CER Data Exchange Industry Co-design

Introductory Public Webinar

6 June 2024

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay respect to their Elders past, present and emerging.

Housekeeping

Recording in progress

- This webinar will be recorded for the benefit of those who are unable to attend

- The recording and presentation will be available on the AEMO project website

Questions and answers

- Submit questions for the end at **slido.com** with **#6228399**

- Any questions we don't get to, please email cerdataexchange@aemo.com.au and a member of our team will be in touch

Submit questions at
slido.com #6228399

Agenda

	Agenda Description	Facilitator	Time
1.	Acknowledgement of Country	Nick Regan	2 min
2.	Program Partners Introduction	Nick Regan	3 min
3.	Program Overview: why, what and how?	Nick Regan, Rachel Rodrigues McGown & Ed Chan	20 min
4.	FAQs Responses	Craig Chambers	15 min
5.	Next Steps: How to get involved	Nick Regan & Ed Chan	5 min
6.	Q & A, meeting close	All	15 min

Submit questions at **slido.com** #6228399

Program Partners Introduction

Nick Regan

CER Data Exchange Industry Co-design

The CER Data Exchange Industry Co-design Project is a collaboration between AEMO, AusNet and Industry, with Project Management support from Mott MacDonald.

Supported by

Endorsed by

X10 letters of support

Program Overview

Why, what and how?

Why are we considering it?

Nick Regan

Program objective

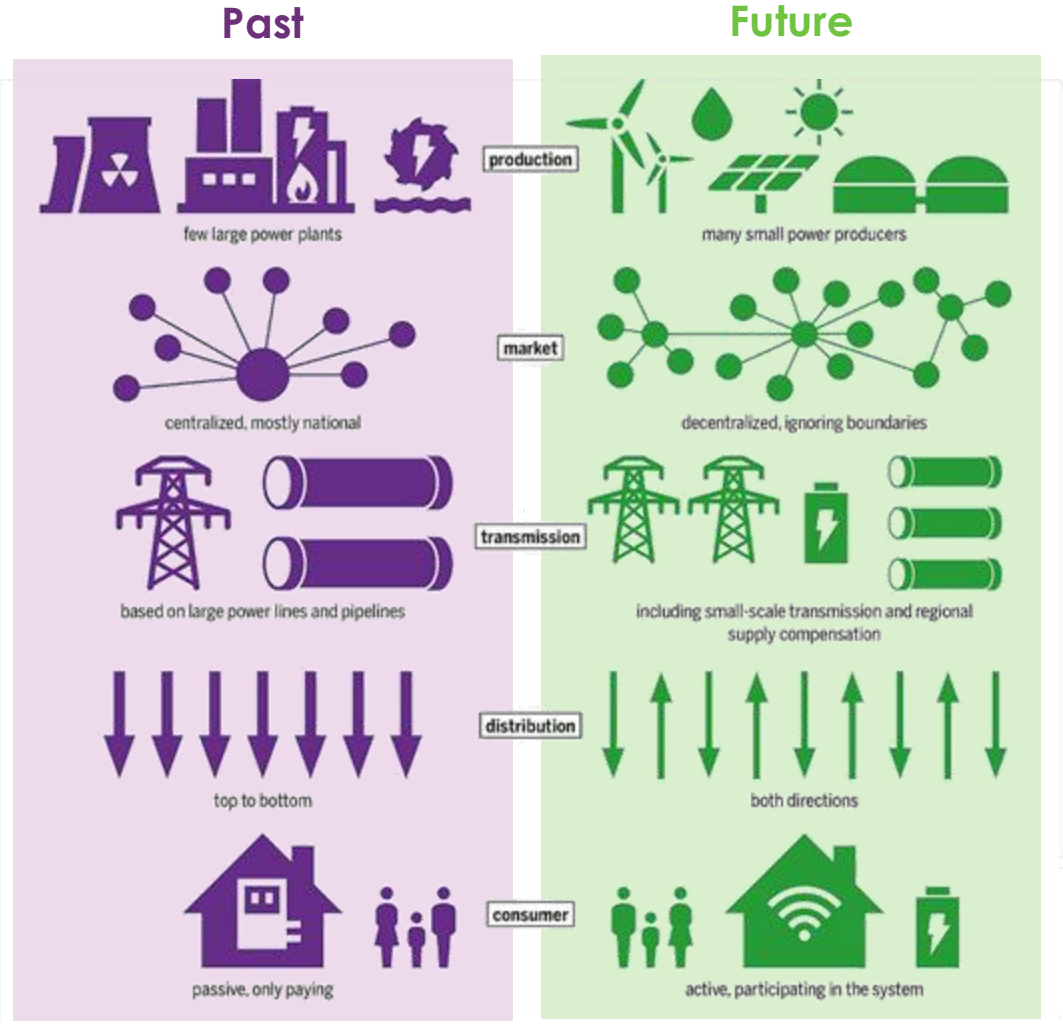What is our 'exam question'?

