

Reform Delivery Committee

24 May 2023



1. Welcome

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.

Agenda

#	Time	Topic	Ask of Committee	Presenter(s)
1	10:00-10:10am	Welcome		Violette Mouchaileh (AEMO)
2	10:10-10:15am	Action Items from prior meetings & workshops	For noting	Peter Carruthers (AEMO)
3	10:15-10:40am	Change management update <ul style="list-style-type: none"> Operational Security Mechanism FTA Model 2 (Unlocking CER benefits through flexible trading) Capacity investment scheme Enhanced Information, Congestion Relief Market & Priority Access Model 	Open discussion	<ul style="list-style-type: none"> Lisa Shrimpton (AEMC) Andrew Pirie (AEMC) Lance Brooks (AEMO)
4	10:40-11:00am	Taking cost out for industry and consumers <ul style="list-style-type: none"> Next steps 	Open discussion	Peter Carruthers & Lance Brooks (AEMO)
5	11:00-11:15am	Stage gate update	Open discussion	Lance Brooks (AEMO)
6	11:15-11:45am	Progression of Foundational & Strategic initiatives <ul style="list-style-type: none"> Recap of context Consultation update Business case approach Next steps 	Open discussion	Ulrika Lindholm & Andrew Bell (AEMO)
7	11:45-11:55am	Other business	Open discussion	Violette Mouchaileh (AEMO)
8	12:00 pm	Thanks and close		Violette Mouchaileh (AEMO)

Appendix A: Strategic / Foundational initiatives overview

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2. Review of action items

Action Items from prior meetings & workshops

RDC Open Actions

(Ref: Item = Meeting number/Agenda item number/Ref)

#	Topic	Action	Responsible	Status
9.3.0	Change Management Update & Ask of the Committee	AEMO to present at the next meeting on any lost and emerging bundling opportunities to consider when updating the Roadmap.	AEMO	Open
9.4.1	Taking Cost Out for Industry and Consumers	RDC members to provide feedback on the approach to exploring opportunities to Take cost out for industry and consumers by emailing NEMReform@aemo.com.au .	RDC Members	Closed
9.5.0	Stage Gate Update	AEMO to update the Stage Gate documents as described and share with RDC members for feedback ahead of publishing external documents.	AEMO	Closed (refer to Section 5)

3. Change management update & Ask of the Committee

Operational Security Mechanism

Verbal update

Unlocking CER benefits through flexible trading

AEMC Presentation (refer to accompanying pack)

Lisa Shrimpton (AEMC)

Andrew Pirie (AEMC)

Capacity Incentive Scheme

- The Government will establish the CIS to underwrite new investment in clean energy, accelerating the development of cheap, clean renewable generation and storage and ensuring the smooth transformation of Australia's energy market
- The CIS is **still under policy development which is being lead by the Commonwealth Government**
- It is expected to be progressed in two parts:
 1. An initial year one tender process (2023) to run in specific geographic locations (SA & VIC)
 2. The design of a national scheme, building on the year one tender process
- The Commonwealth budget published 9 May 2023 provided further guidance on next steps, roles and responsibilities including:
 - for AEMO to deliver auctions in SA and VIC and undertake contract management activities for selected projects
 - for the DCCEEW to design the auction process in late 2023 to operate in SA and VIC, and continue work on a national rollout of the scheme

Given the current policy direction for the CIS it appears unlikely a significant industry wide investment in IT systems or business processes will be required under the NEM Reform Program

Recommendation: CIS to remain within the NEM Reform Program / Roadmap for now, with AEMO & RDC to monitor final policy outcomes and determine its status in coming weeks / months when finalised

Enhanced Information, Congestion Relief Market & Priority Access

Rule change request anticipated in the coming months subject to review and approval

On 24 February 2023, Ministers accepted the ESB's draft recommendations and:

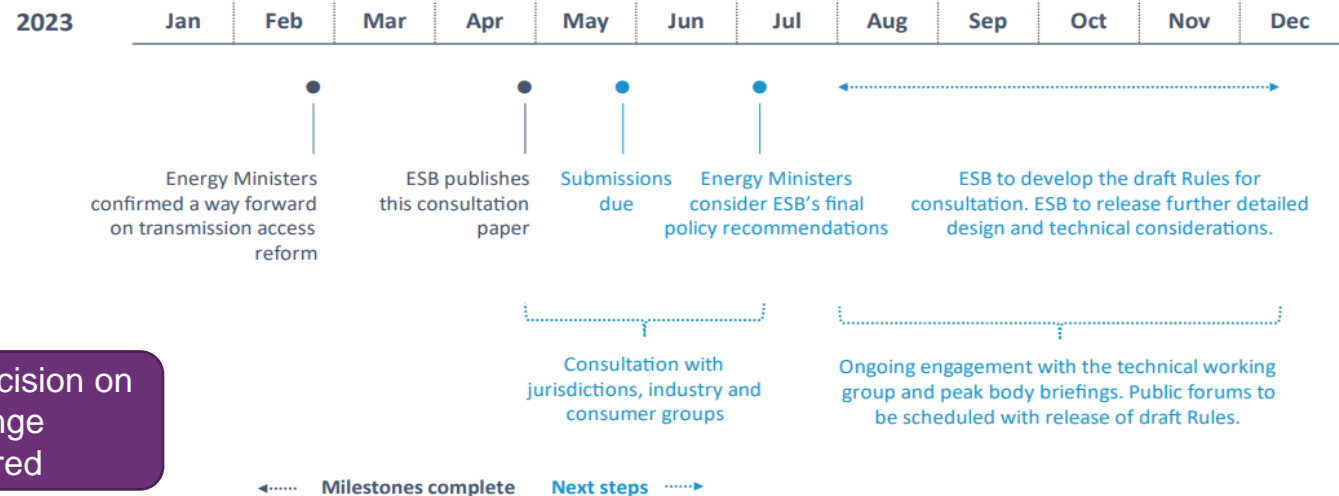
- agreed to immediately implement **'enhanced information'** reforms to provide east-coast market participants with better information on the optimal location for new generation and storage.
- requested that the ESB work with Senior Officials and stakeholders to develop the voluntary **CRM and the Priority Access model** ['the hybrid model']

