# CER Data Exchange Industry Co-design

**Workshop 1
Summary Report**
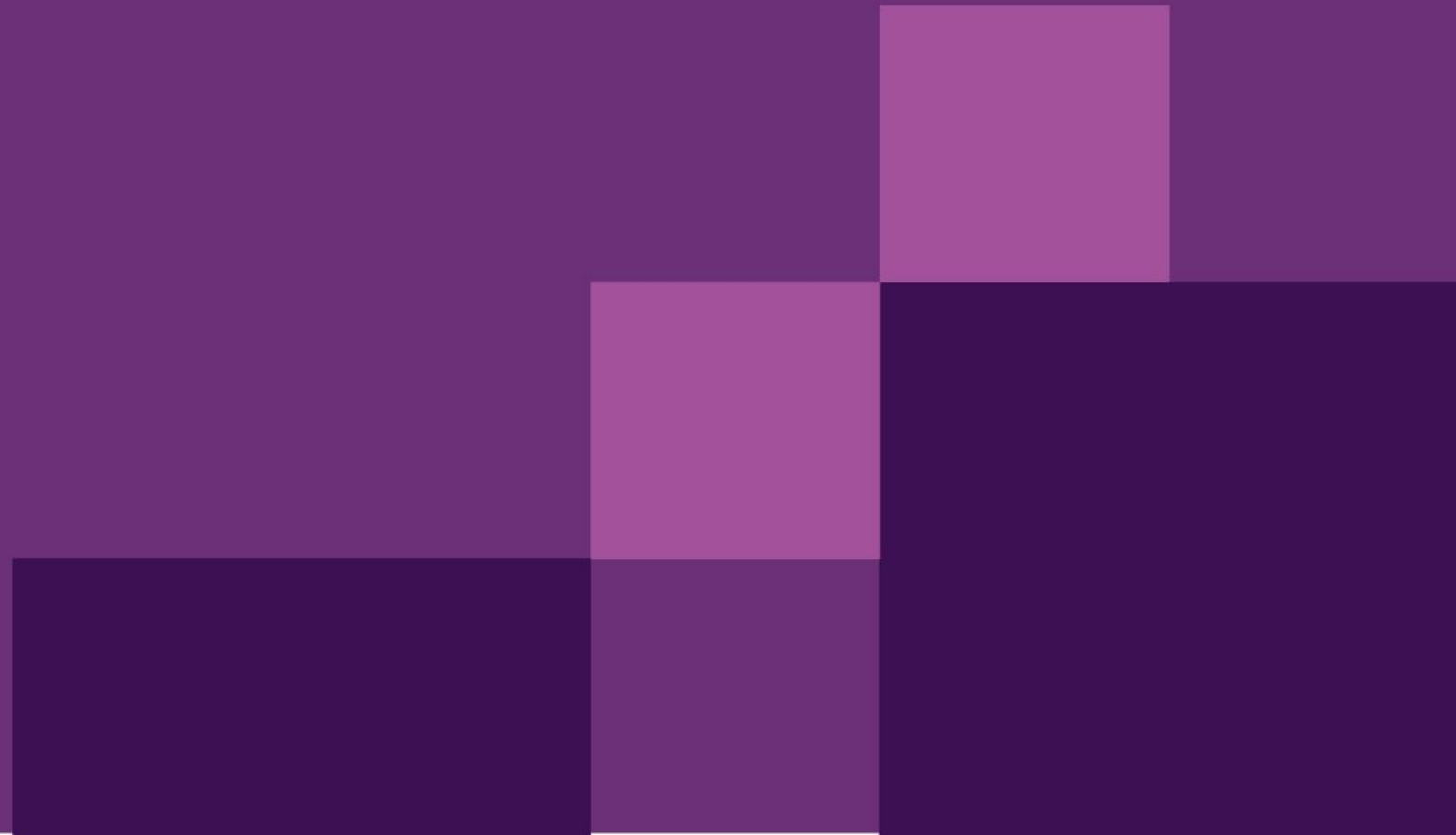
September 2024

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# Overview

# Summary Report Overview

The first of three Industry Workshops for the CER Data Exchange Industry Co-design Project was held in Melbourne on 6 August 2024. A broad range of stakeholders in the energy sector attended, with over 100 representatives from industry bodies, aggregators, retailers, equipment manufacturers, networks, governments, market bodies, academia and consumer advocates.

The workshop was designed to provide participants a good understanding of, and the opportunity to help shape, the CER Data Exchange – focusing on the scope of its design, preference setting for how it would operate and use case options to determine its functions. We, the Project team, used co-design tools to test the concepts and elicit informed responses. Stakeholder questions and feedback provided highly valuable insights.

Stakeholder feedback highlighted areas of focus where more detail is required to demonstrate the value of the CER Data Exchange to industry, and how the benefits will flow through to end-consumers. We have documented stakeholder preferences and inputs expressed at the workshop, including the 'must haves' and 'deal breakers'. This input will be reflected in the development and design of the CER Data Exchange, as we continue to work closely with our Expert Working Group leading up to the second workshop

This report provides a summary of the workshop sessions and stakeholder feedback, including:
- Key themes
- Preference Setting
- Use Case 1: Visibility of customer choices
- Use Case 2: Communicating DOEs to multiple organisations
- Use Case 3: Retailer flexibility requests
- Ideas wall & wild cards
- Survey

The workshop presentation slides, breakout session and pre-reading material are available on the AEMO Project Webpage.

