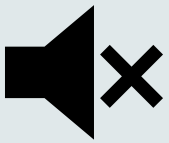
Data Exchange Workshop

30 March 2021

Please note we're allowing a few minutes for attendees to join the meeting before it commences

Online forum housekeeping



1. Please mute your microphone, this helps with audio quality as background noises distract from the information being shared.

2. Video is optional, but having it turned off helps with webinar performance and minimises distractions.

3. We ask that you utilise the Chat function for any questions or comments you may have if you are unable to use audio.

4. If you have dialled in via phone, could you please email your name and organisation to ercf@aemo.com.au for our records.

5. AEMO will be recording this workshop to enable production of meeting notes.

6. Be respectful of all participants and the process.

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Preliminary Matters

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AEMO Competition Law Meeting Protocol

Before we start this meeting, an important notice relating to *compliance with Competition Law*

We must not discuss, or reach or give effect to any agreement or understanding which relates to:

- Pricing
- Targeting (or not targeting) customers
- Tendering processes
- Sharing competitively sensitive information
- Breaching confidentiality obligations

Each entity must make an independent and unilateral decision about its commercial positions

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We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to Elders past, present and emerging.

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Introductions

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AEMO Project Team

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Meghan Bibby – Lead SME
Michelle Norris – Lead SME
Satheesh Kumar – Business Architect
Madina Nurmambetova – Project Manager
Peter Svans – Program Manager
Sarah Squire – Change Manager

Utilligent

Ben Wortley – Utilligent Senior Vice President
Anthony Kandi- Senior Business Analyst
Neil Belford- Lead SME
Ben Meek – Utilligent SME

By sector listing

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Workshop participants

Participants

Retailers	Distribution / Transmission
Red Energy Simply Energy AGL Alinta Energy Queensland Origin Energy Shell Energy	SA Power Networks ElectraNet Ausgrid Endeavour Energy TasNetworks Jemena Essential Energy
Metering Coordinators	**Generators**
Intellihub Plus ES Yurika Vector	Intergen Alinta Engie
Others	
Global Roam AgilityCIS Evergen Onyx Services Brave Energy	

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Overview of IDX

Industry Data Exchange (IDX) Project

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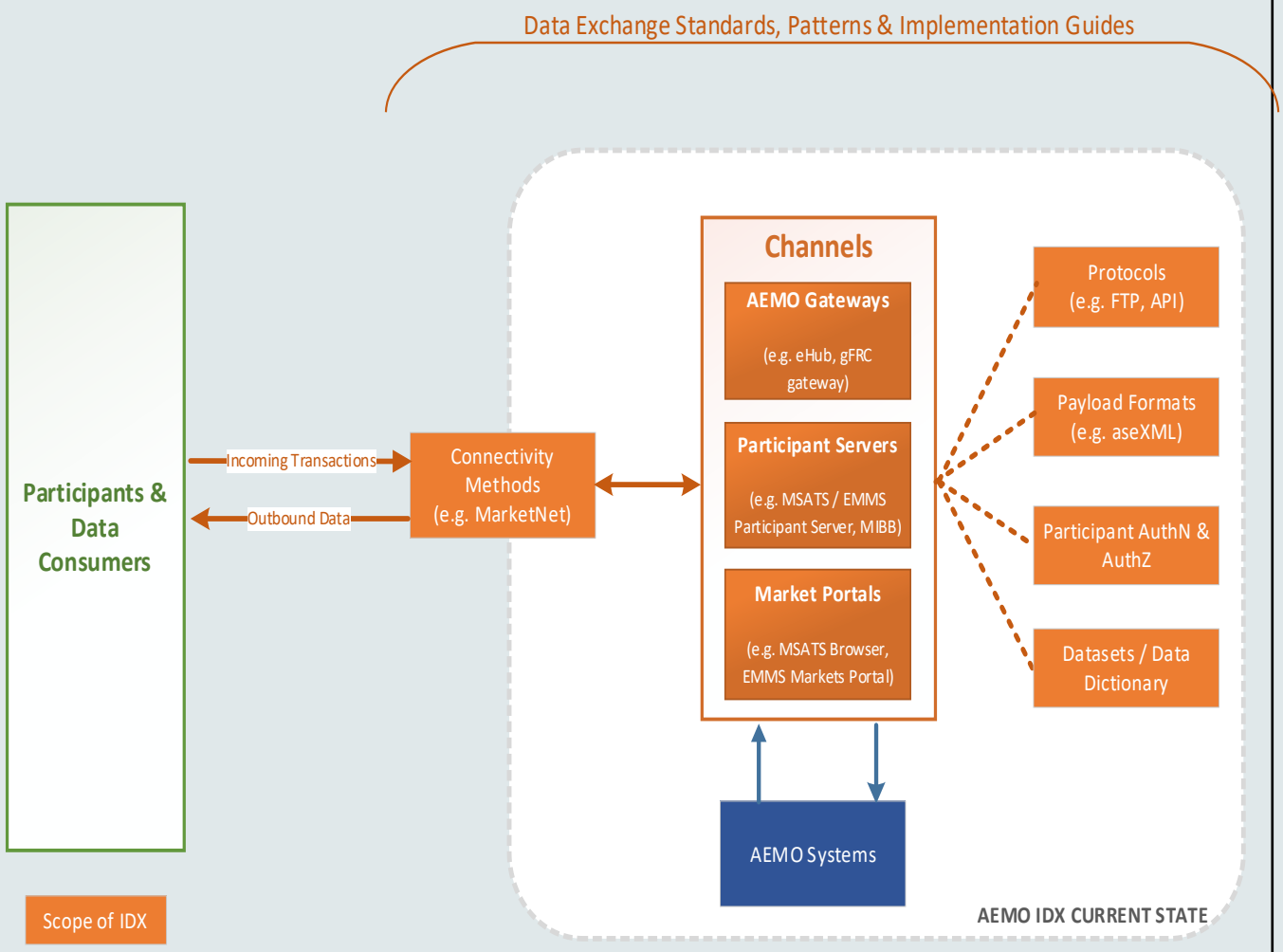
What is included in 'IDX'?



The following areas are 'in scope' for the Industry Data Exchange (IDX) considerations:

1. Inbound Market Transaction Processing
2. Access to Participants' confidential data required to operate in the Market (Outbound)
3. Connectivity methods (e.g. MarketNet, Internet)
4. Protocols to connect to AEMO systems (e.g. FTP, APIs)
5. Payload formats (e.g. aseXML, DI process & data model)
6. AEMO data exchange systems that Participants connect to (e.g. eHub, Markets Portal)
7. Data exchange standards & patterns

Out-of-scope:

1. Rule & Procedure changes
2. Business process flow changes

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Phased approach

The focus of this phase is NEM Retail and Wholesale, however, during Discovery NEM, WEM and Gas markets will be explored to support future alignment opportunities

	Discovery	Design	Implementation
Timing	Feb –Jun 2021	TBD Pending outputs of Discovery Phase and internal AEMO funding decisions	
Output	**Develop a proposal** AEMO and industry stakeholder workshops to identify need and baseline Define scope, goals, objectives, requirements, cost estimates and benefits for approval to commence future phases.	**Design the solution** Includes defining the Integration Roadmap, information exchange standards and policies, architecture (future and transition) and defining milestones.	**Deliver the solution** Implement the design ensuring people can work in new ways,

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IDX Participant Pain Points and Priorities

Survey feedback

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Survey segments

- AEMO's current NEM market-facing systems
- Where are there opportunities in the future?
- Future data exchange options
- Integration of B2B and B2M systems
- Measuring the benefits
- Are we there yet? Transitioning, implementation and future support considerations

