

Stakeholder information session

Integrating Energy Storage Systems and
Market Small Generation Aggregators

IESS Project

18 October 2022



1. Welcome

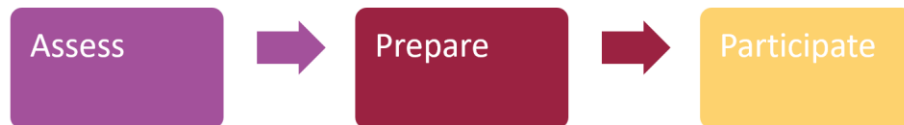
We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

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

Introductions

Purpose

- Raise awareness of the [Integration Energy Storage System rule](#) and the changes and opportunities which it presents to [Market Small Generation Aggregators](#) (SGAs).
- Outline preparation needed for SGAs to participate in FCAS and available resources.



- Q&A.

Logistics

- To support discussion during this forum, there will be breaks to verbally answer questions throughout the presentation as well as at the end. Please introduce yourself (name & organisation) before you speak.
- Please familiarize yourself with AEMO's Competition law meeting protocol and Meeting expectations in the Appendix.
- The session will be recorded for note taking purposes.

Agenda

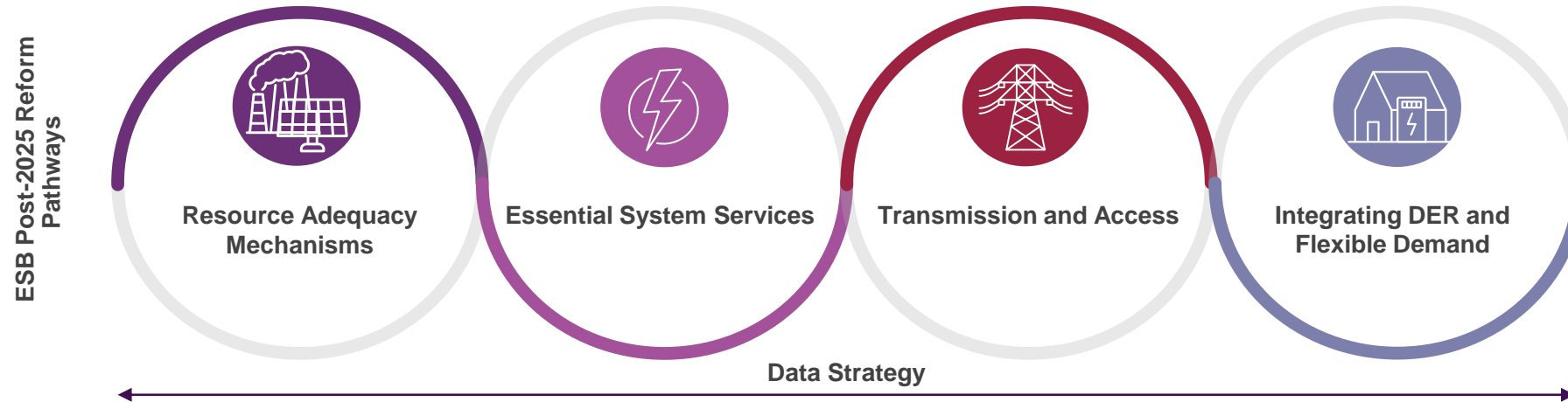
#	Time	Topic	Presenter
1	3.00pm	Welcome	Ulrika Lindholm, AEMO
2	3.10pm	Context	Emily Brodie, AEMO
3	3.20pm	Changes for AEMO and Small Generation Aggregator participants <ul style="list-style-type: none">• Outline of IESS Changes• Overview of steps needed for SGAs to participate• Contingency FCAS Markets• Assess• Prepare• Participate	Carla Ziser, AEMO Carla Ziser, AEMO Aaron Millican, AEMO Carla Ziser, AEMO Lydia Howarth, AEMO Basilisa Choi, AEMO
4	3.40pm	Resources for participants	Carla/ Lydia, AEMO
5	3.50pm	Q&A	Ulrika Lindholm, AEMO
6	4.30pm	Next steps	Ulrika Lindholm, AEMO

Please note: This meeting will be recorded for the purpose of compiling notes

2. Context

Context

- The Energy Security Board (ESB) was tasked by the former Council of Australian Governments Energy Council (COAG EC), to advise on design changes required in the National Electricity Market (NEM) as it transitions from a fleet of largely coal fired generation to more variable renewable generation.
- The ESB provided its final advice to the Energy National Cabinet Reform Committee (National Cabinet) on 27 July 2021. The ESB divided the work into four interrelated reform pathways complimented by a Data strategy for the NEM.
- National Cabinet subsequently approved the Post-2025 reform recommendations on 29 October 2021.



