

# Integrating Price Responsive Resources into the NEM (IPRR)



Final High Level Implementation Assessment (HLIA)  
Industry Forum

13 February 2025



# 1. Welcome & context

Ulrika Lindholm (AEMO)



**We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.**

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.




**'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan**

AEMO Group is proud to have delivered its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

Read our  
RAP



# General Housekeeping

1. Please mute your microphone. 
2. We look forward to your feedback and questions. Use the 'Q&A' function to ask any questions or comments throughout the session.
  - AEMO SMEs are on the call, who will attempt to respond in the chat. 
3. Key questions or comments will be addressed verbally in dedicated Q&A sections.
4. In attending this meeting, you are expected to:
  - Contribute constructively.
  - Be respectful, both on the call and in the chat. 

Participants are asked to familiarise themselves with AEMO's [Competition Law Meeting Protocol](#) as outlined in Appendix A and at AEMO's website.



# NEM Reform Program is enabling the energy transition

The most significant modernisation of the NEM since 1998

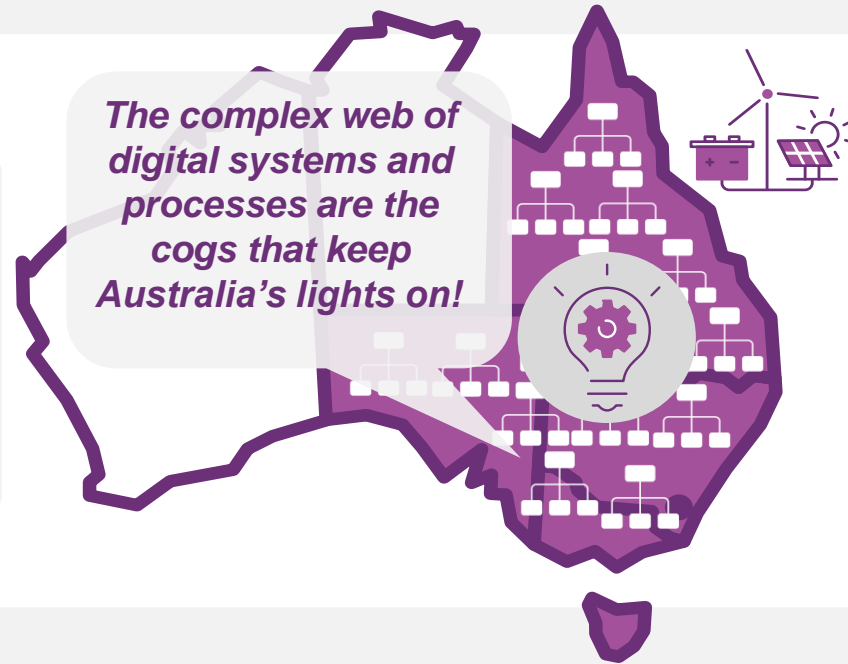
## The energy transition and NEM Reform

Australia's National Electricity Market (NEM) is transitioning from coal generation to a future driven by renewables. NEM Reform is needed to modernise the digital systems and market processes that will support and operate the future system.

## The need for reform is urgent

- The NEM's systems and processes were built to support (synchronous) coal powered generation.
- Uplift must occur to support more renewable energy generation and storage types.
- Systems must be made more secure.

*The complex web of digital systems and processes are the cogs that keep Australia's lights on!*



**Collaboration with every energy participant across industry is needed**

## Program outcomes

**AEMO's systems and processes are capable of transitioning Australia to net zero**



More renewable energy will reach consumers



Increased safety and security of the power system



Increased efficiencies for energy participants



More investment in renewable infrastructure


# Implementation Roadmap

AEMO published v.5 of the Roadmap and supporting artefacts 31 October 2024

- The [NEM Reform Implementation Roadmap \(the Roadmap\)](#) 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
  - Supports **participant readiness**
  - Provides a 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



# NEM Reform Program Engagement

| Forums   | Forum focus  | Cadence        | Approach       |
|--|---|----------------|----------------|
| Executive Forum  | Program overview and status update  | 3 per Year     | Nomination     |
| Reform Delivery Committee (RDC)  | Long term implementation planning perspective   | Quarterly      | Nomination     |
| Program Consultative Forum (PCF)   | Inflight initiatives status & co-ordination   | Monthly        | Open           |
| Implementation Forum   | Implementation of reforms   | Monthly        | Open           |
| Electricity Wholesale (EWCF) & Electricity Retail (ERCF) Consultative Forums | Procedures working groups   | Monthly        | Open           |
| Industry Testing Working Group   | Testing   | Monthly        | Open           |
| Working Groups   | Inflight  | As appropriate | As appropriate |

AEMO facilitates overarching coordination across reform initiatives as well as support affected stakeholders in each reform phase from implementation design, solution delivery and through to industry testing.



To learn more, please visit:

- [AEMO | NEM Reform Program Forums](#)
- [AEMO | NEM Reform Program Initiatives](#)
- [AEMO | Industry Meetings Calendar](#)
- or contact the program at [NEMReform@aemo.com.au](mailto:NEMReform@aemo.com.au).

Focus / working groups for inflight initiatives include:

- Initiative working groups
- Market Integration Technology Enhancement WG (IDX/IDAM/PC)
- Industry Testing Working Group (ITWG) – IT technical implementations

Subscribe to the NEM Reform Newsletter [here](#)

# Objectives of today's session

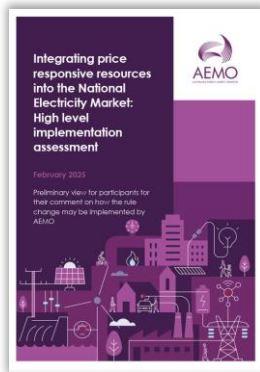
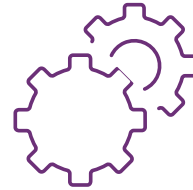
This session will discuss the reform Integrating Price Responsive Resources into the NEM (IPRR)



Introduce  
final policy  
and rationale



Discuss how it will  
be implemented



Enable affected  
participants to  
assess impacts and  
provide input on the  
early implementation  
design and timeframes



*AEMO's IPRR final High Level Implementation Assessment was published for comment on 6 February 2025, and is available at [AEMO's website](#).*



# Refresher: Energy market body roles

## Market body roles



### **Australian Energy Market Commission**

Rule maker, market developer and expert adviser to governments

*Protects consumers and achieves the right trade-off between cost, reliability and security.*



### **Australian Energy Regulator**

Economic regulation and rules compliance

*Policing the system and monitoring the market.*



### **Australian Energy Market Operator**

Electricity and gas systems and market operator

*Works with industry to keep the lights on.*

# IPRR process to date



The IPRR high-level implementation assessment (HLIA) provides an indicative and preliminary view to participants on how the IPRR rule may be implemented by AEMO.

For more information visit:



[nemreform@aemo.com.au](mailto:nemreform@aemo.com.au)



[AEMO | NEM Reform | IPRR](#)



[AEMC | IPRR rule development](#)

# Agenda

| #  | Time (AEDT)                                    | Topic  | Presenters  |
|--|--|--|---|
| 1  | 2:00-2:10pm                                    | <b>Welcome &amp; context</b>   | Ulrika Lindholm (AEMO)  |
| 2  | 2:10-2:40pm                                    | <b>Overview of the IPRR final rule</b> <ul style="list-style-type: none"> <li>• Policy rationale and design</li> <li>• Q&amp;A</li> </ul>  | Rachel Thomas (AEMC)  |
| 3  | 2:40-2:55pm                                    | <b>AEMO's proposed IPRR implementation approach</b> <ul style="list-style-type: none"> <li>• Implementation milestones</li> </ul>  | Emily Brodie (AEMO)   |
| 4  | 2:55-3:30pm                                    | <b>IPRR High level implementation assessment:</b> <ul style="list-style-type: none"> <li>• Impacts to AEMO's processes</li> <li>• Impacts to AEMO's procedures</li> <li>• Impacts to AEMO's systems</li> <li>• Participant impact</li> </ul> | Emily Brodie<br>Nicole Nsair<br>Luke Barlow<br>Greg Minney (AEMO) |
| 5  | 3:30-3:35pm                                    | <b>Feedback and next steps</b>   | Ulrika Lindholm (AEMO)  |
| 6  | 3:35-3:55pm                                    | <b>Q&amp;A</b>   | Ulrika Lindholm (AEMO)  |
| 7  | 3:55-4:00PM                                    | <b>How to get involved &amp; close</b>   | Ulrika Lindholm (AEMO)  |
| <b>Prereading:</b>   |  |  |   |
| <ul style="list-style-type: none"> <li>• <a href="#">AEMC final rule</a></li> <li>• <a href="#">AEMO final high level implementation assessment</a></li> </ul> |  |  |   |
| Appendix A   | <b>AEMO Competition Law - meeting protocol</b> |  |   |
| Appendix B   | <b>Glossary</b>                                |  |   |

*"Please note that this meeting will be recorded by AEMO and may be accessed and used by AEMO for the purpose of compiling minutes. By attending the meeting, you consent to AEMO recording the meeting and using the record for this purpose. No other recording of the meeting is permitted"*



## 2. Overview of IPRR final rule

Rachel Thomas (AEMC)



AEMC presentation

AEMC

# Integrating price-responsive resources into the NEM

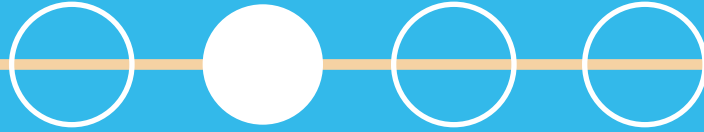
Rachel Thomas — Senior Adviser, Consumers markets and analytics

# Agenda

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This presentation covers three main parts of the rule change:

1. Background
2. Solutions in the final rule
3. Rules implementation timelines



# Background

# Problem

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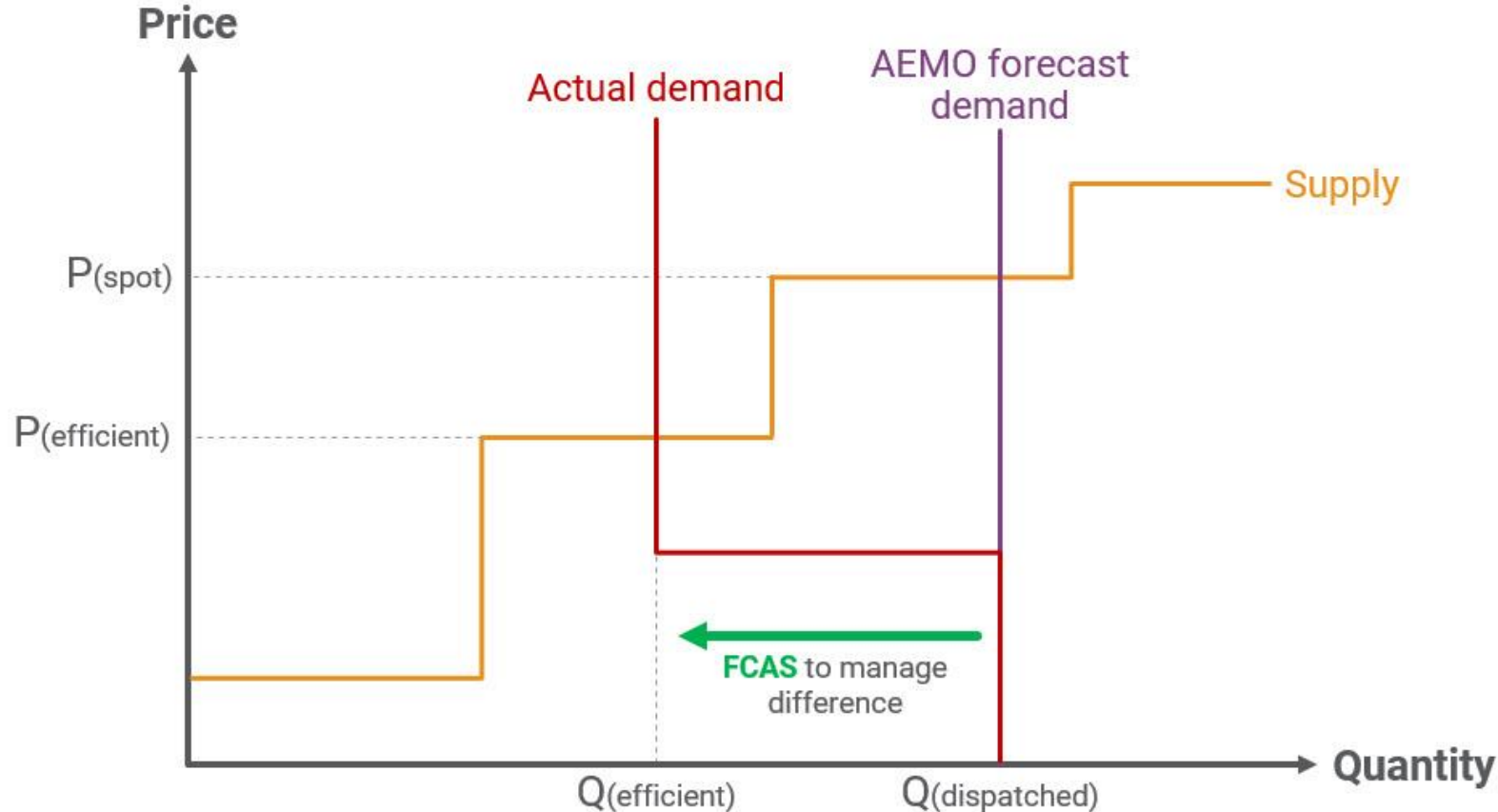
Unscheduled price-responsive resources, and their response to market price signals, are not integrated into the NEM's planning and operation functions. They are not visible to AEMO or the market and therefore cannot be appropriately considered when determining:

- how much energy demand needs to be met
- how to meet this demand
- the spot price
- when to intervene in the market.