" **Previous CER integration trials and international experience have demonstrated that a streamlined data exchange between organisations is a key enabler for maximising CER value for all consumers. What is the best data exchange design for Australia? "**

What are we working towards?

Past → Future

Past

- few large power plants (production)
- centralized, mostly national (market)
- based on large power lines and pipelines (transmission)
- top to bottom (distribution)
- passive, only paying (consumer)

Future

- many small power producers (production)
- decentralized, ignoring boundaries (market)
- including small-scale transmission and regional supply compensation (transmission)
- both directions (distribution)
- active, participating in the system (consumer)

- Customer centric
- Flexible and dynamic
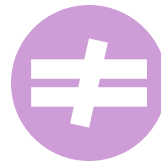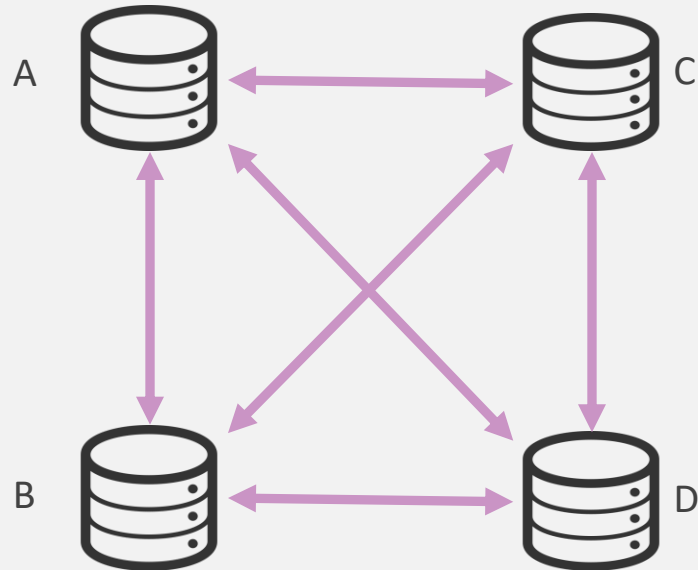- Decarbonisation
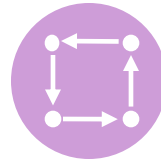- Decentralised decision making
- Data enabled

We are data rich, but are we data enabled?

What we have now

Many different systems

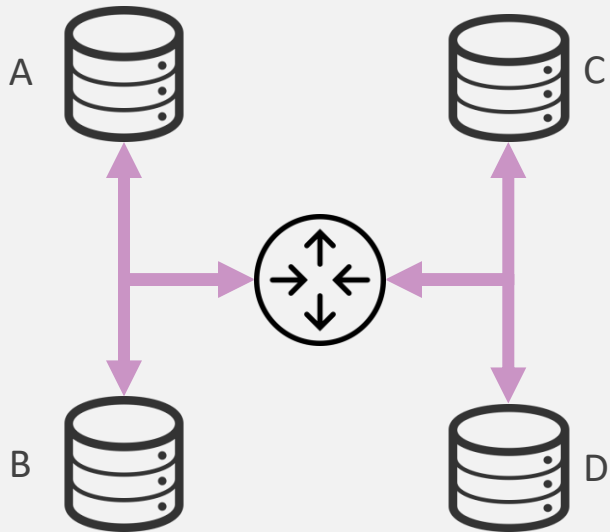Many point to point integrations between organisations

Different data format and standards

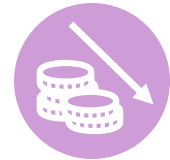This is not going to work for a high-CER system.