## Co-design tools

Table discussion and input

Surveys

Panel discussion

# Key themes from industry feedback

> The CER Data Exchange must deliver benefits to end-customers – not just industry. Coordination of consumer energy resources (CER) at scale is a critical enabler to achieve the National Electricity Objective and Net Zero.

There was broad agreement on the potential **benefits from greater visibility and transparency of CER** in the market. Important to establish foundational use case – with a focus on getting 'quick wins'. Some participants not convinced: "Is this a solution looking for a problem?"

We need to clearly communicate the benefits to consumers: "**How will the benefits flow through to end consumers**?" "How would consumers be empowered?". Reflect in principles. Trust is key.

Many workshop participants were concerned about the **cost** of implementing the CER Data Exchange. Consider using existing platforms and standardisation to the extent possible to reduce costs and complexity.

Participants raised questions about whether the CER Data Exchange would lead to more or less **equitable** outcomes for consumers: "Is it only the well-off consumer with CER who benefits?"

Careful management of **consumer information** is required – including privacy, security, authentication and consent management (including 'right to forget') issues.

Participants broadly considered **access** to the CER Data Exchange should be open and role-based, with defined access rights and tracking. There should be some minimum requirements to gain access, but not so onerous that they become a barrier.

Design with an **end state** in mind, and stage implementation in a way that supports that future. Not mandatory. "The exchange shouldn't be the only way CER data can be exchanged."

Participants were keen to receive **more details** on the proposed CER Data Exchange – including more information about the governance around data, use cases and problems they would be designed to solve.

# Our goals and outcomes for Workshop 1

**Status of our target outcomes**

### Build awareness of what is driving the need for a CER Data Exchange
✅ **Achieved**

- General alignment on need and concept of CER Data Exchange
- Most understood the value / conceptual benefits of the CER Data Exchange and its use cases
- Some concerns regarding benefits to consumers

### Provide the foundations for other use cases and workstreams that will be built on in Industry workshop 2
✅ **Achieved**

- Most wanted to get straight to solutions and consider how will this be implemented
- General understanding of the use cases presented which led into ownership / governance discussions

### Share our preliminary view of CER Data Exchange use cases which have been informed by this EWG
✅ **Achieved**

- Participants were supportive of three 'foundational' use cases shared
- Many additional use cases suggested
- Most concerns related to governance, costs and implementation

### Equip industry to prepare informed responses to the upcoming consultation paper
✅ **Progressed**

- Uplift in understanding of the need, use cases and concept of the CER Data Exchange
- Further deep dive preference setting (incl. governance, funding, ownership) required

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# Context: Project summary

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 Services to work collaboratively with industry to co-design a national CER Data Exchange. AEMO has appointed Mott MacDonald to support this project by providing subject matter and change management expertise, delivering project management and administration capabilities, and managing stakeholder engagement.

This project is the first step in a multi-stage process that seeks to create a digital foundation that supports multiple organisations to share CER-related information through a secure, reliable, flexible and cost-effective exchange. Providing lower cost access for organisations to connect and support the development of new and innovative services will provide greater value to all customers. The CER Data Exchange initiative will be a key enabler for CER to be an integrated part of a customer-centric, affordable, and data-enabled electricity system.

The target outcome of this process is to build industry alignment on a high-level design of a national CER data exchange that has considered the use cases, governance, business models and implementation that meets the needs and best interests of Australian consumers.
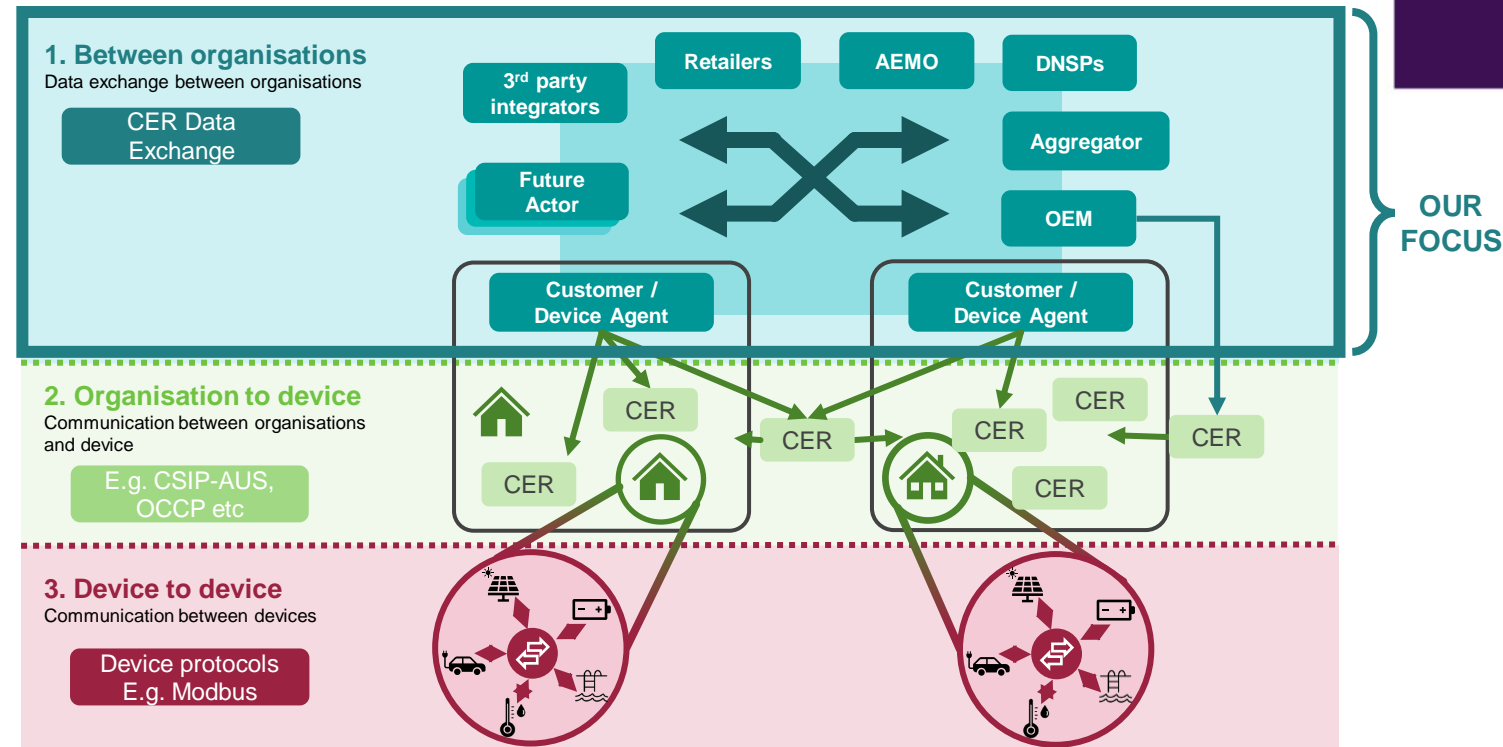
# Survey Results

