CER Data Exchange Industry Co-Design

April 2025

Co-Design Summary

A paper outlining key insights, outcomes and recommendations for establishing a national CER Data Exchange

Important notice

Purpose

This publication outlines the key insights, outcomes, and lessons learned from the project. It provides an overview of consultation processes, industry requirements, governance considerations, and regulatory challenges. The paper presents a summary of the CER Data Exchange high-level design, cost assessment and implementation plan while outlining the long-term benefits for consumers. By consolidating findings from the project, it serves as a reference point for understanding the broader impact and strategic direction of the initiative.

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.

Disclaimer

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice, and should not be relied on as a substitute for obtaining detailed advice about the National Electricity Law, the National Electricity Rules, or any other applicable laws, procedures or policies. AEMO has made reasonable efforts to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this document:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and
- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.)

The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.

Copyright

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).

Table of Contents

Tables

Figures

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
NER	National Electricity Rules

Term	Definition
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

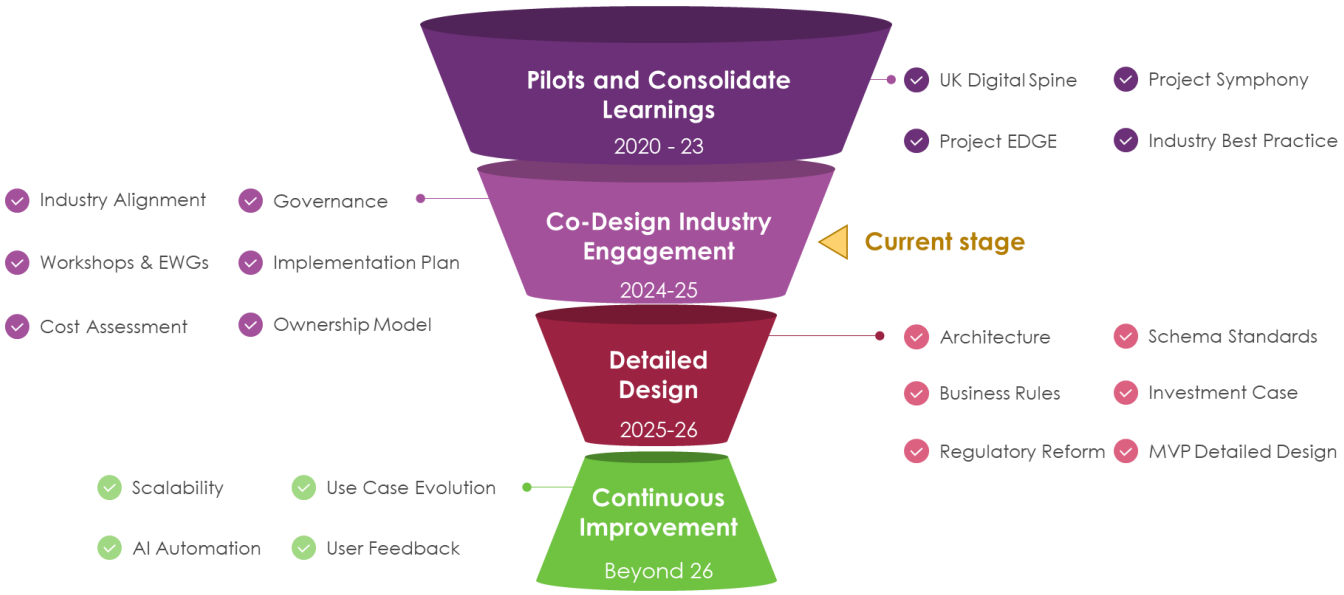
1 Introduction

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 co-design project is one step in the process to arrive at a High-Level Design aligned with industry to build the digital foundation that will support the efficient integration of CER into the energy system in Australia (see Figure 1 below). It builds on the findings, consolidated learnings and experience from previous Australian CER integration pilots such as Project EDGE and Project Symphony[1] which demonstrated the value of a CER data exchange concept, as well as overseas initiatives such as United Kingdom's Digital Spine Feasibility Study.

Figure 1: The CER Data Exchange Industry Co-design project is part of a long term, multistage process



Since June 2024, a team consisting of members from AEMO and AusNet, supported by independent consultants Mott MacDonald and EY (the Project Team), have undertaken a significant industry co-design process to develop a high-level design for the CER Data Exchange. From providing written submissions to the consultation paper, participating in public workshops and detailed involvement through the Expert Working Group (EWG), stakeholders have had multiple avenues to contribute to the development of the high-level design.

[1] AEMO | Project EDGE Reports, Project Symphony - Final Lessons Learnt Report - Australian Renewable Energy Agency (ARENA)

1.2 This Co-Design Summary Report

This document is part of a series of reports marking the conclusion of the high-level design phase of this project. It provides a summary of the key outcomes the CER Data Exchange Industry Co-Design process, and a high-level plan to guide the futures detailed design and implementation phases of the project. This report should be read in conjunction with the reports depicted in Figure 2 below. AEMO will also publish a separate knowledge sharing report to outline the Project Team's journey of applying a co-design framework with a broad range of stakeholders to progress customer outcomes and key learnings from the process.

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.

