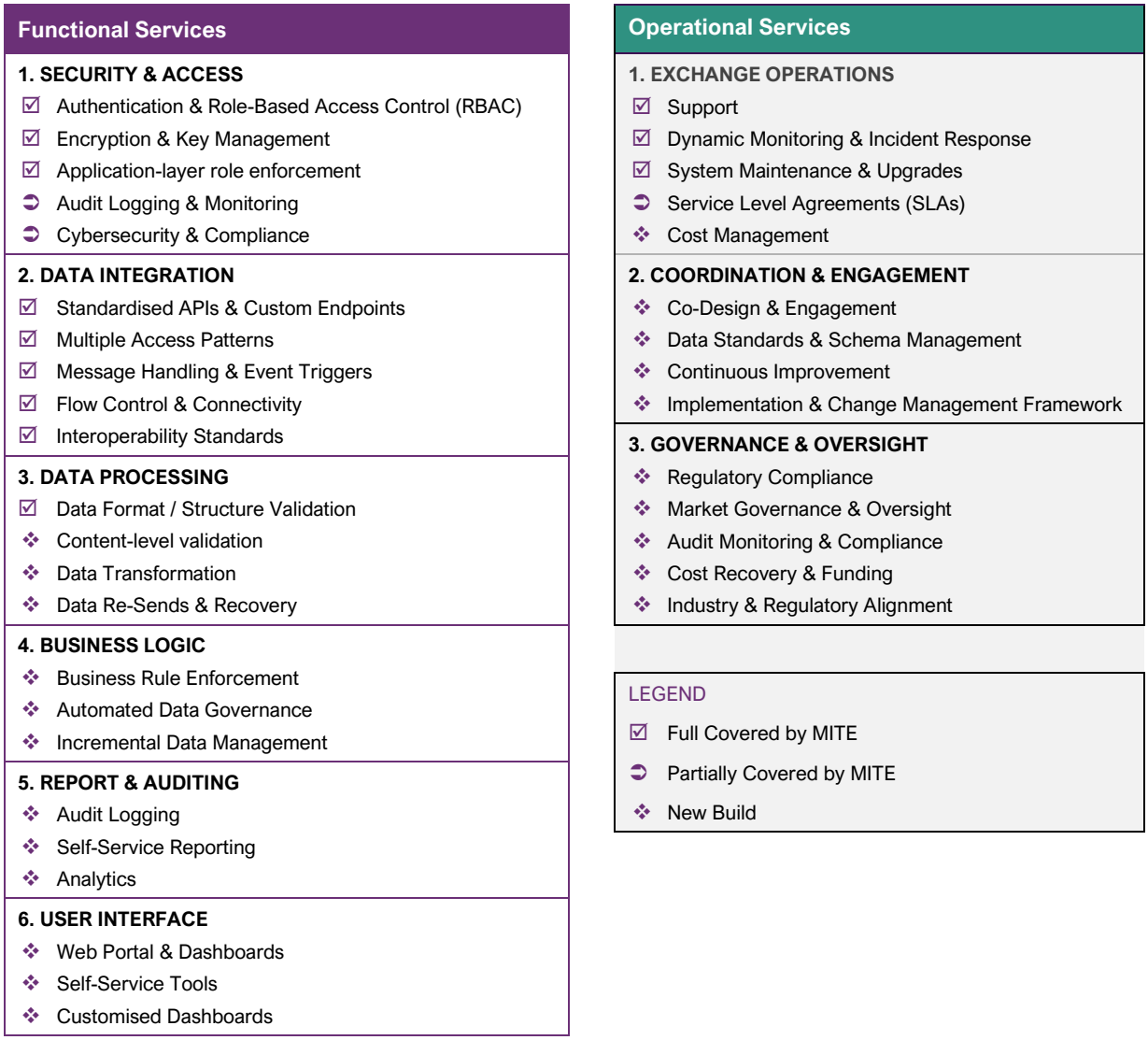


Through the co-design phase, industry was supportive of leveraging the foundational capability that would be delivered through the MITE project as the basis on which to build CER Data Exchange functionality.

