

AUSTRALIAN ENERGY MARKET COMMISSION

# REVIEW

## Final report

# Review into electricity compensation frameworks

12 December 2024

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## About the AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

## Acknowledgement of Country

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## Summary

- 1 The Australian Energy Market Commission (AEMC or Commission) has self-initiated a review into the national electricity market's (NEM) electricity compensation frameworks for directions, market suspension and administered pricing (the Review).
- 2 Efficient and effective compensation frameworks are essential for providing confidence to market participants, supporting better outcomes for consumers and ensuring the NEM operates smoothly during periods of market stress. These improved outcomes include reliability, security and cost outcomes.
- 3 The Commission observed that the June 2022 disruptive market events highlighted flaws in the objectives, methodologies, governance, and administrative components of the compensation frameworks, thereby compromising their efficiency and effectiveness. Using the insights gained by market participants and market bodies following these events, the Commission has made several final recommendations to address these flaws that will:
  - ensure that the frameworks provide the right objectives and correct incentives to support reliability and security during times of system and market stress
  - provide clear and transparent methodologies that support the objectives and promote efficiency and effectiveness
  - streamline governance, reducing unnecessary complexity and inconsistencies
  - provide predictable and administratively simple compensation regimes, including through alignment where practicable.
- 4 Our recommendations are also bolstered by the recent increase to the administered price cap (APC) from \$300/MWh to \$600/MWh for the period from 1 July 2025 to 30 June 2028.<sup>1</sup>
- 5 Collectively, the Commission's final recommendations will promote better outcomes for consumers, and improve reliability, security and cost outcomes around periods of market stress.

## The Commission's final recommendations will improve the compensation frameworks

- 6 The Commission has made several recommendations to amend the NER and improve the methodological, administrative, governance and objectives components for each of the compensation frameworks. Specifically, we have recommended:
  - specifying a separate objective for the directions compensation framework
  - allowing opportunity costs in each compensation category
  - improving the method for calculating directions compensation
  - nominating AEMO to receive all compensation claims and assess them together with the independent expert
  - improving administrative rules and timelines, and clarifying obligations on claimants.
- 7 The Commission recognises the concerns that have been raised by stakeholders regarding the impact of constraining actions to address minimum system load (MSL) and other system security issues, and the ability of market participants to obtain compensation as a result of these actions. We consider that in the first instance, it is appropriate for AEMO to continue working with stakeholders on its proposed approach to resolve the issues emerging from MSL conditions. This

<sup>1</sup> AEMC, [Amendment of the market price cap, cumulative price threshold and administered price cap](#), Final determination.

includes deploying directions to manage MSL with associated compensation, as well as considering using the transitional services framework introduced through the *Improving security frameworks for the energy transition* (Improving security frameworks) rule change.<sup>2</sup>

## The recommendations contribute to the national electricity energy objectives

- 8 The Commission considers that the compensation frameworks are an important part of ensuring system security and reliability during periods of market stress. To achieve these outcomes, the frameworks need to:
- be predictable and administratively simple
  - provide the correct incentives to participants to support reliability and security during times of system and market stress.
- 9 The Commission's assessment framework for this Review reflects these principles, and sets out how the recommendations align with the national electricity objectives (NEO):<sup>3</sup>
- **Principles of market efficiency:** Compensation frameworks need to provide the correct incentives to support reliability and security during times of system and market stress. Particularly for the administered pricing and market suspension compensation frameworks, participants should be encouraged to continue to participate in the market rather than rely on interventions by AEMO. The final recommendations aim to strengthen the incentives for participants to continue to supply services during periods of market stress.
  - **Implementation considerations:** Compensation frameworks should be administratively simple in order to achieve their objectives. The final recommendations aim to address areas of administrative complexity, including governance of frameworks and improved structure around the assessment process.
  - **Principles of good regulatory practice:** Predictability of the compensation frameworks is an important factor for stakeholders when operating during periods of system or market stress. The final recommendations aim to reduce inconsistency across the frameworks so that stakeholders can more easily understand the functioning of the compensation processes. This includes addressing issues regarding eligibility for compensation and the treatment of overlapping compensation claims, as well as alignment of payment mechanisms for upfront compensation.