They are also unable to participate in some services that are available to scheduled resource, such as regulation frequency control ancillary services (FCAS), limiting the value that customers can receive for their consumer energy resources (CER).



# Existing arrangements don't integrate these resources, resulting in inefficiencies and costs



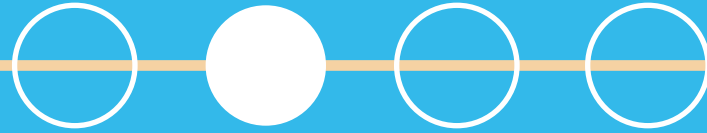
## For example:

- Small distributed resources cannot participate in central dispatch easily (therefore can't access the full market, e.g. can't provide regulation FCAS)
- Price is not an input into demand forecasting

## Resulting in:

- Higher spot prices ( $P(s)$ )
- Higher generation costs
- Potentially use of higher emitting generation
- To balance the system, increased use of FCAS and potentially emergency reliability measures

Over time these inefficiencies may lead to additional market entry, at a material cost.



# Solutions

# Three areas in the final rule

1

**Small distributed resources cannot participate in central dispatch easily**

- New voluntary framework to allow resources to participate – known as ‘dispatch mode’ – voluntarily scheduled resource (VSR)
- The draft rule has been designed so that participation's practical requirements will be less onerous and more flexible than those of a fully scheduled resource.

2

**Being scheduled does not provide the scheduled participant with benefits**

- A new time-limited incentive mechanism for up to \$50m (with potential top-ups from external bodies).

3

**Price sensitivity is not currently used by AEMO as an input for demand forecasting**

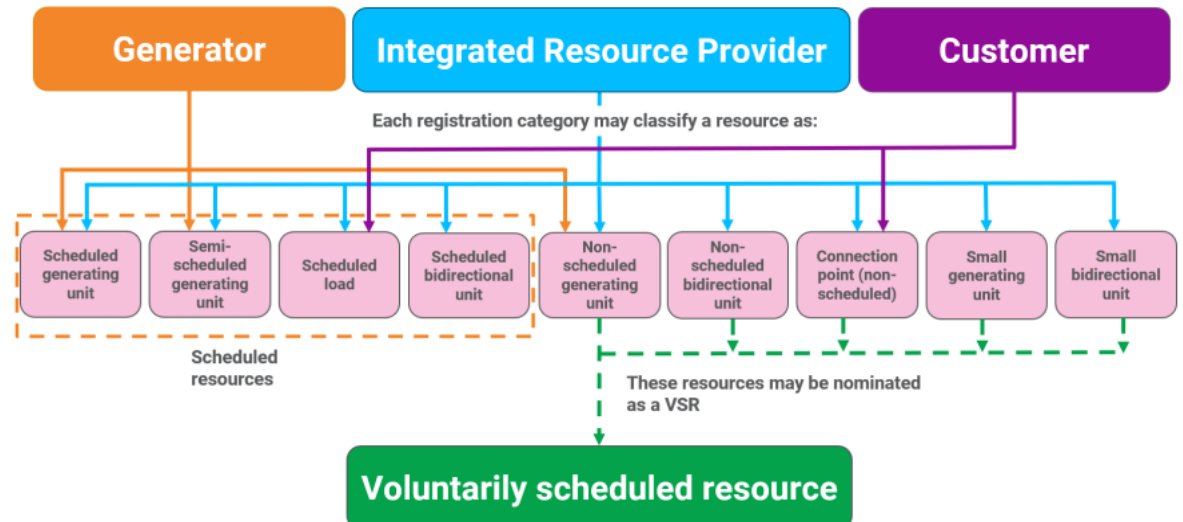
- Monitoring and reporting by the AER and AEMO to:
  - understand the impact of unscheduled price-responsive resources on demand forecasting
  - increase transparency on the actions AEMO takes to improve forecasting.

# Dispatch mode

‘Dispatch mode’, a framework that allows for currently unscheduled price-responsive resources to voluntarily be scheduled and dispatchable, either in aggregations or individually. Including these resources in dispatch means AEMO doesn’t need to forecast their actions, reducing demand forecast errors and their consequential inefficiencies.

The key features of dispatch mode are that it:

- is a voluntary mechanism
- allows resources to be nominated as a voluntarily scheduled resource (VSR) and aggregated together to participate in dispatch as one unit
- defines the key requirements for participation in the NER, with AEMO establishing the specific operational and technical details for participants through a new guideline
- provides greater flexibility for participants than existing scheduling requirements, with the creation of **deactivation and hibernation** modes.





# Implementing and operating dispatch mode – guiding principles

The rule sets out principles to guide AEMO in determining the operational and technical details of participation within its guidelines.

This explicitly recognises that VSRs are not the same as large scheduled generators and BDUs, and therefore should not face the same requirements. We consider that this is important to reflect that Market participants are still learning and developing their capabilities to control aggregated CER and should be given time to develop these capabilities. In the early years, the small size of each VSR participating means they are unlikely to have a material impact on power system security and therefore leniency comes at a low risk.

## Principles:

- (1) must balance costs of participation for voluntarily scheduled resources in central dispatch with AEMO's costs for facilitating participation by voluntarily scheduled resources in central dispatch;
- (2) must facilitate ease of participation in central dispatch for voluntarily scheduled resources;
- (3) may apply restrictions on voluntarily scheduled resources in central dispatch only to the extent reasonably necessary for AEMO to manage power system security and reliability; and
- (4) may have regard to any other matter determined by AEMO, acting reasonably, and which AEMO must specify in the voluntarily scheduled resource guidelines.

# Incentive mechanism

The incentive mechanism's objective is to **increase dispatch mode participation in the long run, at the lowest cost.**

AEMO will operate the tender mechanism. AEMO must run at least **two tenders** between 1 April 2026 to 31 December 2031.

AEMO are required to will develop procedures by December 2026, or before the date on which AEMO holds the first VSR tender process.

Benefit to customers will be ensured by having a **price cap for each tender**. The price cap would be less than \$/MW of the market benefit an additional MW is expected to generate.

Only the **resources** below the price cap may receive incentive payments, resources will only be eligible for one incentive agreement.

The rules set a **total payment cap** on the amount that could be paid out over the incentive period at **\$50m**. Additional or alternative funding from external funding sources can be used to replace or top up this \$50m cap.

The costs of payments under successful contracts would be recovered via market customer charges, similar to RERT activation fees.

AEMO will publish a report annually and at the end of the incentive period.

# Monitoring and reporting

|                                       | AEMO   | AER  |
|---------------------------------------|--|--|
| <b>Purpose</b>                        | <ul style="list-style-type: none"> <li>To identify the presence and issues created by increased unscheduled price-responsive resources.</li> <li>To share the extent to which AEMO can make improvements to its demand forecasting to account for unscheduled price-responsive resources.</li> </ul>   | <ul style="list-style-type: none"> <li>To estimate the efficiency implications and costs associated with these issues and for the AER make recommendations if market changes are needed.</li> </ul>  |
| <b>Topics that must be considered</b> | <ul style="list-style-type: none"> <li>Summary statistics to identify trends with DER uptake and price-responsive contracts.</li> <li>Deviations between regional demand forecasts and actual outcomes, and the contribution of unscheduled price-responsive resources to these deviations.</li> <li>Analysis to identify the contribution of deviations from forecast demand to ancillary services costs using frequency performance payments.</li> <li>The extent to which accounting for unscheduled price-responsive resources has helped or hindered demand forecasting in operational timeframes.</li> </ul> | Estimate: <ul style="list-style-type: none"> <li>Inefficient spot prices as a result of regional demand forecast deviations from unscheduled price-responsive resources.</li> <li>Inefficient costs incurred by scheduled market participants as a result of regional demand forecast deviations.</li> <li>Increased market ancillary service requirements as a result of regional demand forecast deviations</li> <li>Increased emissions as a result of inefficient generation.</li> <li>RERT use and associated costs as a result of inefficient generation use.</li> </ul> |
| <b>Frequency</b>                      | Quarterly statistics and annual report   | Annual report  |

# Draft to Final changes

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The most important of the changes between draft and final determinations are:

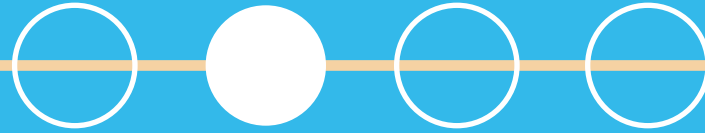
## **Dispatch mode:**

- Increased the flexibility of the opt-out mechanisms. In particular, we removed the restriction on the maximum length of time the deactivation framework applies (previously being seven days).
- Introduced a requirement on distribution network service providers (DNSPs) to consult with VSRPs when designing flexible export limits (FELs).
- Delayed the commencement from Nov 2026 to May 2027

## **Incentive mechanism:**

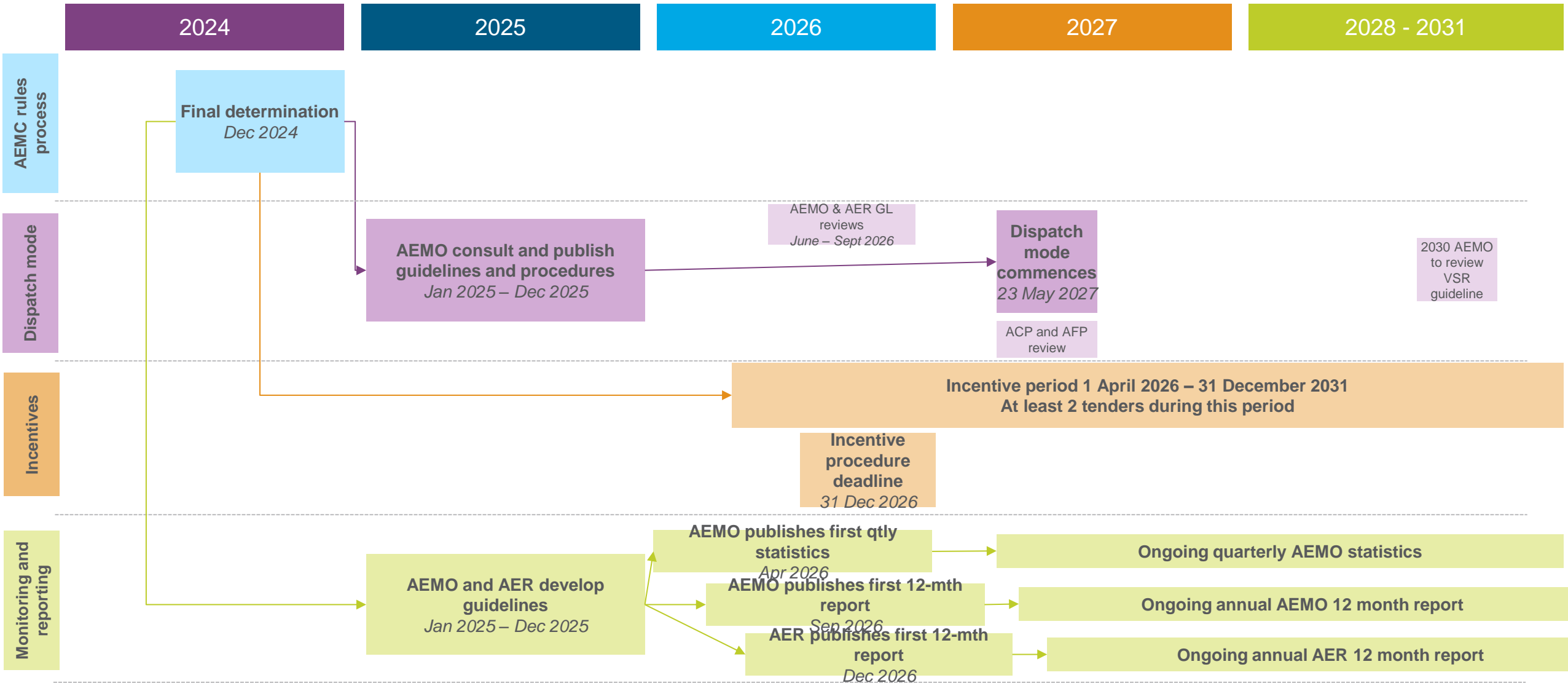
- Brought forward the commencement date of the incentive mechanism from January 2027 to April 2026
- Increased the per MW payment cap from fifty to a hundred per cent of the estimated benefits.
- Introduced the ability for governments to add additional funds to the mechanism to provide more than \$50m.