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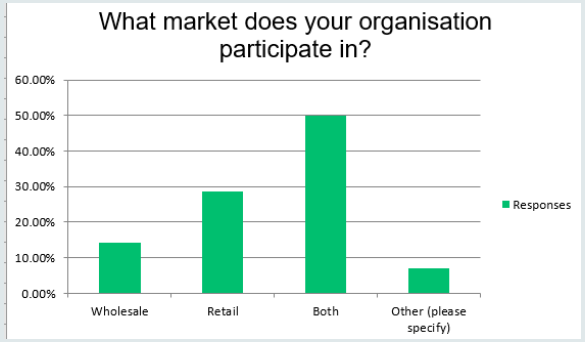
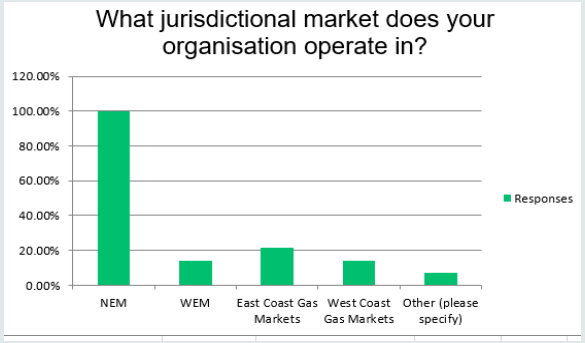
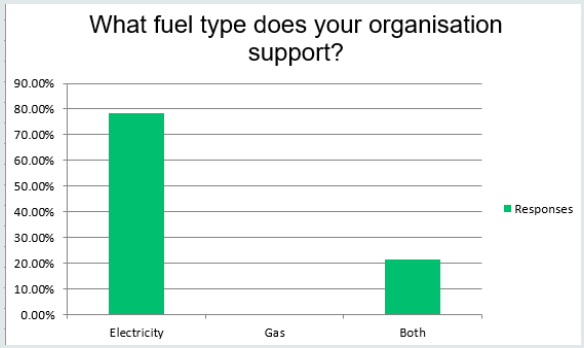
Survey respondents

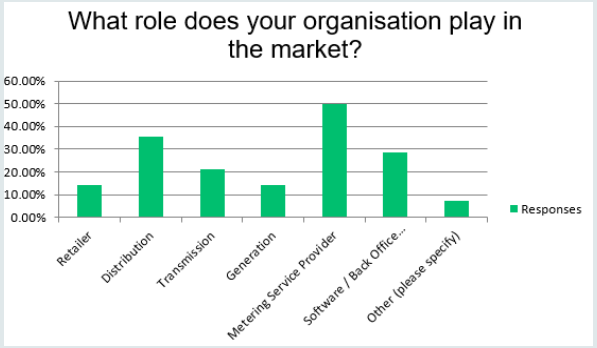
- 19 responses out of 27 organisations that attended the first workshop (70%)
- 100% of respondents supported* AEMO undertaking this investigation







*There were a number of comments / conditions in relation to the support including:
- cost benefit assessment must be completed, not just for AEMO but also participants
- desire to identify to benefits for consumers
- support IDX as long as it does not jeopardise other programs of work
- request for 'care' in mandating change given the other significant bodies of work that are underway



AEMO's investigation into its NEM market-facing systems

100% of survey respondents supported AEMO's investigation (discovery) phase of its IDX Project which included:

investigation of the costs and benefits to uplift our current NEM market-facing systems

definition of a data exchange roadmap (target & transition states)

investigation of the costs and benefits of the introduction of alternative data exchange mechanisms for current & future Markets

Participants also provided commentary around the following elements:

Importance of understanding the costs, need, benefits of any proposed changes (not just AEMO costs)

Importance of benefits to the end use consumer

Investigations of costs to provide new mechanisms must be balanced against the cost for change in existing markets (not just AEMO costs)

Transparency of what is to be implemented including timeframes

Concern over change of this nature concurrently with other changes occuring in the sector (e.g. 5MS etc)

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Greatest challenges organisations face today

Challenges rankings from the Technical break out group

Gas Markets (Including FRC & other markets such as GSH, STTM); multiple market systems, multiple data exchange mechanisms (e.g. GRMS for SA), gateway technologies & certification processes are the key factors adding to the complexity

NEM wholesale; owing to the volume of data and subscriptions that the Data Interchange process offers and the criticality of the data delivery timeliness

WEM and NEM Retail

What did you tell us?

Almost **60%** of respondents agreed with this ranking (of the groupings)

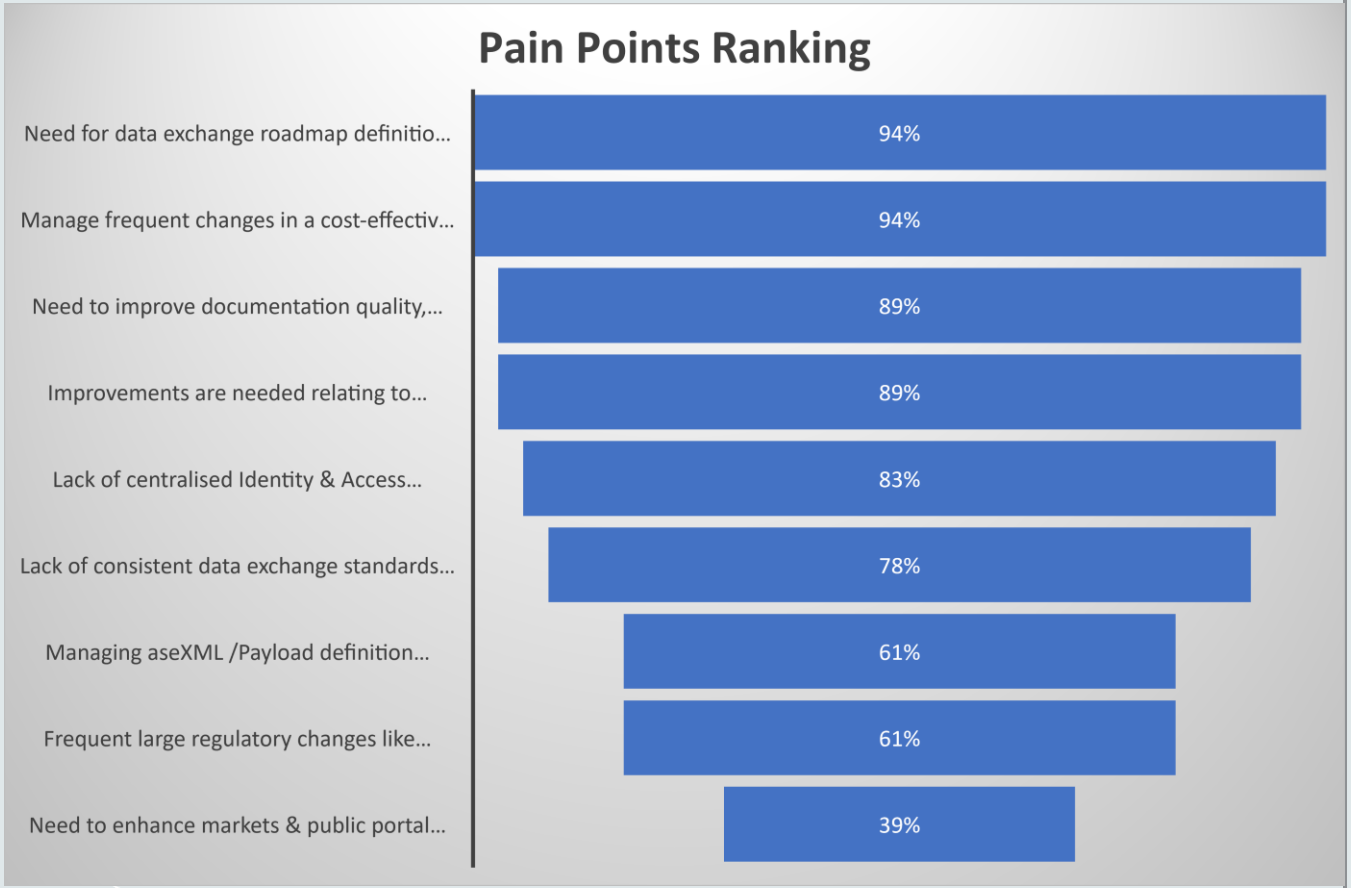
Comments included:

- A number of respondents don't operate in the gas markets / other parts of the market
- Two respondents identified the need of a centralised Identity & Access Management capability (for effective management of user & system accounts)
- Two respondents identified that B2B and B2M system were most important
- Other comments around the importance of having and leveraging real-time market data

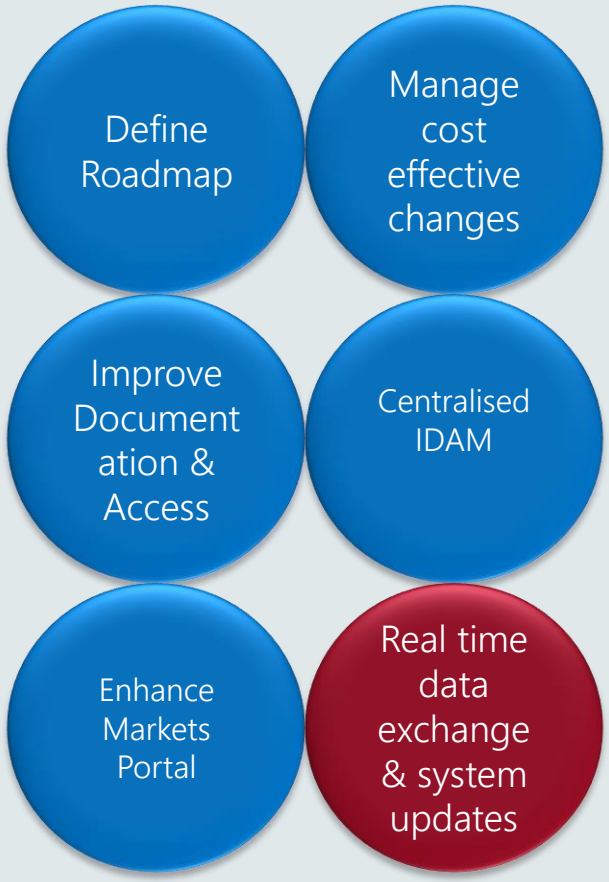
General pain points

The technical breakout group identified a number of general pain points in the first workshop and the survey asked participants to indicate agreement/ disagreement with the statements

The following are the rankings based on the MOST agreement through to LEAST agreement from survey participants



The following Themes have been identified from the Survey results & feedback



Covered in the original survey

Additional comments from survey

Workshop Poll

Do you think that the themes identified are complete or are there additional pain points that need to be included ?