How can we do better than this?

How could a national CER Data Exchange help?

What we could have

Improve data accessibility and transparency

Reduce cost of data access among organisations
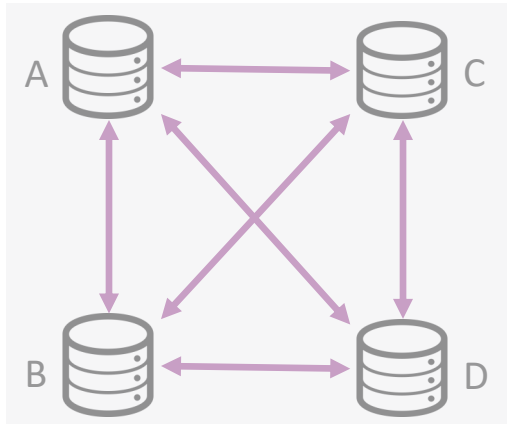
Enables greater CER coordination

Supports innovation and customer choice

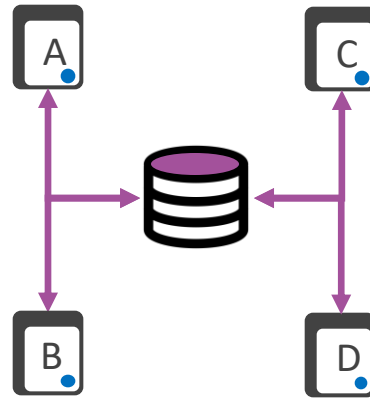**Reduces energy costs for all consumers**

There is a spectrum of options for data exchange

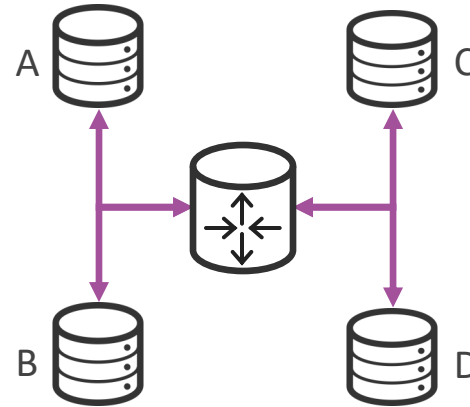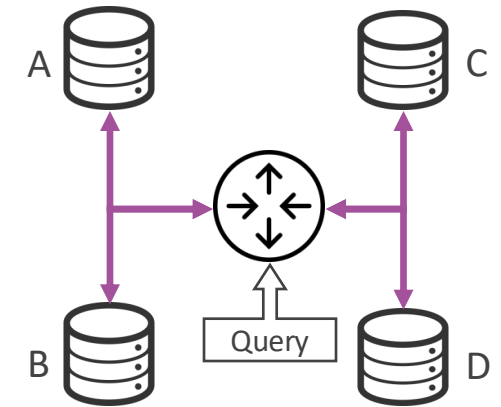**Ad hoc Exchange (status quo)**

Centralised Exchange

Integrated Exchange

Information Exchange

What we choose depends on some of these considerations

Cost | Privacy | Security | Standards | Flexibility | Integrity | Latency

What the CER Data Exchange project does not do
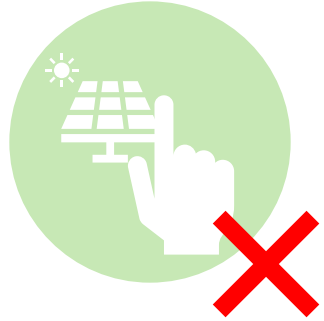
Directly control customer devices