# Rules implementation timeline

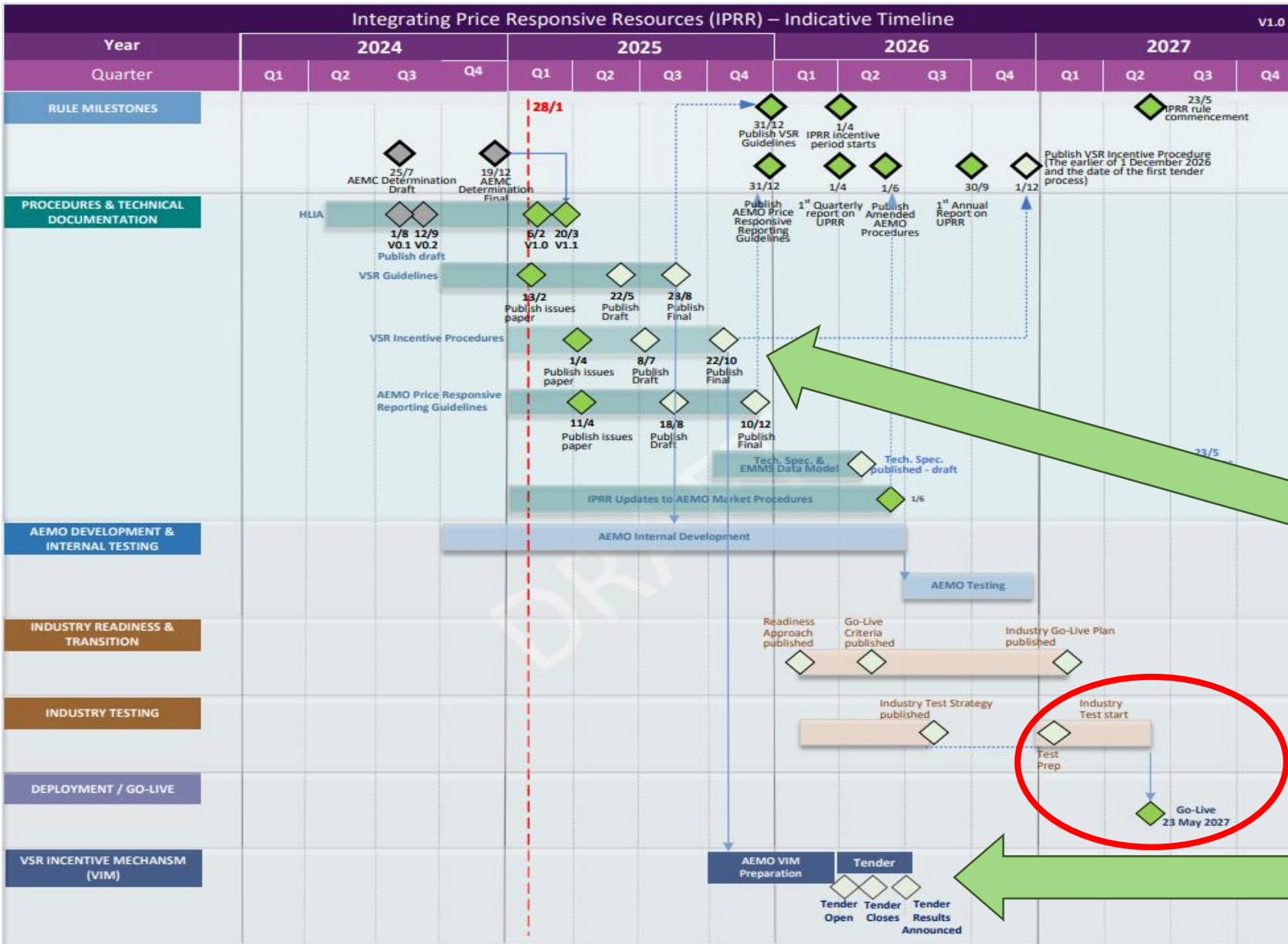
# Rules implementation timelines



# 3. AEMO's proposed IPRR implementation approach

Emily Brodie (AEMO)

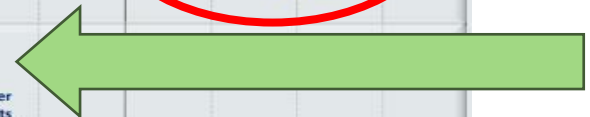
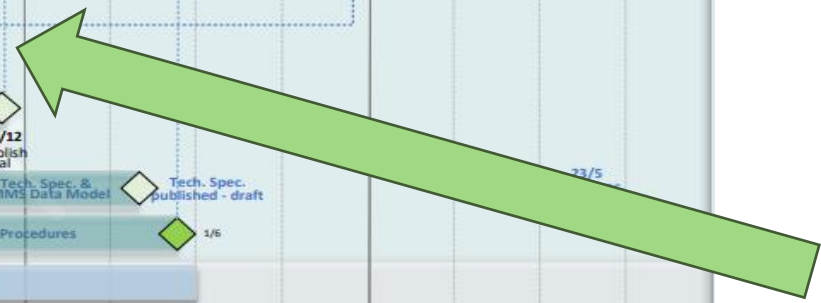
# IPRR indicative implementation timeline



## Proposed implementation approach

Adapted to dates in final rule.  
 Develop VIM procedure earlier than required so that:

- **PARTICIPANTS** can have early certainty of payments and can develop their systems / processes in time for industry testing and the start of dispatch mode.
- **AEMO** can manage the VIM dependency to Settlements system development.



# Purpose of IPRR High-level implementation assessment

- Provides an indicative and preliminary view to participants on how the IPRR rule may be implemented by AEMO and its high-level impacts to:
  - AEMO's processes
  - Market procedures
  - High level system and data exchange
  - Participant activities
- Enable stakeholders to provide input on the early implementation design and timeframes, including whether AEMO's HLIA is consistent with the final IPRR rule.
- Intended to inform participants as they develop their own implementation timelines and impact assessments.

# IPRR HLIA

HLIA considers impacts of the IPRR rule to:

- a) AEMO business processes
- b) AEMO procedures
- c) AEMO systems
- d) Participants

These impacts have informed the HLIA's implementation **timeline** and **risks**.

Each set of impacts and the implementation approach are discussed in upcoming sections.



# IPRR rule: Three key components

## 1. Dispatch mode

- To integrate presently unscheduled price-responsive energy resources into NEM scheduling processes.

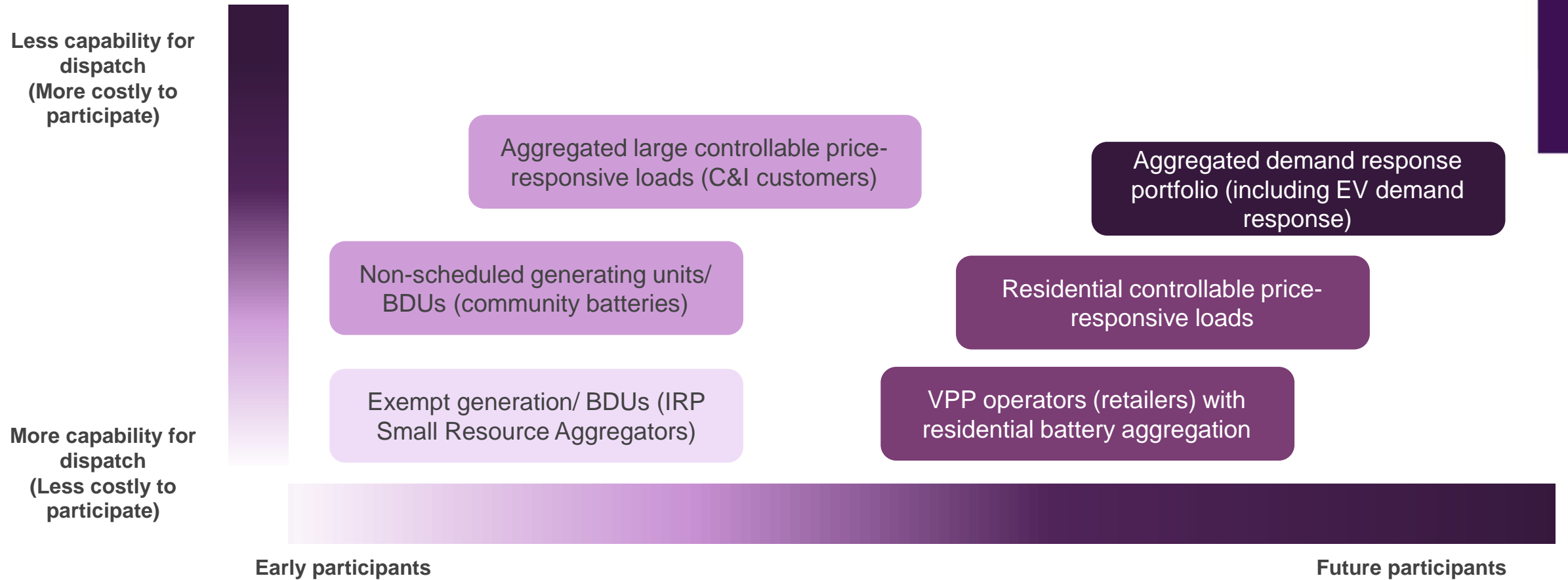
## 2. Incentive framework (tenders)

- To encourage participation in dispatch mode.

