

NEM Reform Implementation Roadmap

Stakeholder briefing
25 October 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.

Introduction

This session

General Stakeholder briefing

Objectives

- An overview of AEMO's NEM Reform Program, its initiatives and impact to industry.
- To equip stakeholders with sufficient information to get involved in implementation where its relevant to them.

Scope

- Committed initiatives (implementation/execution focus).



Roadmap briefing

Objectives

- Provide an overview and facilitate clarification on the NEM Reform Implementation Roadmap.
- Walk through the incremental as well as material changes since the v.2 release in April 2023.

Scope

- Holistic longer term NEM reform (planning focus).



- We look forward to your feedback and questions.
- Participants are asked to familiarise themselves with AEMO's Competition Law Meeting Protocol as outlined in Appendix A and at AEMO's website.

Agenda

| # | Time | Topic | Presenters from AEMO |
|---|----------------|--|----------------------|
| 1 | 2:00 – 2:05 pm | Welcome | Peter Carruthers |
| 2 | 2:05 – 2:15 pm | Background and Context | Peter Carruthers |
| 3 | 2:15 – 2:30 pm | Process and changes since v.2 release | Lance Brooks |
| 4 | 2:30 – 2:50 pm | Walk-through of Roadmap | Lance Brooks |
| 5 | 2:50 – 3:00 pm | Q&A | Peter Carruthers |
| 6 | 3:00 pm | Thanks and close | Peter Carruthers |

Appendix A: AEMO Competition Law – Meeting Protocol

Appendix B: Acronym Alphabet



"Please note that this meeting will be recorded by AEMO and may be accessed and used for the purposes of publishing it on the external [NEM Reform Public forums webpage](#) as a resource for industry participants. By attending the meeting, you consent to AEMO recording the meeting and using the recording for this purpose. No other recording of the meeting is permitted"

2. Background and Context

What is the Roadmap ?

AEMO published v.3 of the Roadmap and supporting artifacts 5 October 2023

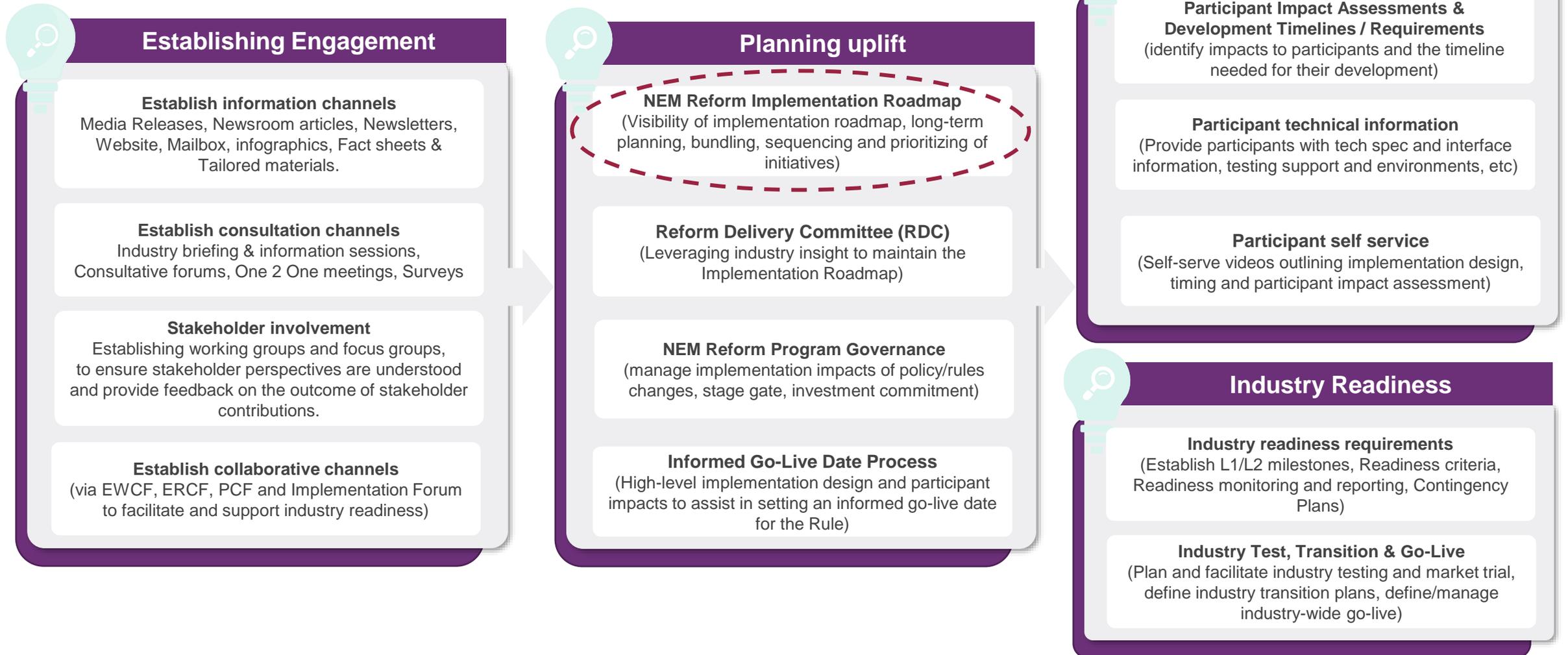
- The **NEM Reform Implementation Roadmap** establishes a basis upon which AEMO, and stakeholders may navigate the breadth of reforms (including ESB Post-2025 reforms) over the coming years, de-risking delivery, minimising implementation costs and informing regulatory and policy timing
- It is a key output from our **collaboration** with the **Reform Delivery Committee** (RDC)
- The **objective** of the Roadmap is to set out a Program that:
 - Implements reforms in a **timely and efficient** manner;
 - **Co-ordinates** regulatory and IT change;
 - Aims to **remove costs** associated with implementation of individual initiatives;
 - Provides **transparency** to stakeholders on the implementation program; and
 - Supports **participant readiness**
 - Basis for understanding **implementation & deliverability challenges**
- Over time the Roadmap has been expanded to include gas reform initiatives to provide an overall integrated view for participants in both markets