## The events of June 2022, stakeholder feedback and the Commission's experience with assessing claims have shaped the final recommendations

- 10 As noted above, this Review has arisen following the disruptive market events of June 2022 and the application of different compensation frameworks. During these events, several factors led to significant market intervention by AEMO to maintain system reliability and security. These interventions included a large number of directions, followed by the spot market being suspended between 15 June 2022 and 24 June 2022.<sup>4</sup>
- 11 In the consultation paper and draft report, the Commission sought stakeholder feedback on their experiences during these events, as well as views on the compensation frameworks more broadly.
- 12 Stakeholders were generally of the view that the events of June 2022 were driven by many compounding factors. Participants also considered that uncertainty about the compensation

2 AEMC, [Improving security frameworks for the energy transition](#) rule change, 2024.

3 Section 7 of the NEL.

4 AEMO, [NEM Market Suspension incident report](#), p 4.

frameworks reduced the incentive to supply during the event. Further, stakeholders generally considered that a majority of issues arose because of inconsistencies and lack of clarity of methodology and administration. According to many stakeholders, these issues meant that the objectives of the compensation frameworks were not achieved.

- 13 Our recommendations that address these issues have received broad support from stakeholders who welcomed the proposed changes. Stakeholders considered that, when implemented, these recommendations will provide clarity, consistency and timeliness across the compensation frameworks.
- 14 Stakeholders also commented that one of the other main drivers of poor market outcomes during the events of June 2022 was the \$300/MWh administered price cap (APC). We agree that this led to over reliance on the compensation frameworks and impeded normal market function during the administered price period (APP). The Commission has since made a rule to set the APC at \$600/MWh until 30 June 2028. This means that the APC is now at a sufficient level to encourage continued participation during times of extended high input costs, reducing the need for AEMO intervention and the risk of outages for consumers.

## We recommend a fast-tracked rule change to implement our recommendations

- 15 The recommendations in this Review have undergone rigorous consultation with stakeholders, and have been informed by submissions to the *Improving security frameworks* rule change. We also consider that each of the recommendations, when implemented, will improve the compensation frameworks in accordance with the NEO. Accordingly, the Commission's view is that the final recommendations to amend the NER could appropriately be implemented through a fast-tracked rule change so that there can be timely delivery of these improvements.
- 16 We note that the [\*Integrating price-responsive resources into the NEM\*](#) final rule is expected to include a NER requirement for the Commission to amend the compensation guidelines by 2027, to incorporate voluntarily scheduled resources. The Commission may consider amending this time frame as part of any rule change to implement the Review's recommendations.

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# 1 The Commission has made final recommendations

This chapter provides an overview of the Commission's final recommendations that are aimed to improve the electricity compensation frameworks.

## 1.1 We recommend an objective for the directions compensation framework

Clear objectives across the compensation frameworks should be included in the NER to ensure efficiency and clarity for market participants.

The NER sets out objectives for the administered pricing and market suspension compensation frameworks, which are to maintain the incentive to supply services during these events. Conversely, the NER does not contain an objective for the directions compensation framework.

For consistency and transparency, the Commission has made a recommendation to amend the NER to include a formal objective for directions compensation. Adding an objective will clarify how participants should be compensated when directed.

Some stakeholders submitted that there should be a single objective across the three frameworks. While the Commission agrees that there may be some administrative simplicity with this approach, we consider it is important to recognise the differences between the frameworks.

In recognising those differences, the Commission's final recommendation is that the NER be amended to provide a separate, formal objective for the directions compensation framework, being to enable directed participants to be compensated for the costs associated with complying with a direction. The Commission maintains that the objectives for administered pricing and market suspension remain the same.

For further discussion on these recommendations, see chapter 3.

## 1.2 We recommend improvements to the compensation methodologies

The Commission has made several final recommendations to improve and enhance the methodologies for each compensation framework, thus supporting their associated objectives.

For further discussion on these recommendations, see chapter 4.

### 1.2.1 Participants can claim opportunity costs across each framework

The Commission's final recommendation is to allow participants to claim for opportunity costs for directions, administered pricing and market suspension compensation. This will allow all three frameworks to meet their objectives and allow generators to recover their costs of supplying during times of market stress and recognise the value forgone by doing so. When implemented, the final recommendation will:

- alter the type of claims for directions compensation from 'loss of revenue' to opportunity costs – opportunity cost measures the lost value of supplying energy at the same time or in some future period rather than pursuing an alternative opportunity when a generator faces a resource constraint
- include consideration of opportunity costs alongside direct cost claims in the market suspension compensation framework.

The AEMC's compensation guidelines will also provide clarifications to the method for assessing opportunity costs.



### 1.2.2 The upfront payment methodologies should be aligned

The Commission's final recommendation is to amend the NER so that upfront compensation payments for the directions framework is calculated per the preceding 12 months in accordance with the VWAP by technology type and region.

Benefits to applying the VWAP approach include ensuring greater cost reflectivity, thereby reducing instances of under or over-compensation, and reliable cash flows for participants.