**Using survey platform Mentimeter, the Project team posed a series of questions to capture thinking on the macro context and drivers for a CER Data Exchange.**

### Access to, and efficient sharing of, CER data between many Industry stakeholders is a critical enabler to achieve the NEO and reach Net Zero.

| | Strong Agree | Agree | Disagree | Strong Disagree |
|---|---|---|---|---|
| Value | 50 | 29 | 4 | 2 |
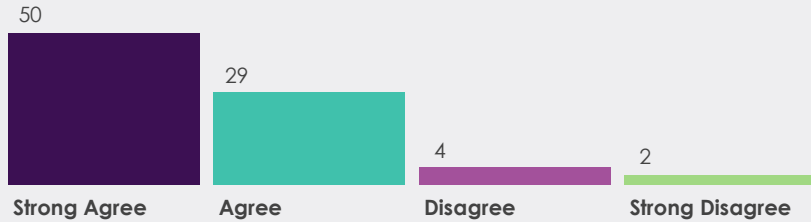
### Coordination of CER at scale (with customer consent) is required to enable a more efficient and cost-effective power system for all consumers.

| | Strong Agree | Agree | Disagree | Strong Disagree |
|---|---|---|---|---|
| Value | 52 | 29 | 5 | 0 |
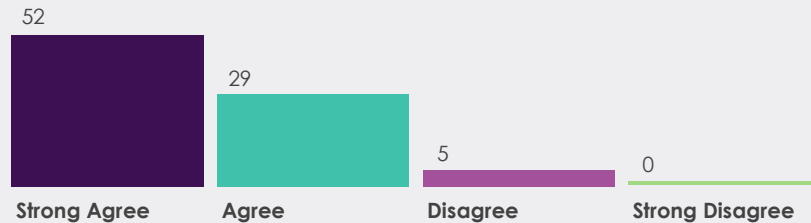
### What is your assessment of the current state of CER data sharing maturity in Australia?

| | Immature | Pilot / Trial Level | Ad hoc Maturity | Mature |
|---|---|---|---|---|
| Value | 32 | 32 | 23 | 0 |
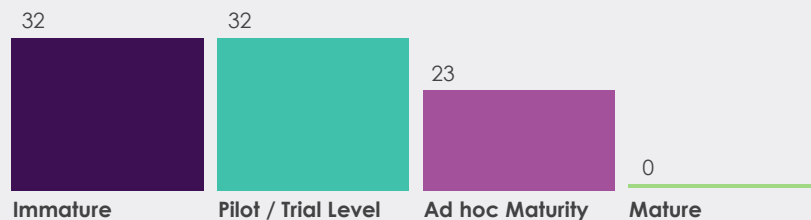
### Please rank your CER data sharing challenges or in order of pain point you would like to remove?

- 1st — Standards & Interoperability
- 2nd — Cost & Complexity
- 3rd — Security & Privacy
- 4th — Access & Authentication
- 5th — Accuracy, timeliness & reliability
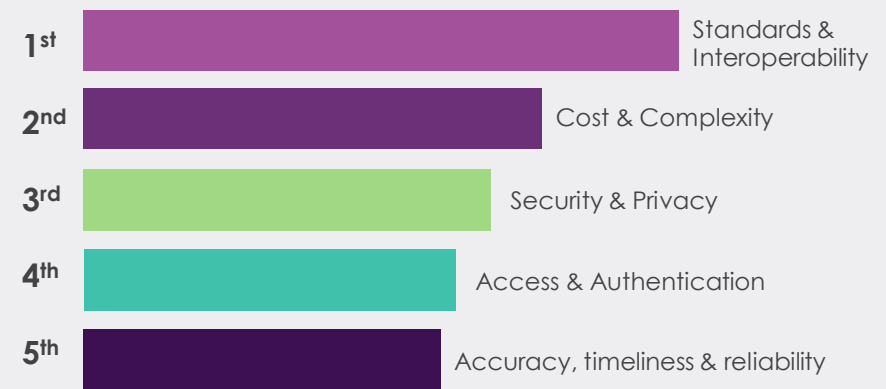
### Rank which domain of the energy system would get the most value through improved CER data exchange?