Refer to Appendix C:
Change Management
Process



Going beyond engagement

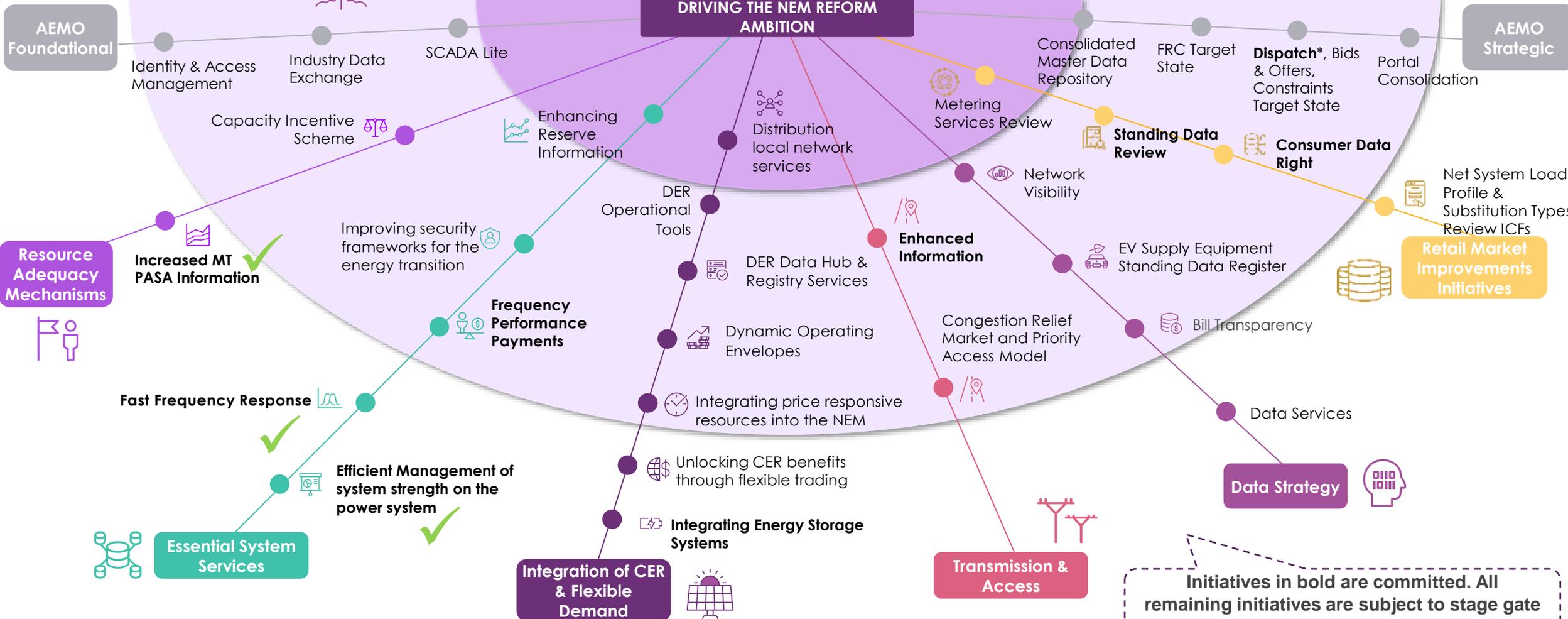
The NEM Reform Program engagement approach has evolved over time. Building on established engagement structures, the program has evolved to deliver integrated planning for participants and prioritise participant facilitation to support participants with the necessary information and artefacts that underpin their own readiness preparations.



Program Overview



Successfully enabling the energy transition and net-zero emissions economy for Australians



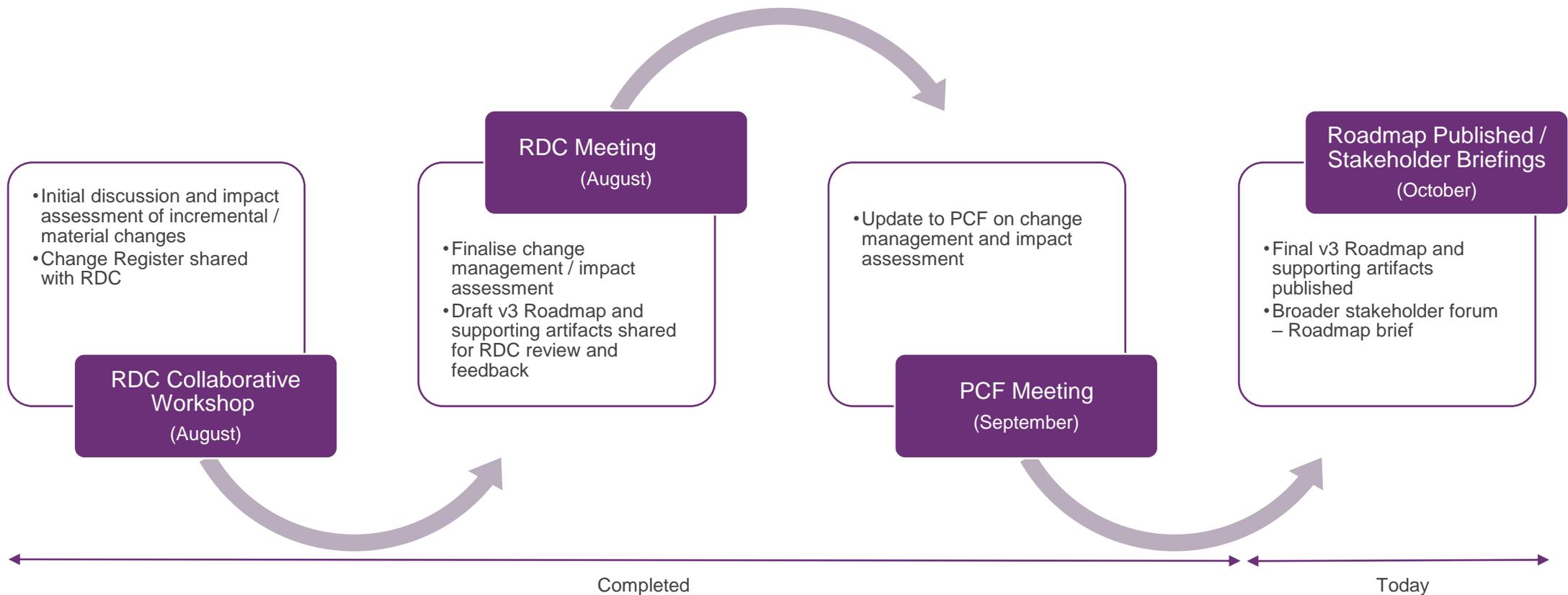
* Tactical uplift only. ✓ Implemented

Initiatives in bold are committed. All remaining initiatives are subject to stage gate and approval processes