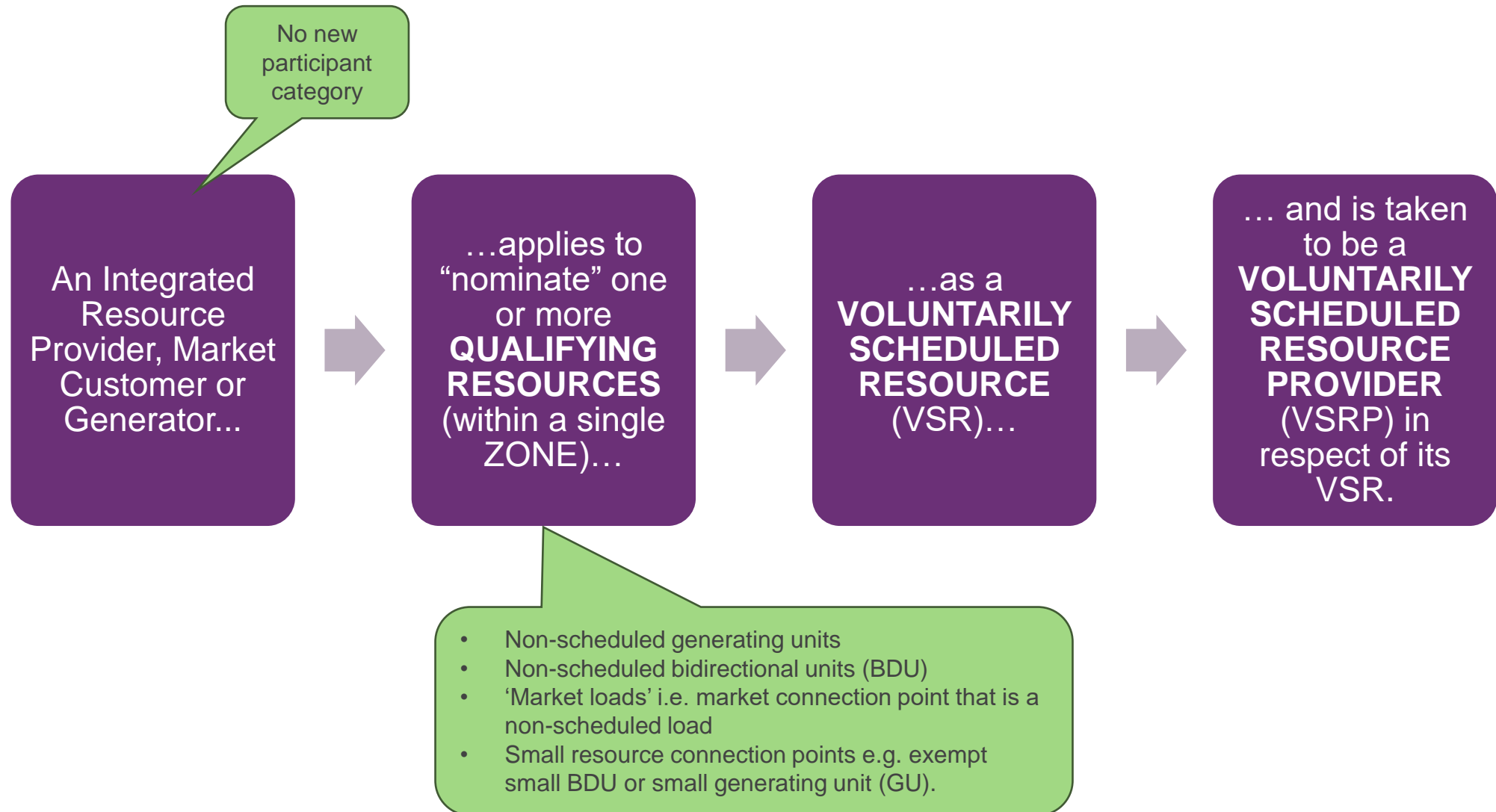
## 3. AEMO monitoring & reporting framework

- To understand and manage the impact of unscheduled price-responsive energy resources on operational demand forecasting processes and market outcomes.

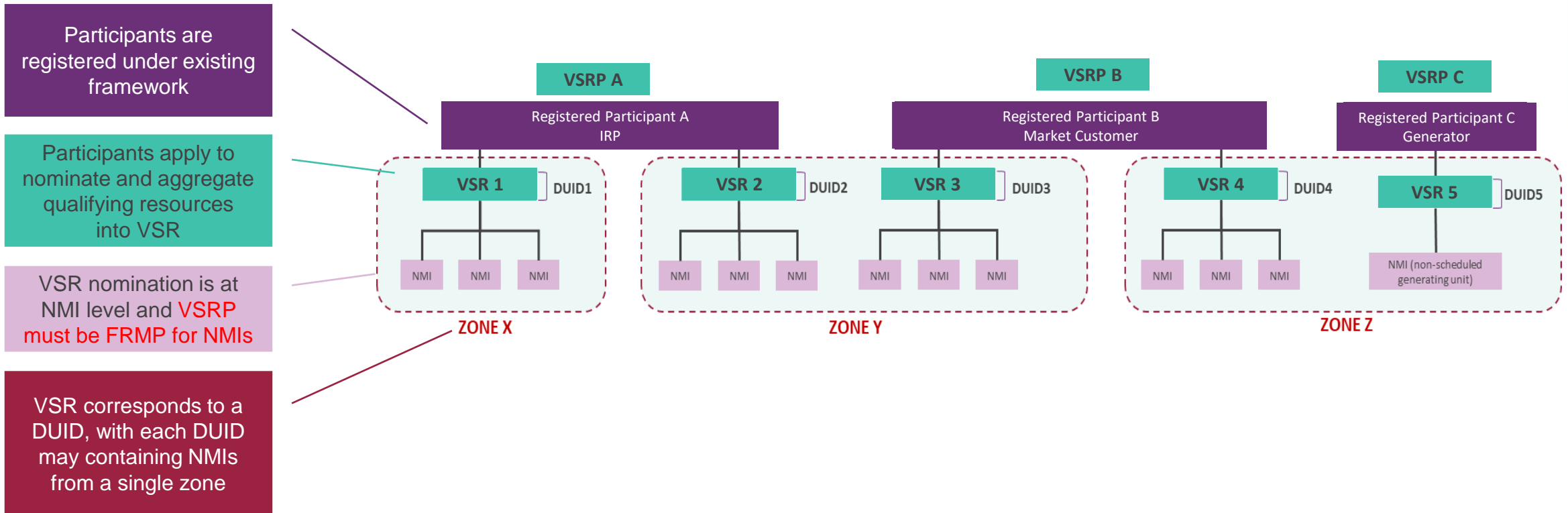
# Who would participate?



# IPRR rule refresher: New terminology and concepts



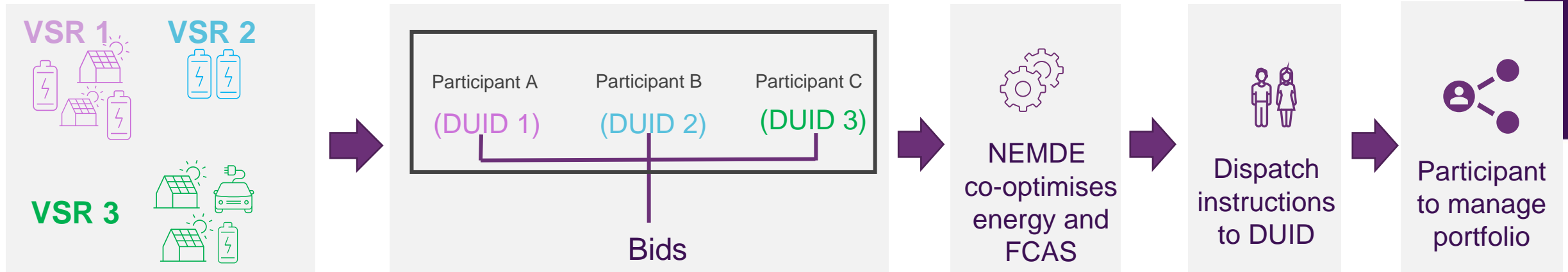
# Dispatch mode implementation: Participation building blocks



# Dispatch mode design

Consistent with existing framework for scheduled resources

1. Dispatch mode



Every 5 minutes, Traders will receive a dispatch instruction per DUID:

- A single bi-directional dispatch instruction representing the net flow to be achieved by its DUID
- Enablement for each FCAS

VRSPs will need to:

- Disaggregate the dispatch instruction to manage its portfolio accordingly
- Comply with the Market Ancillary Services Specification (MASS) and the NER with respect to the services they provide
- Ensure that their bids and any subsequent dispatch comply with applicable Flexible Export Limits (FELs)/Dynamic Operating Envelopes (DOEs) across their VSRs

# IPRR rule: VSR participation modes

Participation modes recognise that some resources may only be able to participate in the NEM over specific periods. For example, where a VSR may not have continuous operational capabilities or may operate seasonally.



## TEMPORARILY DEACTIVATED VSR...

... during which time the VSR only partially participates in central dispatch

- Deactivation request is to partially opt-out of dispatch mode by application to AEMO.
- During the deactivation period, participants submit bids but do not need to conform to dispatch instructions.
- The deactivation status must apply to every qualifying resource aggregated in the VSR.
- Detailed criteria and process to apply for deactivation are to be determined in VSR guidelines (including a notice period).



## HIBERNATED VSR

For at least 30 days and no more than 18 months during which the VSR will not participate in central dispatch

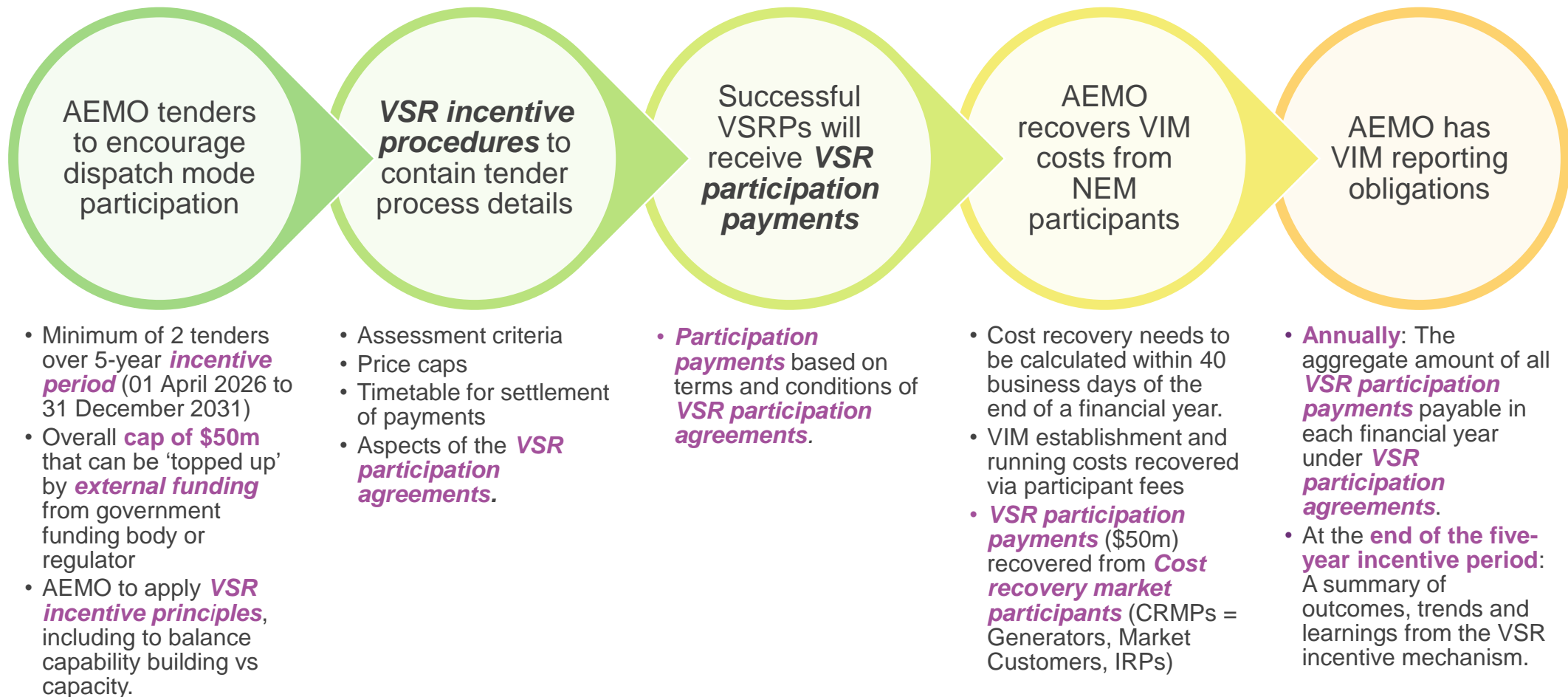
- Hibernation request is for full opt-out of dispatch mode (without deregistration) by application to AEMO.
- The hibernation status must apply to every qualifying resource aggregated in the VSR.
- The previous classification approved by AEMO for that qualifying resource (e.g. as a non-scheduled generating unit, non-scheduled bidirectional unit, non-scheduled load (as applicable)) applies.
- Most criteria and process to be determined in VSR guidelines (including a notice period).