Enhanced Information

- 'Enhanced information' is intended to promote more informed investment and siting decisions. The ESB is developing a rule change which is expected to be progressed by the Commonwealth Government.
- There are linkages between the scope and nature of 'enhanced information' and the priority access reforms. To make more efficient decisions, investors will need information relevant to the priority access mechanism including how hosting capacity assessments translate to a priority level of access.

Congestion Relief Market & Priority Access

- The ESB has published a [consultation paper](#) seeking stakeholder feedback on key design choices that will inform the ESB's final policy recommendations to Ministers in mid-2023. Submissions to the ESB close 26 May



Recommendation: Await Energy Ministers final decision on policy recommendations and commence change management process on scope if/when required

4. Taking costs out for industry and consumers

Blueprint Assessment – Update

- The Blueprint Assessment has been developed as an input into the next iteration of the Implementation Roadmap, recognising that the Roadmap needs to be continually monitored and evaluated in order to bundle, sequence and prioritise initiatives and look to take costs out of industry as the Program progresses
- Example – Bundling, sequencing and prioritising opportunities:*
 - Moving to twice-yearly releases
 - Reducing need for double-handling of testing
 - Reduce roll-out risks through allowing sufficient time for development and testing (including industry testing)
- Example – Take costs out opportunities*
 - Providing documentation / build packs early or in stages
 - “Primers” for industry for items which do not provide a comparative advantage between participants

PROPOSED CONSULTATION APPROACH



AEMO RECOMMENDATIONS

- Opportunities to *bundle, sequence and prioritise* initiatives within the current NEM Reform Program scope are to be assessed in the coming weeks / months with the RDC ahead of the next iteration of the Roadmap and in accordance with the Change Management process
- Consulting / Co-creation of opportunities identified within the Blueprint Assessment to further *take costs out of industry* (specifically, those opportunities not within the current scope of the Program) be deferred until completion of the current IDAM, IDX and PC consultation

See more specific examples on the next slides

Example findings – Bundling, sequencing and prioritisation

Potential opportunities to be assessed in the coming weeks / months with the RDC ahead of the next iteration of the Roadmap

- The following principles / guidelines have helped shape the assessment:
 - Level out the amount of change for AEMO and industry participants over time
 - Minimise costs (including total cost to industry), through, for example, double-handling of changes
 - Follow the Delivery Strategy approach of twice-yearly releases, and minimise the environment requirements and associated risks
 - Reduce roll-out risks through allowing sufficient time for development and testing (including industry testing)
 - Implement foundational elements first
 - Minimise the introduction of technical debt

Initiative(s)	Proposal	Potential Benefit(s)	Next Step(s)
Scheduled Lite (Visibility only), FPP	Sequencing – Align with May 2025 FPP Release	<ul style="list-style-type: none"> Minimise number of releases Reduce roll out-risks 	To be considered as part of informed go-live assessment under rule change process
CRM & PA, ORM	Bundling – Bundle initiatives for May 2027 non-financial, September financial go-live	<ul style="list-style-type: none"> Minimise potential number of releases Minimise costs including having to change the same system twice 	Subject to policy / rules development, bundling of initiatives including informed go-live dates to be considered via change management process
DER Data Hub & Registry	Prioritise – Commence initiation and feasibility in May 2023	<ul style="list-style-type: none"> Minimise costs to industry Implement foundational elements first 	Proposed feasibility assessment to be completed by Q3 2023, including industry consultation
Dispatch Target State	Prioritise – Complete performance assessment of dispatch ecosystem	<ul style="list-style-type: none"> Defined performance and functional limits to better inform checkpoint assessment and development of reform initiatives Reduce roll-out risks Minimise costs 	Proposed performance assessment to be completed by late 2023 in order to be an input into future checkpoints
Data Services	Prioritise – Commence initiation and feasibility for new Data Services	<ul style="list-style-type: none"> Identify appetite and requirements from Class A / B bodies Level out amount of change for AEMO 	Proposed feasibility assessment to be completed by late 2023 to inform scope of implementation
Bill Transparency	Sequencing – Delay go-live no earlier than NOV 2025	<ul style="list-style-type: none"> Level out amount of change for AEMO / participants (retailers) Reduce the rollout risks for AEMO / participants 	Subject to policy / rules development informed go-live assessment to be considered via these processes
EV Charging Standing Data Register	Prioritise – Target November 2024 go-live build upon current DER Register	<ul style="list-style-type: none"> Better informed decision making / planning Minimise introduction of technical debt (leveraging existing systems) 	Subject to policy / rules development proposal informed go-live assessment to be considered via these processes

Example findings – Taking costs out of industry

- The assessment has undertaken an initial ideation exercise to identify a portfolio of potential cost take out opportunities across the whole of the industry relating to the NEM Reform Program.