- Yes
- No
- Unsure

Majority voted **Yes**

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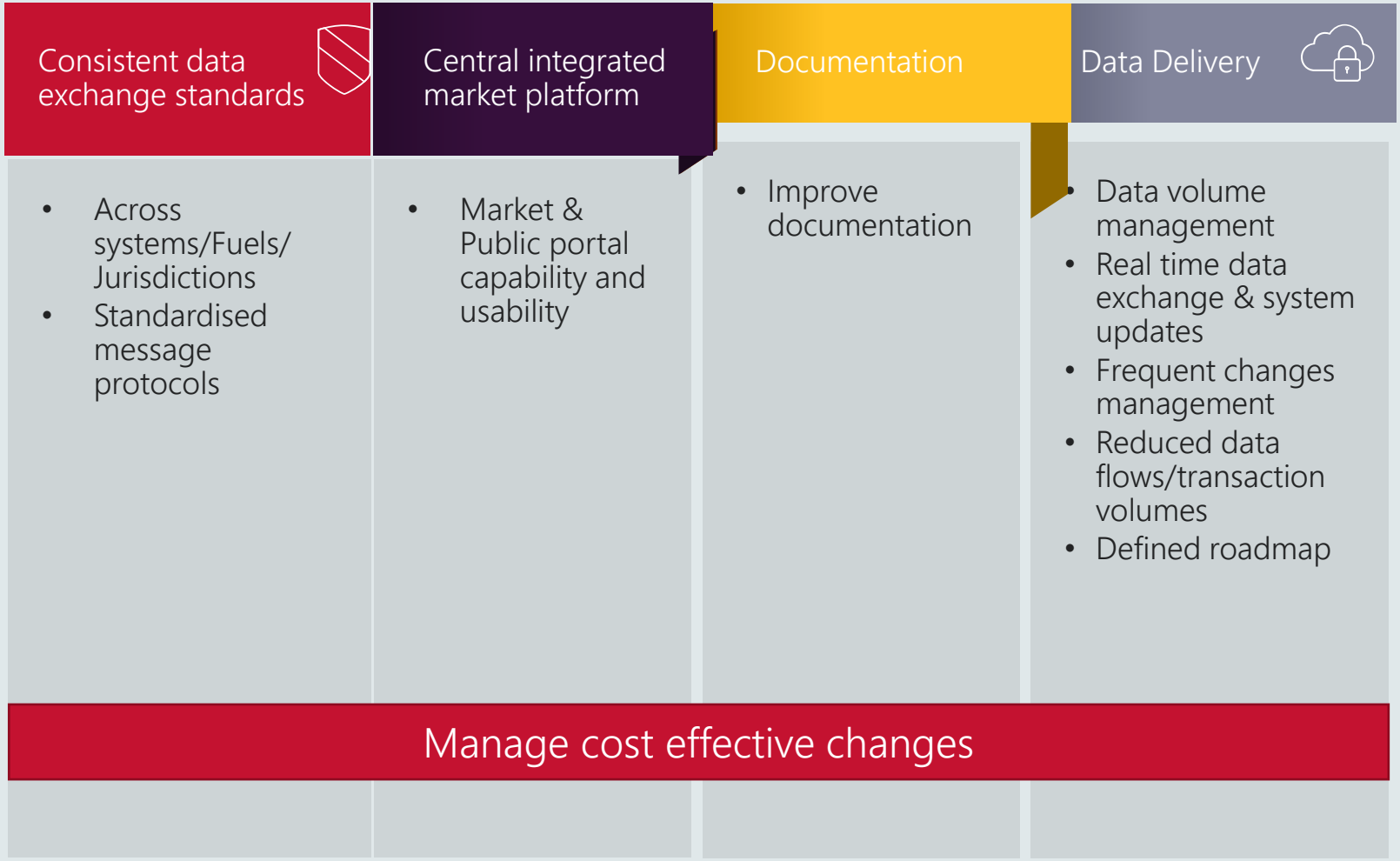
What systems AEMO needs to address first

Respondents came back with the following responses on the highest business priorities to address in their market

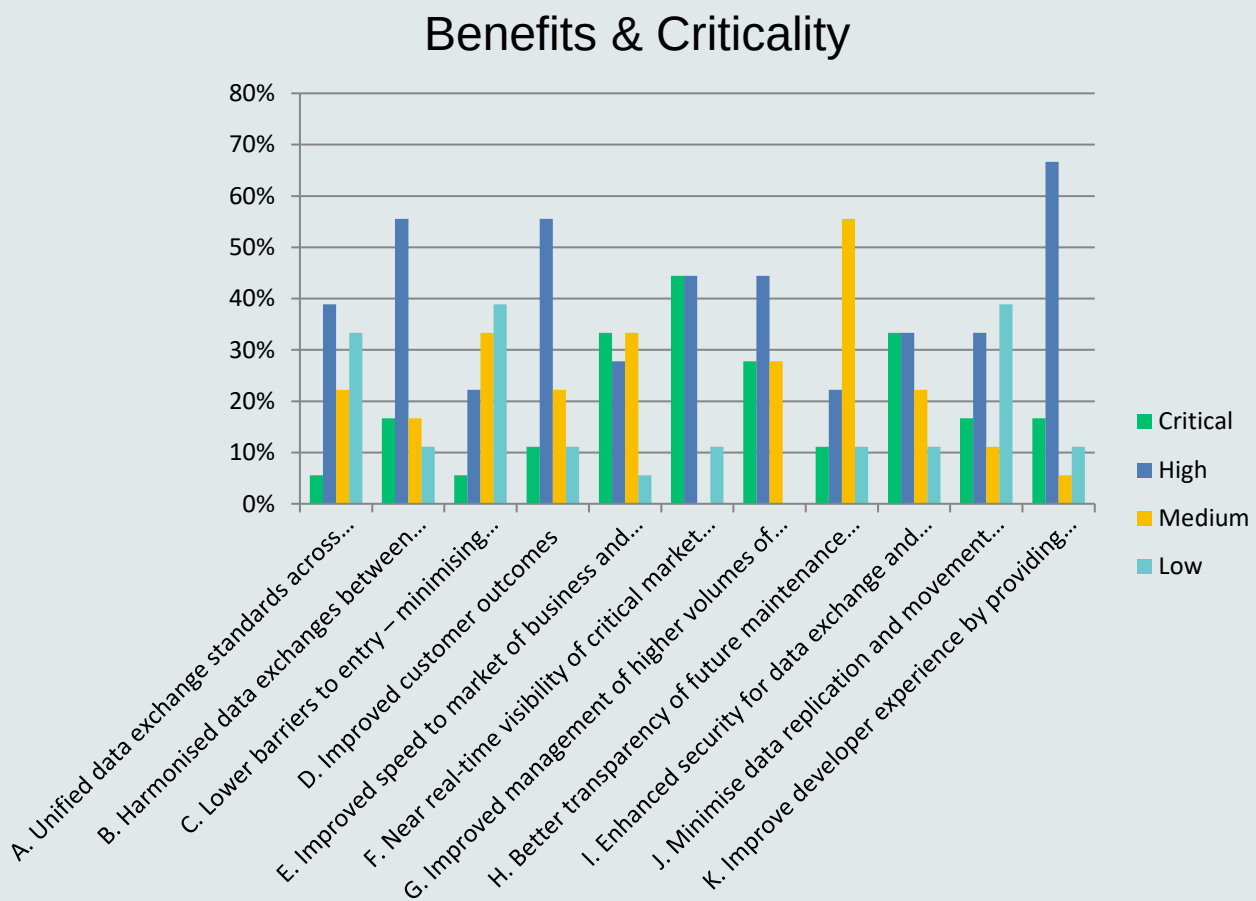
NEM Retail Systems (MSATS/B2B)	• Message exchange patterns & protocols • Integrated MSATS/B2B view to provide a single view of Standing Data, Service Request history & Meter data availability • MSATS portal - not intuitive
WA & Gas	• Tightest delivery timeline (1 Oct 2022) WA. EastCoast with 5MS has already been locked in • Inconsistency between Gas Markets, technology used for data transfers & supporting documentation regarding data models
NEM Wholesale	• Large volumes & criticality of exchanged data • MMS Portal not intuitive
Documentation	• Continuous improvement overall and in FAQ for new participants