# Design parameters or assumptions

| PARAMETER OR ASSUMPTION  | COMMENTS   | IMPLEMENTATION   |
|--|--|--|
| <b>Participation is voluntary</b>  | Participation is voluntary but very important to address operational challenges and avoid duplicative grid-scale investment.   | IPRR rule establishes the VSR incentive mechanism to encourage participation.  |
| <b>Minimum VSR threshold of 5MW</b>  | Changes to a VSRP's portfolio (e.g. churn) could result in a VSR dropping below the minimum size threshold for dispatch mode participation e.g. because of NMLs moving out of a portfolio.   | AEMO to consult on the minimum VSR threshold and managing changes via the VSR guidelines consultation.                       |
| <b>VSR performance standards</b>   | It is expected that a VSRP will be responsible for ensuring the resources within each VSR comply with their distribution connection agreements.  | Performance standards agreed with their connecting NSP and/or any conditions in the VSR guidelines.                          |
| <b>Flexible export limits</b>  | <ul style="list-style-type: none"> <li>VSRPs will be required to comply with any applicable FEL (or distribution operating envelope) when submitting their bids for dispatch mode.</li> </ul>  | The IPRR rule requires DNSPs to consult with VSRPs when designing flexible export limits<br>→ NER 5A.B.3(6) and 5A.E.3(c)(9) |
| <b>Power system data communications standard applies to VSRs</b>                             | The design reflects the requirement for a participant to provide telemetry data as per requirements defined in the power system communication standard.  | VSRs would use SCADA or SCADA Lite to communicate telemetry data.  |
| <b>New guidelines for VSR operations (VSR Guidelines)</b><br>See slide 49 for greater detail | <ul style="list-style-type: none"> <li>Requirements for nomination of qualifying resources into VSRs</li> <li>Requirements and process for aggregation of VSRs</li> <li>Framework for testing the capabilities of qualifying resources</li> <li>Operational requirements for VSRs</li> </ul> | AEMO to develop the VSR guidelines in consultation with industry.  |



# VSR incentive mechanism (VIM): High-level summary



# Monitoring and reporting framework

As part of the IPRR implementation, AEMO is required to develop a guideline in consultation with industry to cover metrics and statistics which should be considered in the reporting framework.

## Issue

- ❑ Lots of Unscheduled Price Responsive Resources won't, or won't have the capability, to participate in IPRR (Due to the combination of the level of control required and the wide range of functions, capabilities and business models).
- ❑ As the magnitude of these resources grow, they will create challenges for AEMO's demand forecasting in the NEM and this may have large consequences for efficient market operation.

## Solution

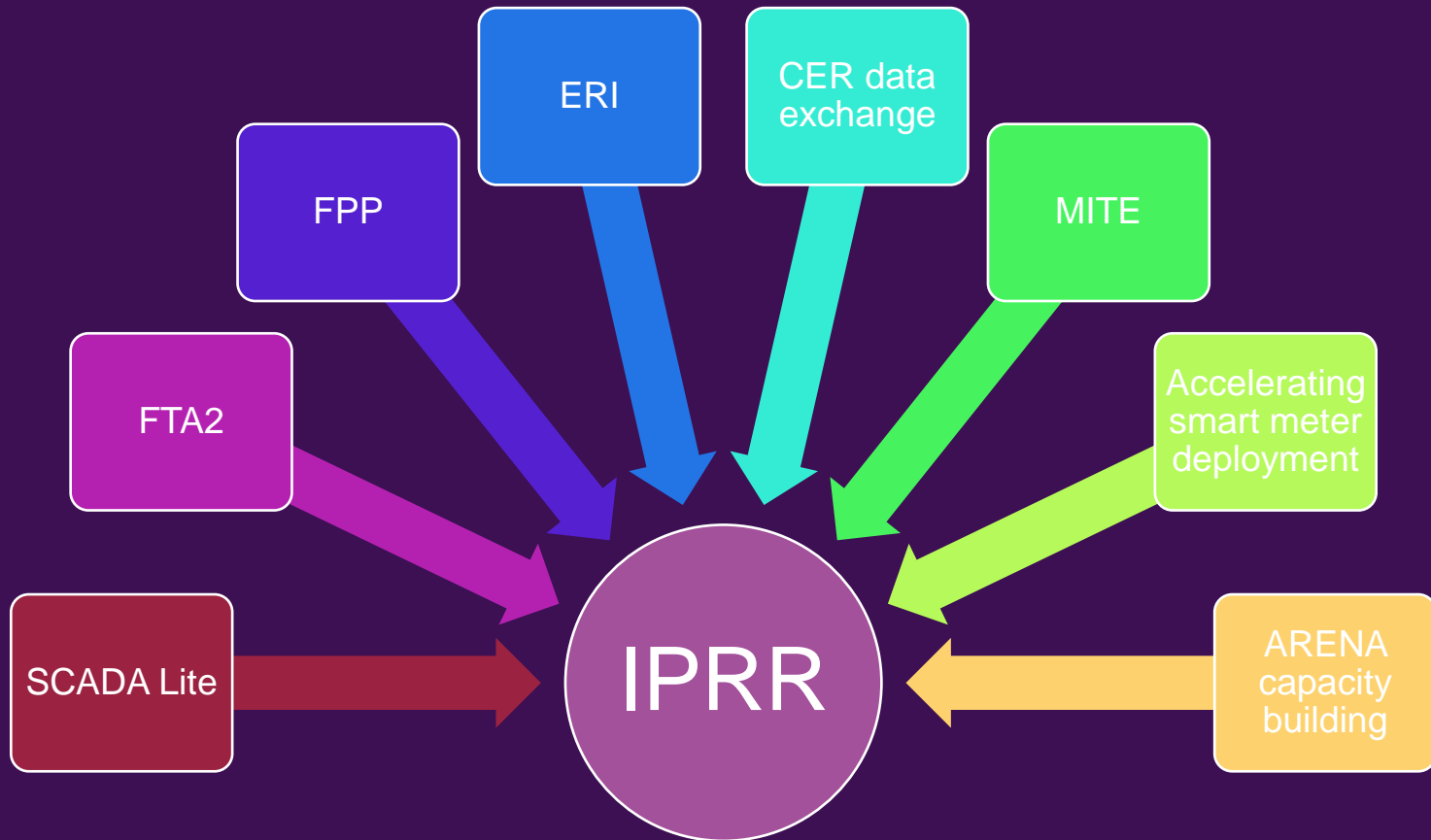
- To address these issues, the final rule introduces a monitoring and reporting framework for:
- ❑ AEMO to identify the presence and issues created by increased Unscheduled Price Responsive Resources through quarterly statistics and an annual report.
  - ❑ AER to assess the estimated efficiency implications and costs associated with actual demand deviating from forecasts due to Unscheduled Price Responsive Resources.

## Outcome

- The outcomes from the monitoring and reporting framework will be used by the AEMC to determine:
- ❑ When AEMO's demand forecasts are being materially challenged
  - ❑ If challenges can be addressed by AEMO changing its demand forecasting methods
  - ❑ Whether a move to retailer-led forecasting of price-responsiveness is warranted.

# Related reforms

Other energy reforms are a prerequisite for or complementary to IPRR.



| REFORM   | RELATIONSHIP TO IPRR   |
|--|--|
| <u>SCADA Lite</u>  | <ul style="list-style-type: none"> <li>VSRPs would use full SCADA or SCADA lite communications.</li> </ul>   |
| <u>FTA: Unlocking benefits of CER through flexible trading</u> | <ul style="list-style-type: none"> <li>VSRPs can separate flexible resources to a secondary NMI.</li> <li>Optional second FRMP on flexible resources for large customers.</li> </ul> |
| <u>FPP: Frequency performance payments</u>                     | <ul style="list-style-type: none"> <li>VSRs would be eligible for Frequency Performance Payments.</li> </ul>   |
| <u>ERI: Enhancing reserve information</u>                      | <ul style="list-style-type: none"> <li>VSR assets to help signal to the market the aggregated levels of storage available.</li> </ul>  |
| <u>CER data exchange</u>                                       | <ul style="list-style-type: none"> <li>Identifies use cases and exchange model to support CER coordination.</li> </ul>   |
| <u>MITE: Market interface technology enhancements</u>          | <ul style="list-style-type: none"> <li>Enhanced identity and data exchange capabilities to support service providers &amp; new CER use cases.</li> </ul>                             |
| <u>Accelerating smart meter deployment</u>                     | <ul style="list-style-type: none"> <li>More 5-min capable meters available as a pre-requisite for a VSR.</li> </ul>  |
| <u>ARENA capacity building</u>                                 | <ul style="list-style-type: none"> <li>Community battery investments are good VSR candidates.</li> </ul>   |

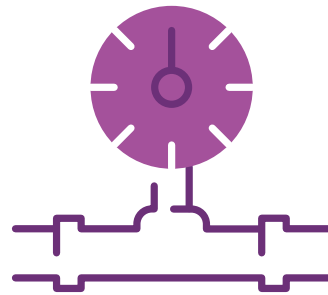
# 4. IPRR High level implementation assessment

## AEMO:

- Emily Brodie
- Nicole Nsair
- Luke Barlow
- Greg Minney

# IPRR rule: Impacts to AEMO's processes

Emily Brodie



# IPRR rule: Summary of impacts to AEMO's processes

## 1. Dispatch mode

- To integrate presently unscheduled price-responsive energy resources into NEM scheduling processes.

HIGH  
IMPACT

## 2. Incentive framework (tenders)

- To encourage participation in dispatch mode.

VERY  
HIGH  
IMPACT

## 3. AEMO monitoring & reporting framework

- To understand and manage the impact of unscheduled price-responsive energy resources on operational demand forecasting processes and market outcomes.

HIGH  
IMPACT

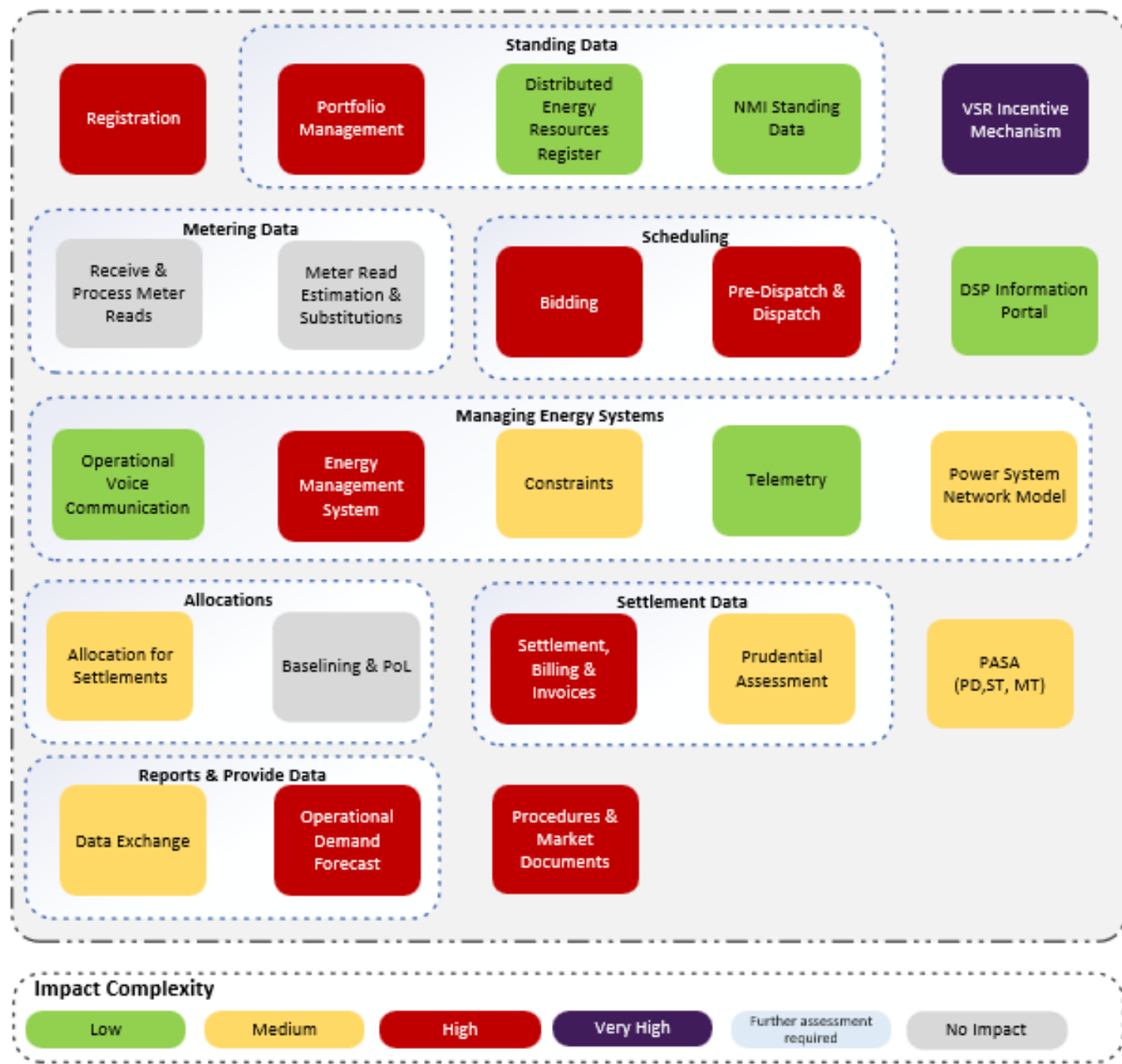
# IPRR rule: Impacts to AEMO's processes