3. Process and changes since v.2 release

Keeping the NEM Reform Implementation Roadmap up to date

- AEMO, in collaboration with the Reform Delivery Committee (RDC), periodically update the Roadmap in accordance with the Change Management Process established for the NEM Reform Program



The following material changes have been identified

| Changes in Scope and Timing | Changes in Timing only | Changes in Scope and / or Timing |
|--|---|---|
| <ul style="list-style-type: none"> Capacity Incentive Scheme Enhanced Information Improving security frameworks for the energy transition (Operational Security Mechanism) Enhancing Reserve Information (Operating Reserve Market) Data Services | <ul style="list-style-type: none"> Congestion Relief Market & Priority Access Model Unlocking CER benefits through flexible trading (Flexible trading arrangements) Integrating price responsive resources into the NEM (Scheduled Lite) SCADA Lite Dynamic Operating Envelopes DER Data Hub & Registry Services DER Operational Tools Distribution Local Network Services Bill Transparency Network Visibility Electric Vehicles Charging Standing Data Register Identity and Access Management Industry Data Exchange Portal Consolidation Dispatch Target State | <ul style="list-style-type: none"> Extension of the application of IRM to RRO (New) Amendment of the MPC, CPT and APC (New) Extending the Regulatory Framework to Hydrogen and Renewable Gases (timing) DWGM Heating Values (committed status and timing) Compensation and dispute resolution frameworks (New) |
| <p align="center">ESB Post-2025 Related Reforms</p> | | <p align="center">Non-NEM2025 and Gas Reforms</p> |

Example material changes: Post 2025 related reforms (1/2)

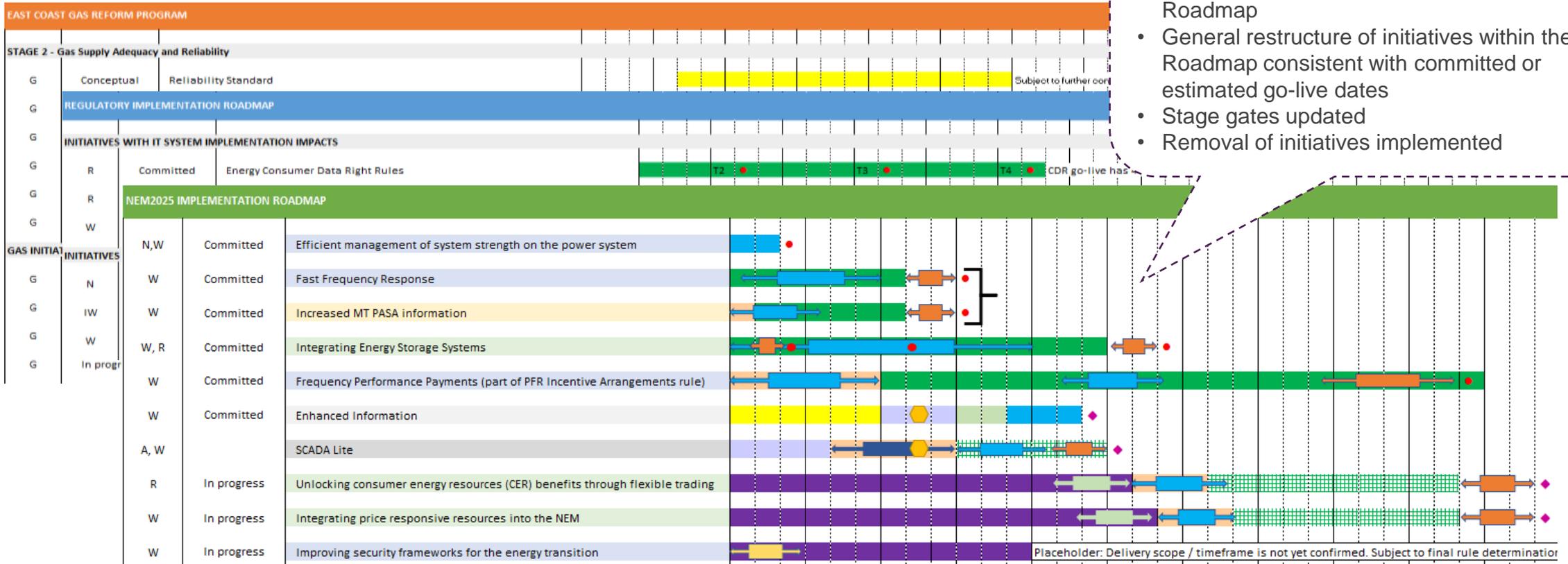
| Initiative | Change in scope and timing |
|---|--|
| Capacity Incentive Scheme | <ul style="list-style-type: none"> • Stage 1 of the Capacity Investment Scheme was announced in the 2023-24 Budget and will be rolled out in 2023, involving a tender in South Australia and Victoria, to be delivered by AEMO, including for AEMO to undertake contract management activities for selected projects ; and a Commonwealth/New South Wales tender in partnership with the NSW Electricity Infrastructure Roadmap. • The DCCEEW is to design the auction process in October 2023 to operate in SA and VIC, and continue work on a national rollout of the scheme building on the year one tender process |
| Enhancing reserve information (formerly Operating Reserve Market) | <ul style="list-style-type: none"> • The AEMC published its directions paper proposing not to recommend the implementation of an operating reserve market and instead seeking stakeholder input on two additional incremental improvements - develop and publish more information to the market on storage and state of charge and procurement of FCAS at a regional level. • In October, the AEMC extended the publication of a draft determination to 14 December 2023. Roadmap delivery phase updated with a placeholder subject to final rule determination (due Dec 2023) |
| Improving security frameworks for the energy transition (formerly Operational Security Mechanism) | <ul style="list-style-type: none"> • AEMC published a directions paper proposing not to recommend the implementation of an Operational Security Mechanism. Instead, the AEMC has proposed several options which aim to streamline and simplify existing security services frameworks including system strength, inertia and the Network Support and Control Ancillary Services (NSCAS) frameworks. • Roadmap delivery phase updated with a placeholder subject to final rule determination (due Dec 2023) |
| Data Services | <ul style="list-style-type: none"> • The ESB has finalised for Energy Minister consideration the NEL Amendment (Data Access) Bill that provides for the development of a new Data Services Unit within AEMO to grow necessary capability, resources and processes required to safely facilitate greater access to a wide range of analytics and publicly released data for trusted policy, planning and public research bodies. • Roadmap updated to reflect final policy design and legislative amendments now with Ministers for consideration. |