2.3.3 Incremental CER Data Exchange functionality

The gap between the functionality required of the CER Data Exchange (2.3.1) and the capability of MITE (2.3.2) is referred to in this document as the incremental CER Data Exchange functionality. Figure 10 outlines the functionality required of the CER Data Exchange, obtained from the high-level design, as well as the components of this functionality which will be delivered entirely or partially through MITE. The incremental functionality is therefore the components required of the CER Data Exchange which is not delivered, or only partially delivered, through MITE.

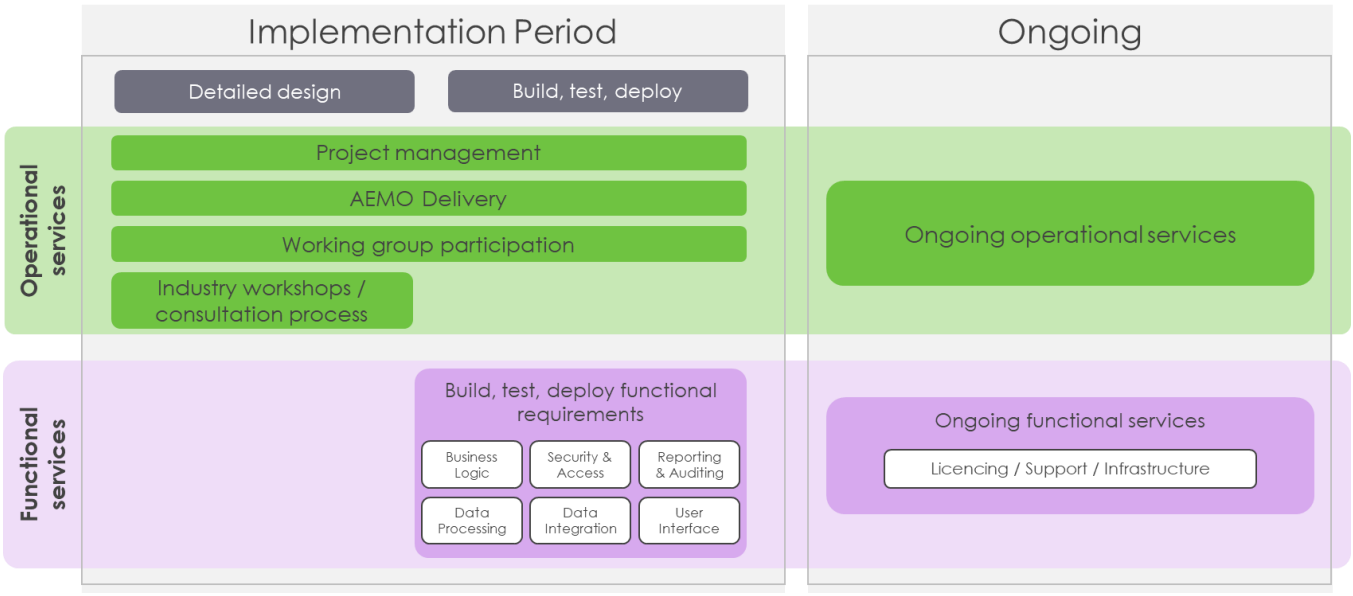
Figure 10. Incremental functionality



2.3.4 Estimated costs

The incremental CER Data Exchange functionality was divided into cost buckets for estimation purposes. Cost buckets represent the key activities that will accumulate costs during implementation (detailed design and build, test, deploy) and ongoing operation. Not all cost buckets apply to all industry participants. The cost buckets used for estimation purposes are summarised in Figure 11.

Figure 11. CER Data Exchange cost buckets



To estimate the cost of each cost bucket, a combination of effort-based (labour) estimates and t-shirt sizing techniques were used:

- Effort-based estimates were used for Operational services. These rely on an estimate of the number of resources, the time commitment and standard labour rates to quantity the cost of an activity.
- T-shirt sizing was used for Functional services. T-shirt sizing involves breaking a project down into tasks (in this case, the tasks associated with building, testing and deploying the functionality needed for the three priority use cases). Each task is ascribed a 't-shirt size' such as high, medium or low based on its anticipated complexity to deliver, and each t-shirt size has a set level of effort. The overall effort is then multiplied by a standard labour rate to quantify the cost.