We consider this approach will address problems with the 90th percentile approach to upfront compensation. As noted in the *Improving security frameworks* rule change<sup>5</sup> and in stakeholder submissions to this Review, the 90th percentile approach is not sufficiently reflective of generator costs across a range of technology types, and therefore risks either under or over-compensating directed generators relative to their costs. It is important to address this problem, as consumers do not have any mechanism to claim back costs in the event of over-compensation to directed participants, whereas directed participants may make additional compensation claims.

The Commission also recommends applying the VWAP approach to upfront compensation payments for market suspension claims. Accordingly, the upfront compensation payment for market suspension should be the greater of the market suspension pricing schedule (MSPS) and the upfront directions payment (calculated using the VWAP) to simplify the compensation process. This change would remove the benchmarking approach currently used for upfront market suspension compensation. This appropriately promotes harmonisation and consistency across the frameworks.

### 1.2.3 AEMO and industry are working to address minimum system load conditions

The Commission recognises the concerns that have been raised by stakeholders regarding the impact of constraining actions to address minimum system load (MSL) and other system security issues. We consider that in the first instance, it is appropriate for the Australian Energy Market Operator (AEMO) to continue to work with stakeholders on its proposed approach to seek to resolve the issues emerging from MSL including on the questions of compensation for directions, as well as through considering the use of transitional services contracts under the *Improving security frameworks* rule change.

We also note that, more broadly, the use of constraint tools for system security purposes raises questions that extend beyond the compensation arrangements for participants. These include questions about:

- the scope of AEMO's powers to use these constraining tools
- how these tools impact on wholesale market prices, including operational and investment signals for participants
- whether MSL has implications for the economic signals and incentives within the current NEM design and whether adjustments to NEM design parameters are needed.

## 1.3 We recommend streamlining governance for the compensation frameworks

Following the events of June 2022, stakeholders highlighted that the different governance approaches across the three frameworks created confusion for participants seeking compensation payments. To address this, the Commission's final recommendations are to:

<sup>5</sup> AEMC, [Improving security frameworks for the energy transition](#) rule change, 2024.

- establish AEMO as a single point for participants to lodge all claims for compensation
- have the independent expert assess all claims for administered pricing compensation including direct costs
- have the independent expert assess all claims for opportunity costs.

The current independent expert processes will remain for directions and market suspension compensation claims. The Commission will retain responsibility for developing guidelines on opportunity cost claims.

For further discussion on these recommendations, see chapter 5.

## 1.4 We recommend a range of administrative improvements

The Commission notes that the June 2022 events also highlighted a range of administrative issues that were creating complexity and confusion for market participants. Accordingly, we have made final recommendations to clarify and streamline the administrative components for each compensation framework. Specifically, we recommend that:

- administered pricing compensation should be assessed by trading interval within an eligibility period rather than by net revenue in an eligibility period - and be assessed on an individual unit level rather than across all units that make up a claim for compensation
- there should be the same time limits on all compensation claims including claims for administered pricing compensation
- the same types of direct costs should apply to all compensation frameworks and be identified in a single list
- cost recovery for administered pricing compensation should be determined on a trading interval basis, with costs recovered from the region where the price is set by the APC
- the same standards of supporting information should be required across all compensation frameworks.

We note that in response to stakeholder submissions, we have extended the timeframe for market participants to provide information to support additional claims (including opportunity cost claims). A number of stakeholders commented that the time limit for claimants to provide supporting information is too short, citing the complexity of preparing opportunity cost claims and the disruptive impact of administered pricing events on business operations and resourcing. The Commission recommends a 60 business-day overall time limit for the provision of supporting information across all frameworks. For further discussion on these recommendations, see chapter 6.

## 2 The recommendations would contribute to the energy objectives

This chapter explains how the Commission's final recommendations meet the national electricity objective (NEO) and contribute to achieving outcomes that are in the long-term interests of consumers.

### 2.1 The Commission must act in the long-term interests of energy consumers

In conducting reviews, the Commission must have regard to the relevant energy objectives.<sup>6</sup>

For this review, the relevant energy objective is the NEO. The NEO is:<sup>7</sup>

to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system; and
- (c) the achievement of targets set by a participating jurisdiction—
  - (i) for reducing Australia's greenhouse gas emissions; or
  - (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The targets statement, available on the AEMC website, lists the emissions reduction targets to be considered, as a minimum, in having regard to the NEO.<sup>8</sup>

### 2.2 How we have applied the national electricity objective to our recommendations

The Commission used an assessment framework to determine whether our recommendations promote the long-term interests of consumers. The assessment framework was generally supported by stakeholders and includes the following criteria:

- **Principles of market efficiency:** To ensure good reliability and security outcomes for consumers, the compensation frameworks need to set the correct incentives for participant behaviour during periods of market stress. By avoiding the reliance on intervention during periods of market stress, the compensation frameworks should enable the market to function normally and promote the reliable, secure and safe provision of energy at an efficient cost to consumers.
- **Implementation considerations:** The compensation frameworks should be designed such that the processes can function smoothly and in a timely manner. The Commission considers that participant interaction with the frameworks is important to consider, as unnecessary complexities can slow processes and reduce confidence in the frameworks, therefore increasing the risk of unsatisfactory reliability and security outcomes.