- One of the main enablers for the reforms is the development of IT systems and business processes.
- In November 2021, AEMO established the Reform Delivery Committee (RDC) to inform the development of a roadmap to navigate the breadth of the ESB reforms, de-risk delivery and inform implementation timings.

NEM Reform Implementation Roadmap

The **NEM Reform Implementation Roadmap** establishes a basis upon which AEMO, and stakeholders may navigate the breadth of ESB and other energy market reforms over the coming few years, de-risking delivery, and informing implementation timing.

The Roadmap integrates the Regulatory implementation roadmap (version 7) and NEM2025 implementation roadmap (version 2) to provide a holistic view of regulatory reforms and IT uplift initiatives.

Why is it required?

- The reform program is significant
- Piecemeal implementation of initiatives may cause resource and mobilisation challenges for AEMO and market participants
- Industry wide reform requires industry wide knowledge and collaboration
- Opportunity to identify where strategic investments can deliver efficient outcomes for AEMO, market participants and consumers
- Informs implementation timing decisions by market bodies.

Roadmap Objectives

- The objectives of the NEM2025 Implementation 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; and
 - Provides transparency to stakeholders on the implementation program

Integrating Energy Storage System (IESS) rule change



3. Changes for AEMO and SGA participants

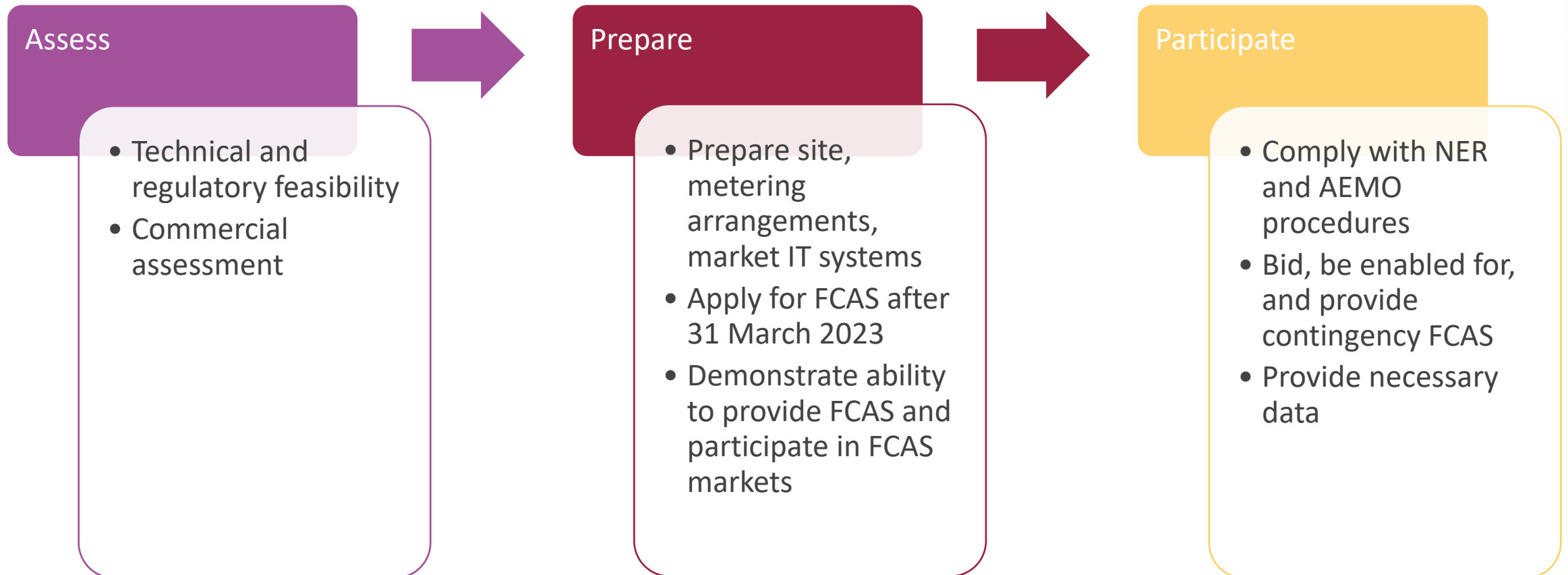
Outline of IESS changes

CHANGE	AFFECTED PARTICIPANTS	READINESS CONSIDERATIONS	TIMING
Integrated Resource Provider (IRP) category: <ul style="list-style-type: none"> Integrated resource system Bidirectional units 	<ul style="list-style-type: none"> Current and future bi-directional system participants Participants that analyse AEMO's operational data 	<ul style="list-style-type: none"> Reclassification Bidding format change Standing data changes Update customised reports as required 	Effective 03-Jun-24 with a grace period for existing IRPs
Aggregated dispatch conformance (optional for participants, will available to systems with two or more technologies behind the connection point)	<ul style="list-style-type: none"> Participants choosing to adopt new conformance model 	<ul style="list-style-type: none"> Understand the new model <ul style="list-style-type: none"> Includes conformance flag in dispatch instruction Develop required control systems 	Available from initial release 31-Mar-23
Small generating units can provide FCAS (optional for participants)	<ul style="list-style-type: none"> Small generation aggregators (SGA) choosing to provide FCAS 	<ul style="list-style-type: none"> Apply for contingency FCAS (optional) 	Applications will be taken from initial release 31-Mar-23
Settlement based on gross energy <ul style="list-style-type: none"> Non-energy cost recovery Scheduled load carve outs UFE calculations Embedded networks 	<ul style="list-style-type: none"> All market participants 	<ul style="list-style-type: none"> Understand new settlement data model Update customised reports as required 	Final release 03-Jun-24
Aggregation of small resources by IRP <ul style="list-style-type: none"> Transition Market Small Generation Aggregators (MSGAs) to IRP Act as FRMP (retailer) 	<ul style="list-style-type: none"> MSGAs Participants seeking to provide retail services under IRP 	<ul style="list-style-type: none"> Work with AEMO to transition to IRP Understand requirements for MSATS access 	Final release 03-Jun-24

References:

- [AEMC IESS rule change](#)
- [AEMO, IESS High Level Design and Implementation Strawperson](#)