The calculation basis and assumptions were tested with EWG members and industry, and feedback incorporated. The techniques utilised are typical for technology-related projects that are in high-level design phase. Recent projects delivered by AEMO, and industry (including MITE and other reform projects) also provided a basis for comparison of cost estimates.

Table 3 outlines the cost buckets and their details.

Table 3. Cost buckets

Cost Type	Cost bucket	Description	Incurred by	Calculation basis and assumptions
Operational Services (implementation phase)	Project management	Costs associated with managing the CER Data Exchange program including costs such as: • Project management • Working group secretariat • Arranging industry workshops • Managing consultation processes	AEMO Industry participants	AEMO: Labour costs based on AEMO PM resource (1 FTE) + external PM support (0.5 FTE) over two-year implementation period. Industry participants: 5% of build cost.
	AEMO Delivery	Costs associated with AEMO for time spent on CER Data Exchange development including technical, governance and operational aspects.	AEMO	Labour costs based on AEMO resources (4 FTE) + external resources (2 FTE) for detailed design phase. Then moves to quarter of this effort for build, test, deploy phase.
	Working group participation - Governance	Costs associated with industry participants for time spent in working groups to oversee CER Exchange development including technical, governance and operational aspects.	Industry participants with working group representatives	Working group representative labour costs estimates based on 2 working groups (governance and technical) overseeing development of CER Data Exchange. 10 representatives on both working groups: • DNSPs (x4) • Retailers / aggregators (x4) • Others (x2) ['Others' is a generalised category to allow for participants other than DNSPs, retailers and aggregators. It is included to acknowledge that there may be new types of participants interested in using CER Data Exchange] Each representative spends 2 days per month over detailed design phase. Then half this effort for build, test, deploy phase.
	Working group participation - Technical	Costs associated with industry participants for time spent in working groups to oversee CER Exchange development including technical, governance and operational aspects.		
	Broader industry involvement	Costs associated with industry participants for formal consultation on the detailed design.	Industry participants	Labour costs based on estimates resources involved in two all industry workshops and two all industry consultation processes (each open for about 1 month) over detailed design phase. The cost assessment is based on 31 industry participants being involved in the broader industry consultation process: • DNSPs (x 11) • Retailers (x 15) • Others (5x).
Operational Services (ongoing)	Ongoing	Costs to maintain three priority use cases in CER Data Exchange once they are in production	Industry participants	Both working groups continue (governance and technical). 10 representatives on both: • DNSPs (x4) • Retailers/aggregators (x4) • Others (x2) 1 hour per week per resource for industry ongoing.

Cost Type	Cost bucket	Description	Incurred by	Calculation basis and assumptions
				Broader industry participant effort to keep systems up to date as changes are made to the CER Data Exchange: Approximately 30 stakeholders 1 hour per week ongoing.
			AEMO	$240k per annum incremental cost to AEMO for IDX as a result of the three CER use cases.
Functional Services (Implementation period only)	Build, test, deploy	Includes costs to build, test and deploy the CER Data Exchange functionality as per detailed design	AEMO Industry participants	AEMO: T-shirt sizing (see table below for further details) Industry participants: Proportion of AEMO cost based on MITE proportions: • DNSPs – 0.14x • Retailers – 0.07x • Other – 0.05x

AEMO developed t-shirt sized estimates to deliver the incremental functionality needed to operationalise the three priority use cases. AEMO's experience delivering other NEM reform programs was used as the basis for determining the effort for each t-shirt size. A summary of the effort estimates appears in Table 4.