Proposed recommendations by market participants



Opportunities in the Future

Survey results showing the criticality of the benefits to Participants' organisation



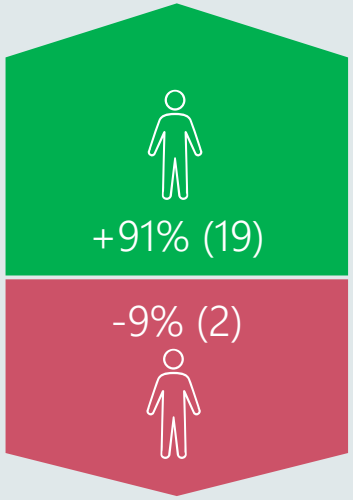
Ranking the benefits based on the Survey Results:

1. Near real-time visibility of critical market transactions
2. Enhanced security for data exchange and centralised access management
3. Improved speed to market of business and regulatory changes
4. Improved management of higher volumes of market data
5. Improve developer experience
6. Harmonised data exchanges between participants and AEMO market systems
7. Improved customer outcomes
8. Better transparency of future maintenance costs for data exchange systems
9. Unified data exchange standards across markets, fuels and jurisdictions

Workshop Poll

Do you support the Top 3 opportunities?

- Yes
- No
- If yes, why? (add your comments into the chat)
- If no, why not? (add your comments into the chat)



Majority votes **Yes**

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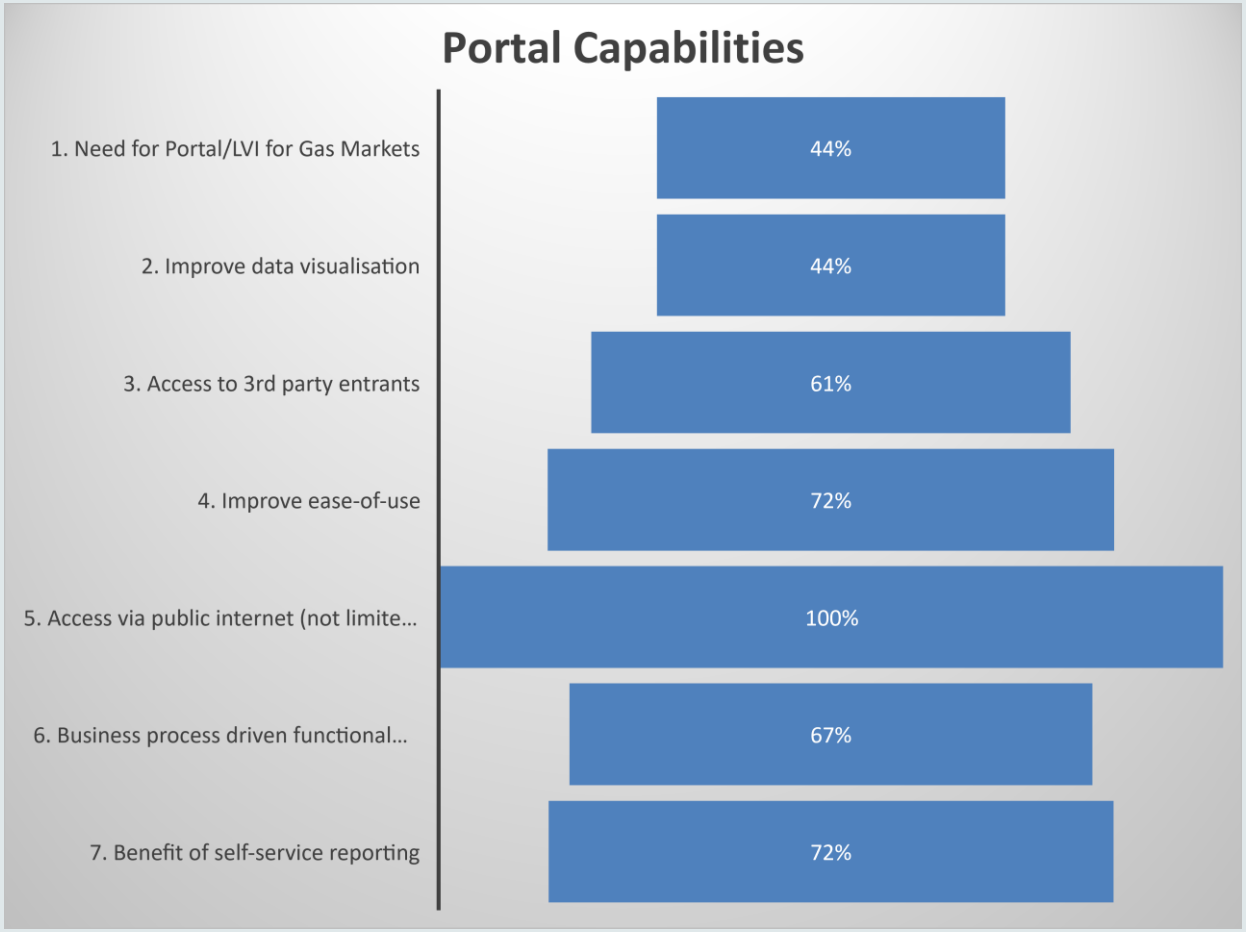
Opportunities in the Future

Survey results showing the capabilities that will improve the Portal experience



Observations from Survey:

a. Most of the respondents noted 'Do not Support' as they do use the AEMO Portal (or) is not applicable (e.g. Gas LVI) to them
b. Having B2M and B2B systems integrated at a minimum to provide opportunity for operational and industry efficiencies
c. Sensitivity of the data needs to be added as a technology driver, i.e. security controls

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Additional data exchange patterns for AEMO to consider

Event based solution

- Pub/Sub. Markets using AEMO provided integrated data model (NEM) incur less cost than those not using (Gas or WEM).

Alternate data consumption pattern

- Consumption of queryable & interoperable data in a simple & standard way (e.g. real time access to Electricity & Gas Standing Data using ODATA protocols)

Integrated B2B and B2M

- B2M and B2B systems integrated to provide operational and industry efficiency; reducing resources, time and cost involved in delivering the service

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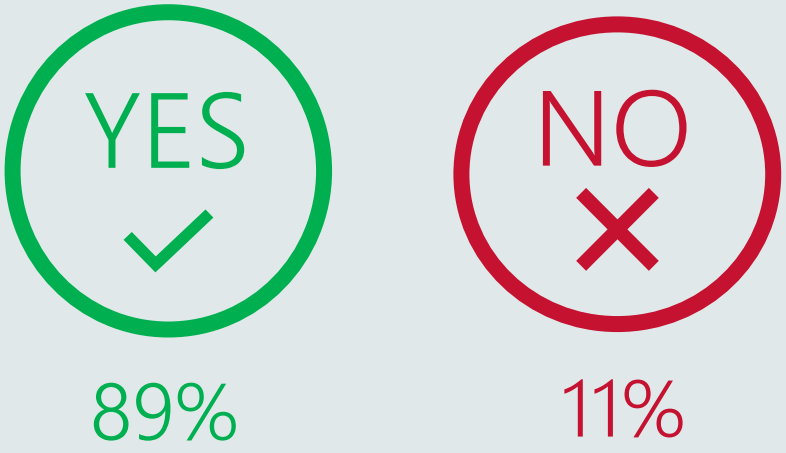
What are the business implications and opportunities for different data exchange patterns being applied to different transactions

Are you supportive of different data exchange patterns being applied to different transactions (or change requests)



89%

11%

What criteria should be applied in assessing which fields/elements should be faster/slower to update?