Example material changes: Post 2025 related reforms (2/2)

| Initiative | Change in timing |
|--|--|
| <p>Unlocking CER benefits through flexible trading (formerly Flexible Trading Arrangements)</p> | <ul style="list-style-type: none"> • In Aug 2023, the AEMC published its Direction paper for stakeholder consultation. The directions paper provided for an indicative timeline with Draft Determination in Dec 2023 and Final Determination in Apr / May 2024 • Roadmap rule change and implementation timing updated to reflect indicative timeline • <i>Note: The AEMC has since revised this timeline with a Draft Determination now anticipated Feb 2024</i> |
| <p>Integrating price responsive resources into the NEM (formerly Scheduled Lite)</p> | <ul style="list-style-type: none"> • In Aug 2023, AEMC published its consultation paper formally kicking off the rule change consultation process, and provided an indicative timeline with Draft Determination in Dec 2023, Final Determination in May 2024 • Roadmap rule change and implementation timing updated to reflect indicative timeline • <i>Note: The AEMC has since revised this timeline with a Draft Determination now anticipated Feb 2024</i> |
| <p>Various DER Initiatives (Dynamic Operating Envelopes, DER Data Hub & Registry Services, Operational Tools, Distribution Local Network Services)</p> | <ul style="list-style-type: none"> • Various DER initiatives remain in the policy development and design phase with the scope of these initiatives subject to ongoing reviews and industry trials. • Roadmap updated to reflect ongoing extension of the policy design and development phase • <i>Note: The ESB has prepared an End of Program Report for Energy Ministers consideration outlining various recommendations for progressing CER policy related matters moving forward. A holistic review of the DER initiatives and how they are captured on the Roadmap is to be completed following publication of this report</i> |

NEM Reform Implementation Roadmap (v3) developed

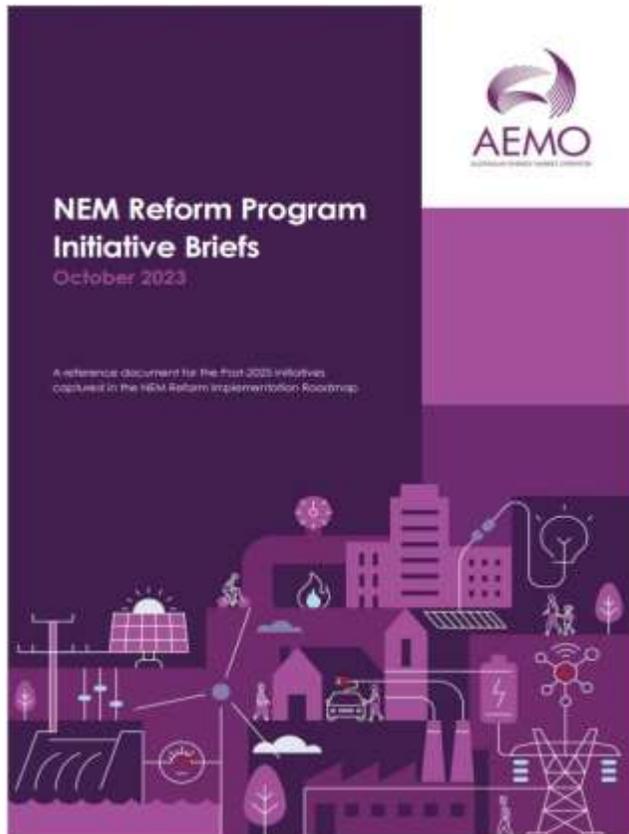
- Various incremental / material changes
- Updates to IDAM, IDX and PC implementation assumptions to align with Consolidated Roadmap
- General restructure of initiatives within the Roadmap consistent with committed or estimated go-live dates
- Stage gates updated
- Removal of initiatives implemented



For those Post-2025 initiatives, 20 out of 29 were identified to have material changes (i.e. changes in timing or scope)

Roadmap is published alongside several supporting artefacts

INITIATIVE BRIEFS



- Various edits to initiatives capturing incremental and material changes including for example scope updates to:
 - Improving security frameworks for the energy transition
 - Enhancing Reserve Information
 - Enhance Information
 - Congestion Relief Market and Priority Access
 - Data Services
- Renaming of FTA and Scheduled Lite initiatives to align with AEMC rules consultations

PROGRAM SCOPE & GOVERNANCE



- **Program Scope:** Minor edits in line with changes to Roadmap and Initiative Briefs
- **Program Governance:** Updates to stage gate timing

4. Walk through of Roadmap

2023 has been a busy year with a full program of committed releases

For example:

- Successful implementation of Fast Frequency Response and Increased MT PASA Information
- Incremental delivery of Integrating Energy Storage Systems and Consumer Data Rights
- Consultation / development progressing on Frequency Performance Payments (ahead of 2025 go-live date)

Work continues to progress on various policy / rule consultations (see next slide) including:

- Improving security frameworks for the energy transition
- Enhancing Reserve Information
- Congestion Relief Market & Priority Access Model
- Unlocking CER benefits through flexible trading
- Integrating price responsive resources into the NEM