The CER Data Exchange is an organisation-to-organisation concept

Take over existing market participant functions

E.g. Retailers remain FRMP, VPPs coordinate CER, DNSPs continue to manage DOEs

Create a single repository of CER data

Data and information reside with organisations creating it

Not the only way to exchange data

This is not intended to be a data 'monopoly'
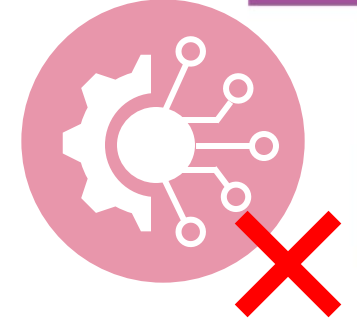
Decide technology choices

This process will develop high level design

Australia is not alone in thinking about this

United States

'Digital Spine' (early investigation stage) - US Dept of Energy, California ISO

United Kingdom

UK Digital Spine (feasibility study phase) - enables plug and play options, encouraging whole system interoperability and standardised data sharing.
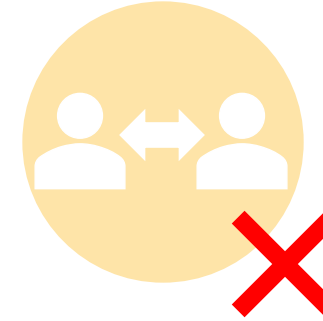
UK flexibility services standardisation (development phase)

UK EV Charge Point Data Hub (procurement phase)

Austria

EDA Data Exchange Platform (Est. 2012, owned by 15 DSOs) - create a uniform, decentralised, electronic data exchange for the Austrian electricity and gas sector.

Portugal

MOBI.E (operational) - industry data hub for EV data

Australia

- AEMO, Project EDGE
- Western Power/Synergy/AEMO, Project Symphony
- RACE for 2030: National Charge Link - Public-good EV Data Hub
- Greensync, Decentralised Energy Exchange (deX)

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Other industries have already implemented a data exchange

New Payments Platform

A distributed switch of individual 'Payment Access Gateways' that route and exchange financial messages between each other.

Australia's Digital ID System

Delivered by a number of organisations who work together to provide a safe, secure and convenient way to prove identity online.

Australian Agricultural Data Exchange

Enables participants to share and use data from disparate systems in a secure cloud environment.

European Health Data Space

Common European data space allowing for wider availability, improved quality and re-usability of data held by private and public sectors.

Submit questions at **slido.com** #6228399

How to participate

If you are interested in providing input on:

- Types of data
- Use cases
- Data Governance
- Operation
- Ownership
- Funding
- Design
- Other topics.

Variety of opportunities to get involved:

Expert Working Group

Industry Workshops

Registration link to be provided.