- Fields that have greatest financial, business and customer impacts.
- Depends on amount of data exchange patterns, technical feasibility, scalability, costs and benefits.
- Data updates that reflect a state (such as energisation status at a meter or NMI level) should be fast.
- Intra-day customer transfers.
- Impacts of delaying the information on down-stream systems.
- Information pertinent to real time activities and the efficiencies it could deliver operationally and from an end user perspective, i.e. FRMP churn, remote services and nominations of participants.

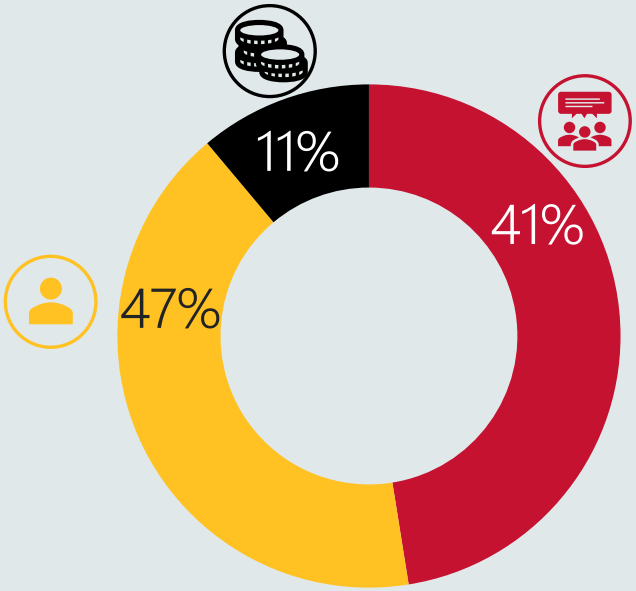
Workshop Poll

What's the priority for determining a faster update?

A) Financial impacts, OR

B) Business impacts, OR

C) Customer impacts



01 Customer impacts
7 respondents

02 Business Impacts
8 respondents

03 Financial Impacts
2 respondents

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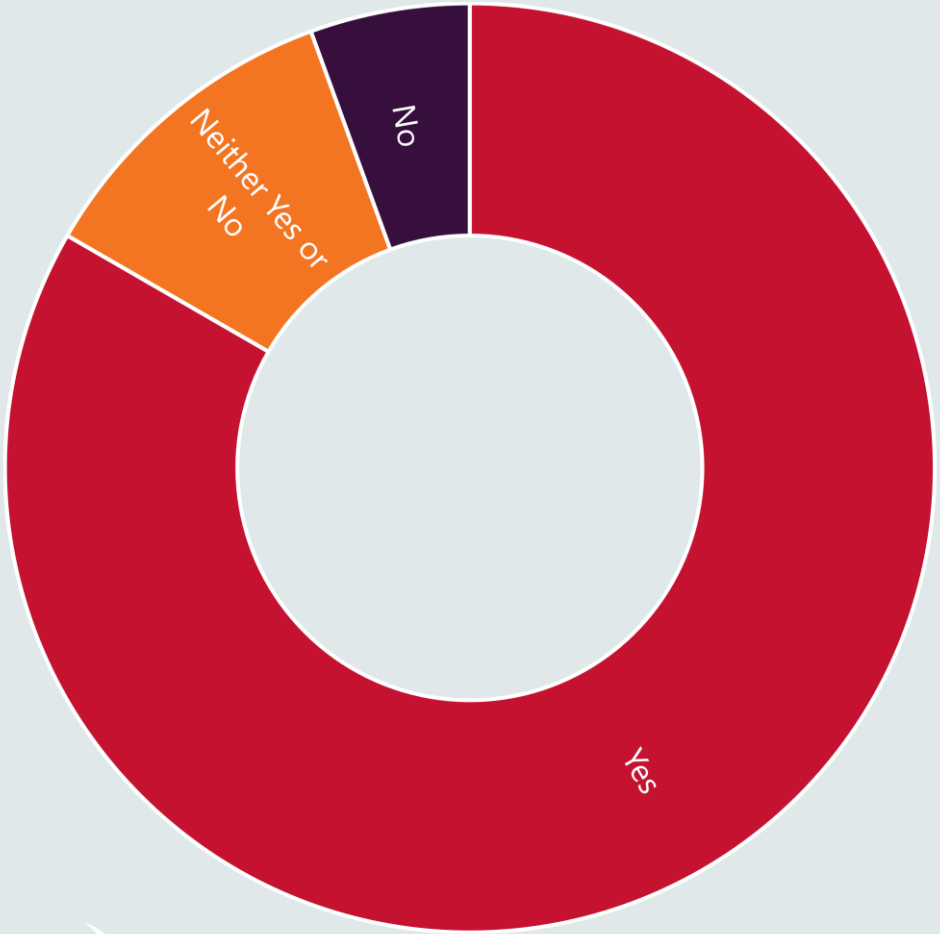
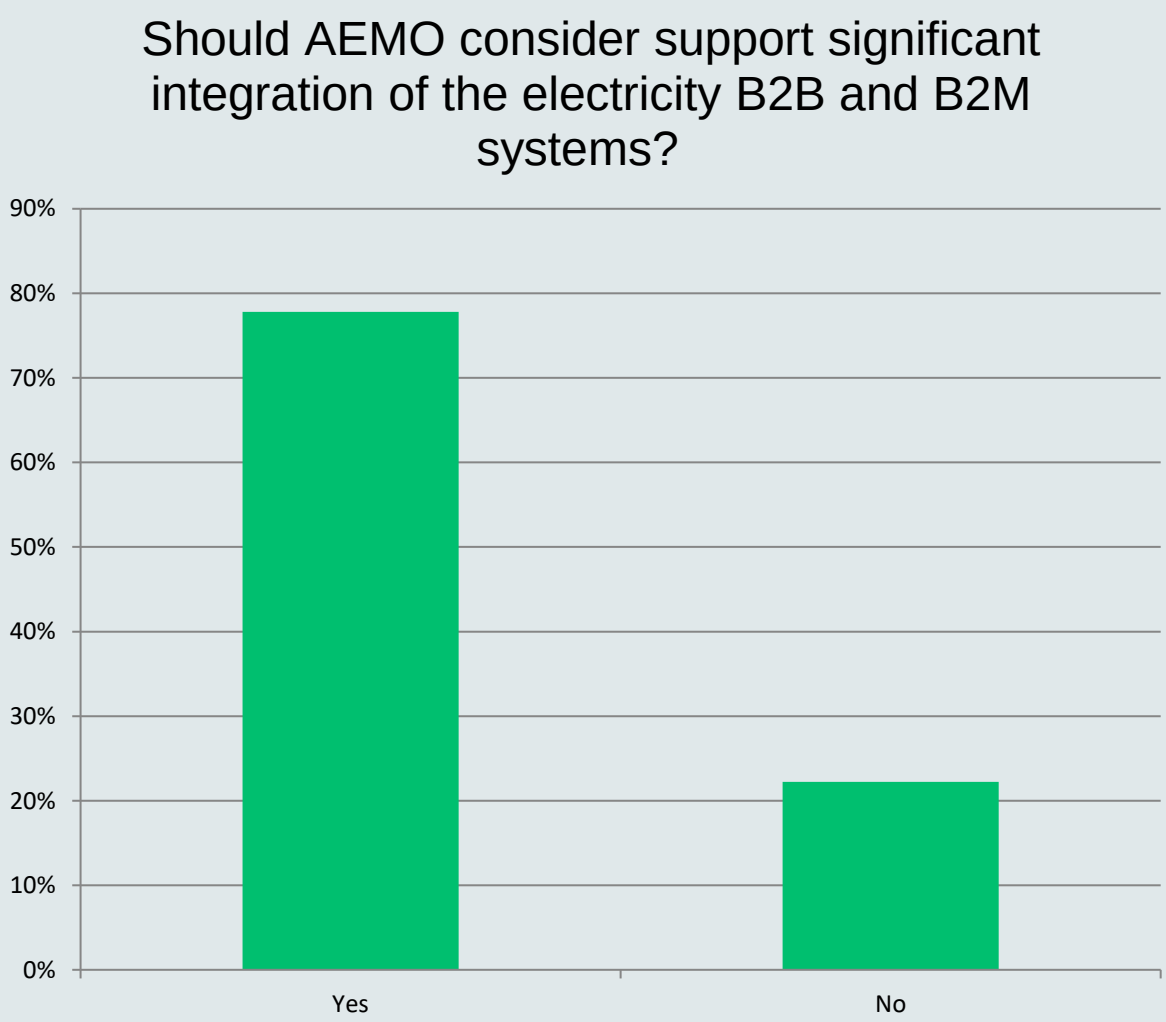
Future Data Exchange Options

Should the customer benefit be a key metric?