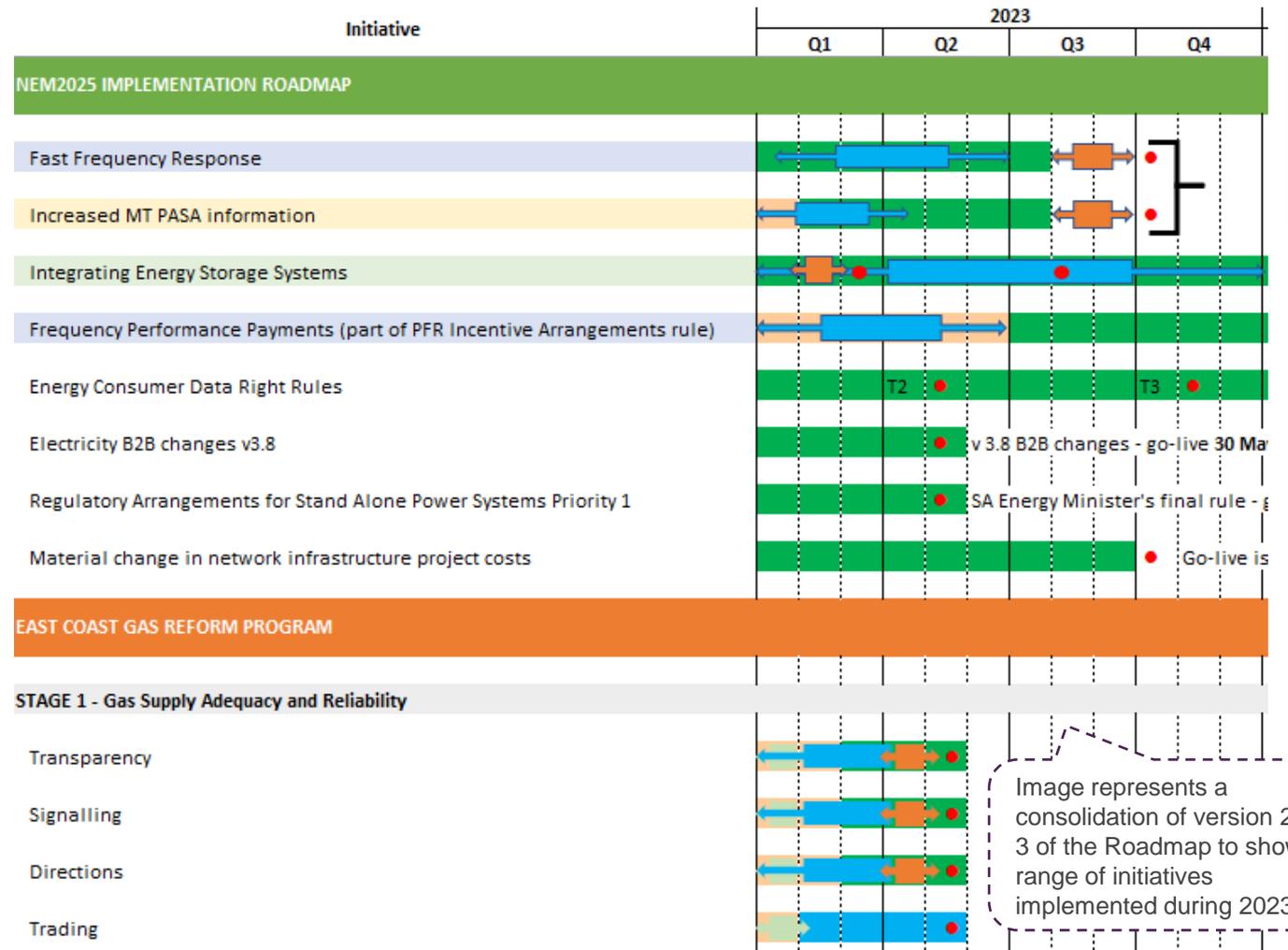


Image represents a consolidation of version 2 and 3 of the Roadmap to show full range of initiatives implemented during 2023

2024 is shaping up as another busy year for all

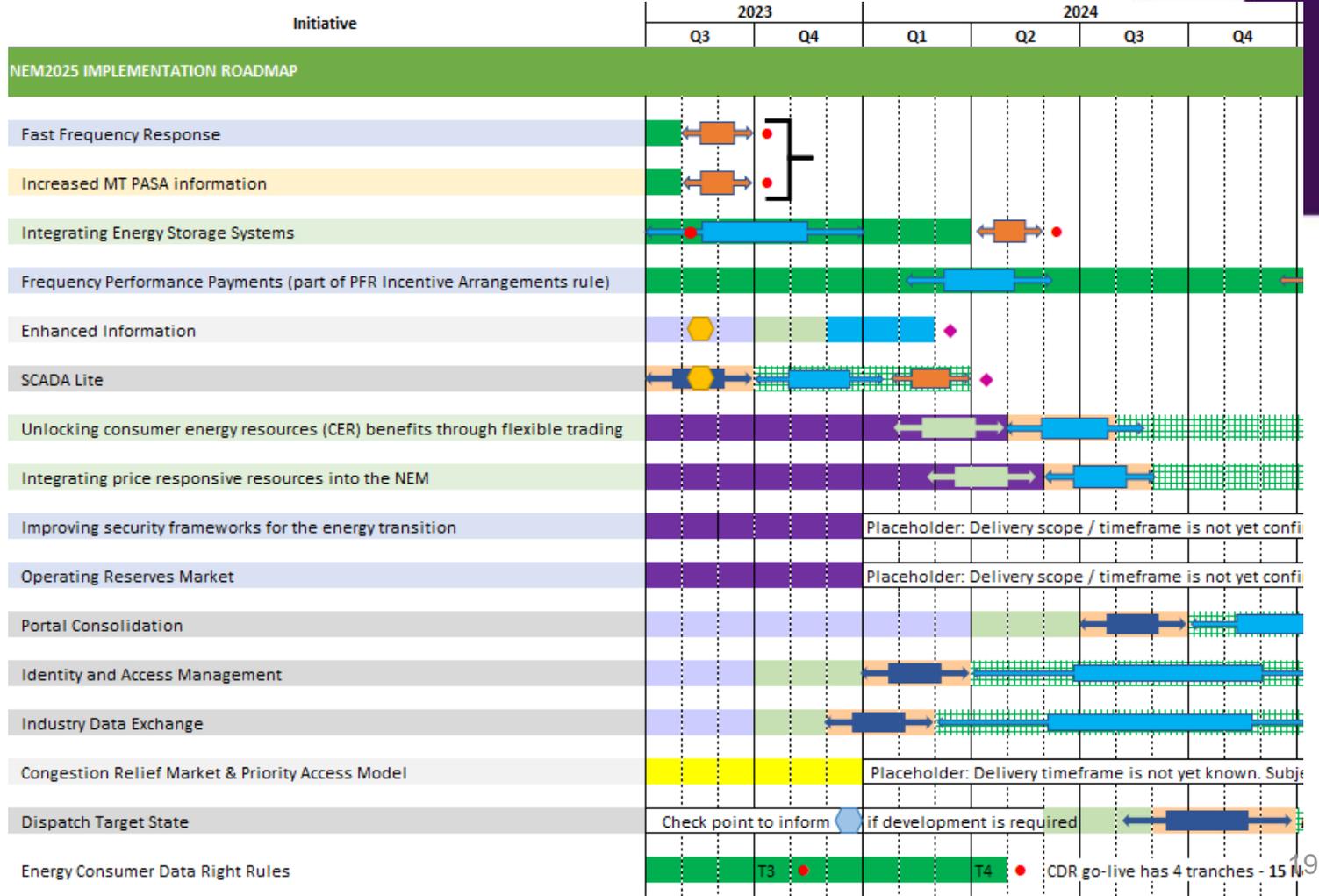
Ongoing work on Stage 2 East Coast Gas System reforms (not shown)