Table 3 Tabular view of focus area impacts from the IPRR draft rule

| Focus area              | Impact    | Impact description   |
|-------------------------|-----------|--|
| Registration            | High      | <ul style="list-style-type: none"> <li>No new unique participant registration category for market participants with VSRs. VSRs will be registered as IPRR Market Customer or Generator in accordance with the existing participant registration framework. A VSRP must be the financially responsible Market Participant (FRMP) for the NEMs it is nominating into VSRs.</li> <li>Introduction of a new 'unit type' of VSR and development of a new 'nomination' process to allow one or more qualifying resources to be nominated into VSRs by the FRMP (VSRP).</li> <li>Development of a new initial capability assessment process for VSRs to ensure they have the technical capability to participate in scheduling and dispatch processes.</li> <li>Introduction of minimum VSR capacity threshold for participation.</li> </ul>  |
| Portfolio Management    | High      | <ul style="list-style-type: none"> <li>New portfolio management processes to establish and maintain VSR portfolios, including nomination/de-nomination, addition/removal of NEMs, VSR configurations, updates to standing data, etc.</li> <li>Impacts associated with implementation and management of new participation modes, including 'temporary deactivation' and 'hibernation'.</li> <li>Portfolio management capabilities to manage customer churn.</li> <li>Potential system updates to manage a greater volume of assets and data.</li> <li>Updates to AEMO Validation processes to manage VSRs, for example VSR management within zones.</li> </ul>  |
| DER Register            | TBC       | <ul style="list-style-type: none"> <li>Further assessment required to determine impacts for the DER Register.</li> </ul>   |
| NMI standing data       | Low       | <ul style="list-style-type: none"> <li>Further assessment required to determine if there is a need to update Agg Flag assignment to RERT cost recovery carve-outs and FPP.</li> </ul>  |
| VSR Incentive mechanism | Very high | <ul style="list-style-type: none"> <li>Develop new VSR incentive procedures to establish VSR tender processes, see section 4 for more details.</li> <li>Develop new VSR tender process including assessment criteria, methodology and contract development for selecting successful VSR incentive mechanism participants for each VSR tender.</li> <li>Implement process changes to:                             <ul style="list-style-type: none"> <li>Assess VSR participation and make VSR participation payments</li> <li>Recover costs of establishing, advertising and conducting the VSR incentive mechanism (via fees)</li> <li>Recover costs of VSR participation payments (via CRMPs).</li> </ul> </li> <li>Potential adjustments to include VSR incentive mechanism participation payments in prudential estimations.</li> <li>Assessment of VSR benefits &amp; calculation of 'incentive MW price cap'.</li> <li>Reporting of participation payments after VSR tender process (IPRR draft rule 3.10.4A(n)).</li> <li>Overall, requires development of new capabilities, governance arrangements, appropriate resourcing, etc.</li> </ul> |

Please refer to HLIA for full description of business process impact assessment

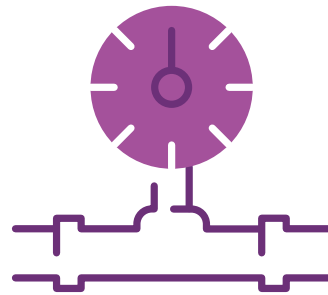
## Summary of Key Impacts for IPRR





# IPRR rule: Impacts to AEMO's procedures

Nicole Nsair



# PLEASE REFER TO HLIA FOR FULL MARKET PROCEDURE IMPACT ASSESSMENT

Table 4 Proposed new AEMO procedures, guidelines, reviews and reports

| NEW PROCEDURE  | IPRR DRAFT RULE   | EFFORT | PROPOSED CONTENT AND TIMING   |
|--|---|--------|---|
| <b>Voluntarily scheduled resource guidelines</b>               | <ul style="list-style-type: none"> <li>3.10A.3</li> <li>11.17[X].3(a)(2)</li> </ul>         | High   | <p>Develop, consult and publish by 31 December 2025. Required to cover a range of details including:</p> <ul style="list-style-type: none"> <li>Requirements for nomination of qualifying resources into VSRs</li> <li>Requirements and process for aggregation of VSRs</li> <li>Framework for testing the capabilities of qualifying resources</li> <li>Operational requirements for VSRs, including:               <ul style="list-style-type: none"> <li>Types of data to be submitted</li> <li>Telemetry &amp; communications requirements</li> <li>Thresholds for participation</li> <li>Dispatch conformance criteria</li> <li>Acceptable types of metering installations</li> <li>DNSP data sharing requirements</li> <li>Zonal aggregation requirements</li> <li>Temporary deactivation and hibernation requirements</li> <li>Any other information AEMO considers reasonably necessary.</li> </ul> </li> </ul> |
| <b>Review of the Voluntarily scheduled resource guidelines</b> | 11.17[X].3(c)   | High   | Complete review by 05 November 2029   |
| <b>AEMO price responsive reporting guidelines</b>              | <ul style="list-style-type: none"> <li>3.10B.2 (e)-(g)</li> <li>11.17[X].3(a)(1)</li> </ul> | High   | <p>Develop, consult and publish by 31 December 2025. Required to specify:</p> <ul style="list-style-type: none"> <li>How AEMO will meet its annual reporting obligations on unscheduled price-responsive resources</li> <li>The information and metrics that AEMO will include in its quarterly reporting on unscheduled price responsive resources.</li> </ul>   |
| <b>Annual report on</b>  | 3.10B.2(h)  | High   | <p>Publish by 30 September each year. First report must be published by 30 September 2025.</p>  |

Table 5 Current relevant AEMO procedures

| TYPE OF PROCEDURE   | EFFORT        | CHANGE  |
|---|---------------|---|
| <b>Registration information resource &amp; guidelines, including:</b> <ul style="list-style-type: none"> <li>Guide to Application Registration Forms in the NEM</li> <li>Application Guide for Registration as a Generator in the NEM</li> <li>Guide to Registration Exemptions and Production Unit Classifications</li> </ul>  | Medium / High | <ul style="list-style-type: none"> <li>Most registration/classification documents will require updates to accommodate VSR nominations by Market Participants.</li> <li>New application forms and guides are likely to be required.</li> <li>The Guide to Registration Exemptions and Production Unit Classifications may require updates to reflect the new 'qualifying resource' nomination process.</li> <li>Impact of IPRR to registration documents will depend on the extent to which VSR requirements are included in the VSR guidelines versus registration documentation.</li> </ul>                                      |
| <b>System Operation Procedures, including:</b> <ul style="list-style-type: none"> <li>SO_OP_3705 - Dispatch Procedure</li> <li>SO_OP_3704 - Pre-dispatch Procedure</li> <li>Spot Market Operations Timetable procedure</li> <li>Short Term PASA Process Description</li> <li>Market suspension compensation methodology and schedule of benchmark values</li> <li>Communications and control systems</li> </ul> | Medium        | <ul style="list-style-type: none"> <li>Amendments will be required due to the inclusion of:               <ul style="list-style-type: none"> <li>VSR (new unit type)</li> <li>Changes to dispatch conformance process to manage VSRs in different modes of operation (active/temporarily deactivated/hibernated).</li> <li>Data integration into market processes from new VSR unit type e.g. price adjusted demand curve definition, functionality and integration</li> </ul> </li> <li>Impact to System Operating Procedures will depend on the extent to which VSR requirements are included in the VSR guidelines.</li> </ul> |
| <b>Market ancillary services</b> <ul style="list-style-type: none"> <li>Market ancillary services specification</li> </ul>  | Low           | <ul style="list-style-type: none"> <li>May need updating to incorporate requirements for VSRs to participate in regulation FCAS.</li> </ul>   |
| <b>Non-market ancillary services</b> <ul style="list-style-type: none"> <li>SO_OP_3717 - Procedure for the Exercise of the Reliability and Emergency Reserve Trader (RERT)</li> </ul>   | Low           | <ul style="list-style-type: none"> <li>Amendments to include:               <ul style="list-style-type: none"> <li>New VSR unit type</li> <li>Which modes of VSR operation are eligible to participate in RERT.</li> </ul> </li> </ul>  |
| <b>Directions</b> <ul style="list-style-type: none"> <li>SO_OP_3707 - Procedures for Issue of Directions and Clause 4.8.9 Instructions</li> </ul>   | Low           | <ul style="list-style-type: none"> <li>Update procedure to specify how directions apply to VSR units and whether they apply based on active/temporarily deactivated/hibernated modes of operation.</li> </ul>   |
| <b>Loss factors resources, including:</b> <ul style="list-style-type: none"> <li>Forward-looking transmission loss factors</li> <li>Treatment of loss factors in the NEM</li> </ul>   | Low           | <ul style="list-style-type: none"> <li>Procedures will need to describe the methodology for calculating loss factors for VSRs.</li> </ul>   |
| <b>Constraints resources &amp; guidelines, including:</b> <ul style="list-style-type: none"> <li>Constraint Formulation Guidelines</li> <li>Constraint implementation guidelines</li> <li>Schedule of constraint violation penalty factors</li> </ul>   | Low / Medium  | <ul style="list-style-type: none"> <li>Additional sections may be required to describe how VSRs are represented in constraints and how they are formulated.</li> <li>If switching VSRs between active/temporarily deactivated/hibernated modes should result in updates to constraints, then additional procedures should describe these processes.</li> </ul>  |
| <b>Forecasting and Planning, including:</b> <ul style="list-style-type: none"> <li>Demand Side Participation Forecast Methodology</li> <li>Demand Side Participation Information Guidelines</li> <li>Medium Term PASA Process Description</li> </ul>  | Low           | <ul style="list-style-type: none"> <li>Updates to DSP methodology will be required to describe how VSRs are included in the Demand side participation forecasts.</li> </ul>   |
| <b>Operational Forecasting</b>  | Medium        | <ul style="list-style-type: none"> <li>Amend procedures to include VSR unit type.</li> </ul>  |

# IPRR procedure change scope: Three new documents

## 1. Dispatch mode

- To integrate presently unscheduled price-responsive energy resources into NEM scheduling processes.

### → VSR GUIDELINES

Establishes the technical and operational characteristics of VSRs.

## 2. Incentive framework (tenders)

- To encourage participation in dispatch mode.

### → VSR INCENTIVE PROCEDURE

Specifies a range of matters to support operation of the VSR incentive mechanism / “participation payments”.

## 3. AEMO monitoring & reporting framework

- To understand and manage the impact of unscheduled price-responsive energy resources on operational demand forecasting processes and market outcomes.

### → AEMO PRICE RESPONSIVE REPORTING GUIDELINES

How AEMO will meet its annual and quarterly reporting obligations.