Figure 2: Reports for the CER Data Exchange Industry Co-Design project

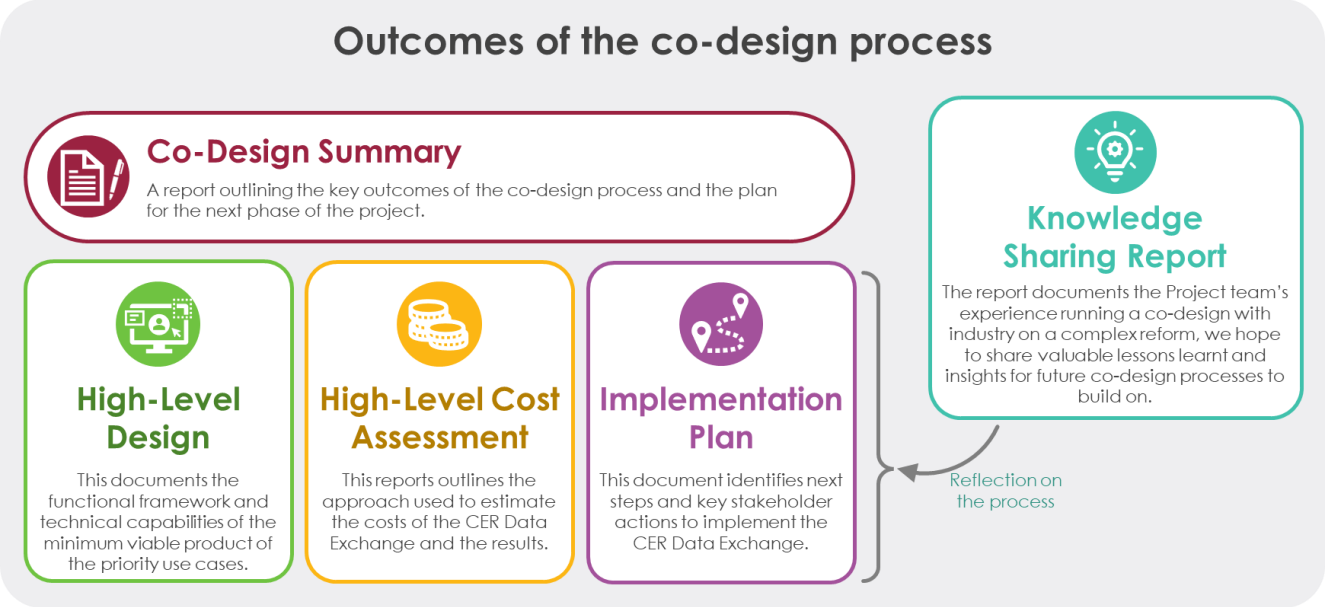
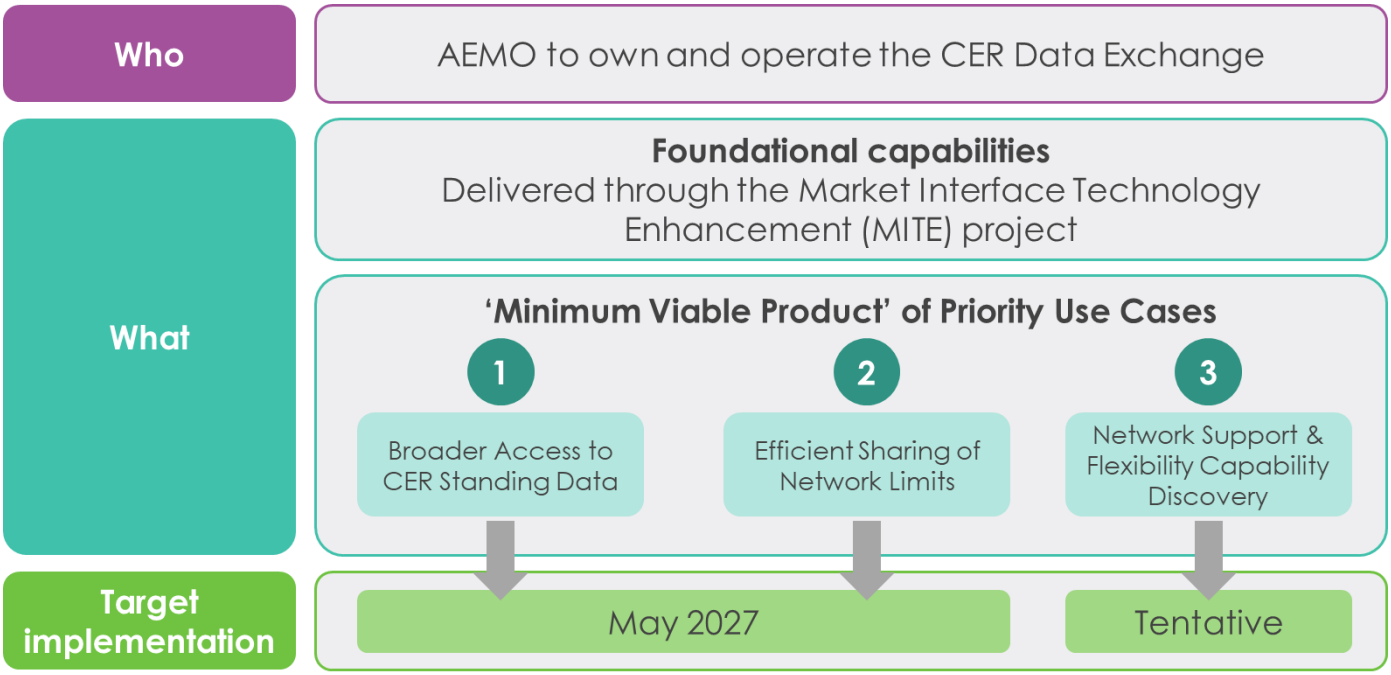


Figure 3: Thank you to the organisations that have participated in the Expert Working Group

2 Key outcomes of the co-design process

Figure 4 below shows the stakeholder preferred option for the CER Data Exchange. The outcomes incorporate feedback provided by stakeholders through three public workshops, submissions to the consultation paper, and significant input from members of the Expert Working Group (EWG). Figure 4

Figure 4: CER Data Exchange Stakeholder Preferred Option



2.1 AEMO to own and operate the CER Data Exchange

Through submissions to the consultation paper and feedback provided at public workshops, stakeholders expressed a clear preference for AEMO to own and operate the CER Data Exchange. Stakeholders considered the AEMO-led model as the most cost-effective and efficient, leveraging AEMO's existing expertise in operating industry-wide systems and interfaces.

Stakeholders expressed a second preference for the creation of an independent government agency to own and operate the CER Data Exchange. While this model could provide an impartial and consumer-focused outcome, stakeholders recognised the higher setup costs and potential for slower decision-making process.

2.2 Leveraging the capabilities delivered through the existing Market Interface Technology Enhancement (MITE) project

The CER Data Exchange will leverage the Industry Data Exchange (IDX) and Identity and Access Management (IDAM) capabilities being built under the Market Interface Technology Enhancement (MITE) project [2]. The CER

[2] AEMO | Market Interface Technology Enhancements

Data Exchange will share the same foundational capabilities such as authentication, role-based access, security controls, and structured data exchange mechanisms, which are essential for the transmission of data between many organisations.

Leveraging the capabilities that are already funded for, and planned to be delivered by the MITE project reduces the incremental costs of implementing the CER Data Exchange and reflects stakeholders' consistent feedback that the CER Data Exchange should leverage existing infrastructure as much as possible. As the MITE project focuses on improving the interface of existing market systems, there is still a requirement to develop and build capabilities that are specific to the exchange of CER data. The next stage of the CER Data Exchange initiative will focus on the detailed design and implementation (build, test and deploy) of the capabilities to provide the functionalities to deliver the priority use cases identified with stakeholders through this process.

2.3 Development of high-level design for three priority use cases

Stakeholders expressed a consistent preference that the CER Data Exchange should 'start small then grow' with a small number of high-value use cases. They consider this approach will lay the foundations that will enable future capabilities to develop. The priority use cases were selected with stakeholders because they will deliver tangible benefits early to industry and provide the initial data exchange capabilities for future use cases. The three priority use cases stakeholders selected are:

1. **Priority use case 1: Broader access to CER Standing Data.** This use case will create a secure, role-based access mechanism for sharing verified CER standing data between authorised organisations. It aims to establish trusted, standardised and dynamic access to CER data, creating a unified data exchange that ensures information integrity and interoperability between many organisations.
2. **Priority use case 2: Efficient Sharing of Network Limits.** This use case will create a mechanism to provide authorised organisations with visibility of network constraints (such as Dynamic Operating Envelopes (DOEs)). It is intended to support more transparency on distribution network capacity and provide information that would enable other parties such as customers agents and retailers to make informed decisions that would improve outcomes for their customers. It aims to preserve DNSP operational independence while improve dataset access linkages and enhance interoperability across DNSPs for customer agents, retailers and other authorised organisations.
3. **Priority use case 3: Network Support & Flexibility Capability Discovery**. A framework for coordinating the procurement of CER-based flexibility services to manage local network congestion without physical infrastructure augmentation. This use case aims to provide ease of operation across multiple networks for support service providers, like customer agents.

2.4 Targeting the delivery of at least two priority use cases by May 2027

2.4.1 First generation use cases to be a 'minimum viable product'

Consistent with stakeholder feedback to 'start small and grow', the first generation of the priority use cases will be 'minimum viable products' that will focus on providing the foundational elements for CER Data Exchange. This can enable early adoption by energy sector organisations and will be a key enabler for other reforms such as the

Integrating Price Responsive Resources rule change. The foundational elements, which will consist of capability developed under the MITE project and CER Data Exchange specific capabilities, include:

- a **secure data exchange infrastructure** that establishes standardised sharing patterns,
- an **access management framework** supporting authentication and authorisation for various market participants, and
- data **standardisation** that enables consistent data structures and validation protocols.

2.4.2 Staged delivery of priority use cases targeting May 2027

AEMO will target delivering priority use case 1 and 2 by May 2027 as they received the strongest stakeholder support during the co-design process. First, we will move through the AEMO governance process and then on to progressing Detailed Design. This timing is intended to align with the implementation of the *Integrating Price Responsive Resources* final rule,[3] as well as the go-live date for the foundational capabilities delivered under the MITE Project[4] and ensure MVP capabilities for the National CER Roadmap[5] to build upon.