- Majority said key metric is cost, given number of levels of abstraction from the customer.
- *Making the industry more efficient is in the customers interest, so focusing on direct customer benefits only should not take primacy.*
- *From a retailer perspective, all changes have a customer centric analysis undertaken. Looking at not only the impact such as improving billing, transfers, etc…but also cost impacts.*
- *Customer could be interpreted as a participant in B2M and B2B transaction. The benefits of these 'customers' should also be a metric.*
- *The cost of doing these changes will most likely be negative for the customer, there will be some pretty big cost associated with migrating to new integrations*.

Integration of B2B and B2M systems



Respondents supported the concept of integrated B2B & B2M systems but noted that this concept requires justification with supporting business case (cost benefits)

Respondents not supporting this concept noted the following

1) Require further information to evaluate the proposal
2) Benefits does not outweigh the cost of implementing the integration
3) Require additional information (explanation) on the question related to 'B2B being more than just a framework'

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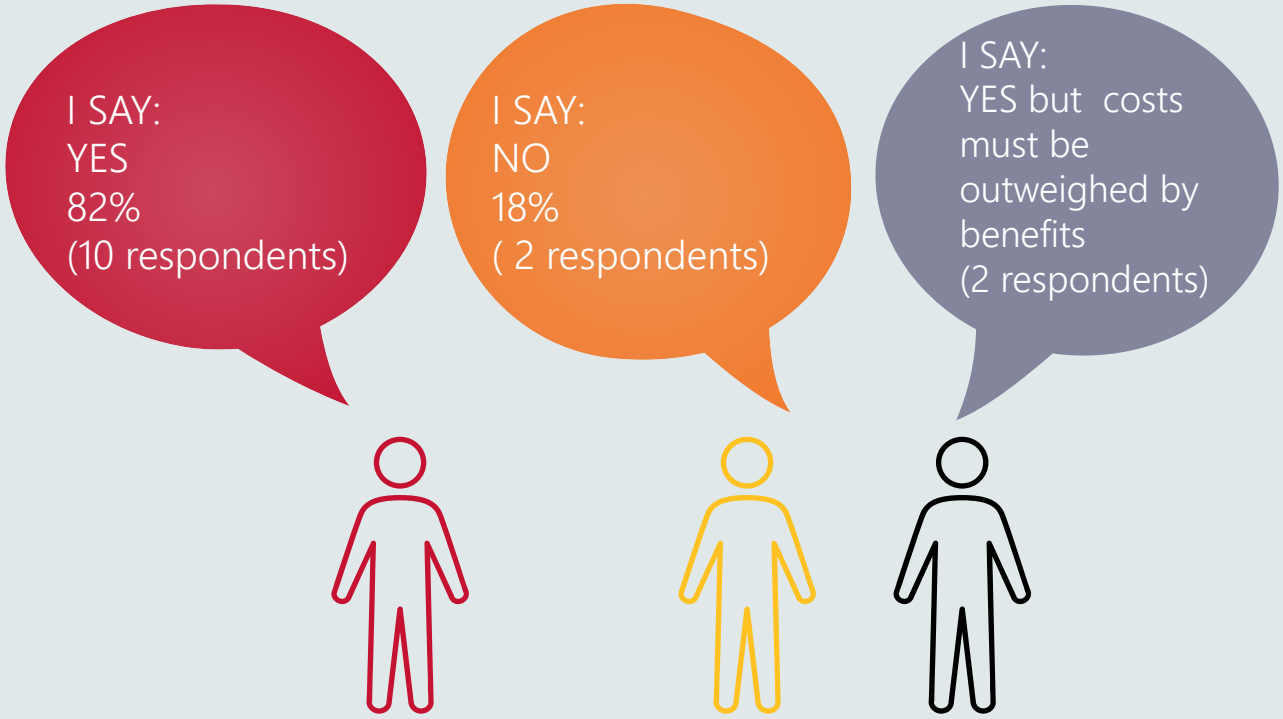
Workshop Poll

Do you support the integrating B2M and B2B?

- Yes
- No
- Comments (add your comments into the chat)



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Measures that could be used to measure success

Reduced data flows/ transaction volumes

Improvement in customer metrics for participants by faster turnaround to customer/ participant-initiated requests

Speed to market for business and regulatory changes

Flexibility to adopt change

B2B framework that allows exchange of all data the industry want to exchange

Security improvements

B2M & B2B data transfers can be altered independently

Option to pull data

Real time data processing and update of market systems

Access to AEMO systems for new entrants without needing to set up complex systems and processes

Speed to change the market (regardless of driver)

System simplification

Operating costs of market systems

Change volumes of data that can flow

Cost vs benefit analysis

Capital costs to make changes to market systems

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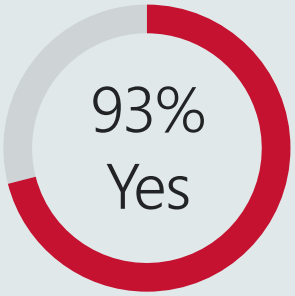
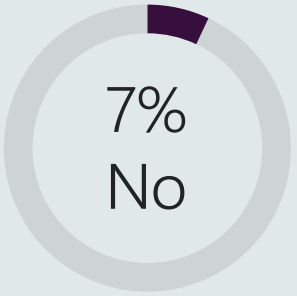
Workshop Poll

Are the Top 5 measures appropriate?

- Yes
- No
- Comments (add your comments into the chat)



14 respondents



1 respondent

Comments

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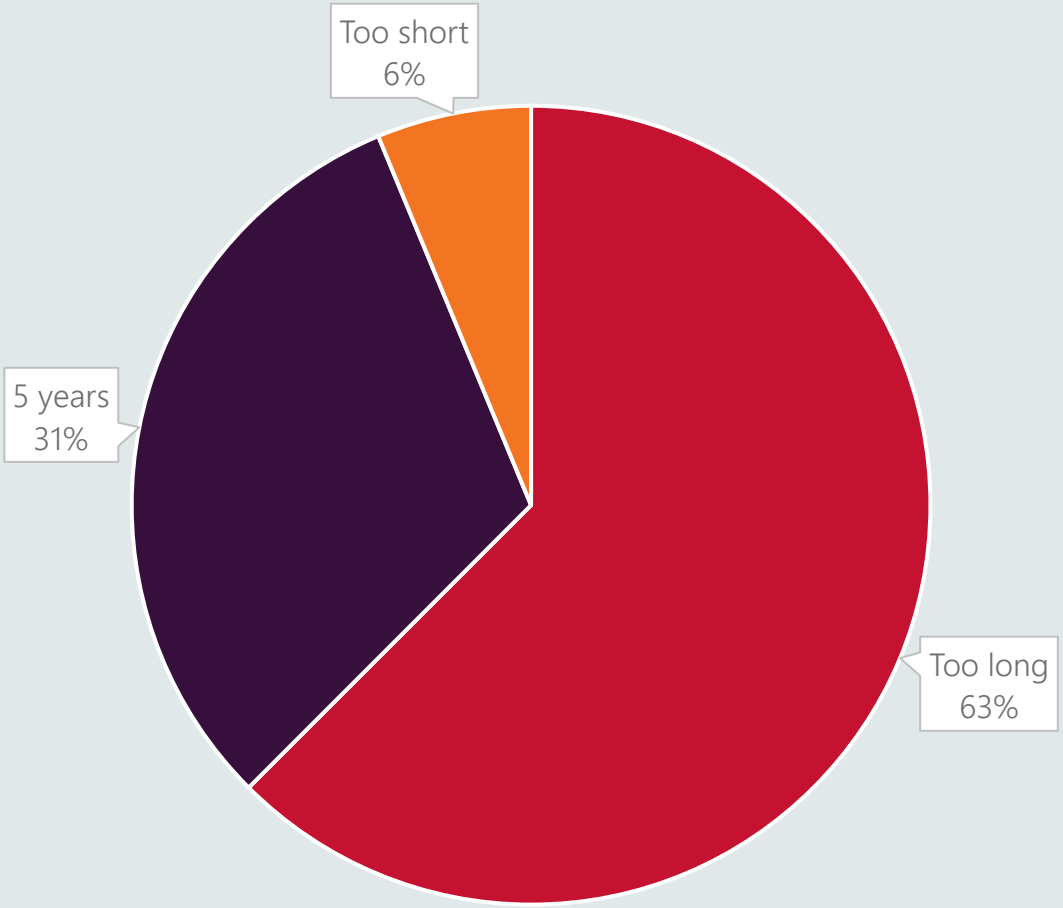
What is an appropriate time frame to flag that a system upgrade will proceed?

Is 5 years too long or too short?