Recommendation:

- Consulting / Co-creation of opportunities identified within the Blueprint Assessment to further take costs out of industry (specifically, those opportunities not within the current scope of the Program) be deferred until completion of the current IDAM, IDX and PC consultation
- If appropriate, consideration to be given to building in such opportunities into the scope of existing initiatives (e.g. SCADA Lite) if, and when progressed

Potential candidates subject to RDC and industry consultation

Potential candidates for taking costs out of industry

- **SCADA Lite:** Development of turnkey solution for DER Aggregators to installations that is already DNP3 certified and able to send telemetry data to AEMO
- **SCADA Lite:** Development of standards of communication between AEMO and relevant industry participants (additional scope)
- **OSM & ORM:** Development of multiple and early versions of build packs allowing participants to assess, design and build their own solutions
- **NEM Reform Test Harness:** Build a test harness enabling participants to minimise bilateral testing and identify defects / issues earlier in their testing process

5. Stage gate update

Stage Gates – key observations

Original Intention

- Stage Gates provide for greater certainty of proceeding, funding approval discipline, transparency and management
- A Portfolio based approach with funding releases for AEMO phase gates (Initiation, Feasibility, Planning, Execution, Benefits Realisation) delegated to Steering Committee to ensure individual project disciplines maintained, conformity to AEMO methodology and project continuity/timelines maintained

Challenges Encountered/Foreseen

- Original proposed Stage Gates are no longer valid, due to changes in timing and composition of initiatives within each Stage Gate e.g. delays in Rule timings.
 - It will not be possible to bring initiatives forward as originally envisaged for funding approval
- In certain cases, feasibility and planning work is warranted prior to making an execution commitment in order to manage cost estimates and ensure certainty of proceeding (e.g. AEMO foundational and strategic initiatives, DER initiatives)
 - Access to planning funding will better support a more detailed cost estimating process

Indicative next funding Tranche based on Stage Gate 'candidates' for Q3 2023 (see later slides)

Conclusions

- Refinements to the assessment and composition of Stage Gates are required to address the challenges. In principle, Stage Gate and Tranche-based funding approach to be maintained
- **'Candidate' initiatives for inclusion in an upcoming Stage Gate (and therefore Tranche funding) to be determined subject to the progression of each individual initiative**

Indicative Upcoming Stage Gate Q3 / 2023 (Tranche 2)

- Identity and Access Management
- Industry Data Exchange
- Portal Consolidation
- SCADA Lite
- DER Data Hub & Registry
- EV Charging Standing Data Register
- Data Services
- Operational Security Mechanism

Stage Gate – Updates

Pathway ¹	Initiatives	Q3 2022 (Completed)	Q3 2023 (TBC)	Q1 2024 (TBC)	Q3 2024 (TBC)	Q1 2025 (TBC)	Update
RAMS	Increased MT PASA information	✓					No update – Included in Tranche 1
	Capacity Incentive Scheme		✓				Candidate for Q3 2023 subject to final policy design and auction process
ESS	Fast Frequency Response	✓					No update – Included in Tranche 1
	Frequency Performance Payments	✓					No update – Included in Tranche 1
	Operational Security Mechanism	✓ (Prototyping Only)	✓ (Execution)				Candidate for Q3 2023 subject to AEMC final determination anticipated July 2023
	Operating Reserves Market			✓			Candidate for Q1 2024 subject to AEMC draft / final determination. Draft determination anticipated June 2023
TA ²	Enhanced Information			✓			Candidate for Q1 2024 subject to policy finalisation and rules development
	Congestion Relief Market & Priority Access Model		To be determined subject to policy / rules development				

¹ RAMS: Resource Adequacy Mechanisms, ESS: Essential System Services, TA: Transmission & Access reform, DER & FD: Integrating DER and Flexible Demand, DS: Data Strategy, AEMO F: AEMO Foundational, AEMO S: AEMO Strategic.