# Summary of impacts to key market procedures (1/3)

VSR guideline scope – next slide

| AREA   | IMPACT               | Timing  | COMMENT (see HLIA for detail)   |
|--|----------------------|---|---|
| <ul style="list-style-type: none"> <li>New VSR guidelines</li> </ul>   | <b>HIGH</b>          | <b>Due 31 Aug 2025</b>  | <ul style="list-style-type: none"> <li>Develop new guidelines, significant scope</li> </ul>   |
| <ul style="list-style-type: none"> <li>System Operations</li> </ul>  | <b>MEDIUM</b>        | <b>Dependency on VSR Guidelines</b>   | <ul style="list-style-type: none"> <li>To reflect VSR unit type &amp; participation modes</li> </ul>  |
| <ul style="list-style-type: none"> <li>Settlements</li> </ul>  | <b>MEDIUM</b>        | <b>Dependency on VSR Guidelines</b>   | <ul style="list-style-type: none"> <li>To reflect VSRs in settlements &amp; non-energy cost recovery arrangements for VSRs.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Other existing procedures               <ul style="list-style-type: none"> <li>Constraints</li> <li>Operational forecasting and Planning</li> <li>Market and non-market ancillary services</li> </ul> </li> </ul> | <b>LOW</b>           | <b>Between Sept 2025 – end of May 2026</b> <ul style="list-style-type: none"> <li>Seeking feedback within business teams on timing</li> </ul> | <ul style="list-style-type: none"> <li>Minor/administrative terminology updates to include VSR unit type</li> </ul>   |
| <ul style="list-style-type: none"> <li>Registration</li> </ul>   | <b>HIGH / MEDIUM</b> | <b>Due June 2026</b>  | <ul style="list-style-type: none"> <li>To reflect VSR unit type &amp; nomination process</li> <li>Impact depends on extent to which VSR requirements are split between registration documents and the new VSR guidelines</li> </ul> |
| <ul style="list-style-type: none"> <li>Retail/Metering</li> </ul>  | <b>LOW</b>           | <b>Between Sept 2025 – end of May 2026</b> <ul style="list-style-type: none"> <li>Seeking feedback within business teams on timing</li> </ul> | <ul style="list-style-type: none"> <li>Potential change to manage customer churn (would not require system changes)</li> <li>Seeking confirmation of impact from Electricity Retail Consultative Forum (ERCF)</li> </ul>            |
| <ul style="list-style-type: none"> <li>B2B procedures</li> </ul>   | <b>NO IMPACT</b>     |   | <ul style="list-style-type: none"> <li>Seeking confirmation from B2B Working Group (TBC)</li> </ul>   |

# Summary of impacts to key market procedures (2/3)

## DISPATCH MODE: NEW VSR GUIDELINES

- Requirements for **nomination** of one or more qualifying resources into VSRs
- Requirements and process for **aggregation** of VSRs
- Framework for testing the **capabilities** of qualifying resources
- **Operational requirements** for VSRs, including:
  - Types of data to be submitted (from VSRPs to AEMO, and from AEMO to VSRPs)
  - Telemetry & communications equipment requirements
  - Thresholds for participation
  - Dispatch conformance criteria
  - Metering installation requirements
  - Distribution Network Service Provider (DNSP) or (where relevant) Transmission Network Service Provider (TNSP) data sharing requirements
  - Zonal aggregation requirements
  - Deactivation and temporary hibernation requirements
  - Any other information AEMO considers reasonably necessary.



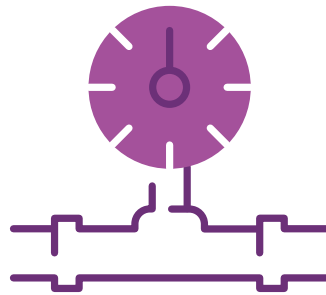
# Summary of impacts to key market procedures (3/3)

| PROVISIONAL INCENTIVE FRAMEWORK  |               |  |
|--|---------------|--|
| AREA   | IMPACT        | COMMENT  |
| <ul style="list-style-type: none"> <li>New VSR incentive procedures</li> </ul> | <b>HIGH</b>   | Develop new procedures   |
| <ul style="list-style-type: none"> <li>Settlements</li> </ul>                  | <b>MEDIUM</b> | To reflect: <ul style="list-style-type: none"> <li>VSR participation payments</li> <li>VSR incentive mechanism cost recovery.</li> </ul> |

| MONITORING & REPORTING FRAMEWORK   |             |                        |
|--|-------------|------------------------|
| AREA   | IMPACT      | COMMENT                |
| <ul style="list-style-type: none"> <li>AEMO price responsive reporting guidelines</li> </ul>                                 | <b>HIGH</b> | Develop new guidelines |
| <ul style="list-style-type: none"> <li>Annual &amp; quarterly reporting on unscheduled price responsive resources</li> </ul> | <b>HIGH</b> | Develop new reports    |

# IPRR rule: Impacts to AEMO's systems

Luke Barlow





# IPRR rule: Summary of impacts to AEMO's systems

## 1. Dispatch mode

- To integrate presently unscheduled price-responsive energy resources into NEM scheduling processes.

HIGH  
IMPACT

## 2. Incentive framework (tenders)

- To encourage participation in dispatch mode.

MEDIUM  
IMPACT

## 3. AEMO monitoring & reporting framework

- To understand and manage the impact of unscheduled price-responsive energy resources on operational demand forecasting processes and market outcomes.

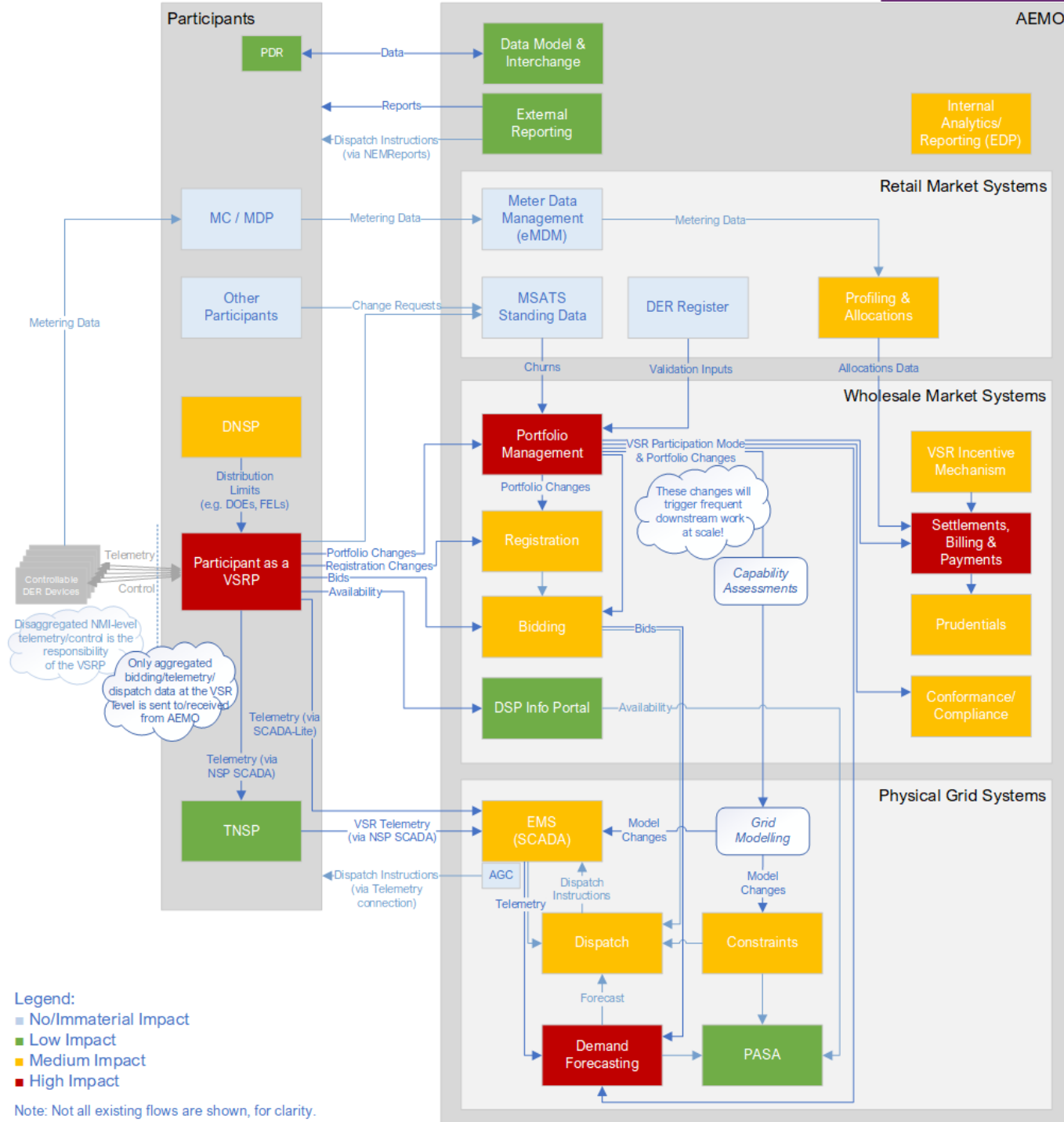
LOW  
IMPACT

# IPIRR rule: Impacts to AEMO's systems

Table 6 Tabular view of system impacts from IPIRR draft rule

| AEMO System                     | Summary  |
|---------------------------------|--|
| <b>High System Impact</b>       |  |
| Portfolio Management (PMS)      | <ul style="list-style-type: none"> <li>Management of 'Zones' for validation purposes</li> <li>Manage the VSR Participation Status of Active/Deactivated/Hibernated for time periods, including approval workflows.</li> <li>Call for an increased number of NMI enrolments in an aggregation.</li> <li>Call for an increased frequency of NMI enrolment changes – automation of these changes is highly recommended to improve turn-around times.</li> <li>APIs will be added to PMS to allow automation of data input from Participants to support the above points.</li> <li>Cross-validation of input data against DER Register.</li> </ul>   |
| Settlements, Billing & Payments | <ul style="list-style-type: none"> <li>Settlement logic is not expected to be impacted for energy transactions, including in the case of 'hibernated' or 'temporarily deactivated' VSRs.</li> <li>Excision of VSRs from the RERT cost recovery calculation will need to be modified here. Consideration will be given to move some calculations into Allocations to avoid performance implications for VSRs composed of many NMIs.</li> <li>Excision of Contribution Factor Calculated DUIDs from the FPP Residual Calculation will need to be modified to cater for VSRs given they will have multiple NMIs provided as an aggregate need.</li> <li>Incorporation of VSR participation payments.</li> </ul> |
| Demand Forecasting              | <ul style="list-style-type: none"> <li>The stop/start nature of telemetry from VSRs during hibernation will require either manual work to keep models up-to-date or complex logic to deal with the conditional treatment of these inputs to produce accurate forecasts.</li> </ul>   |
| <b>Medium System Impact</b>     |  |
| Registration                    | <ul style="list-style-type: none"> <li>A new Dispatch subtype of 'VSR' to be added under Dispatch Type 'Bidirectional' to drive logic in downstream systems.</li> <li>Allow for changing capacity against a DUID as the portfolio composition changes over time on a frequent basis. Although it is not currently supported data flow, this may be fed automatically.</li> </ul>   |

Please refer to HLIA for full description of system impact assessment



# IPRR rule: Impacts to participants

Greg Minney



# Disclaimer

This presentation includes material outlining AEMO's interpretation of indicative impacts of national energy market (NEM) reforms to energy market systems and processes for energy industry participants, as at 13 February 2025.

The interpretations expressed in this presentation are not binding on AEMO. The interpretation of the impact of NEM reforms may change at any time.

Anyone participating or intending to participate in the NEM should obtain detailed advice about the application of the National Electricity Rules and applicable laws, procedures and policies to their specific circumstances.

To the maximum extent permitted by law, AEMO and its employees or consultants are not liable for any statements in, or omissions from, these materials, or for any use of or reliance on them.