Public consultation

Newsletter
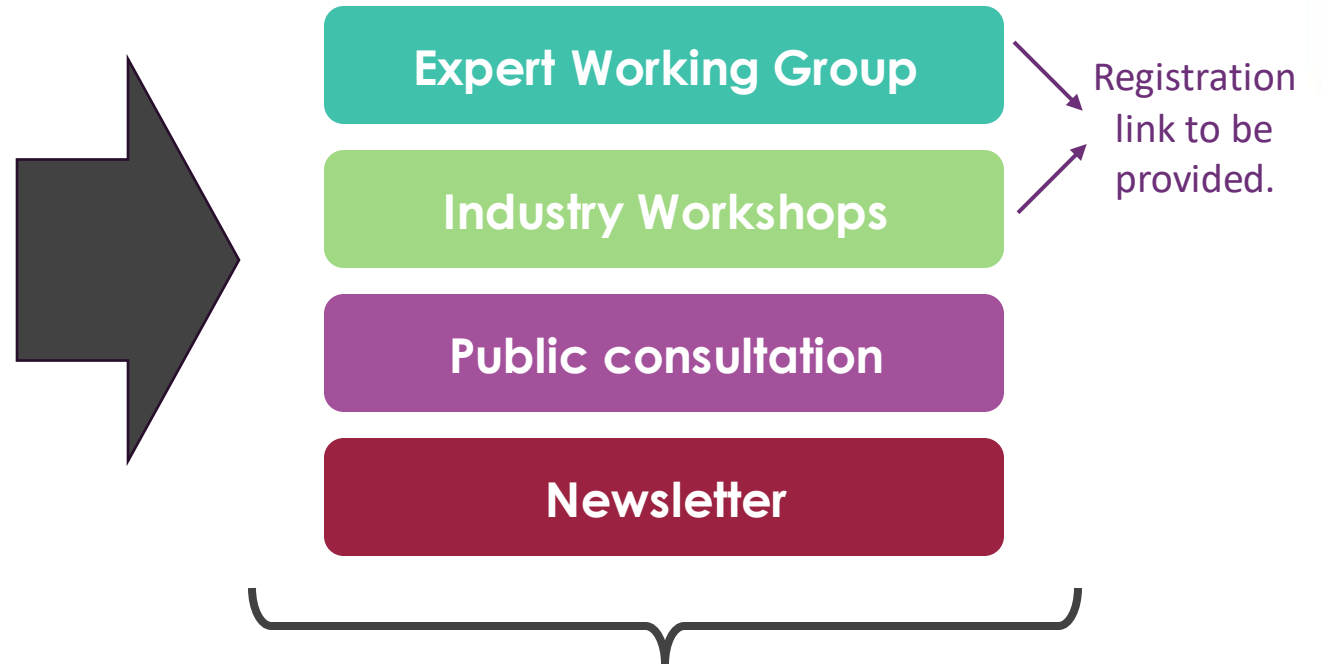
More information to come

Program Overview
Why, what and how?

The industry co-design process

Rachel Rodrigues McGown

How does this project fit into Australia's CER integration journey? What comes after?

CER Integration Trials	Co-Design Collaboration	Phased Implementation

1 **Underway or Complete**

- Trials demonstrated the value of a CER data exchange approach.
- Learnt from other industry and international trials.
- Case for a larger scale investment positive

2 **Stage 2: This Project (May – Nov 2024)**

- Industry alignment on high-level design
- Implementation roadmap
- Complimentary to in-train trials

3 **Scaling beyond this project (2024-2027+)**

- A phased approach for a CER Data Exchange based on participant readiness, priority and value of use cases.

What questions will we seek to answer in our outputs?

Questions

What are the **use cases**?

How should data be **governed**?

How will it be **funded**?

Who **owns and operates** it?

What is our **implementation approach**?

Outputs

Industry alignment on high level design

Implementation Roadmap

Indicative Implementation Costs

Knowledge sharing

What the CER Data Exchange project does not do
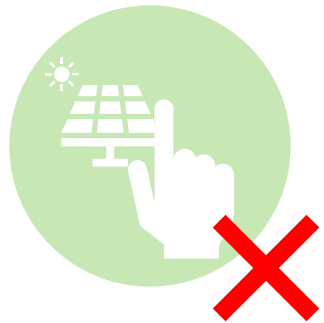
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Take over existing market participant functions

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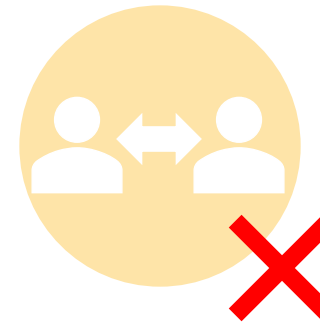
Not the only way to exchange data
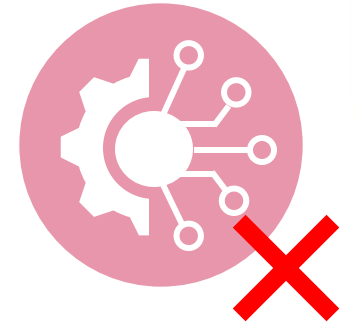
Decide technology choices

Program Overview
Why, what and how?