AEMO will also progress the development of the *Network Support & Flexibility Capability Discovery* priority use case in conjunction with industry stakeholders as need and market maturity for the capability surfaces. Stakeholders considered that more time and effort is needed further develop the services and potential benefits that this use case will provide to customers. This stakeholder feedback has been reflected in the implementation roadmap, which shows a tentative deployment of this use case at this stage.

Further detail on the priority use cases, including their high-level reference design, can be found in Attachment A: High-Level Design

[3] AEMO | Integrating Price Responsive Resources into the NEM (IPRR)

[4] AEMO | Market Interface Technology Enhancements

[5] National Consumer Energy Resources Roadmap

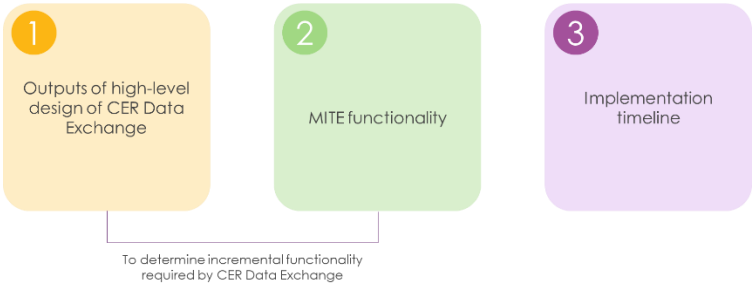
3 The costs of implementing the CER Data Exchange

3.1 The incremental cost of building the CER Data Exchange is under $25 million

As part of this co-design initiative, a high-level cost assessment (see Attachment B: High-Level Cost Assessment) was conducted to estimate the incremental cost to implement the 'minimum viable product' for the three priority uses. The high-level cost assessment has been an important part of this project as it demonstrates the viability and need for a CER Data Exchange against the counterfactual of continuing down the point-to-point path.

Incremental cost measured in the assessment refers to the cost to design, build and deploy capabilities in addition to those that will be provided by the MITE project. Figure 5 below shows the factors that were taken into considerations as part of cost assessment process.

Figure 5: High-level cost assessment considerations



The incremental cost to implement the 'minimum viable product' for the three priority uses cases is estimated at $24.4 million incurred within the first two years. AEMO is expected to incur a cost of $8.7 million to design, build, test and deploy the CER Data Exchange specific functionality while industry participants are estimated to incur $15.7 million in cost to participate in the detailed design process and then implement the necessary interfaces with the CER Data Exchange. It is estimated that the annual ongoing cost to maintain the services provided by priority use cases is $0.7 million, which predominantly relates to AEMO's cost to maintain the CER Data Exchange. Table 1 below shows the breakdown of the costs to AEMO and industry participants.

Table 1: 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

All industry participants (AEMO, DNSPs, Retailers / Aggregators, Others [6]) 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. The largest component of AEMO cost is estimated to occur during detailed design phase.

Figure 6 and Figure 7 below represent the total costs over the 10-year model period, split by participant type and cost category, respectively.

Figure 6: Cost split by industry participant type

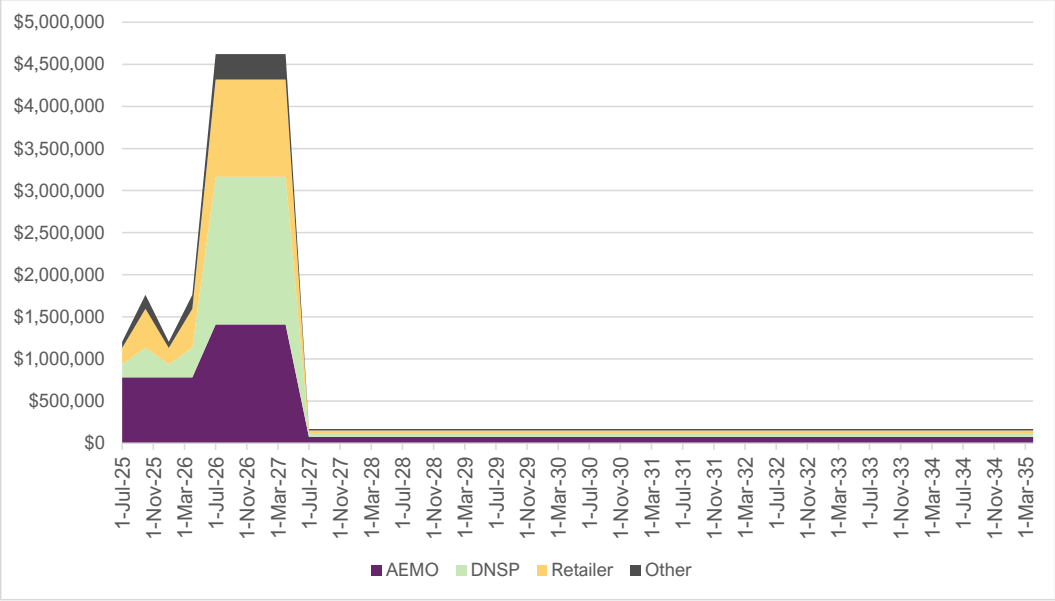
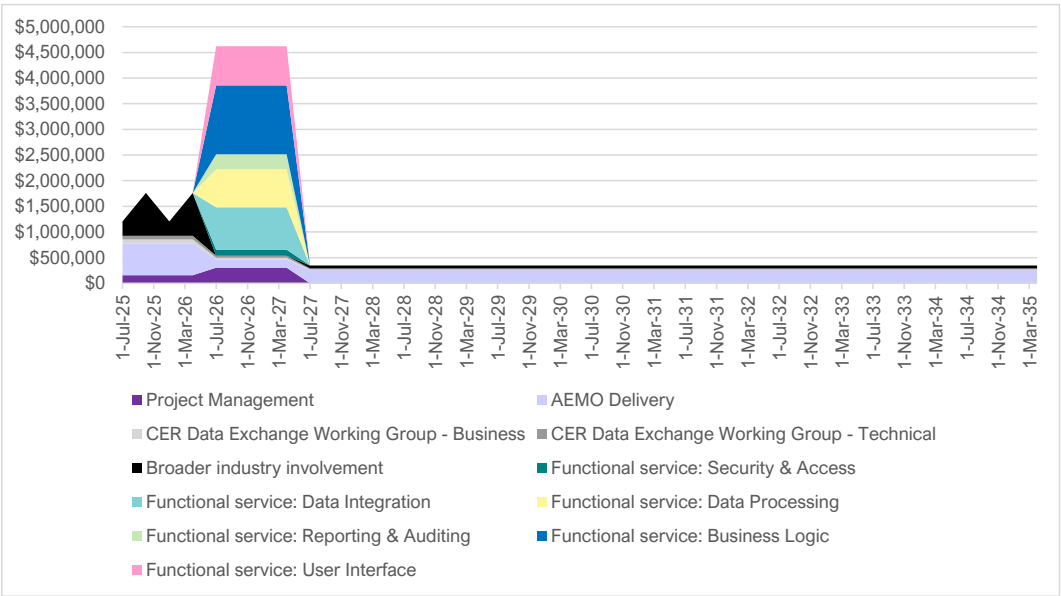


Figure 7: Cost split by cost category



[6] '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]

3.2 An investment in the CER Data Exchange could unlock significant system and consumer benefits

The system wide benefits of CER coordination are well documented

The future energy system requires the integration of large volumes of CER. The industry currently suffers from a lack of distributed energy data sharing at scale. The ability to ingest, standardise and share CER data between many organisations will be critical to make the most out of customers' CER investments.