- 1st — System Operation & Planning
- 2nd — Market Efficiency & Performance
- 3rd — Customer Choice & Agency
- 4th — Research & Innovation
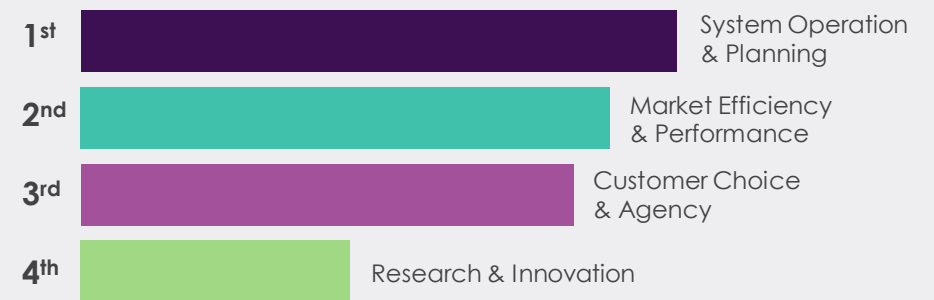
Workshop Sessions

# Summary of Workshop Sessions

| # | Session |
|---|---------|
| 1 | Preference setting |
| 2 | Use Case #1 |
| 3 | Use Case #2 |
| 4 | Use Case #3 |
| 5 | Panel Discussion |
| 6 | Ideas Wall & Wild Cards |

**Preference Setting**
This session included 2 exercises:
1. Participants were introduced to the Guiding Vision and Principles and asked to provide comments or changes. Participants were also asked to consider how the Future State Vision applies to the CER Data Exchange.
2. Following this, participants were asked to comment on design preferences for each category (detailed in Slide 11).

**Slides 10-12**

**Use Cases**
During this session, a brief introduction to each use case was provided. Following this, discussion between participants was guided by a facilitator.

**Slides 13-15**

**Panel Discussion**
Panellists answered a series of prepared questions (detailed below), in addition to questions from workshop participants. It provided the opportunity for questions and feedback from the audience.

- Considering the broader context, could you please share a reflection on the need for streamlined CER Data Exchange and how you see this benefitting customers?
- Having worked through the first 2 use cases, what is your top Problem Statement Pain Point, Target Benefit and Design Consideration to achieve the benefits?
- What are your top takeaways you'll be consider as we work through the rest of the day?

**Slide 16**

**Ideas Wall & Wild Cards**
An 'Ideas Wall' was setup to capture additional ideas not covered in other sessions.

**Slide 17**

# 1. Preference Setting: Vision, Principles, Deal Breakers and Must Haves

During this session, participants discussed the vision, principles and preferences presented by the project team and considered how these factors apply to the CER Data Exchange. When discussing each preference category participants were asked to place stickers on their preferred option and provide commentary (as shown in Slide 11).

**NATIONAL ENERGY OBJECTIVE**

**NATIONAL CER ROADMAP VISION**

**PRUDENT, EFFICIENT & EFFECTIVE**

**ADAPTABLE & SCALABLE**

**SECURE & RESILIENT**

Governance

Functionality

Standardisation

Interoperability

Security

Access

**Vision** | **Principles** | **Preferences**

Initially proposed vision, principles and preferences. Amendments to these, following feedback from workshop participants, are shown on Slide 12.

## Key feedback provided by participants:

- The CER Data Exchange must demonstrate and focus on long-term, equitable value for all customers in each use case.

- "Trusted" should be included as a principle to address concerns around data privacy and cyber security.

- The future state vision should apply to the CER Data Exchange by way of improving the use of CER, optimising the asset for various purposes (e.g. forecasting, aggregation, transparency).

- To provide value, we need to have an efficient system for all market participants. Should promote competition and meet a market need.

- The CER Data Exchange must be flexible to adapt to consumer needs and evolving energy market conditions.

- Careful management of consumer information is required – there must be clear obligations around consent, with established principles and rules.

- The platform must enable access to non-traditional energy sector actors to enable innovation.

*"If data is locked up, we won't move fast enough."*

# 1. Preference Setting: Results of exercise

## Security

High Security, end-to-end encryption

Standard Security, access logging & audit reporting

Adaptive Security based on roles, data types & use cases

All of the above

Feedback from table discussion

- Tailored approach – implement security where needed
- Balance security with complexity
- Ensure measures are fit-for-purpose

## Functionality

Focus on quick wins with near term use cases

Adaptable platform focused on batch not real time transfers

Future proof the platform with data validation

Feedback from table discussion

- Focus on many use cases now, but design with future / stacking in mind
- The future changes quickly and is hard to design for

## Access

Open Protocols with role-based access

Granular attribute data sharing controls

Consent Management & Tracking

All of the above

Feedback from table discussion

- All three points are necessary
- Dependent on use case
- Consent management & tracking is a fundamental component

## Governance

Decentralised Governance supported by a transparent policies

Data sharing / user compliance framework

Centralised governance managed by stakeholder representatives

Feedback from table discussion

- Governance is required to demonstrate compliance with rules and protocols

## Standardisation

Use international standards and common data formats

Adapt international standards and metadata to Australia

Create custom formats and tailored schemas

Feedback from table discussion

- CER Data Exchange should align with international standards
- Why re-invent the wheel?