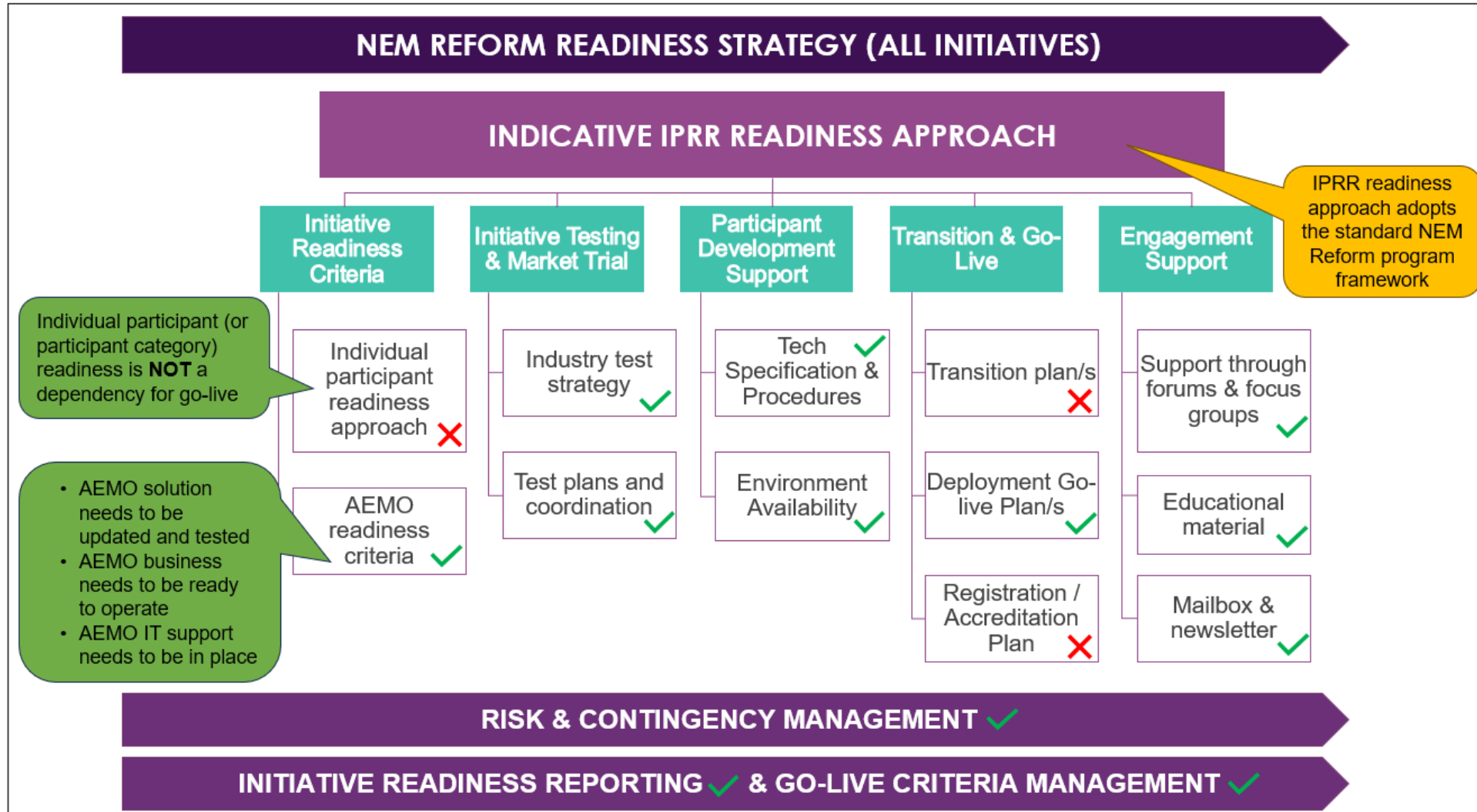
# Indicative participant impacts

| STAKEHOLDER TYPE   | INDICATIVE IMPACT   | COMMENT   |
|--|---|---|
| <b>INTEGRATED RESOURCE PROVIDER</b><br><br><b>MARKET GENERATOR</b><br><br><b>MARKET CUSTOMER</b> | Opting to participate in IPRR: <b>High</b><br><br>Not participating in IPRR: <b>Low</b> | <p><b>Please see HLIA for more detail on indicative IPRR impacts to those market participants that choose to participate as VSRPs.</b></p> <ul style="list-style-type: none"> <li>• High impacts to those market participants that choose to participate as VSRPs. Obligations would include registration, establishing VSRs, portfolio management, bidding, dispatch, settlement etc</li> <li>• Existing market participants choosing not to operate VSRs can continue using the pre-IPRR data model. They will only need to adopt the data model updated for IPRR if they wish to fully reconcile the cost recovery of VSR participation payments.</li> <li>• If there are changes to Portfolio Management System interfaces, then existing PMS users should assess the change impact to their systems.</li> <li>• If there are changes to AEMO’s systems or processes arising from the VSR Guidelines zonal aggregation requirements, then participants should assess the flow-on change impacts to their own systems and processes.</li> <li>• Potential changes may be required to Market Settlement and Transfer Solutions (MSATS) procedures to manage customer churn. Note: This should not require system changes in MSATS.</li> </ul> |
| <b>TRANSMISSION/ DISTRIBUTION NSP</b>  | <b>Medium</b>   | <p><b>Please see HLIA for more detail on indicative IPRR impacts to TNSPs/DNSPs</b></p> <ul style="list-style-type: none"> <li>• VSRPs will be responsible for ensuring that their bids and any subsequent dispatch complies with applicable distribution/transmission connection agreements.               <ul style="list-style-type: none"> <li>• Any requirements for VSRPs to receive information regarding limits applicable to the NMI that comprise their VSRs is out of scope for this rule change.</li> <li>• IPRR rule requires DNSPs to consult with VSRPs when designing flexible export limits.</li> </ul> </li> <li>• Receive any new VSR-related reports or data feeds:               <ul style="list-style-type: none"> <li>• Visibility of NMIs that are part of a VSR</li> <li>• VSR participation mode</li> <li>• Aggregated scheduling information</li> </ul> </li> </ul>  |

# Indicative participant impacts

| STAKEHOLDER TYPE                 | INDICATIVE IMPACT  | COMMENT   |
|----------------------------------|--------------------|---|
| <b>METERING PROVIDERS</b>        | No impact expected | <ul style="list-style-type: none"> <li>As part of the VSR guidelines development, AEMO must consult on and determine acceptable types of metering installations for participating connection points.</li> <li>AEMO expects that the revenue meter at the participating site would need to adhere to requirements in NER Chapter 7. For small customers, this would typically mean a type 4 meter that is capable of recording data in five-minute intervals.</li> </ul>   |
| <b>METERING PROVIDERS</b>        | No impact expected | <ul style="list-style-type: none"> <li>As part of the VSR guidelines development, AEMO must consult on and determine acceptable types of metering installations for participating connection points.</li> <li>Revenue meters at the connection point must meet NER CH7 and AEMO's procedures e.g.               <ul style="list-style-type: none"> <li>For small customers, this would be a type 4 meter.</li> <li>For secondary settlement points participating in a VSR, this would be type 8A, type 8B and type 9 metering installations.</li> </ul> </li> </ul> |
| <b>METERING DATA PROVIDERS</b>   | No impact expected | No change to current metering data processes for VSRs.  |
| <b>EMBEDDED NETWORK MANAGERS</b> | No impact expected | VSRPs can nominate resources at embedded network child connection points, if they are an on-market connection point.  |

# IPRR: Indicative readiness approach



# 5. Feedback and next steps

Ulrika Lindholm (AEMO)



# SEEKING FEEDBACK

## Implementation approach

→ To what extent has AEMO appropriately captured the IPRR market design based on the AEMC's IPRR rule? What changes do you propose and why?

## Participant impacts

- To what extent do you agree with the impact and impact ratings AEMO has identified for each stakeholder type? What changes do you propose and why?
- What additional participant impacts and challenges do you anticipate?
- What are your views on each of the elements of the indicative readiness approach and their timings?

## AEMO impacts

- To what extent do you agree with the impact and impact ratings AEMO has identified for its:
  1. business process changes,
  2. procedure changes, and
  3. system changes?
- What alternatives to these do you propose and why?



# Next steps

| STAGE   | DATES           | RESPONSIBLE                  |
|---|-----------------|------------------------------|
| Final rule determination  | Thu 19 Dec 2024 | AEMC                         |
| Publish final HLIA for comment  | Thu 6 Feb 2025  | AEMO                         |
| AEMO industry briefing on final HLIA  | Thu 13 Feb 2025 | AEMO                         |
| AEMO feedback period on final HLIA closes   | Thu 27 Feb 2025 | Industry to provide feedback |
| <b>Publish draft HLIA v1.1</b> <ul style="list-style-type: none"><li>Incorporates industry feedback where appropriate</li></ul>   | Thu 20 Mar 2025 | AEMO                         |
| <b>AEMO welcomes feedback on its final HLIA</b> <ul style="list-style-type: none"><li>Please provide your feedback on the <a href="#">HLIA</a> via <a href="mailto:nemreform@aemo.com.au">nemreform@aemo.com.au</a> by <b>Thursday 27 February</b>.</li></ul> |                 |                              |

## If you are affected by IPRR, consider participating in upcoming consultations and forums:


- **VSR Guidelines:** Issues paper published Thu 13 Feb. Register for forum here: <https://forms.office.com/r/CEyuC4FZzH>
- **VSR Incentive Procedure:** Issues paper publication Tue 01 Apr (TBC). Register for forum here: <https://forms.office.com/r/CEyuC4FZzH>
- **Price Responsive Reporting Guidelines:** Issues paper publication Fri 11 Apr (TBC).

# 6. Q&A

# 7. How to get involved & close

Ulrika Lindholm

# NEM Reform Program Engagement

| Forums   | Forum focus  | Cadence        | Approach       |
|--|---|----------------|----------------|
| Executive Forum  | Program overview and status update  | 3 per Year     | Nomination     |
| Reform Delivery Committee (RDC)  | Long term implementation planning perspective   | Quarterly      | Nomination     |
| Program Consultative Forum (PCF)   | Inflight initiatives status & co-ordination   | Monthly        | Open           |
| Implementation Forum   | Implementation of reforms   | Monthly        | Open           |
| Electricity Wholesale (EWCF) & Electricity Retail (ERCF) Consultative Forums | Procedures working groups   | Monthly        | Open           |
| Industry Testing Working Group   | Testing   | Monthly        | Open           |
| Working Groups   | Inflight  | As appropriate | As appropriate |



To learn more, please visit:

- [AEMO | NEM Reform Program Forums](#)
- [AEMO | NEM Reform Program Initiatives](#)
- [AEMO | Industry Meetings Calendar](#)
- or contact the program at [NEMReform@aemo.com.au](mailto:NEMReform@aemo.com.au).

Subscribe to the NEM Reform Newsletter [here](#)

Focus / working groups for inflight initiatives include:

- Initiative working groups
- Market Integration Technology Enhancement WG (IDX/IDAM/PC)
- Industry Testing Working Group (ITWG) – IT technical implementations



For more information visit



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[AEMO | NEM Reform initiatives | IPRR](#)

# 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 –Glossary

# Glossary



| TERM         | DEFINITION                            |
|--------------|---------------------------------------|
| <b>AEMC</b>  | Australian Energy Market Commission   |
| <b>AEMO</b>  | Australian Energy Market Operator     |
| <b>AER</b>   | Australian Energy Regulator           |
| <b>API</b>   | Application Programming Interface     |
| <b>ARENA</b> | Australian Renewable Energy Agency    |
| <b>B2B</b>   | Business to business                  |
| <b>B2M</b>   | Business to market                    |
| <b>BDU</b>   | Bidirectional Unit                    |
| <b>CER</b>   | Consumer Energy Resources             |
| <b>COAG</b>  | Council of Australian Governments     |
| <b>CRMP</b>  | Cost recovery market participant      |
| <b>DER</b>   | Distributed energy resources          |
| <b>DNSP</b>  | Distribution network service provider |
| <b>DRSP</b>  | Demand response service provider      |
| <b>DSP</b>   | Demand side participant               |
| <b>DUID</b>  | Dispatchable unit identifier          |

| TERM        | DEFINITION   |
|-------------|--|
| <b>ERI</b>  | Enhancing reserve information                      |
| <b>ESB</b>  | Energy Security Board                              |
| <b>EV</b>   | Electric vehicle                                   |
| <b>FCAS</b> | Frequency control ancillary service                |
| <b>FEL</b>  | Flexible export limit                              |
| <b>FPP</b>  | Frequency performance payments                     |
| <b>FTA2</b> | Unlocking benefits of CER through flexible trading |
| <b>FRMP</b> | Financially responsible market participant         |
| <b>HLIA</b> | High level implementation assessment               |
| <b>IESS</b> | Integrating energy storage systems                 |
| <b>IDAM</b> | Identity access and management                     |
| <b>IDX</b>  | Industry data exchange                             |
| <b>IPRR</b> | Integrating price responsive resources             |
| <b>IRP</b>  | Integrated resource provider                       |
| <b>ISP</b>  | Integrated system plan                             |
| <b>MASS</b> | Market ancillary services specification            |

| TERM         | DEFINITION                                  |
|--------------|---|
| <b>MITE</b>  | Market interface technology enhancement     |
| <b>NEM</b>   | National electricity market                 |
| <b>NEMDE</b> | National electricity market dispatch engine |
| <b>NEO</b>   | National electricity objective              |
| <b>NER</b>   | National electricity rules                  |
| <b>NMI</b>   | National metering identifier                |
| <b>NSP</b>   | Network service provider                    |
| <b>PASA</b>  | Projected assessment of system adequacy     |
| <b>PMS</b>   | Portfolio management system                 |
| <b>PoL</b>   | Predictability of load                      |
| <b>RDC</b>   | Reform Delivery Committee                   |
| <b>SCADA</b> | Supervisory control and data acquisition    |
| <b>V2G</b>   | Vehicle-to-grid                             |
| <b>VPP</b>   | Virtual Power Plants                        |
| <b>VSR</b>   | Voluntarily scheduled resource              |
| <b>VSRP</b>  | Voluntarily scheduled resource provider     |
| <b>WDRM</b>  | Wholesale Demand Response Mechanism         |