For example, the following have committed / proposed go-live dates throughout the year :

- Enhanced Information (Q1, implemented as AEMO BAU)
- Tranche 4 of Consumer Data Rights (March)
- Metering Installation Exemptions Automation (not shown, March)
- Integrating Energy Storage Systems (June)
- NSLP & Substitution Types Review ICFs (not shown, September - indicative)
- Frequency Performance Payments (non-financial operation – December)

Potential other reforms may reach a final determination including for example Enhanced Reserve Information

Subject to ongoing industry consultation and business case development implementation of AEMO's foundational / strategic initiatives may commence throughout the year (IDAM, IDX, PC, SCADA Lite)



Initiatives for 2025 go-live are currently subject of decision-making processes

Currently only two reform initiatives have committed go-live dates in 2025:

- Frequency Performance Payment
- ST PASA Replacement

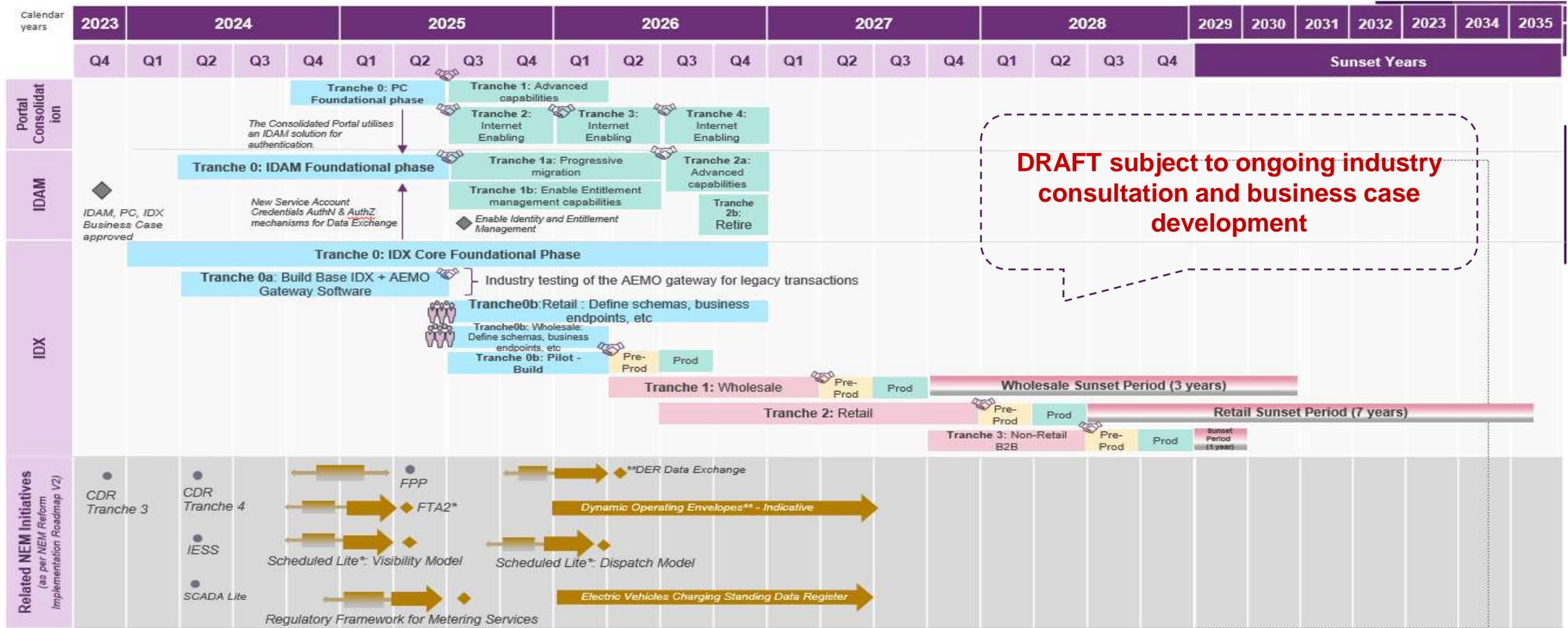
However, multiple reform initiatives subject to ongoing rules consultation or policy development with potential go-live dates in CAL 2025, including:

- Metering Service Review (indicative)
- Improving security frameworks for the energy transition
- Unlocking CER benefits through flexible trading (*now potentially CAL 2026*)
- Integrating price responsive resources into the NEM (*now potentially CAL 2026*)

Additional AEMO foundational / strategic initiatives future implementation subject to ongoing industry consultation and business case assessment

| Initiative | 2025 | | | |
|---|---|----|----|---------------------------|
| | Q1 | Q2 | Q3 | Q4 |
| NEM2025 IMPLEMENTATION ROADMAP | | | | |
| Frequency Performance Payments (part of PFR Incentive Arrangements rule) | [Progress bar] | | ● | |
| Unlocking consumer energy resources (CER) benefits through flexible trading | [Progress bar] | | ◆ | |
| Integrating price responsive resources into the NEM | [Progress bar] | | ◆ | |
| Improving security frameworks for the energy transition | Placeholder: Delivery scope / timeframe is not yet conf | | | |
| Operating Reserves Market | Placeholder: Delivery scope / timeframe is not yet conf | | | |
| Portal Consolidation | [Progress bar] | | ◆ | ◆ |
| Identity and Access Management | [Progress bar] | | ◆ | |
| Industry Data Exchange | [Progress bar] | | ◆ | |
| Congestion Relief Market & Priority Access Model | Placeholder: Delivery timeframe is not yet known. Subj | | | |
| ST PASA - Replacement project and methodology update | [Progress bar] | | ● | ● Go-live is 31 July 2025 |
| Review of Regulatory Framework for Metering Services | [Progress bar] | | ◆ | ◆ Indicative only, depend |

AEMO Foundational / Strategic Initiatives: Draft Consolidated Strawman Roadmap



DRAFT subject to ongoing industry consultation and business case development

Foundational Tranches - based on the assumed timeline | IDX Tranche Build | Industry Testing | T3A Milestone | **New Service | Working group | Committed effective date | Estimated effective date | Industry testing and trials

* Indicative timeline likely to be pushed out from what is assumed within V2 NEM Reform Roadmap