## Interoperability

Mandatory use cases & integration with existing platforms

Mandate core data transfers and allow customisation for non-critical uses

Voluntary adoption, encourage best practice

Feedback from table discussion

- Mandatory for specific purposes, but needs to allow flexibility for others
- Voluntary is risky, but forcing participants may result in loss of trust

Table #  1  2  3  4  5  6  7  8  9  10  11  12  13  14

# 1. Preference Setting: Refined guiding principles through industry feedback

We have refined the project objectives and guiding principles (shown on Slide 10) to incorporate the feedback provided by workshop participants. The principles and design preferences below will strongly influence the project team's decision-making and act as guidelines that help focus the future strategic direction of the CER Data Exchange.



**OBJECTIVE**
To establish a secure, efficient, equitable and integrated CER Data Exchange that empowers customers, enhances the grid reliability and supports Australia's transition to Net Zero.

Removed Effective

Replaced Resilient with Trusted

**GUIDING PRINCIPLES**
Prudent & Efficient
Adaptable & Scalable
Trusted & Secure

Adjustments to design principles

**DESIGN PREFERENCES**
Exchange Functionality
Format Standardisation
Data Governance
Platform Interoperability
Information Security
Access Management

**FEEDBACK TO GUIDE IMPLEMENTATION**
Cost efficiency & effectiveness of the exchange and integrations to create value

Utilise existing international standards to facilitate an efficient data sharing

Prioritise core use cases & accommodate adaptability and flexibility to scale towards future options

Recognise privacy, consent and trust of the exchange is core to its uptake and success

Implement access frameworks depending on the use case and regulations

Develop a tailored security management approach that balances risk and complexity

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# 2. Use case #1: Visibility of customer choices

**Function:** Enable visibility of customer choices with regards to assets, service providers, service levels to enable better switching and service offerings.
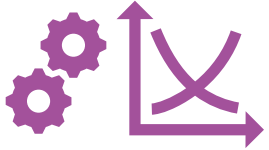
**Goals:**
- Enable market visibility of customer choices
- Provide customer agents access to important data and information
- Facilitate more efficient customer switching

Participants were asked to explore the following questions through the lens of this use case:

1. What data is needed in the use cases?

2. Who needs access to this data?

3. What would the CER Data Exchange need to do to deliver this value?

## Feedback and discussion points:

- Customer preferences must be central to this use case, including allowing customers to change their choices or opt-out at any point.

- Supporting customer choice of service providers and product offerings is a core consumer benefit of the CER Data Exchange.

- Need role-based access (to different levels of data aggregation), with defined access rights, portability and specific access for non-FRMP/DNSP use cases – like aggregation for research purposes.

- Concerns around privacy provisions and consent, and the application of consumer data rights. Need to capture explicit customer consent for a customer agent and the service provided.

- Opportunity to provide seamless customer and industry experience. Improved value staking opportunities.

- Enables efficient integration with a wider proportion of industry – not necessarily limited to those the retailer is already integrated with. Eliminates the additional requirements and duplication of information to connect with multiple actors.

# 3. Use case #2: Communicating DOEs to multiple organisations

**Function:** Communication of DOEs by one DNSP to one site, multiple organisations at a site, or in aggregate to other organisations.

**Goals:**
- Improve how multiple parties receive, and maintain visibility of, DOEs from multiple DNSPs
- Enable secure grid operations and customer choice of service providers

Participants were asked to explore the following questions through the lens of this use case:

1. What's the problem?

2. How could a CER Data Exchange provide consumer value?

3. What would the CER Data Exchange need to do to deliver this value?

## Feedback and discussion points:

- **Clear need:** Multiple organisations need to know DOEs at site level in order to provide maximum value to customers, whilst operating within DNSP constraints.

- Questions raised of whether existing mechanisms can provide this visibility, how retailers would actually use the information, and whether regulators can use to monitor compliance.

- Ability to maximise network utilisation, and more effectively manage constraints and contingency events.

- Visibility would help avoid penalties that come from an incorrect bidding strategy, therefore, mitigate against DNSPs being overly conservative in their DOE Limits.

- Improving customer information and insights would enable streamlined switching and retention of preferences. Change of agent process is challenging today.

- Opportunity to provide a 'Single source of truth' and 'one-stop-shop' for DOEs, but the data would need to be fit-for-purpose, standardised and accurate.

*"Unlock the value chain for managing CER around DOEs"*

# 4. Use case #3: Retailer flexibility requests

**Function:** Communication of structured flexibility requests, such as market price signals, sent by one retailer for many organisations to respond to using flexible CER.

**Goals:**
- Allow participants to readily send or receive requests to respond to wholesale market prices
- Provide visibility of services to network and system operators

Participants were asked to explore the following questions through the lens of this use case:

1. What's the problem?

2. How could a CER Data Exchange provide consumer value?

3. What would the CER Data Exchange need to do to deliver this value?

## Feedback and discussion points:

- Currently there is point-to point communication. This is not scalable. Retailers must integrate with many different organisations – requiring different data sets, double handling of data, replication of processes.

- Financial benefits can flow through to customers from a more responsive wholesale market, and commoditising flexibility. Assumes accurate forecasting necessary to enable efficient price signals.