The mechanics of how the co-design
process will work

Ed Chan

What do we mean by co-design?

Collaborative process to achieve an outcome

Consider other parties' perspective, no one person has all the answers

Open to different options to achieve the outcome

Agreed principles on how we resolve issues

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The co-design process

Steering Group

Expert Working Group

Project Kick-Off	Workshop 1	Workshop 2	Workshop 3	Implementation Roadmap
June 2024	**July 2024**	**Aug 2024**	**Oct 2024**	**Nov 2024**
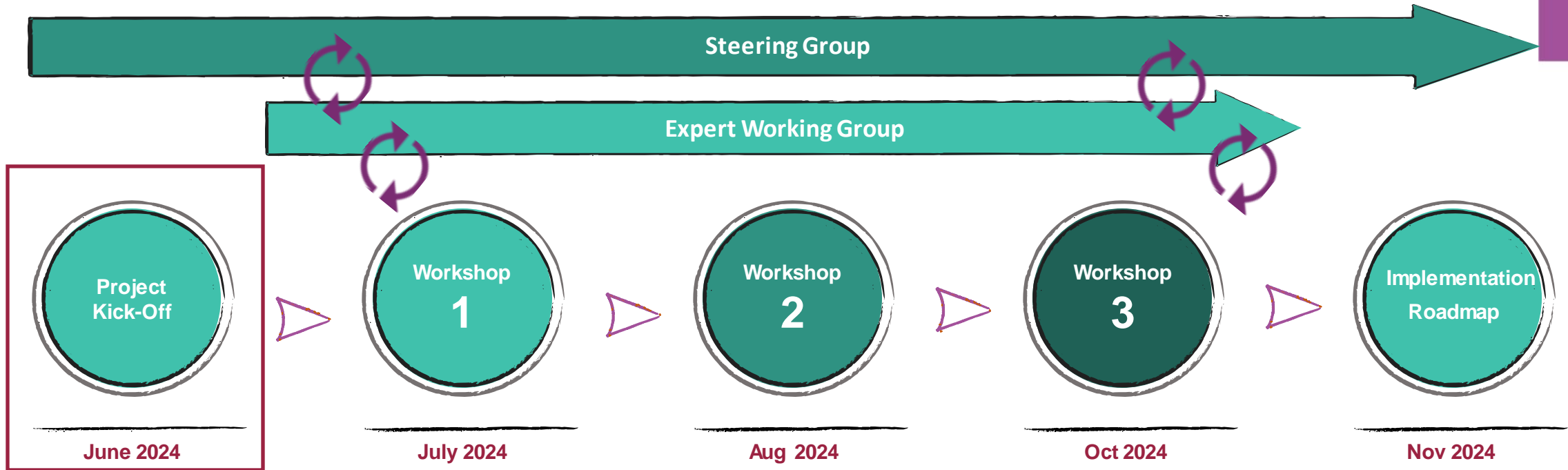
We are here

Targeted co-design workshops focused on the following:

- Exploration of need using various stakeholder use cases
- CER Data Exchange design options & interfaces
- Governance Framework
- Ownership & Funding

Published reports

- Outcomes Report
- Knowledge Sharing
- Consultation Papers
- Business Case

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Numerous options for participation and input

Email
I'd like to keep abreast of issues & project updates

Public consultation
I'd like to provide input, but don't have a lot of time

Industry workshops
I'd like to provide input, but don't have a lot of time

Expert Working Group
I have significant expertise that I would like to contribute

Register here:

https://forms.office.com/e/fDx6rVPxb7

Deadline for registrations:
Friday 21st June 2024

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We need input from industry experts

Four workstream approach:

| Scope and User Case | Data Exchange Governance | Ownership, Operation and Funding | Implementation Roadmap |

Expert Working Group

Seeking broad representation from people with specific depth and breadth in this area:

- Customer groups
- Industry associations
- Retailers
- Network businesses

- Aggregators
- OEMs
- Market / regulatory bodies
- Academia

There will be a separate government consultation group.