The potential benefits of more efficient CER integration to the Australian community are very significant – including to support governments' net zero targets. A CER Data Exchange will make a significant contribution to this policy goal. Australian governments and market bodies are seeking to unlock billions of dollars in benefits to consumers by getting the most out of CER investments. For example, the following previous trials and studies found:

- AEMO's 2024 Integrated System Plan (ISP)[7] found that without effective coordination of consumer batteries, around **$4.1 billion** of additional grid-scale investment would be needed. The ISP assumes and relies on efficient CER integration to achieve consumer energy needs.
- The Clean Energy Council modelling[8] found that not meeting CER forecasts, under AEMO's draft 2024 ISP Step Change Scenario, risks losing **$22** billion in savings for Australian taxpayers.
- The Institute for Energy Economics and Financial Analysis found that CER has the potential to deliver a combined economic benefit for Australia of more than **$19 billion** by 2040 – including $11 billion in avoided network costs and $8 billion in reduced generation and storage costs, if CER is well integrated.
- The Western Australian Government's pilot of VPP technology, under Project Symphony[9], found redistributing excess power produced by residential solar panels, appliances and home batteries could create more than $920 million in value in the coming decade.

The stakeholder preferred option for the CER Data Exchange is a cost-effective solution to reduce industry cost

A Deloitte and Energeia cost–benefit analysis, undertaken as part of Project EDGE [10], found:

- a 'data hub' (like the concept of the CER Data Exchange) would reduce industry costs by up to **$440–450 million** compared to a point-to-point approach over a 20-year time horizon
- the costs to implement a local services exchange[11] via a data hub arrangement, as compared to the alternative point-to-point arrangement, would be $9 million lower.

The benefits that the CER Data Exchange will deliver is likely to far outweigh the cost of implementation. The stakeholder preferred option for the CER Data Exchange, which leverages capabilities that are being developed by the MITE project, will significantly reduce the cost of implementation.

[7] AEMO 2024 Integrated System Plan

[8] Clean Energy Council, Modelling the Value of CER to Energy Consumers, 2024

[9] Project Symphony, Final Project Assessment

[10] See: project-edge-independent-cba-full-report

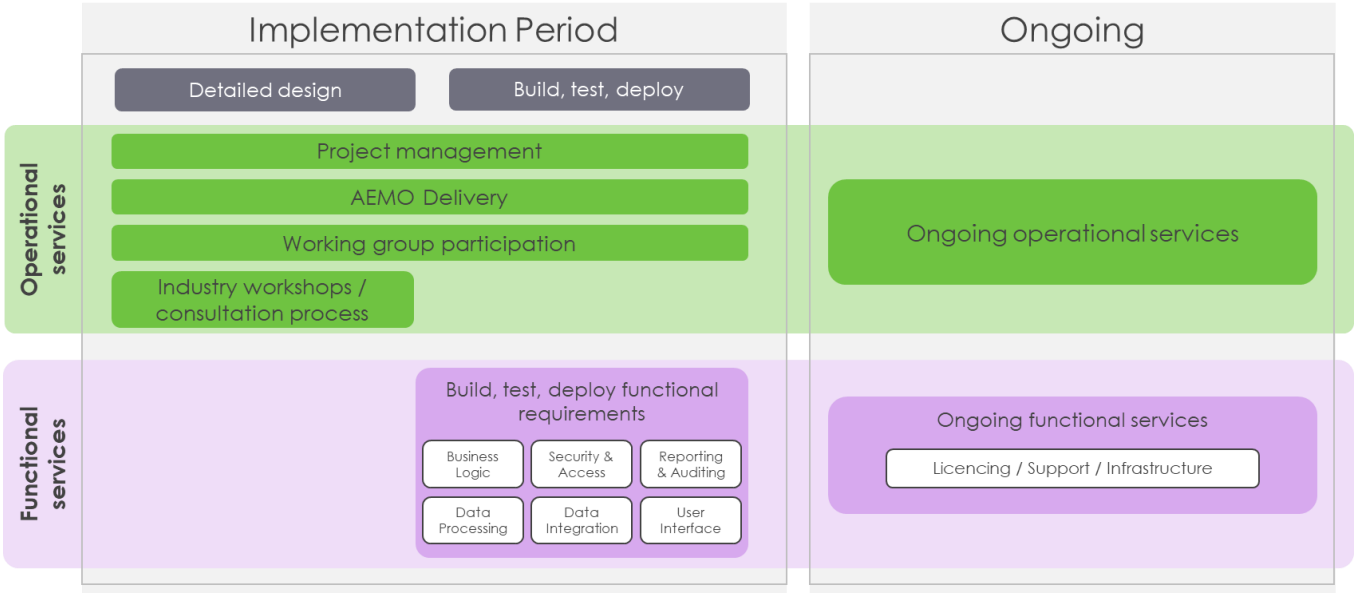
[11] As intended in Use Case 3: Network Support & Flexibility Capability Discovery.

3.3 Assumptions, Scope and Methodology

The cost assessment estimated costs over a 10-year period, with a two-year implementation period at the start to design, build, test and deploy the functional requirements of the CER Data Exchange. Costs for ongoing operations were estimated for the remainder of the 10-year model.

The incremental CER Data Exchange functionality was divided into cost buckets, which represent the key activities that will incur costs during the implementation period (detailed design and build, test, deploy) and ongoing operations (Figure 8).

Figure 8: Cost buckets for the high-level cost assessment



A combination of effort-based (labour) estimates and 't-shirt sizing' techniques were used to estimate costs (see Figure 9 below). AEMO developed 't-shirt sized' estimates based on prior experience delivering other NEM reform programs.

Figure 9: Cost estimation parameters

Operational Services

- Effort-based estimates
- Effort aligned with:
  - **Project management** (AEMO)
  - **Project Delivery** (AEMO)
  - **Working group** participation (based on estimated number of participants by category)
  - All **industry workshops** and consultation (all industry)
- Split by participant category
- Standard labour rate applied

Functional Services

- Estimate of t-shirt sized costs for functional build, test and deploy
- Plus other costs such as hosting, storage, licence fees

See Attachment B: High-Level Cost Assessment for further detail on the cost assessment.

4 Next phase of the CER Data Exchange initiative

4.1 Broad stakeholder agreement for AEMO to progress the CER Data Exchange

As part of Workshop 3, the Project Team sought feedback from participants on the best way to undertake the detailed design and implementation phase of the CER Data Exchange initiative. The options discussed at the workshop is in Figure 10 below.

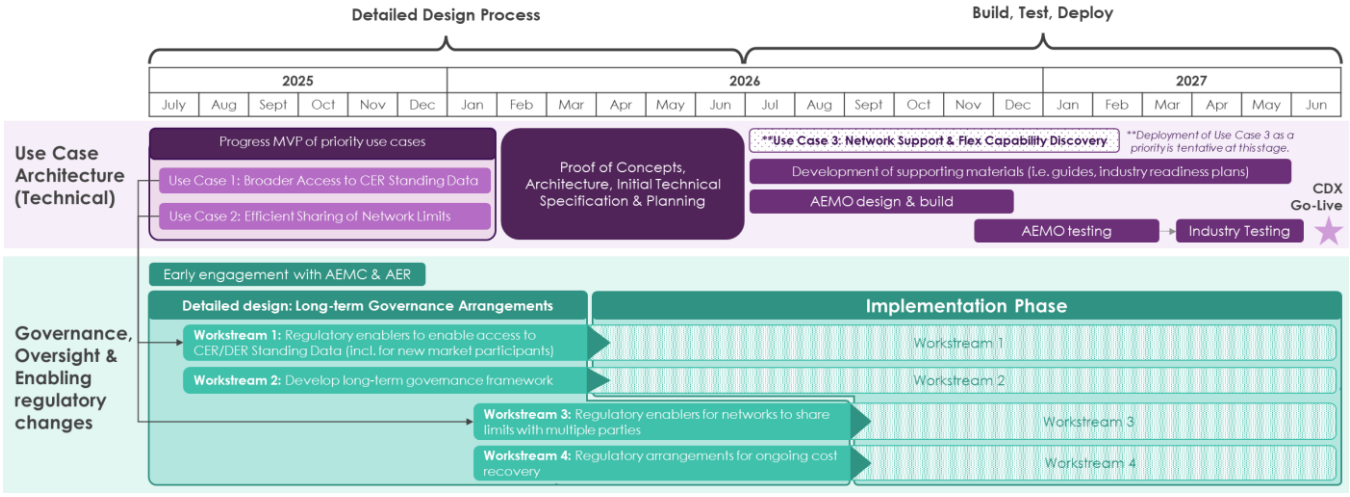
Most workshop participants supported the option for AEMO to lead the next stage of the initiative under the current CER Data Exchange banner. While using existing and related AEMO forums would reduce overhead, some stakeholders considered using existing forum risks the work being led by timeframes of those forums. Other stakeholders considered that progressing implementation under the CER Data Exchange banner is warranted as it helps maintain momentum and focus on CER specific issues and that different expertise from their organisation would be required compared to existing forums.