- Enable customer agents to choose to respond, with traceability and visibility of responses captured through the CER Data Exchange.

- The reverse flow of data and capturing of historical data is beneficial to improve the calculation and refinement of future retailer requests.

- Need to demonstrated that retailer cost reduction directly translates into bill reductions for customers. Crucial to retain customer protections within customer preferences. Additional complexity for customers is a barrier to overcome.

*"Currently there is no simple way to do this in the market"*

# 5. Panel Discussion

During the lunch break, we held a Panel Discussion to reflect on stakeholder feedback heard in the morning sessions and explore the direction of the CER Data Exchange initiative.

Panellists included Peter Kilby (Energex and Ergon), Travis Worsteling (EnergyAustralia), James Seymour (C4NET), Cara Graham (EY) and Anoop Nambiar (AusNet Services). AEMO's Nick Regan interviewed the Panel and facilitated questions from workshop participants.

Key points highlighted by the Panel included:

Throughout the co-design process, we need to keep value and the best interests for customers front-of-mind.

Flow of data is not new for the energy industry. However, the difference is the scale of data and the increasing number of market actors.
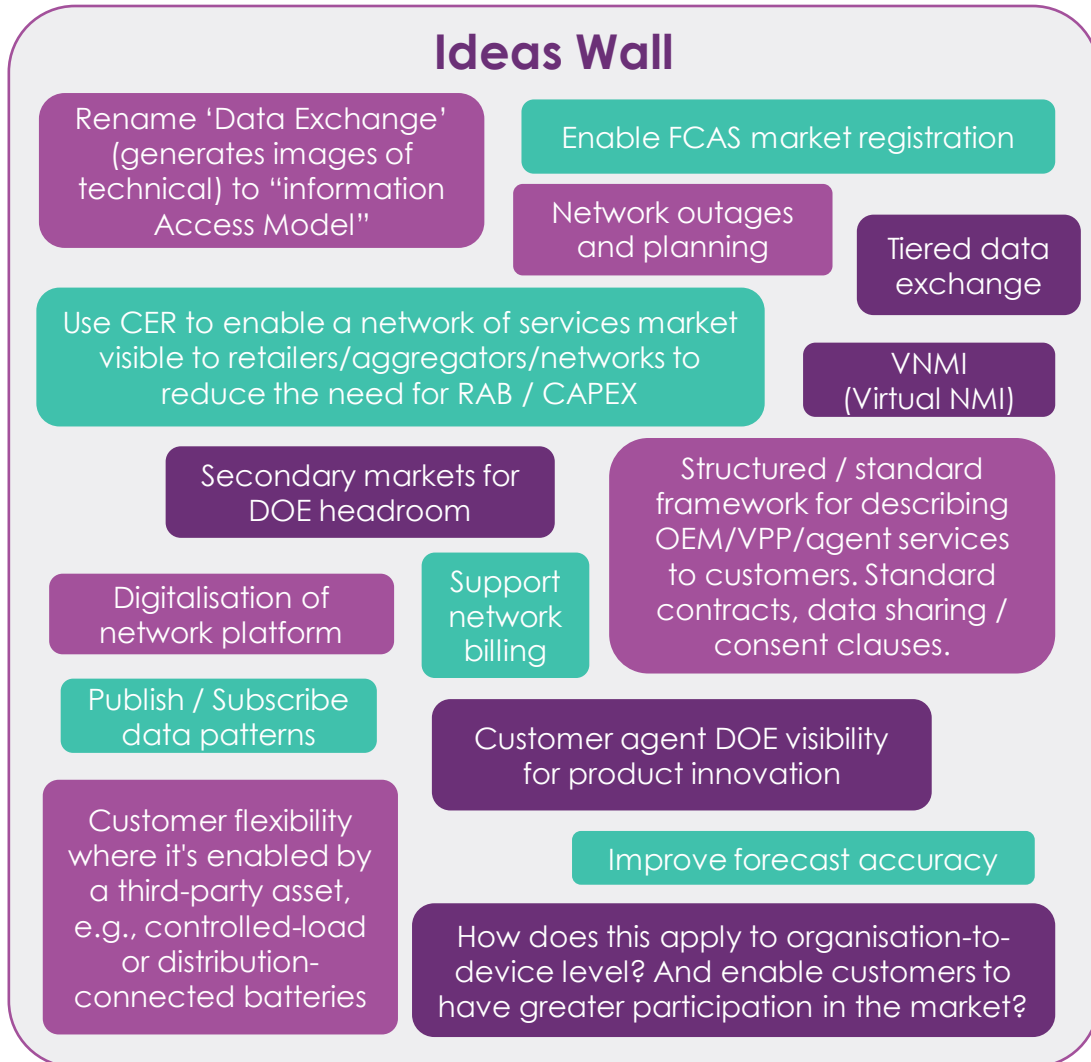
Building the right foundational elements will enable stacking of use case value, flexibility and scalability.



*"We need to embrace change and not be restrictive about it."*

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# 6. Ideas Wall & Wild Cards

**During the Workshop, participants were able to share their broader thoughts / feedback through the Ideas Wall. We received the following ideas and use case wild cards proposed by industry representatives.**

## Ideas Wall

Rename 'Data Exchange' (generates images of technical) to "information Access Model"

Enable FCAS market registration

Network outages and planning

Tiered data exchange

Use CER to enable a network of services market visible to retailers/aggregators/networks to reduce the need for RAB / CAPEX

VNMI (Virtual NMI)

Secondary markets for DOE headroom

Structured / standard framework for describing OEM/VPP/agent services to customers. Standard contracts, data sharing / consent clauses.