Expected commitment: Expert Working Group members are expected to volunteer their time and will not be remunerated.

Role of the Expert Working Group

- Support the delivery team to shape this co-design program on topics or issues for discussion

- Provide expert input, strategic insights and implementation considerations

- Bring perspectives as a representative of a cohort rather than an individual or organisation

- Stress test the four workstreams and consider options / findings as part of the broader program

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Call for Expert Working Group nominations

Expert Working Group application questions:

- Please provide a short description of your relevant background & experience

- Which stakeholder segment are you representing and how will you balance interests?

- How can you contribute to the working group?

If you would like to know more about the Expert Working Group, please get in contact.

Contact details: cerdataexchange@aemo.com.au

Submit questions at **slido.com** #6228399

There are other ways to provide input

Public Workshops x 3

- In-person events

- Wider audience, opportunities for stakeholders to provide input

- Break out groups for smaller, in detail discussions

- Build upon content and materials already developed by the project team and EWG

Consultation paper (submissions to)

- A more 'formal' way to contribute

- Provide written response to a consultation paper

- Involvement is towards the end of the process

- Ideas and some components of the high-level design may already be well developed

Stakeholder Feedback
FAQs

Craig Chambers

FAQs

- How will customers benefit from the exchange?

- How are aggregators and OEMs going to participate?

- Why are you considering a centralised exchange?

- Who will own and operate the exchange?

- How is this different to the Common Smart Inverter Profile Australia (CSIP-AUS)?

- Will AEMO be taking a blockchain approach?

- How does the CER data exchange relate to the dynamic operating envelopes?

- How does this project relate to flexible trading relationships and other reforms underway?

- Why is AEMO and AusNet driving this program?

- Does the CER data exchange risk creating an Australia-specific framework?

Please monitor the project webpage (link) for answers to the above questions and further FAQs

Submit questions at **slido.com** #6228399

FAQs Responses

Q: How will customers benefit from the exchange?

A: As more and more CER become part of the electricity system, the need for data and information will increase – both for system operation and coordination, and for customers to get the most out of their investment in CER assets. In a high CER world, customers will benefit from when energy businesses can leverage the data and information to provide products and services that maximises return on their CER investment. The CER Data Exchange facilitates this by providing a systematic and common interface for businesses and organisations to exchange data and information instead of the current ad-hoc point-to-point approach. The CER Data Exchange also supports customers to have access to a wider variety of products by lowering barriers of entry for businesses seeking to provide new and innovative products.

Q: How are aggregators and OEMs going to participate?

A: As CER uptake increases, aggregators and Original Equipment Manufacturers (OEMs) will play an increasingly important role in the power system, markets and in off-market services to retailers and networks. This project is the first step in creating a digital framework that allows aggregators and OEMs to exchange data and information with other industry organisations to build their service offerings to customers. We will explore how aggregators and OEMs will be part of the exchange through the co-design process in the program. Workshop 1 will focus on use cases from an industry, operators and customers perspective.

Q: Why are you considering a centralised exchange?

A: A centralised exchange is not our starting assumption. Evidence domestically and internationally has informed the premise of the project being 'point to point' is not scalable. All options for what a more efficient data exchange looks like are up for consultation. However, we need to separate data from control or operations, control of devices is not an expected function of the exchange nor is it likely that all industry data will flow through one exchange. Our focus is on facilitating an efficient ecosystem of systems and we want to work through that with representatives from across the industry.

Please monitor the project webpage (link) for further FAQs

FAQs Responses

Q: Who will own and operate the exchange?

A: This is the topic for consideration in workshops 2 & 3. In these workshops, we will discuss ownership and governance options and determine what solution would work best for customers. We do not have preconceived views on who should own and operate the exchange. The co-design process will consider a variety of options such as AEMO, shared industry ownership or independent third-party ownership and operation.

Q: How is this different to the Common Smart Inverter Profile Australia (CSIP-AUS)?