Overview of steps needed for SGAs to participate in FCAS



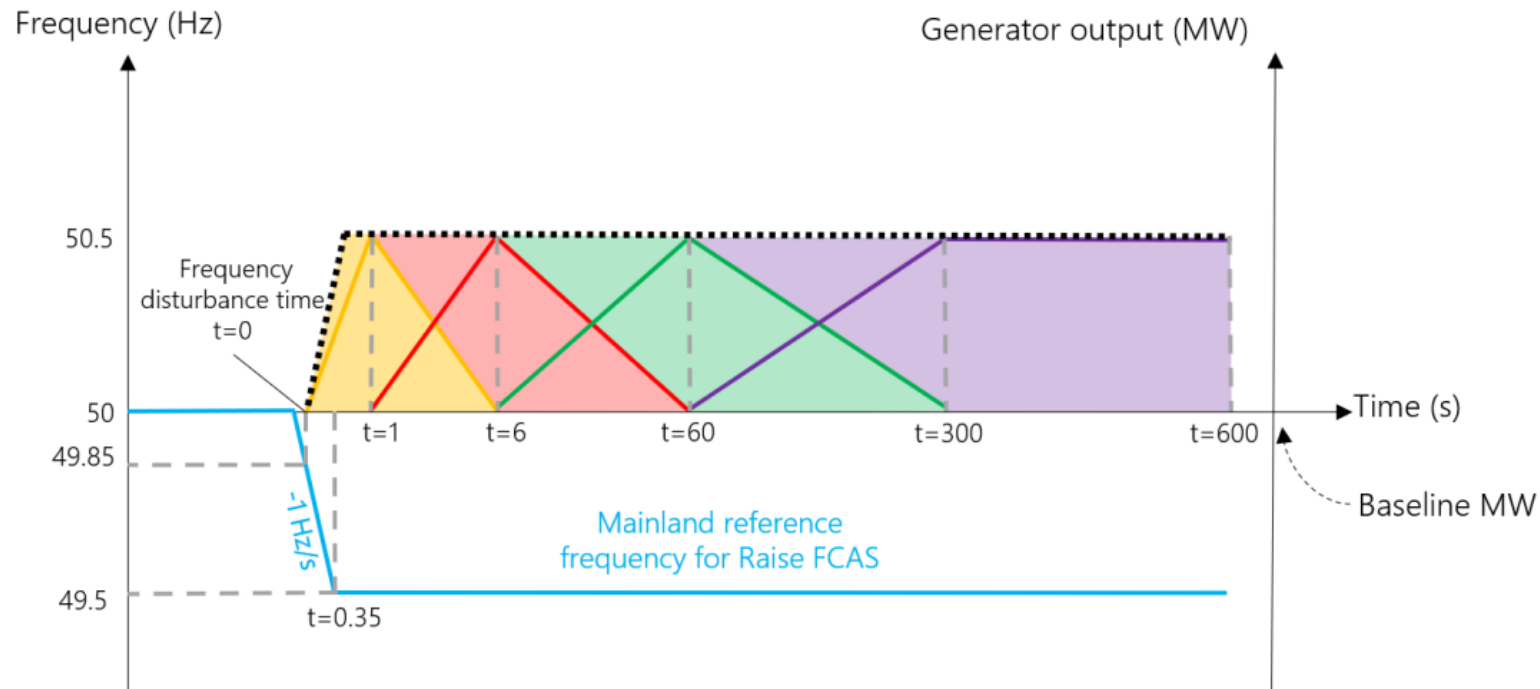
Contingency FCAS

- ❖ Contingency FCAS refers to the NEM markets which procure frequency responsive reserves to stabilise the power system following sudden significant changes in supply and demand.
- ❖ FCAS is procured at all times but only needs to be delivered when a frequency event occurs.
- ❖ There are 6 contingency FCAS markets, and as of 9 October 2023 there will be 2 new markets to procure faster FCAS response.
- ❖ The Market Ancillary Service Specification (MASS) contains the requirements for providing contingency FCAS
 - Current MASS is version 7.0, version 8.0 takes effect 9 October 2023.

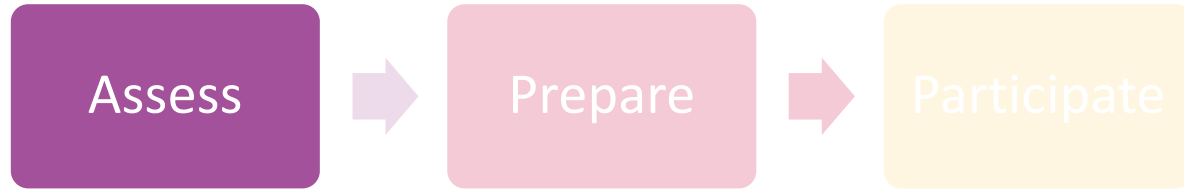
Raise Very Fast – operational 9 October 2023	Lower Very Fast – operational 9 October 2023
Raise Fast	Lower Fast
Raise Slow	Lower Slow
Raise Delayed	Lower Delayed

Contingency FCAS

- ❖ Contingency FCAS capability is determined using a standardised frequency deviation test.
- ❖ FCAS providers can offer a single controlled response across all contingency FCAS markets, subject to technical assessment.
- ❖ Example of Raise FCAS below from MASS v8.0, including the Very Fast market.



Assess



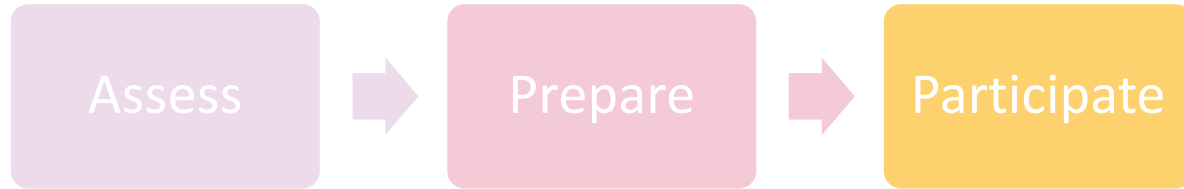
- ❖ Is the SGA's participation in FCAS markets technically feasible? Which of the contingency FCAS markets are technically feasible to participate in?
- ❖ Do the current metering arrangements meet the FCAS specification?
- ❖ Are market IT bidding systems / control systems set up to facilitate FCAS market participation?
- ❖ Commercial assessment: costs of setup and application versus FCAS revenue benefit.

Prepare



- ❖ To apply to classify an ancillary service unit/load (ASL) for the first time, existing SGAs will need to submit an *Application to classify a generating unit as an ancillary service generating unit and/or a load as an ancillary service load in the NEM*.
 - ❖ This application form already exists and will be updated to provision for SGAs in time for 31 March 2023.
- ❖ SGAs will need to demonstrate their technical ability to provide FCAS (respond to frequency events), in accordance with AEMO’s Market Ancillary Services Specification (MASS).
- ❖ SGAs will also need to demonstrate the ability to bid (and be enabled for) contingency FCAS markets.
- ❖ The application and approval process for units registering for FCAS for the first time typically takes 4-6 weeks, depending on context/complexity.
- ❖ Once an initial application has been approved, the intention is that subsequent ASL classification applications will be submitted and managed via AEMO’s Portfolio Management System.