Consistent with stakeholder preferences, AEMO aims commence the next phase of the CER Data Exchange from **July 2025**.

Figure 10: Stakeholder preferences on CER Data Exchange ownership and detailed design and implementation process

Over a 24-month period, AEMO will undertake the detailed design and implementation of the 'minimum viable product' for the priority use cases. Figure 11 below provides an outline of the tasks for the detailed design and implementation phase of the CER Data Exchange initiative.

Figure 11: Indicative High-level timeline for the detailed design and implementation phase



4.2 Next phase will consider both short- and long-term implementation issues

The plan for the next phase reflects stakeholder preference that the CER Data Exchange should 'start small, then grow', and remains scalable and adaptable to the evolving needs of Australia's energy market.

The next phase will consider issues over two horizons as per the following indicative timelines:

- **Near term (2025-2027).** For this horizon, AEMO will work with industry stakeholders on resolving technical and regulatory issues that will enable the implementation and uptake of the priority use cases by May 2027.
- **Long-term (2027+).** For this horizon, AEMO will focus on developing frameworks that will support the operation of the CER Data Exchange beyond the initial establishment phase. The issues to consider include the role of industry working groups, governance arrangements and fee structures required to enable the evolution of existing use cases and the implementation of new use cases.

Figure 12: Phases for the CER Data Exchange development

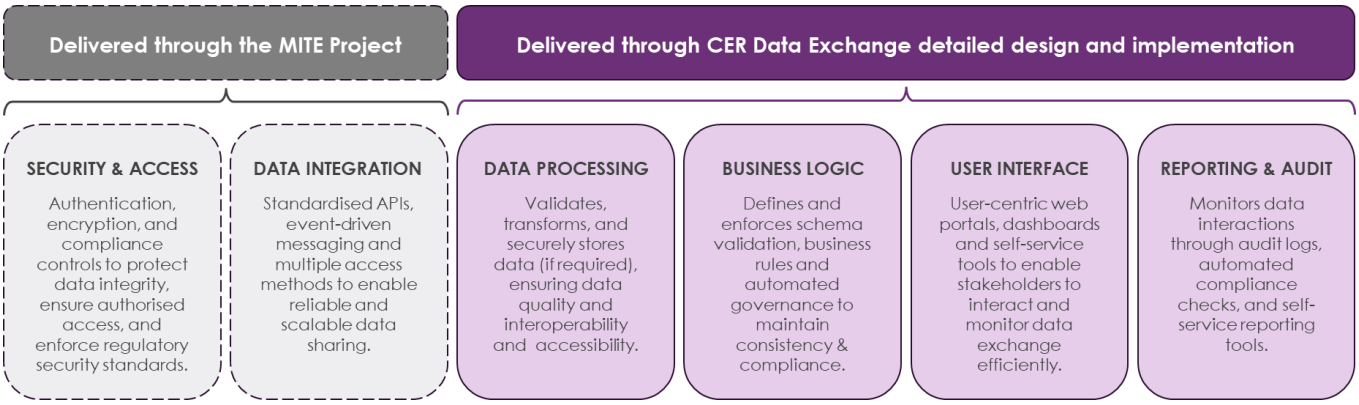
4.3 Separate working groups to consider technical and governance issues

The implementation of the priority use cases, and the development of long-term governance framework will require detailed input from industry stakeholders across a range of technical and governance related areas.

AEMO plans to conduct the detailed design and implementation phase of the CER Data Exchange initiative through two industry working groups: Technical and Governance. As shown in Figure 11, these workstreams are intended to operate concurrently as they are inherently interlinked and will need to be explored in parallel to achieve a streamlined deployment of the priority use cases.

- **Technical Working Group will develop core digital infrastructure including:**
    - Designing and developing the technical architecture and specifications (core digital infrastructure) that enables secure data exchange, processing and accessibility and the technical mechanics of data movement, validation and presentation to users.
    - The technical capabilities to be explored are outlined in Figure 13.
- **Governance Working Group will consider operational governance and regulatory enablers, including:**
    - Developing and implementing a longer-term operational governance framework that will support the evolution of the CER Data Exchange's capabilities and services.
    - Identifying regulatory enablers including potential rules changes which may be required to enable implementation

Figure 13: Technical capabilities for exploration

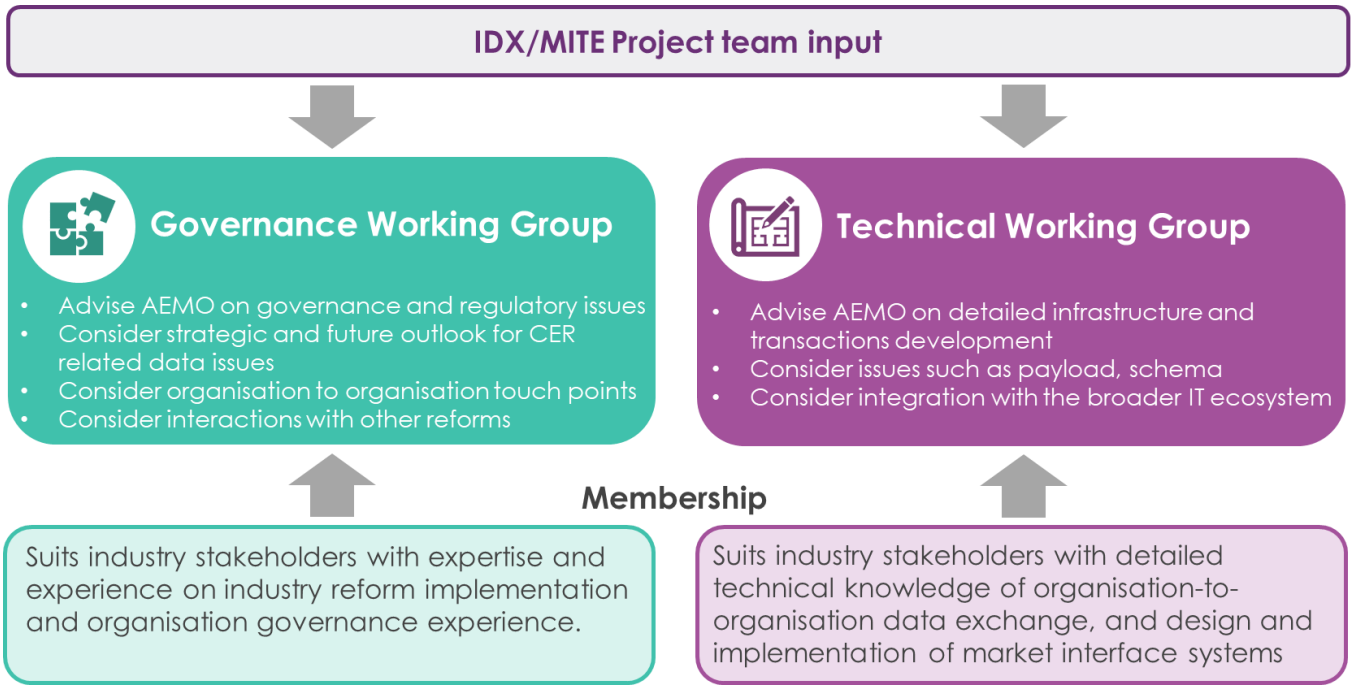


4.4 AEMO will convene working groups to seek industry stakeholders to provide expert input

A technical and industry working group to support detailed design and implementation

AEMO will maintain a collaborative approach for the next phase and convene two working groups to support the process. The working groups will enable AEMO draw on the expertise and experience of industry stakeholders so that the development and implementation the priority use cases meet customers and industry requirements. Figure 14 below shows the proposed functions and membership of the technical and industry working group.