Digitalisation of network platform

Support network billing

Publish / Subscribe data patterns

Customer agent DOE visibility for product innovation

Customer flexibility where it's enabled by a third-party asset, e.g., controlled-load or distribution-connected batteries

Improve forecast accuracy

How does this apply to organisation-to-device level? And enable customers to have greater participation in the market?

**Wild Card:** A linkage between the use of DOEs by DNSPs and their effect on network constraints & power quality. This information can assist market actions to determine where best to incentivise customers to invest in CER.

**Wild Card:** VNMI - virtualisation of the network, advertise my network subscription to charge my EV at home, on the street or at work.
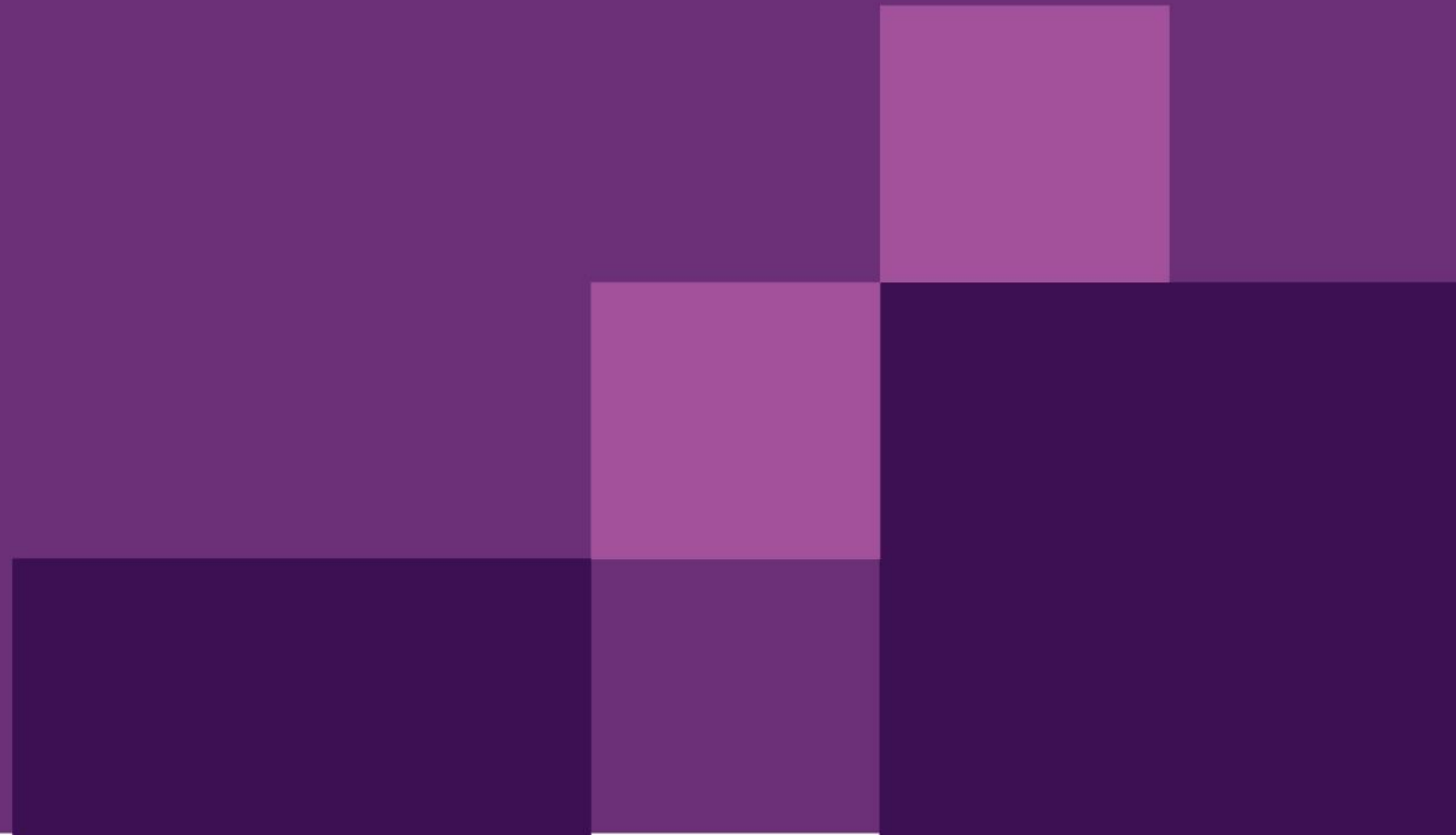
**Wild Card:** Problem to address – community battery / hot water services where there are multiple ownership options.
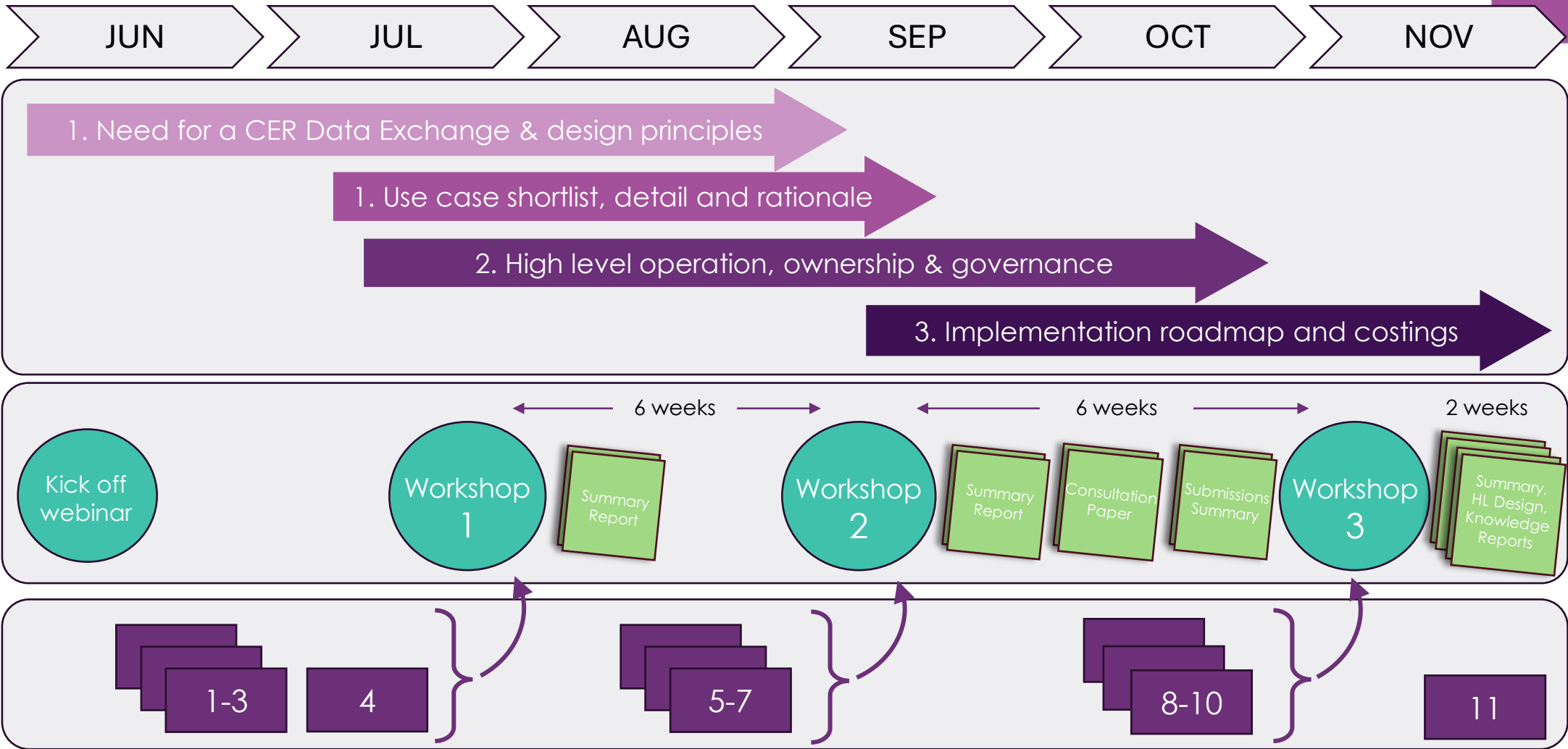
**Wild Card:** Enable NSPs to use CER data to assess whether CER is able to provide non-network solutions.