Participate



- ❖ Ongoing understanding of compliance obligations, including but not limited to:
 - NER
 - AEMO procedures
 - (e.g. SO_OP_3705 Dispatch, SO_OP_3704 Pre-dispatch, Procedures for issue of directions and clause 4.8.9 instructions)
 - MASS.
- ❖ Bid/rebid and be enabled for contingency FCAS.
- ❖ Respond to frequency events, as per FCAS enablement.
- ❖ Facilitate AEMO data requests to assess FCAS compliance.

4. Resources for participants

Resources

ASSESS

- **FCAS Market familiarity**
 - [Guide to Ancillary Services in the National Electricity Market](#)
- Relevant sections of the **National Electricity Rules**
- AEMO's [SGA Fact Sheet](#), to be updated prior to 31 March 2023

PREPARE

- [AEMO's Market IT Systems](#)
- **FCAS technical requirements**
 - [Market Ancillary Service Specification \(MASS\) v7.0](#)
 - [BESS Requirements for Contingency FCAS Registration](#)
 - [Wind Farms and Solar Farms Testing Requirements for Contingency FCAS](#)
- **Registration forms & guides** to be updated before 31 March 2023:
- [AEMO Register as an SGA web page](#)
 - [Application to classify a generating unit as an ancillary service generating unit and/or a load as an ancillary service load in the NEM](#)
 - [Guide for application to classify generating unit as an ancillary service generating unit and/or a load as an ancillary service load in the NEM](#)
 - [Supporting Document – Information Form – NEM – Control Equipment Details](#)

PARTICIPATE

- [Power System Operating Procedures](#)
- [AER - Rebidding and Technical Parameters Guideline](#)
- [AEMO's Market IT Systems - Guides to offers and submissions](#)
- **FCAS compliance**
 - [Market Ancillary Service Specification \(MASS\) v7.0](#)
 - [FCAS Verification Tool v5.01 for MASS v7.0](#)
 - [FCAS Verification Tool User Guide v4.1 for MASS v7.0](#)

5. Q&A

6. Next steps

Next steps

To inform readiness planning for AEMO and participants, we are seeking to understand your initial thinking on the option to provide ancillary services.

To this end, after this session AEMO will distribute to participants:

- This information pack
- A link to a confidential poll. We would appreciate if you could take 5 minutes to indicate potential interest in participating in FCAS and any queries or concerns that you might have on the process.

IESS project contact



iess@aemo.com.au



<https://aemo.com.au/initiatives/major-programs/integrating-energy-storage-systems-project>

Appendix A: AEMO Competition law meeting protocol and Meeting expectations

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 regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions **must**:

- Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
- Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
- Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

- Which customers they will supply or market to
- The price or other terms at which Participants will supply
- Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
- Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
- Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.

AEMO Forum and Meeting Expectations

This charter explains expectations regarding participation and behaviour in the Australian Energy Market Operator (AEMO)'s stakeholder forums.

Meeting Expectations

All participants will:

- Respect the diversity of the group.
- Speak one at a time – refrain from interrupting others.
- Share the oxygen – ensure that all attendees who wish to have an opportunity to speak are afforded a chance to do so.
- Maintain a respectful stance towards all participants.
- Listen to others' points of view and try to understand others' interests.
- Share information openly, promptly, and respectfully.
- If requested to do so, hold questions to the end of each presentation.
- Remain flexible and open-minded, and actively listen and participate in meetings.
- Abide by COVID-Safe workplace guidelines, if attending a meeting on AEMO's premises.

Roles and Responsibilities

Forum stakeholders agree to:

- Be specific and fact-based in their feedback on a specific workstream or emerging issue;
- Review and provide feedback on papers and reports;
- Relay information to their colleagues or constituents after each meeting and gather information/feedback from their colleagues or constituents, as practicable, before each meeting;
- Maintain a focus on solutions or outcomes that benefit all energy consumers.

AEMO agrees to:

- Provide technical expertise in a manner that is considerate of the audience and their level of expertise;
- Assist participants in understanding issues enough to represent their views;
- Provide all participants the opportunity to voice their views.