² Anticipated TA reforms will be implemented by 2027, on the condition policy / rules development is finalised in 2023

Stage Gate – Updates (continued)

Pathway ¹	Initiatives	Q3 2022 (Completed)	Q3 2023 (TBC)	Q1 2024 (TBC)	Q3 2024 (TBC)	Q1 2025 (TBC)	Update
DER & FD	Integrating Energy Storage Systems	✓					No update – Included in Tranche 1
	Flexible trading Arrangements (Model 2)			✓			Candidate for Q1 2024 subject to outcome and timing of AEMC rule consultation
	Scheduled Lite			✓			Candidate for Q1 2024 subject to outcome and timing of AEMC rule consultation
	Dynamic Operating Envelopes	To be determined subject to policy / rules development					No update – ongoing policy / rules development
	Distribution Local Network Services	To be determined subject to policy / rules development					No update – ongoing policy / rules development
	DER Data Hub & Registry Services		✓				Candidate for Q3 2023 subject to industry consultation
	DER Operational Tools	To be determined subject to policy / rules development					No update – ongoing policy / rules development
DS	Data Services		✓				Candidate for Q3 2023 subject to policy finalisation and rules development
	EV Charging Standing Data Register		✓				Candidate for Q3 2023 subject to policy finalisation and rules development

Stage Gate – Updates (continued)

Pathway ¹	Initiatives	Q3 2022 (Completed)	Q3 2023 (TBC)	Q1 2024 (TBC)	Q3 2024 (TBC)	Q1 2025 (TBC)	Update
DS (cont'd)	Bill Transparency	To be determined subject to policy / rules development					No update – ongoing policy / rules development
	Network Visibility	To be determined subject to policy / rules development					No update – ongoing policy / rules development
AEMO F	Identity and Access Management		✓				Candidate for Q3 2023 subject to industry consultation
	Industry Data Exchange		✓				Candidate for Q3 2023 subject to industry consultation
	SCADA Lite		✓				Candidate for Q3 2023 subject to established work plans
AEMO S	Portal Consolidation		✓				Candidate for Q1 2024 subject to industry consultation
	Consolidated Master Data Repository	To be determined subject to AEMO Future State Architecture assessment					No update – subject to AEMO FSA assessment
	FRC Target State	To be determined subject to AEMO Future State Architecture assessment					No update – subject to AEMO FSA assessment
	Dispatch, Bids & Offers and Constraint Target States	✓ (Tactical uplift only)	✓ (Performance assessment)				Tactical Uplift included in Tranche 1 Candidate for Q3 2023 - Performance assessment

6. Update on progression of Foundational & Strategic initiatives (IDX, IDAM, PC)

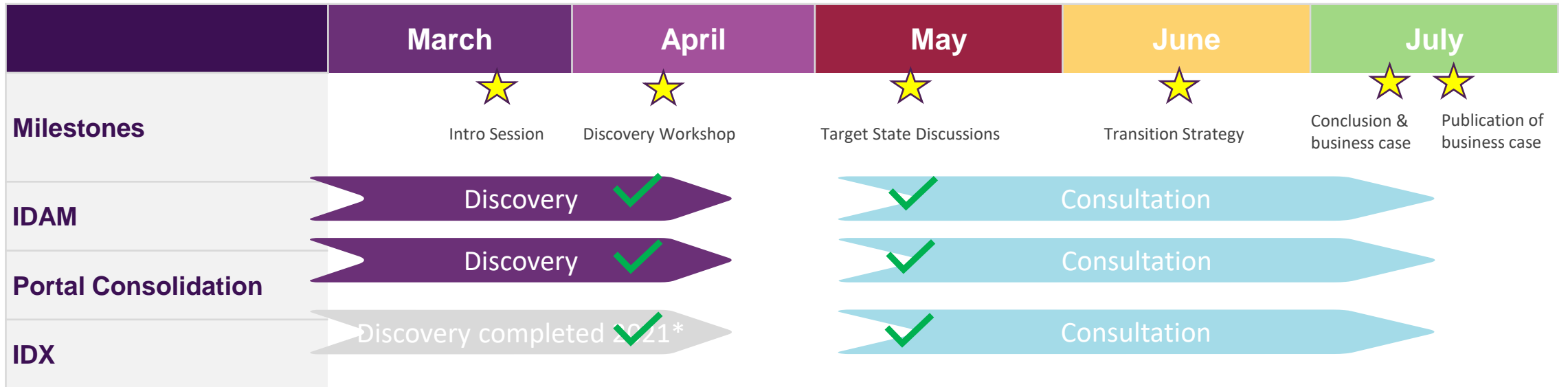
Contents

- Recap of context
- Consultation update
- Business case approach
- Next steps

Recap: Context to approach in 2023

- Early feedback: upfront whole of market transition creates undesirable risk and cost.
- This consultation will assess options to deliver value along specific greenfield and brownfield paths – this might include:
 - Greenfield initiatives requiring an IDX capability (such as DER).
 - Significant reinvestment in market processes impacting IDX (such as Causer Pays).
 - Prioritised drivers (such as Cyber IDAM).