Table 4. AEMO t-shirt size assumptions

Days effort	Simple	Medium	Complex	Very complex
Security and Access	20	40	60	80
Data Integration	20	40	60	80
Data Processing	60	120	240	360
Business Logic	60	120	240	360
User Interface	60	120	240	360
Reporting and Audit	60	120	240	360

Factors	% reduction based on re-use
New	100%
Modified	70%

Use Case	Type	Name/Description	Complexity	New/Modified	# of Units
Broader Access to CER Standing Data	User Interface	Portal Access	complex	new	1
	Data Integration	IDX Business Services: Producers	medium	new	3
	Data Integration	IDX Business Services: Consumers	simple	new	3
	Security and Access	IDAM configuration for RBA	simple	modified	1
	Data Integration	DERR integration	simple	new	1
	Data Processing	DERR datastore	simple	new	3
	Business Logic	DERR business logic	complex	new	3
	Reporting and Audit	DERR Reports	simple	modified	2
	User Interface	Portal Access	simple	modified	1

Use Case	Type	Name/Description	Complexity	New/Modified	# of Units
Efficient Sharing of Network Limits	Data Integration	IDX Business Services: B2M	simple	new	3
	Security and Access	IDAM configuration for RBA	medium	new	2
	Data Integration	Network Limits Management Solution	medium	new	2
	Data Processing	Network Limits Management Solution	complex	new	2
	Business Logic	Network Limits Management Solution	complex	new	2
	User Interface	Network Limits Management Solution	medium	new	3
	Reporting and Audit	Network Limits Management Solution	simple	new	3
Network Support & Flexibility Capability Discovery	User Interface	Portal Access	simple	modified	1
	Data Integration	IDX Business Services	medium	new	10
	Security and Access	IDAM configuration for RBA	simple	modified	1
	Business Logic	Bulletin Board	n/a	n/a	0
	Reporting and Audit	Reporting	n/a	n/a	0

From Table 4, it can be seen that:

- The cost for AEMO to build, test and deploy the CER Data Exchange functionality is largely driven by the need to develop business logic across the three use cases, followed by data integration, user interface and data processing functionality;
- The Efficient Sharing of Network Limits is the most effort-intensive use case, followed by Boarder Access to CER Standing Data.

To estimate the industry costs to build, test and deploy the CER Data Exchange functionality, AEMO build, test and deploy costs were extrapolated using the same proportionality of AEMO to industry costs as applied in the MITE business case. Using this approach, the multiple applied for each participation category *per participant* is as follows:

- DNSPs: 0.14 (that is, each DNSP's build, test, deploy cost is estimated to be 0.14x AEMO's total build, test and deploy cost);
- Retailers: 0.07; and
- Other: 0.05.

This is a high-level estimation approach to provide industry with an indication of the likely costs to implement the functionality associated with the three priority use cases. It reflects the early stage of the CER Data Exchange project. Each industry participant has unique circumstances and will need to undertake their own costing assessment and internal approvals process.

3 Cost Assessment

3.1 Summary of cost assessment

The estimated cost to implement the three priority use cases is $24.4m over a two year implementation period, $8.7m of which are incurred by AEMO to design, build, test and deploy the CER Data Exchange functionality on top of MITE, and $15.7m incurred by industry to participate in the detailed design process and then implement the necessary interfaces with the CER Data Exchange.

It is estimated annual cost to maintain the use cases going forward is $0.7m. These predominantly relate to AEMO's cost to maintain the CER Data Exchange once it is operational and the incremental CER-related effort on workgroups.

Table 5 outlines the implementation and ongoing costs to AEMO and Industry.

Table 5. Total cost split by AEMO and Industry ($m, FY26 real)

	Total	AEMO	Industry
Implementation: Detailed Design	**5.9**	3.1	2.8
Implementation: Build, test, deploy	**18.5**	5.6	12.9
Total Implementation	**24.4**	**8.7**	**15.7**
Ongoing (p.a.)	**0.7**	0.3	0.4

3.2 Details of cost assessment

3.2.1 Participant cost breakdown

Table 6 presents the total implementation costs of the CER Data Exchange by participant type. Aside from AEMO, DNSPs have the largest portion of cost, with the greatest impact in the build, test and deploy stage for all industry participants.

Table 6. Cost by participant type ($m, FY26 real)

	Total	AEMO	DNSP	Retailer	Other[1]
Implementation: Detailed Design	**5.9**	3.1	1.0	1.3	0.5
Implementation: Build, test, deploy	**18.5**	5.6	7.1	4.6	1.2
Total	**24.4**	8.7	8.1	5.9	1.7

[1] 'Other' is a generalised category to allow for participants other than DNSPs, retailers/aggregators. It is included to acknowledge that there may be new types of participants interested in using the CER Data Exchange.