# Next steps

# Project Timeline

**Where are we at in the co-design process?**



| JUN | JUL | AUG | SEP | OCT | NOV |

**Workstream phases**

1. Need for a CER Data Exchange & design principles

1. Use case shortlist, detail and rationale

2. High level operation, ownership & governance

3. Implementation roadmap and costings

**Workshops**

6 weeks    6 weeks    2 weeks

Kick off webinar

Workshop 1

Summary Report

Workshop 2

Summary Report    Consultation Paper    Submissions Summary

Workshop 3

Summary, HL Design, Knowledge Reports

**EWG Meetings**

1-3    4    5-7    8-10    11

# Thank you

**We are very grateful to those who attended the workshop and value your feedback. We hope you will stay closely involved in this project to help drive reforms that promote the long-term interests of consumers.**

Our next industry workshop is on **19 September 2024** in Sydney. Building on feedback summarised in this report, and our ongoing engagement with the Expert Working Group, the second workshop will focus on data governance, operations and ownership of the CER Data Exchange.

There will be more opportunities for stakeholders to contribute to the co-design process. We intend to publish a consultation paper in late-September 2024 following the second workshop and invite written submissions. A third workshop is planned for October 2024.

If you want to sign up for our email updates, or you have feedback or any questions, please feel free to contact us at: cerdataexchange@aemo.com.au

# Acronyms

| Acronym | Definition |
| --- | --- |
| AEMO | Australian Energy Market Operator |
| CAPEX | Capital Expenditure |
| CER | Consumer Energy Resources |
| DNSPs | Distribution Network Service Providers |
| DOEs | Dynamic Operating Envelopes |
| EWG | Expert Working Group |
| EY | Ernst & Young |
| FCAS | Frequency Control Ancillary Services |
| FRMP | Financially Responsible Market Participant |
| NEO | National Electricity Objective |
| OEM | Original Equipment Manufacturer |
| RAB | Regulated Asset Base |
| VNMI | Virtual National Metering Identifier |
| VPP | Virtual Power Plan |

Contact us

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