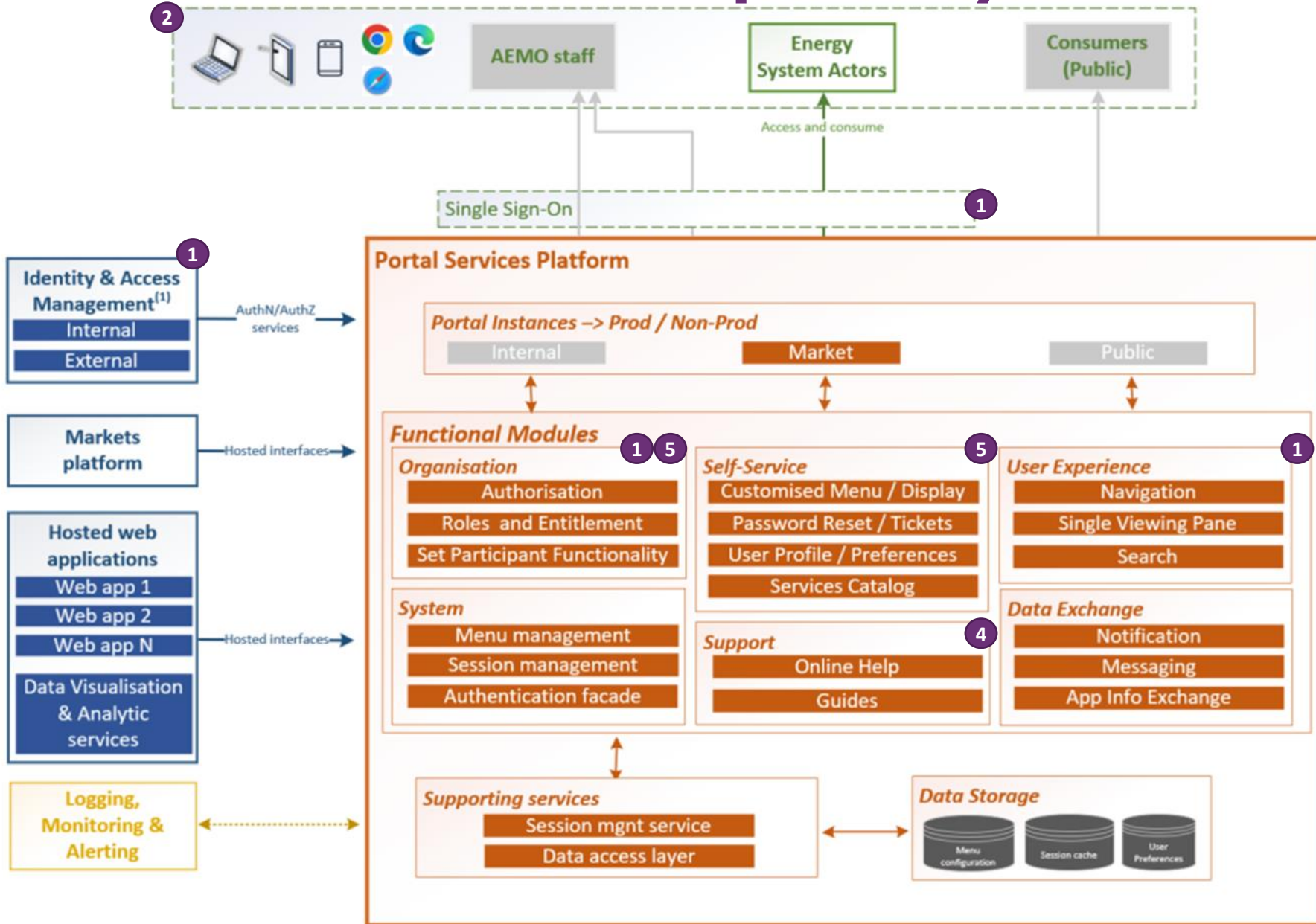
Consultation update



AEMO intend to seek the RDC’s advice in relation to the business case including whether/when and how the initiative proceeds at the Committee meeting in August 2023. A consensus position will be sought.

*AEMO facilitated a Discovery process for the Industry Data Exchange initiative in Feb-June 2021.

IDAM Solution Capability View



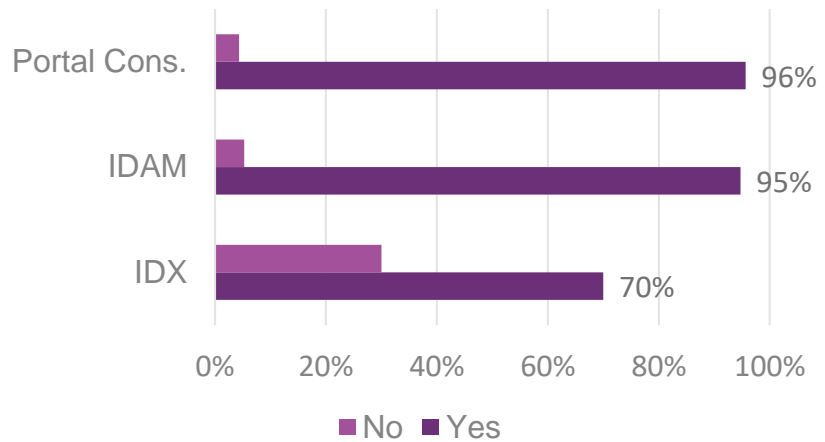
This **proposed capability view** indicates the areas the industry pain points will be addressed

KEY INDUSTRY PAIN POINTS

- ① **Disparate portals:** Browser services exposed over a disparate range of portals
- ② **Cross browser compatibility:** Endpoints and different devices support for browsers
- ③ **Cost Contributor:** Maintenance of the disparate portals
- ④ **Training, support, and documentation:** Inadequate resources
- ⑤ **Personalisation features:** inadequate features available on portal