A: CSIP is a device-level communication protocol based on the IEEE 2030.5 standard. It is not a mechanism to determine an efficiency data sharing framework between multiple parties. A CER Data Exchange and CSIP are different parts of a broader digital ecosystem for the energy sector.

Q: Will AEMO be taking a blockchain approach?

A: No, this is not a blockchain project, there is no preconceived technology choice, and this project is not deciding technology choices. Before we consider detailed design or technology choice, we need to define what it is we want this technology to provide us and to do for us. Through this project, we will first need to answer key questions on design principles, use cases, data governance, ownership, operation and funding models. This project centres around answering these questions with industry and considering how a solution will best suit the Australian energy market and customers.

Please monitor the project webpage (link) for further FAQs

FAQs Responses

Q: How does the CER data exchange relate to the Dynamic Operating Envelopes (DOEs)?

A: DOEs are signals from network operators to the market and businesses on the distribution network's capacity to support CER services. The communication of DOEs from network operators to other organisations is one of the potential use cases for the CER Data Exchange. The CER Data Exchange can provide a common and standardised interface for all businesses who want to access this information to provide better products and services for their customers. The CER data exchange will not be taking over existing functionality. Rather, it will provide a platform to enable the efficient exchange of information and thereby support enhanced integration of DOEs, among other use cases.

Q: How does this project relate to flexible trading relationships and other reforms underway?

A: The Unlocking CER Benefits Through Flexible Trading rule change is seeking to help flexible CER resources participate in the market directly. This reform may result in more industry participants to both be coordinated with and who could provide CER-based flexibility services. The other reform that comes to mind is the "Integrating Price Responsive Resources Into The NEM" rule change. We are aware of the various reforms underway. However, the CER data exchange and the co-design process is not dependent on them. In the situation where new participants are entering the market, having a national CER Data Exchange to lower barriers to connect new players would be beneficial. The benefits these reforms bring will be complementary to the CER data exchange. These future capabilities will be taken into consideration during the co-design process and may be a use case considered.

Please monitor the project webpage (link) for further FAQs

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FAQs Responses

Q: Why is AEMO and AusNet driving this program?

A: The aim of the CER Data Exchange is to help enable CER integration and coordination to reduce energy system costs for all consumers and support the uptake of renewables on Australia's Net Zero journey. Unless we efficiently enable the integration of voluntary coordinated CER into the electricity system for customer agents such as Aggregators, we are likely to incur costly network augmentation and overbuild of large-scale power plants and require more reactive, emergency measures like the Emergency Backstop or load shedding. For AEMO as the market operator tasked with ensuring reliability of electricity supply for all consumers, this flexibility in CER will mitigate risks to power system reliability and security as more of the traditional thermal (Coal) generation fleet exits the market. The CER Data Exchange seeks to develop a common framework and arrangement for sharing CER information that will drive the best possible outcomes for Australian energy users by supporting improved visibility and coordination of CER in the system. Increasingly, a lack of visibility of active CER coordination for System Operators forces conservative system operations with larger safety margins ultimately delivering less value for consumers. We're leading this project with AusNet to leverage the work and findings on CER integration developed through our collaboration on Project EDGE where we practically tested ways to make CER integration work at scale. AusNet recognises that Electricity Distribution has a key role in delivering effective CER integration and as a regulated energy services provider, AusNet customers expect us to progress this work. Electrification and proliferation of CER in the form of Solar PV, Batteries and EV is a reality, and the CER data exchange is one foundational aspect of the solution. Our interest in progressing this work is in enabling the best outcomes for our customers into the future with respect to the reliability, resilience and affordability of their access to energy.

Q: Does the CER data exchange risk creating an Australia-specific framework?

A: We are keen to leverage work that is already underway across the world in this space. Accordingly, our intention is not to create an isolated Australia specific framework but to develop a framework that can best meet the interests of Australian consumers while utilising and supporting existing and emerging global standards where possible. This will be the approach we advocate for throughout the co-design process.

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Q&A

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