Challenges, impacts and next steps

EXAMPLE CHALLENGES



Uncertainty in timing, scope and progression of initiatives

Managing certainty is a key challenge. **Expect substantial improvements over the coming 3 – 6 months** with decisions or directions on a number of reforms



Deliverability and resourcing

Continues to be a watch item for all, with the Roadmap providing a basis for analysing implementation impacts, facilitating the conversations and helping **support** informed implementation approaches

The Roadmap aims to provide all stakeholders with a holistic view of the NEM Reform Program, and by doing so inform:

- participant planning over the coming year and beyond
- submissions into regulatory and policy consultation processes, and
- rules / policy makers on the impacts of key decisions

AEMO will continue to work with the RDC to further assess opportunities to bundle, sequence and prioritise or phase implementation with a focus on efficiency and deliverability

FUTURE ROADMAP TIMING

- AEMO is exploring the prospect of **publishing a v3.1** of the Roadmap to pick up the known changes since release (indicative timing DEC 2023)

This will be discussed with the RDC in NOV 2023.

- A **full update** of the Roadmap (v4) is scheduled for early next year, ahead of publication in APR 2024

AEMO welcome feedback on the Roadmap and its supporting artefacts

5. Q&A

Stakeholder questions

| # | Pre-submitted questions | AEMO's initial response |
|---|--|---|
| 1 | <p>I would like to understand what is coming our way and how we plan and execute the changes.</p> <p>I would like to understand the full Roadmap given my involvement in leading the implementation program.</p> | <p>Please refer to the material covered into today's NEM Reform Implementation Roadmap briefing for a complete understanding of the scope of the NEM Reform Program and those initiatives to be implemented over the short term out to FY2026. Further information is also available via AEMO's website here: https://aemo.com.au/initiatives/major-programs/nem-reform-program</p> |
| 2 | <p>Is enough being done to integrate Consumer Energy Resources (CER) and does there need to be a more radical reimagination of the current operation of the NEM?</p> | <p>The NEM Reform Program includes a broad range of reforms to enable the technical, market and system integration of CER into the power system in a way that benefits all consumers. These reforms are guided by the Energy Security Board's (ESB's) Post 2025 Market Design process. Key initiatives include 'Integrating price-responsive resources into the NEM' and 'Unlocking CER benefits through flexible trading', both of which are currently under consideration by the AEMC.</p> <p>Moving forward, a holistic review of the CER initiatives and how they are captured on the Roadmap is to be completed following publication and recommendations / proposals post the ESB's CER End of Program Report for Energy Ministers.</p> |
| 3 | <p>Would like AEMO to cover a bit more about the level of investments required and benefits to be delivered to end consumers from new data services and other key concepts.</p> | <p>The new data services initiative provides for a new Data Services unit to be established within AEMO in accordance with the ESB proposed NEL Amendment (Data Access) Bill. This will facilitate safe, timely and appropriate access to, and public-good benefits from, data sets held by AEMO and other market bodies with the aim of supporting improved policy, planning and research. AEMO is currently in the planning phase for this initiative and awaiting final Ministerial approval before implementing. No investment is required by participants / stakeholders.</p> <p>In addition to the Data Services initiative, other initiatives included within the ESB's Data Strategy continue to progress through policy / rules development phase including Network Visibility (AER consultation), Bill Transparency (AEMC consultation) and Electric Vehicles Supply Equipment Standing Data Register (AEMO rule change proposal in development).</p> |

6. Thanks and close



NEMReform@aemo.com.au



[AEMO | NEM Reform Program](#)

[AEMO | NEM Reform Implementation Roadmap](#)