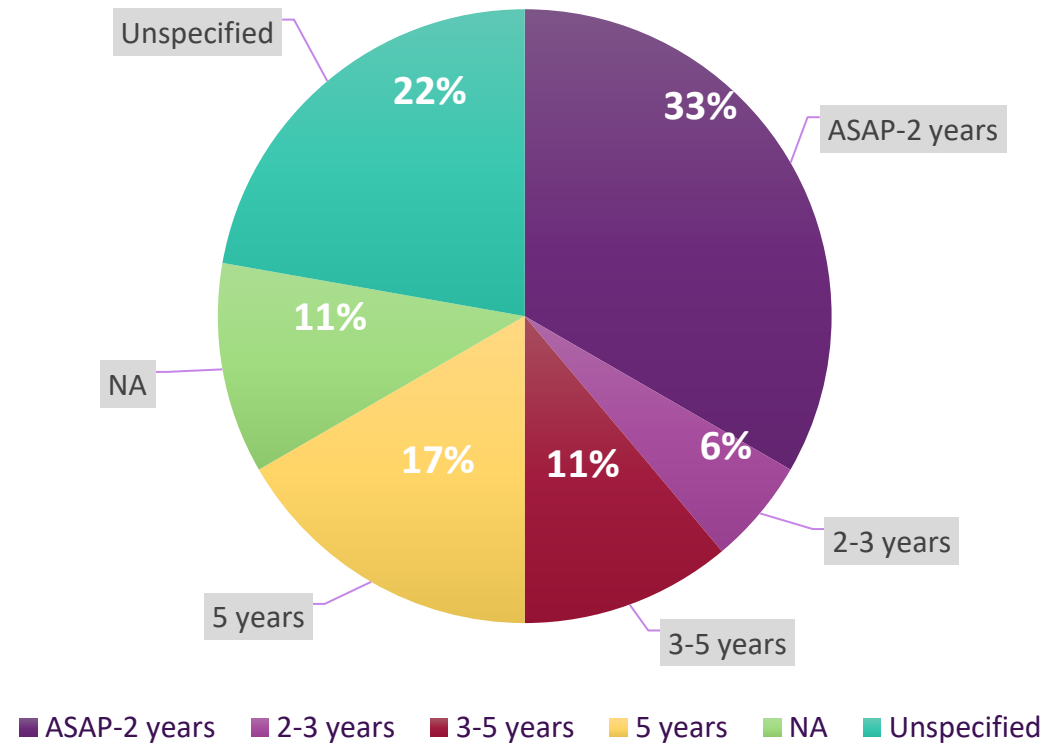
Consultation update - sentiment

Focus group indicative alignment on Target state from Technical session



Target state workshops held on 15 and 22 May. A participant alignment check was done with the Technical focus group, indicating majority alignment. AEMO is working through participant feedback to assess the nature of feedback for IDX.

Survey insight: IDAM Transition timeframes indicated by focus group



Business case proposed approach

- A single business case spanning the three initiatives
 - Number of co-dependencies between initiatives
 - Potential to overcomplicate options across initiatives
- Three candidate options compared:
 - Do nothing
 - IDX + IDAM + PC (recommended transition plan)
 - IDX + IDAM + PC (alternate transition plan)
- Underpin options with clear narrative to communicate drivers and case for change

Indicative business case outline

Topic

Key elements

Summary

- Business case approach and process with industry

Purpose & background

- Compliance to SOCI act and proactive enhancement of security,
- Foundation for regulatory reforms: scalability, agility and cost reduction in implementation
- Initiative drivers: modernise to reduce cost and complexity, and improve user experience

Investment rationale

- Case for change; why now, high level benefits and drawbacks
- What we heard: industry pain points & benefits summary
- Current state and objectives of future state

Options assessment

- Outline of identified options
- AEMO recommended option with associated target state, transition approach, industry consultation

Financial Implications

- Cost and benefits considerations

Risk analysis

- Risks and associated mitigation strategies

Industry impacts

- Indicative implementation impacts

Next steps

- RDC members to provide any feedback on business case outline by COB Friday 9 June.
- AEMO to develop business case through consultation with technical and business focus groups
- AEMO to share draft business case for discussion ahead of the August RDC meeting.

7. Other business

8. Thanks and close

See you again at the following sessions:

- 2 August 2023: RDC collaborative workshop
- 29 August 2023: RDC meeting



For more information visit

aemo.com.au

Appendix A

Strategic / Foundational initiatives overview

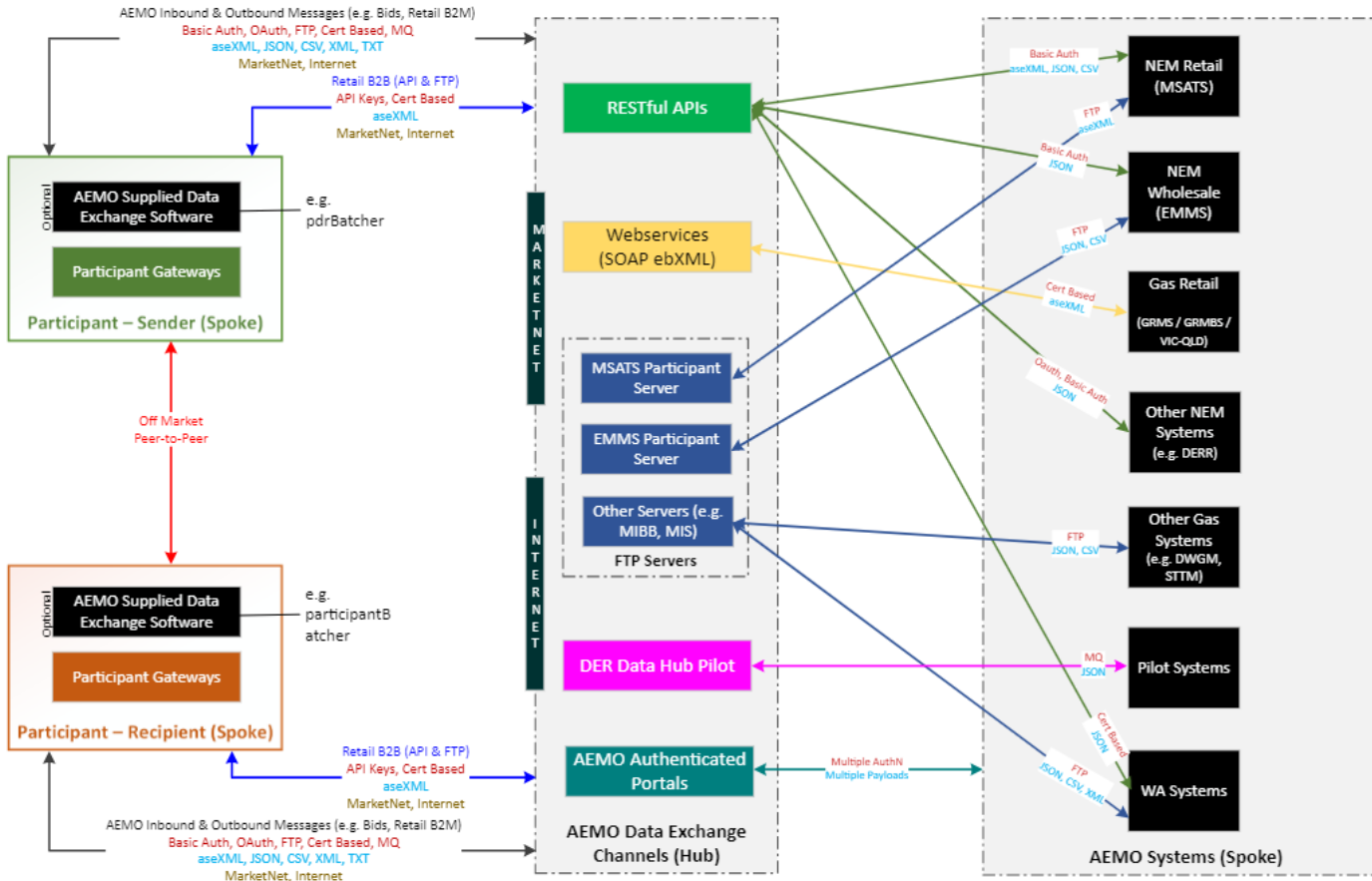
- Industry Data Exchange
- Identity and Access Management Approach
- Portal Consolidation

Industry Data Exchange Approach

Industry Data Exchange: A unified data exchange mechanism to support exchanging data between energy stakeholders and AEMO.

Problem Statement: AEMO's existing data exchange systems have been variously acquired over the last 10-15 years, and use inconsistent standards, protocols and formats. AEMO's markets are also undergoing significant transformation, resulting in new data exchange needs. Existing data exchange mechanisms will not meet needs and will fail to comply with new industry obligations around cyber security such as the SOCI Act. AEMO is introducing new data exchange patterns without a target state and roadmap which is inhibiting participants from modernising their systems and quantifying the benefits of their investments.

IDX Context Diagram:



Following areas will be explored during the IDX feasibility phase.

In Scope	Out of Scope
<ul style="list-style-type: none"> ✓ Data Exchange between AEMO and energy stakeholders across NEM, WEM and Gas <ul style="list-style-type: none"> • Inbound and Outbound transactions • Connectivity methods • Protocols to connect to AEMO systems • Payload formats • AEMO data exchange systems that Participants connect to • Data exchange standards & patterns ✓ Interactions via all supported channels (current & future) 	<ul style="list-style-type: none"> × Control systems communications and interactions × Direct device communications and interactions

⚠ Note: Data Exchange Scenarios, Channels, Protocols & Patterns illustrated in this slide are indicative only and not the finite list