3.2.2 Cost bucket breakdown

Table 7 presents the implementation cost to each type of industry participant for each cost bucket in the implementation phase (detailed design and build, test, deploy). The largest component of AEMO cost is estimated for Detailed Design Delivery. For industry participants, the greatest cost is required for Business Logic, followed closely by Data Integration and Data Processing.

Table 7. Cost by participant for each cost bucket – Implementation ($m, FY26 real)

Cost bucket	Total	AEMO	DNSP	Retailer	Other
Project Management	**1.9**	1.3	0.3	0.2	0.1
AEMO Detailed Design Delivery	**3.1**	3.1	0.0	0.0	0.0
CER Data Exchange Working Group – Governance	**0.5**	0.0	0.2	0.2	0.1
CER Data Exchange Working Group - Technical	**0.5**	0.0	0.2	0.2	0.1
Broader industry involvement	**2.1**	0.0	0.8	1.0	0.3
Functional service: Security & Access	**0.4**	0.1	0.2	0.1	0.0
Functional service: Data Integration	**3.3**	0.9	1.3	0.9	0.2
Functional service: Data Processing	**3.0**	0.8	1.2	0.8	0.2
Functional service: Reporting & Auditing	**1.2**	0.3	0.5	0.3	0.1
Functional service: Business Logic	**5.4**	1.4	2.2	1.4	0.4
Functional service: User Interface	**3.0**	0.8	1.2	0.8	0.2
Total	**24.4**	**8.7**	**8.1**	**5.9**	**1.7**

3.2.3 Cost profile over period

Figure 12, Figure 13 and Figure 14 present the total costs over the 10 year model period, split by participant, cost type and cost bucket respectively. All industry participants are estimated to experience the greatest costs during the build, test, deploy stage, from July 2026 to June 2027. This is largely a result of the cost required for the Business Logic, Data Integration and Data Processing.