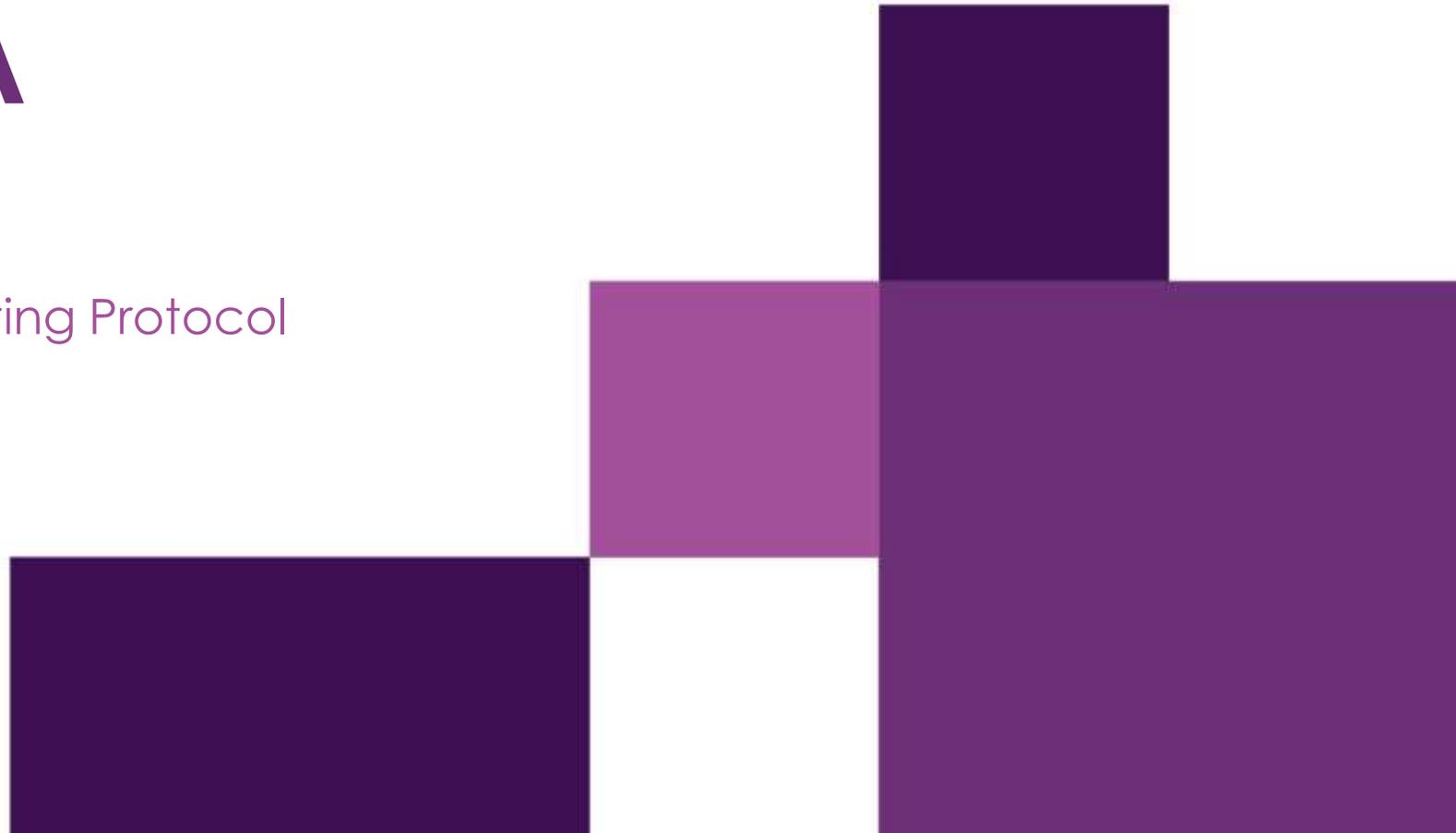


For more information visit

aemo.com.au

Appendix A

AEMO Competition Law - Meeting Protocol



AEMO Competition Law - Meeting Protocol

- AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO, all participants agree to adhere to the CCA at all times and to comply with appropriate protocols where required to do so.
- AEMO has developed meeting protocols to support compliance with the CCA in working groups and other forums with energy stakeholders. Before attending, participants should confirm the application of the appropriate meeting protocol.
- Please visit: <https://aemo.com.au/en/consultations/industry-forums-and-working-groups>

Appendix B

Acronym Alphabet



Acronym Alphabet



AEMO Website Links

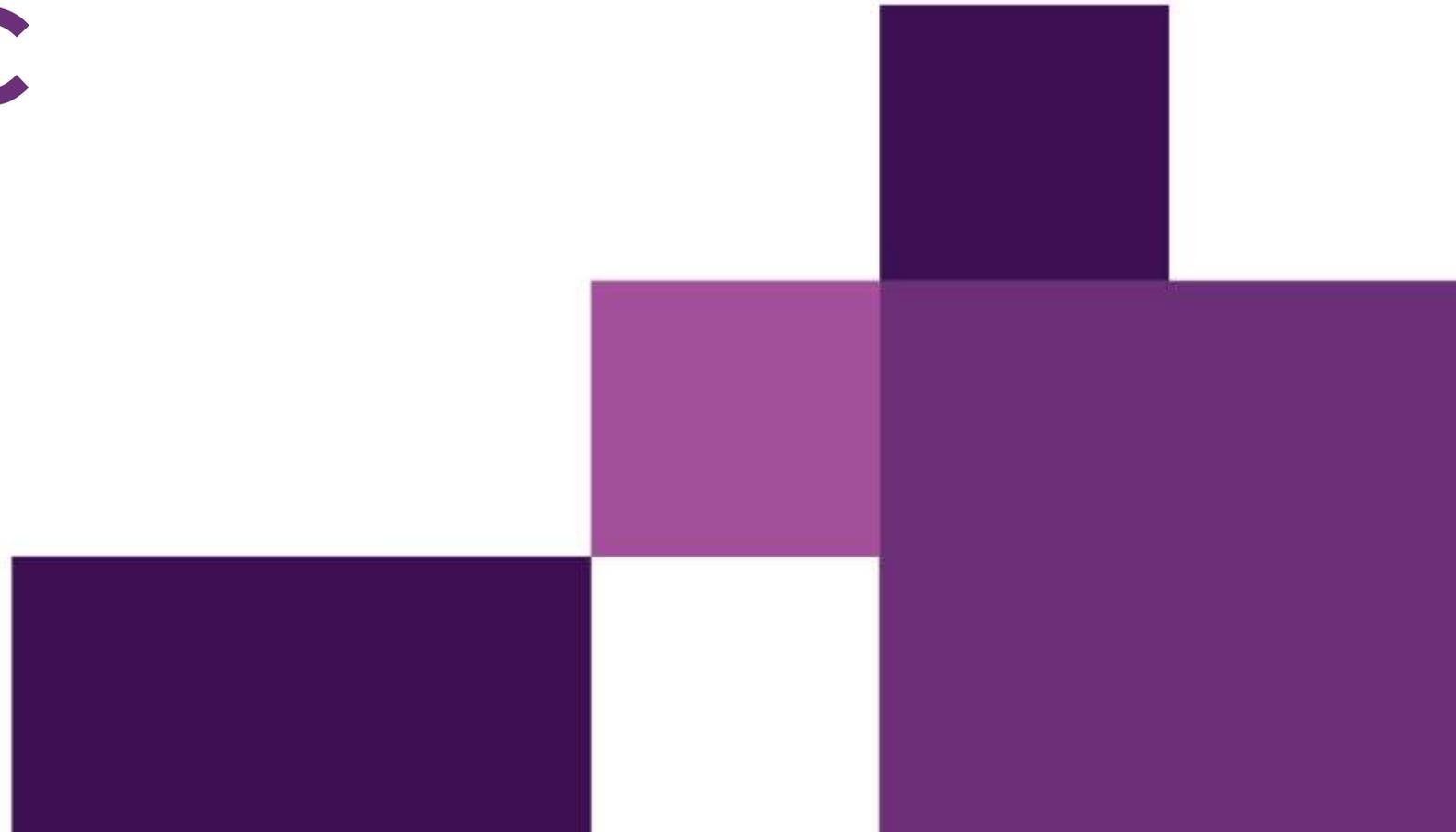
- A comprehensive glossary of terms (and measurements) can be found [here](#) for your reference.

AEMC Website Links

- For rules terms, see the relevant industry rules on the [AEMC website](#) > [Energy rules](#).

Appendix C

Change Management Process



Recap: Change Management Process

- Given the uncertainty and/or complexity of individual initiatives there is a high likelihood of incremental or material changes in scope or timelines as policy or designs are finalised.
- The Process **seeks to understand the potential implementation impacts of these changes**, ensuring the Roadmap and overall forecast costs remain up to date and to help inform decision-makers on potential approaches or solutions to those impacts.
- The Process provides for **engagement with the RDC and relevant market bodies**, the completion of an impact assessment and a standing quarterly review process.
- The Process **targets material changes** assessed against a baseline (while also capturing incremental changes)
 - e.g. change in scope impacting on overall complexity or change in timeline requiring an adjustment of two months or more.