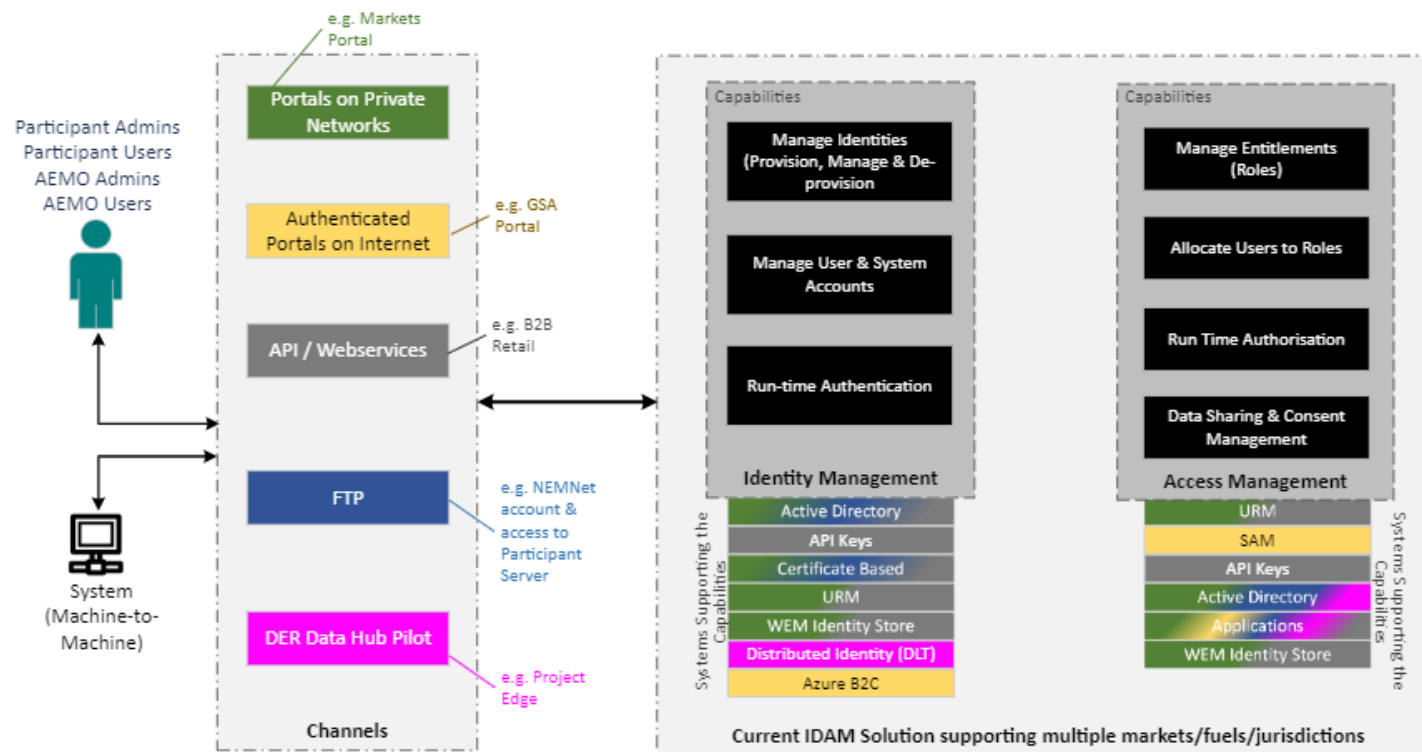
Identity and Access Management Approach


Identity and Access Management: A unified mechanism to authenticate and authorise external identity when accessing AEMO services, consolidating and improving overall cyber security controls.

Problem Statement:

AEMO's Identity and Access Management (IDAM) services are disparate, requiring users to retain multiple sets of credentials in order to access AEMO business services. The legacy IDAM services do not implement best practices in cyber security controls (e.g. multifactor authentication) and are insufficient to meet new industry obligations introduced under the SOCI Act.

IDAM Current State Context Diagram:



 Note: Channels & IDAM Stores illustrated in this slide are indicative only and not the finite list

Following areas will be explored during the IDAM feasibility phase.

In Scope	Out of Scope
<ul style="list-style-type: none"> ✓ NEM, WEM and Gas involving AEMO external interactions 	<ul style="list-style-type: none"> × Network layer security
<ul style="list-style-type: none"> ✓ External Identities including: <ul style="list-style-type: none"> - Registered Participants - Non-registered Participants - Potential Participants - Service Providers 	<ul style="list-style-type: none"> × Control systems communications / interactions × Direct device communications /interactions
<ul style="list-style-type: none"> ✓ External System Accounts Interactions via all supported channels (current & future) 	

Portal Consolidation Approach

Portal Consolidation: The aim of portal consolidation is to enable a single pane of glass experience for energy market systems. The portals framework is an enabling platform that supports energy market participants and other partners to consume AEMO browser services in a secure manner.

Problem Statement:

AEMO browser services are exposed over a disparate range of end points and require multiple sets of credentials to consume these services. This results in a suboptimal user experience for energy stakeholders. The requirement to access browser services via private networks creates technical barriers to consuming these services.

Following AEMO browser services will be explored during the Portal Consolidation feasibility phase:

In Scope	Out of Scope
<ul style="list-style-type: none"> ✓ External Authenticated Portals (accessed by Market Participants and other External Users) ✓ SharePoint Apps which are accessed by Market Participants such as ROCL 	<ul style="list-style-type: none"> × Public Un-authenticated Portals (e.g. aemo.com.au)