Too long – suggest 1 year to 2½ years

- *Technologies would have been deemed redundant by the time the implementation commences.*
- *Instil an industry culture that is accepting of continual change, a culture that prioritises the capacity to quickly respond and improve, and puts adequate emphasis on evolution of IT technologies and data exchange approaches.*

5 years – suggest 5 to 7 years

- *DNSP are all on 5 year determination cycles, and we need to include large changes in proposals with justification & costings (the regulator expects Business Case detail).*

Too short – suggest 10 years

- *From determination of change to allow for impacts to be fully factored into AER cost determination cycles.*

Other – incremental change

- *done in a way that minimises contact points to organise the change.*

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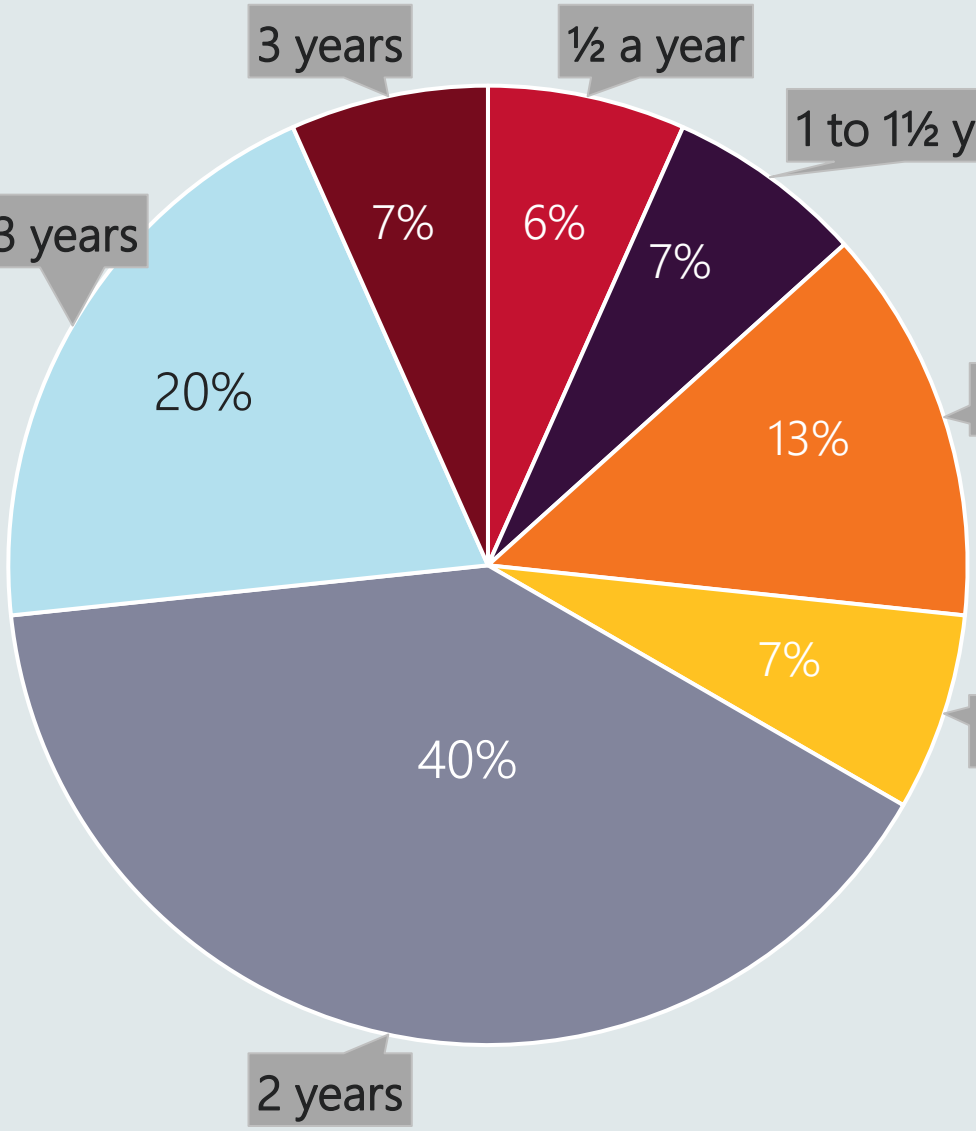
What is an appropriate timeframe for the transition period?



dependent on complexity of change

transition not necessary if adequate notice period is provided.

a phased approach would be better so that we can do small pieces of work, not try

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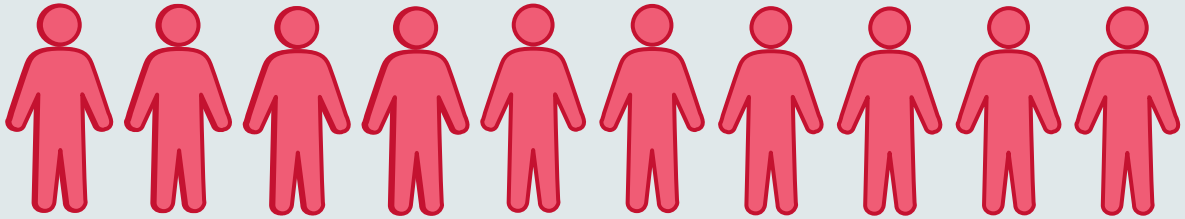
Have we captured the timeframes?

- Yes
- No
- Comments (add your comments into the chat)



100% YES

17 respondents

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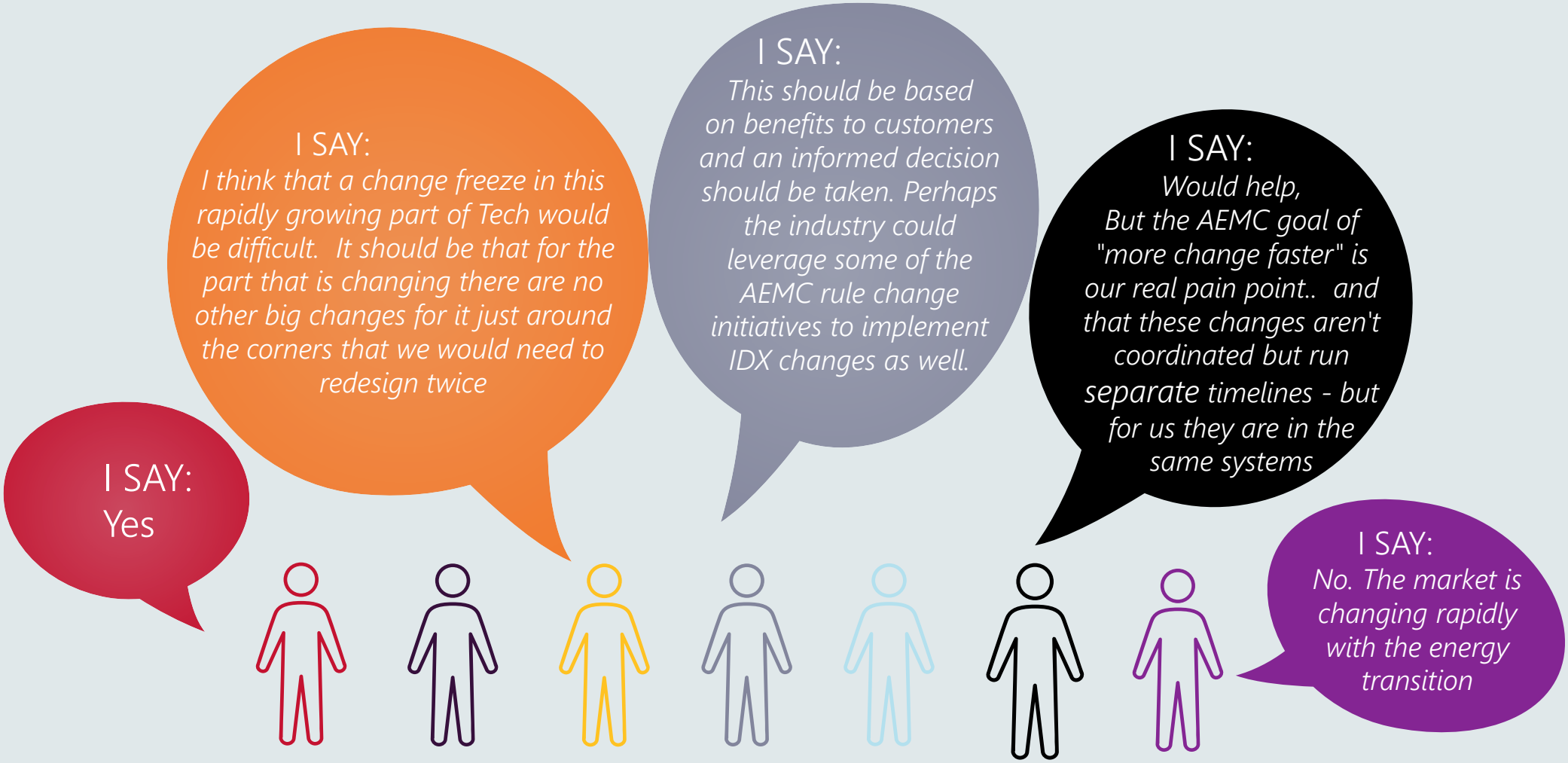
Should the AEMC provide a change freeze window to allow implementation?