Figure 14: Working groups for the detailed design and implementation of the CER Data Exchange



AEMO will seek nominations from industry

AEMO aims to seek industry stakeholder nominations to the technical and industry working group from **July 2025**, with a view to commence Detailed Design by Q3 2025. Stakeholder queries and early expression of interest to participate in the next stage of the process should be directed to **cerdataexchange@aemo.com.au**.

Appendices

A1. The CER Data Exchange

A1.1 CER Data Exchange – what is it?

The CER Data Exchange is intended to be a secure and common infrastructure which facilitates the exchange of standardised CER data sharing between many industry organisations such as network operators, retailers, aggregators, or customer agents (Figure 15). While it will not be the sole method for transferring CER data, it offers a common, scalable solution to improve efficiency and reduce the cost in duplication of data-sharing processes. It is intended to operate alongside other systems and frameworks, such as the Consumer Data Right (CDR) and the DER Register and facilitate flexible and efficient data sharing without replacing current systems. It is intended to enable customer agents and energy sector organisations to make better informed decisions that could support improved grid stability and more efficient energy use.

Figure 15: The CER Data Exchange concept

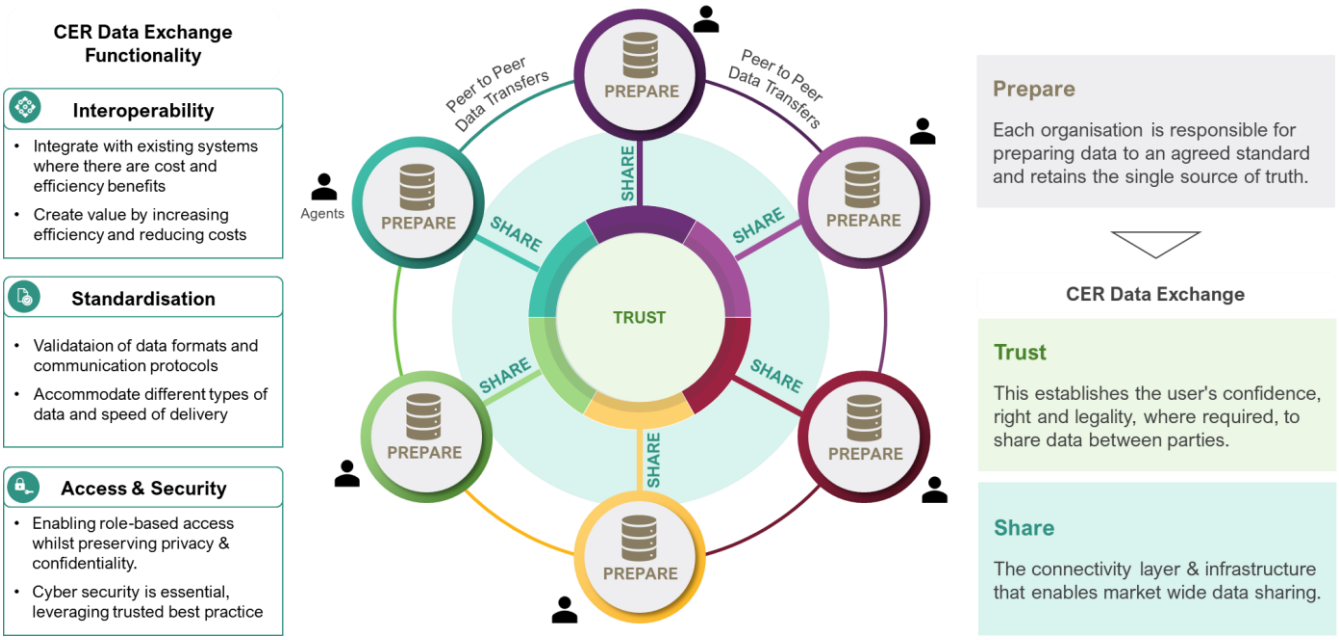


Figure 16: The CER Data Exchange – what it is and what it isn't

What it is	What it is not
The CER Data Exchange Is: • **A common infrastructure for standardised data sharing:** Facilitates the exchange of specific, standardised CER data across organisations. • **Supportive of specific, use cases:** Focuses on targeted applications like grid stability and energy market operations, without overextending to complex needs. • **An enabler of innovation:** Provides data access for new entrants and innovators accelerating the energy transition. • **Privacy-focused:** Ensures consumer data protection while enabling trusted data sharing. • **Aligned with net zero goals:** Helps efficiently integrate CER into the energy system, supporting sustainability and resilience. • **A foundational enabling tool:** Provides secure data infrastructure but integrates with, rather than replaces, existing systems.	**The CER Data Exchange Is Not:** • **A control system for devices:** Facilitates data sharing only; device control remains separate. • **A replacement for existing industry participant data systems:** Complements, rather than duplicates, existing investments. • **A central repository for all CER data:** Connects existing data sources, without storing or controlling them. • **A direct access point for consumers**: Focuses on organisation-to-organisation sharing, not direct customer interactions. • **A unified security and access system:** Does not impose a single security or access model across all CER devices or industry participant systems.

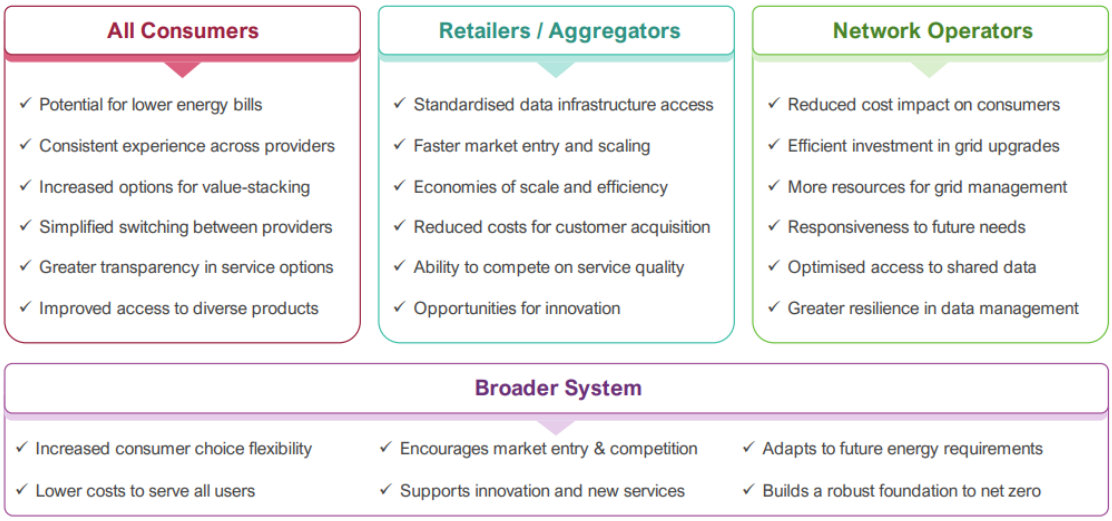
A1.2 How the CER Data Exchange improves outcomes in the long term

Currently, CER data is transferred through a network of fragmented, bespoke systems. As Australia progresses toward a net-zero energy future, the transition to a more decentralised energy system and corresponding rapid growth of CER, including rooftop solar, battery storage and electric vehicles, requires a reimagined energy system. Decentralisation is more than simply adding new technologies; it signifies a shift where consumers are active participants and decision makers in energy generation, storage, and consumption. This transition relies heavily on coordination among many more organisations than today, supported by robust, transparent data flows to manage the complexities of a diverse energy system.