Figure 12. Cost profile by participant type

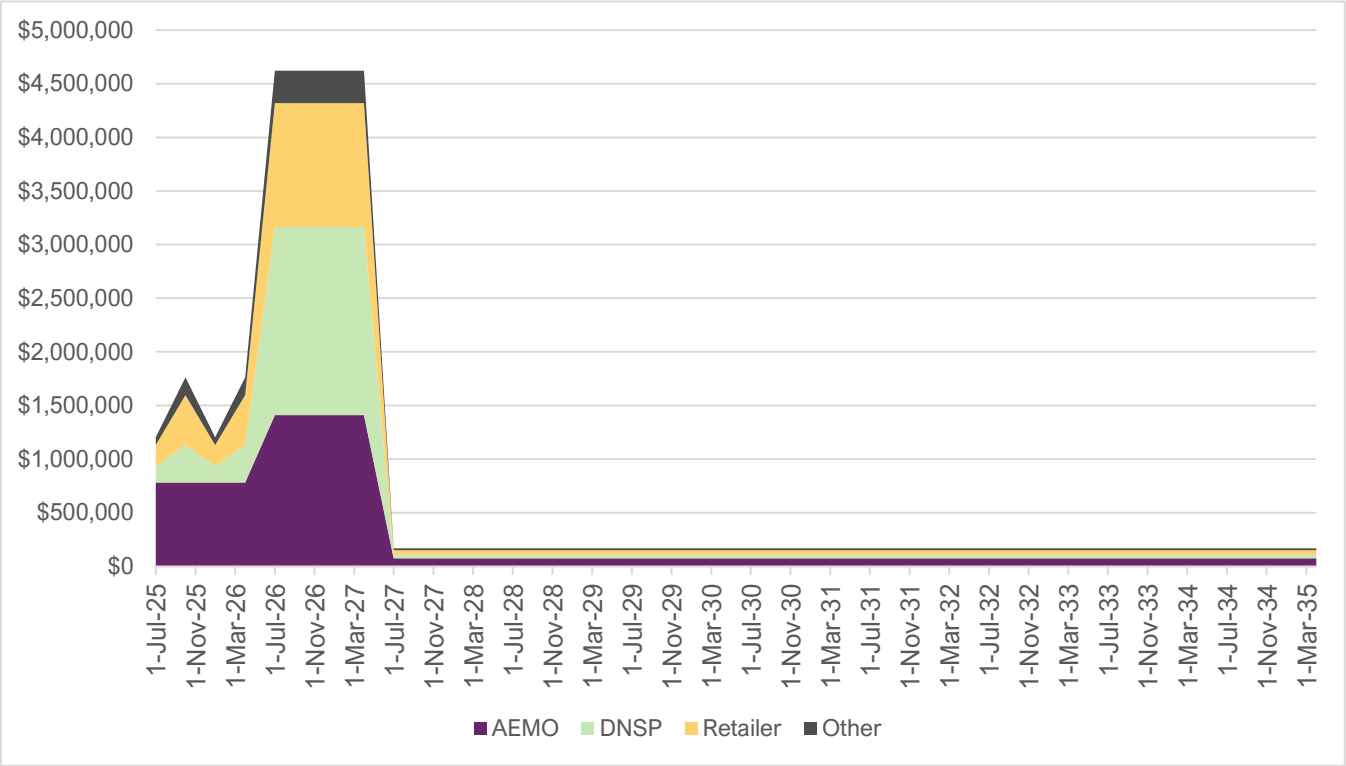


Figure 13. Cost profile by cost type

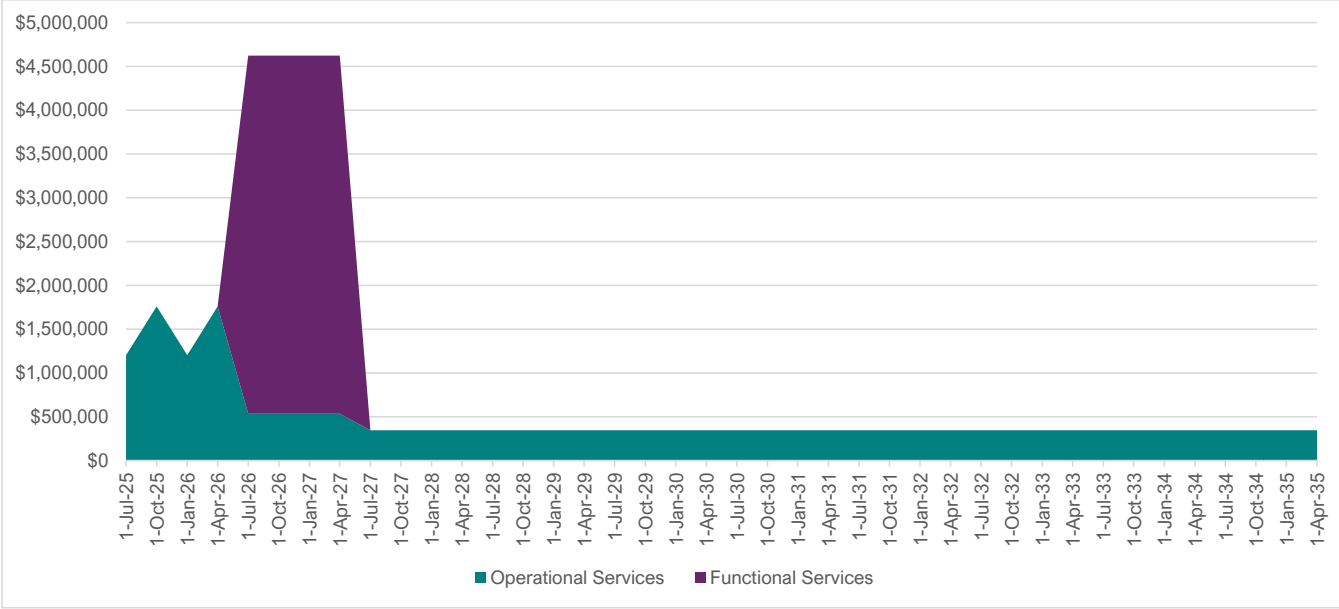
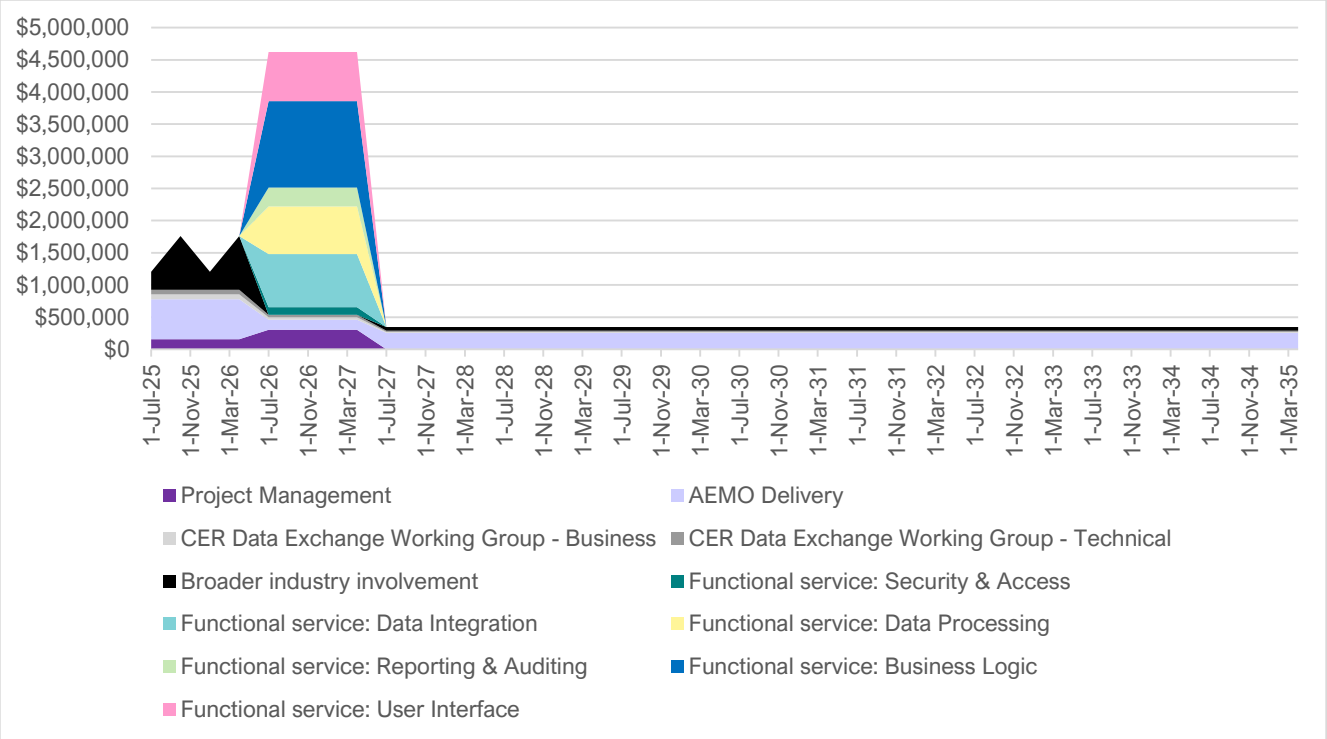


Figure 14. Cost profile by cost bucket



4 Conclusion

The high-level cost assessment outlined in this document is based on the outputs from the co-design phase for the CER Data Exchange, which were developed in collaboration with industry including stakeholder feedback through EWG meetings and industry consultation.

MITE will deliver critical foundational capability on which the CER use cases will be built. As the business case for MITE has already been approved by industry, this cost assessment quantifies the incremental costs to implement and maintain the MVP versions of three CER use cases that industry prioritised for delivery.

Overall, the estimated cost to implement MVP versions of the three priority use cases is:

- $24.4m over a two-year implementation period; and
- $0.7m per annum for ongoing maintenance.

This investment by industry will play an important role in unlocking the billions of dollars in benefits that have been identified in numerous CER integration projects.

Progressing development of the CER Data Exchange involves moving from co-design phase into implementation. Implementation will commence with a detailed design period led by AEMO with industry input via governance and technical working groups and broader industry input. Once detailed design is complete, industry participants will move into a phase of building, testing and deploying functionality into production systems. Once functionality is live, the ongoing process of maintaining the functionality will commence, led by AEMO as the operator of the CER Data Exchange.