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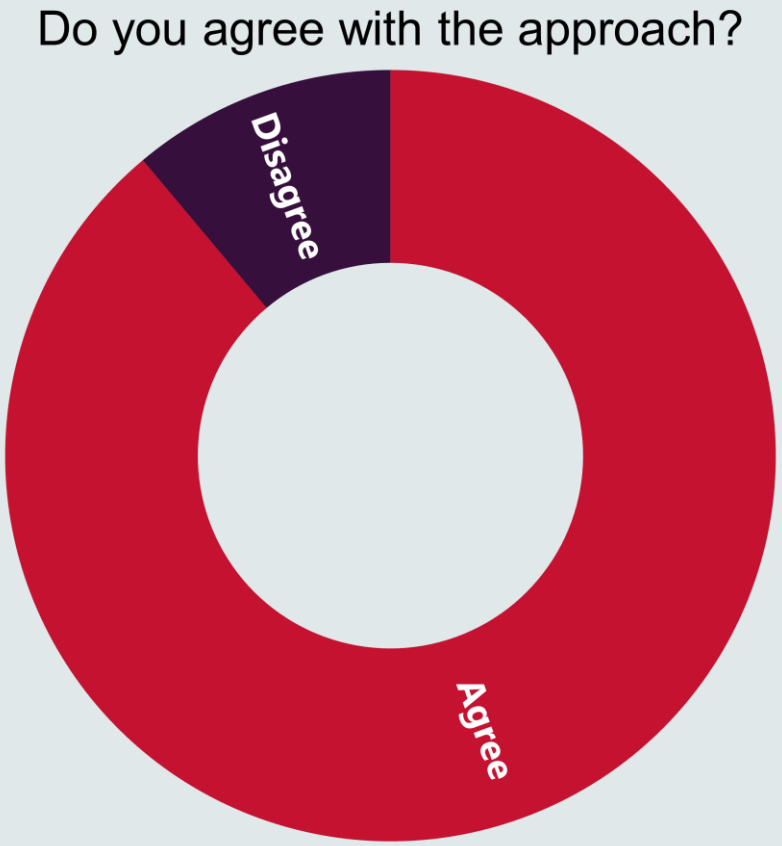
Approach to transition

- New capabilities aren't required to be backwards compatible (e.g. DER interfaces)
- Current capabilities must be backwards compatible with a clear definition of the sunset period (e.g. Retail B2M process)



Respondents supported the above transition principles and also noted the following

1) Clear definition of sunset periods is required when a capability is backwards compatible
2) If enough notice is given, backwards compatibility may not be necessary

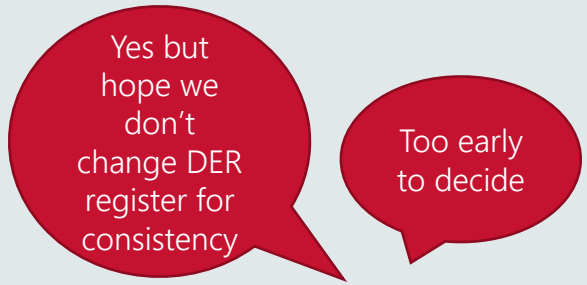
Workshop Poll

Is the transition approach appropriate?

- Yes
- No
- Comments (add your comments into the chat)

100% YES

13 respondents



Comments

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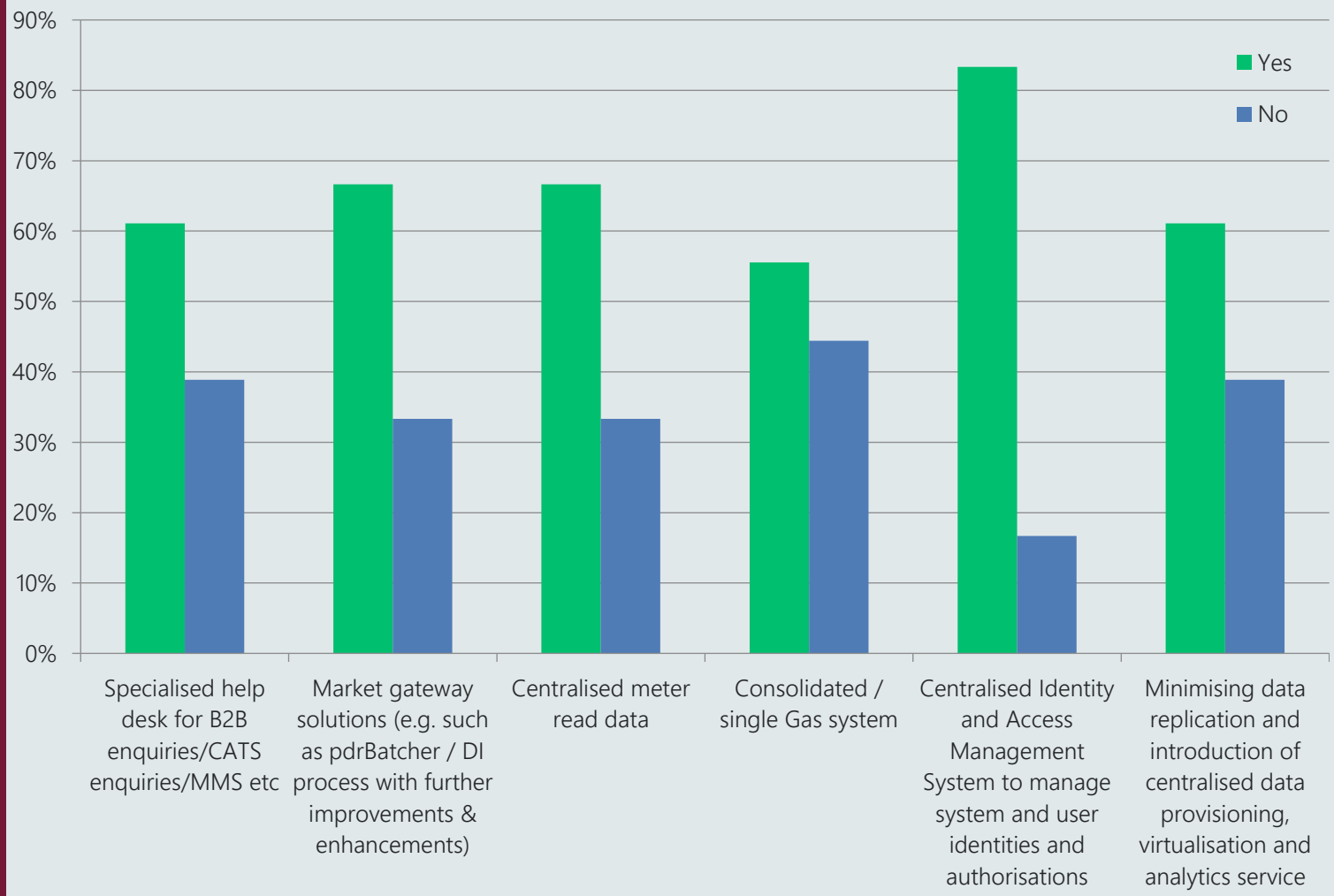
Are participants interested in exploring future services?



Respondents answered 'No' when they do not use any of the above capabilities

Respondents recommended AEMO to weigh the cost and benefits that these services offer

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Improve Developer Experience

- Improve documentation quality, standards and access
- Robust Test Environment for Integration Development Work
- Self Service Developer Portal
- Simulated API requests (Test Me)
- Enhanced Responder Functionality to avoid engaging Partnership Testing
- Open Source the AEMO tools

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Workshop Poll

Are there any items we have not yet covered?

Comment in the chat

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Next steps

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What's next

- Thank you for your involvement in the Discovery Phase of IDX, it has been invaluable
- We will now collate the information and develop it into a business case over the coming quarter.
- During this process we may request some further information from some of you
- We will ensure we also come back to you in due course to advise you of the progress of the project

Thank you for your input, time and participation

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