By implementing standard integrations and transactions, the intent of the CER Data Exchange is to reduce reliance on fragmented, point-to-point connections that often complicate and add cost to exchange data. A CER Data Exchange would support the standardisation and streamlined data coordination across industry, simplifying CER integration and reducing costs by enabling compatibility across systems. By providing unified access to consistent and current CER data, a CER Data Exchange could encourage participation in flexible energy services and reduce barriers to entry – thereby enabling fast development of new CER flexibility services.

Although the CER Data Exchange primarily supports organisation-to-organisation data sharing, addressing these issues will benefit end-users of the power system. For example, CER customers will benefit from improved and more diverse service offerings at lower cost and reduced overall bills with increased access to 'rewards' for more actively participating in energy markets. Those without CER will benefit from cost savings from a more efficient power system (see Figure 17 below).

Figure 17: Summary of benefits of the CER Data Exchange



A1.3 How does the CER Data Exchange fit into the wider reform program

The Project Team, EWG members and workshop participants were mindful of the need for the high-level design for the CER Data Exchange to support current and future reforms. The co-design process applied design principles to ensure the high-level design would align with the broader national and state-based regulatory frameworks, existing market principles, and facilitate integration across various sectors, including emerging technologies, and non-traditional energy market participants.

Table 2 below outlines a non-exhaustive list of the related or impacted concurrent reforms which have been considered in the development of the implementation timeline for the CER Data Exchange, with the reform timelines outlined in Figure 18.

Table 2: Concurrent reforms relevant to the CER Data Exchange

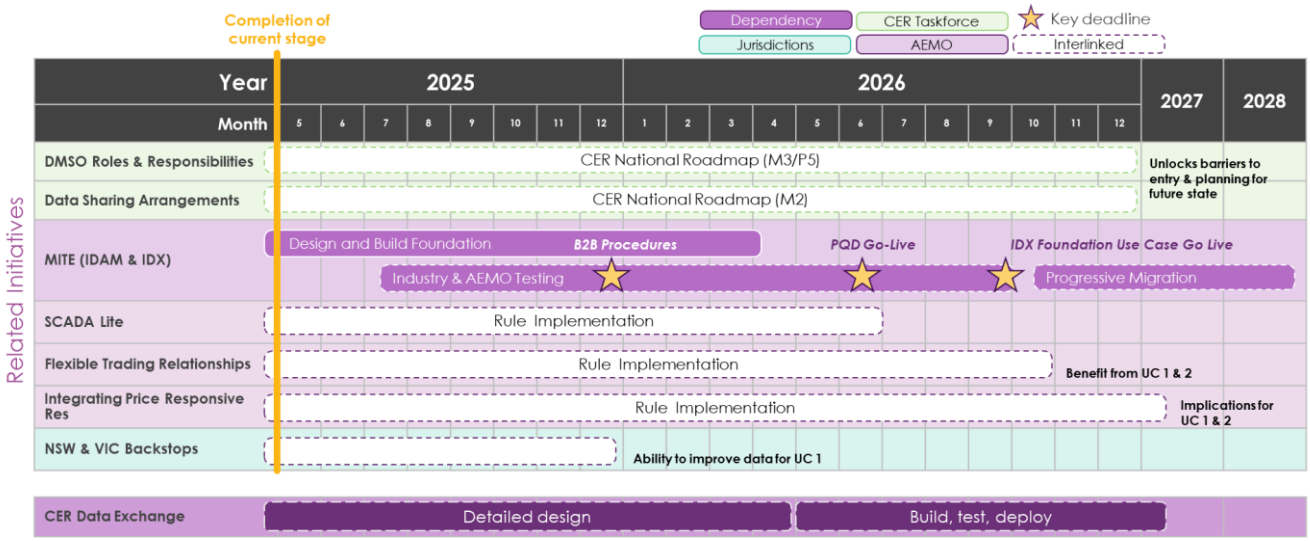
Reform	Description
Integrating Price Responsive Resources (IPRR) Rule Change	The IPRR Rule Change aims to enable flexible resources to participate directly in the market, supporting aggregated demand response and load management. However, existing systems do not fully support the multi-party data exchange needed to operationalise this rule change effectively. The CER Data Exchange could facilitate data sharing between flexible resources and market participants, potentially lowering barriers to entry and making it easier for new participants to engage in demand response and load management.[12]
Unlocking CER Benefits (Flexible Trading Arrangements Rule Change)	This rule change aims to enable more responsive trading arrangements and load flexibility for CERs, improving their market participation. Existing systems may not be fully equipped to handle the dynamic data-sharing requirements necessary for this rule change. The CER Data Exchange could support seamless data sharing for flexible trading arrangements, potentially improving load flexibility, supporting demand response, and enhancing grid reliability through coordinated CER integration. This could help realise the full potential of CERs as active voluntary participants in the market.[13]
National CER Roadmap	The National CER Taskforce/Roadmap aims to create a national strategy for integrating CERs into the electricity system, improving coordination, visibility, and market participation of CERs. However, without a data exchange, these goals may be challenging to achieve. National CER Roadmap outlines the need to establish arrangements necessary for operational CER data including flexible operating envelopes, network management and reliability and market exchange. This includes defining and implementing a CER data exchange to enable markets and services that incentivise consumer participation in CER coordination – as denoted in workstream *M.2 Data sharing arrangements to inform planning and enable future markets*.

[12] AEMO | Integrating Price Responsive Resources into the NEM (IPRR)

[13] AEMO | Flexible Trading Arrangements

Reform	Description
	The CER Data Exchange could serve as a core infrastructure for this workstream, enabling standardised, secure, and efficient data sharing across stakeholders, supporting broader decarbonisation and energy transition efforts. [14]
SCADA Lite	SCADA Lite will enable NEM non-NSP participants to establish a bi-directional connection to exchange operational information (telemetry and control) with AEMO. The SCADA Lite initiative provides greater visibility and operational control of network generation and ancillary service resources. [15]
NSW & VIC Backstop Mechanisms	States across Australia have / are implementing emergency backstop mechanisms designed to manage excess solar power generation on mild, sunny days when there is low demand for electricity. The mechanism, as implemented in Victoria, allows for the remote curtailment of solar exports to prevent grid instability, voltage issues and potential outages. [16] The emergency backstop requirements for small and medium solar systems (up to 200kW) commenced on 1 October 2024 in Victoria. NSW intend to introduce a mandatory backstop mechanism in 2025.
Market Interface Technology Enhancement (MITE) [17]	
Identity and Access Management (IDAM)	IDAM is a centralised system for managing user identities, permissions, and access across the NEM, ensuring secure access to market data. While IDAM manages access control effectively, it primarily focuses on existing market systems and may not fully address the additional security needs posed by CER data sharing at scale. The CER Data Exchange could integrate with IDAM, supporting role-based access and ensuring that CER data is shared securely and only with authorised parties, maintaining compliance with privacy and data protection standards.
Industry Data Exchange (IDX)	IDX is a NEM reform initiative focused on modernising existing data exchange capabilities in the NEM and WEM electricity and gas markets by replacing legacy systems with secure, standardised integration patterns. It aims to streamline data flows between market participants, DNSPs, aggregators, and service providers. While IDX focuses on core market transactions, it has not identified any specific CER data sharing use cases. The CER Data Exchange could leverage IDX's modern infrastructure to support more standardised data sharing for CER-related use cases, enabling seamless CER integration across the market and potentially supporting new use cases.

Figure 18: Expected timelines of concurrent reforms



[14] national-consumer-energy-resources-roadmap.pdf

[15] AEMO | SCADA Lite

[16] Victoria's emergency backstop mechanism for solar

[17] AEMO | Market Interface Technology Enhancements

A2. The Co-Design process

A2.1 Stakeholder feedback contributed significantly to the high-level design

The Project Team has undertaken extensive engagement with stakeholders to explore the various trade-offs of various design choices and evaluated the preferences for priority use cases to best achieve the long-term interests of all consumers. Since June 2024, the project team has engaged with over 250 stakeholders from across the energy industry through 15 EWG meetings, three public industry workshops, three public webinars, a consultation paper and numerous 1-on-1 engagements (Figure 19). This collaborative effort has included consumer advocacy groups, aggregators, customer agents, distribution network service providers, retailers, digital service providers, original equipment manufacturers (OEMs), industry bodies, and government and market bodies.

Figure 19: Significant contributions made by industry to shape reform

Across five workstreams, the Project Team and stakeholders explored the trade-offs of design choices and evaluated design preferences for priority use cases to best achieve the long-term interests, and reached broad alignment on key aspects of the CER Data Exchange's high-level design including use case functionality, data sharing capability, use cases, ownership, oversight, governance and implementation considerations.

Figure 20 below provides an overview of the co-design process, while Figure 21 outlines the focus of public workshops and consultations.

Figure 20: Co-design phases, engagement channels and stakeholder forums

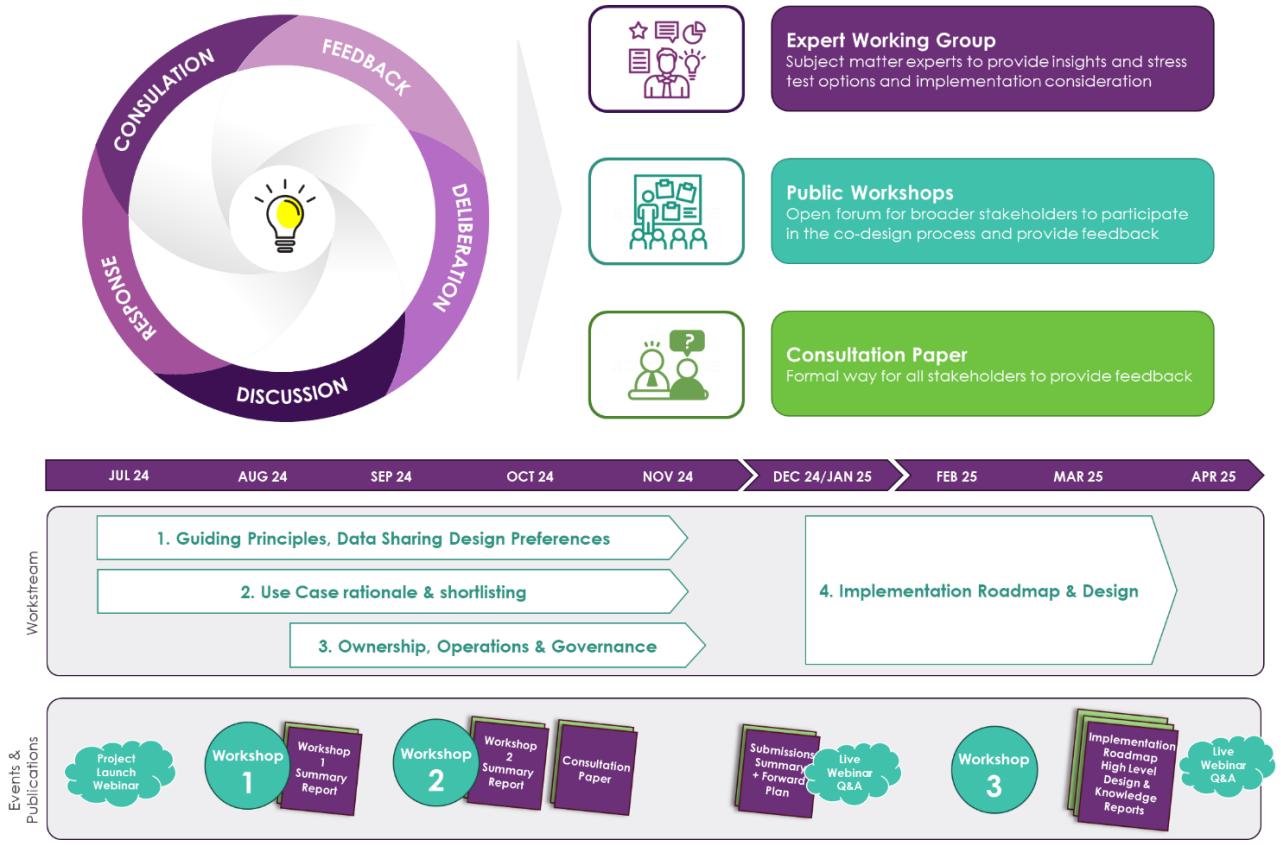
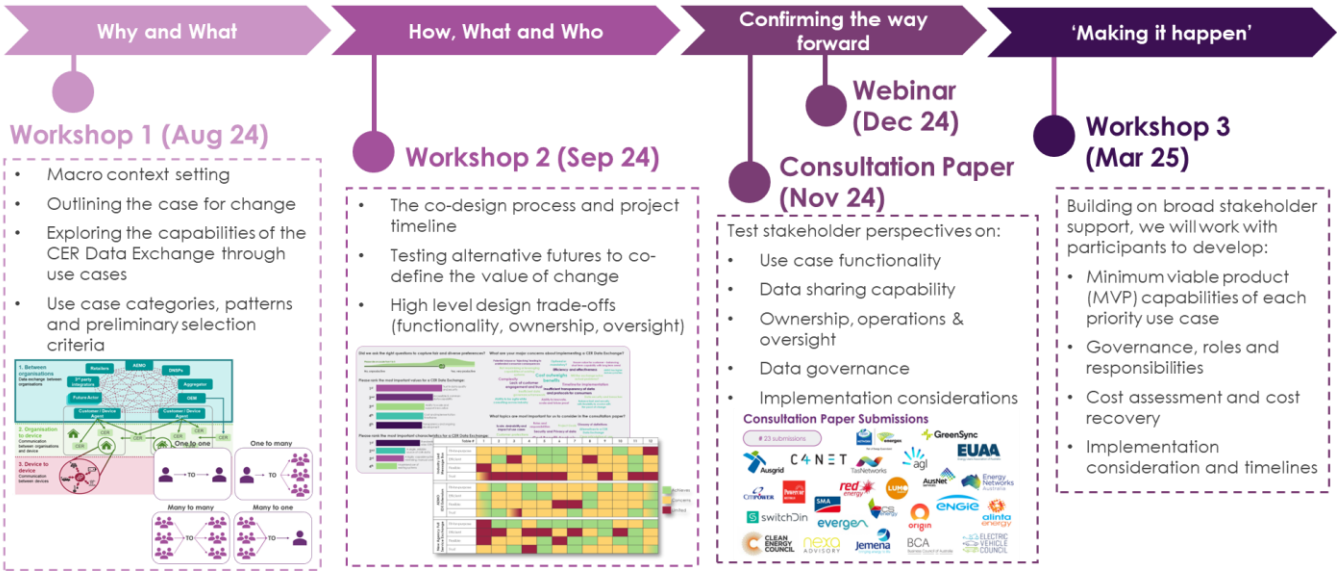


Figure 21: Public workshops and consultations area of focus



A2.2 Links to co-design process documents

Table 3: Summary of all project documents with links

Workshops	**Workshop 1 – Presentation**
	Workshop 1 – Summary Report
	Workshop 2 – Presentation
	Workshop 2 – Summary Report
	Workshop 3 – Presentation
	Workshop 3 – Summary Report
Consultation Paper	**Consultation Paper - Report**
	Consultation Paper - Questions
	Consultation Paper Submissions
	Consultation Submissions Summary Report
	Submissions Summary Webinar – Recording
	Submissions Summary Webinar – Slides
Webinars	**Introductory Public Webinar - Recording**
	Introductory Public Webinar – Presentation