<sup>6</sup> Section 32 of the NEL.

<sup>7</sup> Section 7 of the NEL.

<sup>8</sup> Section 32A(5) of the NEL.

- **Principles of good regulatory practice:** The compensation frameworks should be designed to promote predictability and transparency for all stakeholders.

Our reasons for choosing these criteria are set out in section 3.2 of the consultation paper.<sup>9</sup>

The Commission has undertaken a regulatory impact analysis to evaluate the impacts of the various policy options against the assessment criteria. Appendix A outlines the methodology of the regulatory impact analysis.

## 2.3 Our final recommendations contribute to the NEO

This section explains why our final recommendations promote the NEO when assessed against the criteria.

The Commission considers that our final recommendations are likely to improve the incentives faced by participants during periods of market stress and provide greater confidence in the application of the frameworks. Further, the recommendations promote predictability and transparency by clarifying the operation of the compensation frameworks. Overall, the Commission considers these will lead to improved reliability and security outcomes for consumers.

### 2.3.1 The recommendations provide the correct incentives to participants

- By clarifying the objectives for each compensation framework, particularly the directions compensation framework, the Commission has provided certainty to participants as to their intended outcomes.
- Enabling participants to make claims for opportunity costs across all frameworks, and the development of guidelines by the AEMC, provides claimants with confidence that they will be appropriately compensated following market interventions. This includes the recovery of opportunity costs for directions interventions to address MSL conditions.
- Addressing issues with the calculation of administered pricing compensation claims will remove perverse incentives and improve participation during these events.

### 2.3.2 The recommendations address several implementation issues that will create greater confidence in the compensation frameworks

- Harmonising definitions between compensation claims, aligning time frames across the frameworks and implementing time limits on the assessment of administered pricing claims will address existing implementation concerns. These changes will improve confidence in the compensation frameworks.
- Alignment of governance arrangements will simplify participant interaction with the compensation framework and reduce the administrative burden of assessing compensation claims.

### 2.3.3 The recommendations promote predictability and transparency

- Improvements to the upfront directions compensation payment, from a 90th percentile approach to a VWAP by technology type and region approach, will provide market participants with confidence that the costs they incur associated with directions will be recovered. This is because the VWAP approach provides greater cost reflectivity, and allows for greater predictability among market participants.

<sup>9</sup> AEMC, [Review into electricity compensation frameworks](#), consultation paper, 2 November 2023.

- Clarifications to the Commission's method for calculating opportunity costs in our compensation guidelines will promote predictability and transparency.

### 3 We recommend an objective for the directions compensation framework

#### Box 1: Key recommendations

To promote clear objectives across the compensations frameworks, the Commission's final recommendations are to amend the NER so that:

- there is a separate formal objective for the directions compensation framework
  - the objective for the directions compensation framework should be to enable generators to be compensated for the costs associated with complying with a direction
  - this is distinct from the market suspension and administered pricing compensation framework objectives, which are to maintain the incentive for participants to provide services during these periods of market stress.

The administered pricing and market suspension frameworks will remain the same.

We received broad support from stakeholders for these recommendations. While some stakeholders favoured a single objective across each compensation framework, the Commission's view is that the objective for directions should be distinct from the administered pricing and market suspension frameworks to appropriately reflect the differing natures of these market interventions.

#### 3.1 We recommend a separate formal objective for the directions compensation framework

Having clear, appropriate objectives for the compensation frameworks is important for allowing the NEM to function smoothly during periods of market stress to the ultimate benefit of market consumers. Unlike the market suspension and administered pricing compensation frameworks, the NER does not contain an explicit objective for the directions compensation framework. Consistent with our draft report,<sup>10</sup> the Commission's final recommendation is to address this gap by amending the NER to include a separate, formal objective for directions compensation. We consider the objective should be to:

enable directed participants to be compensated for the costs associated with complying with a direction.

The Commission's view is that the objective for directions should be distinct from the administered pricing and market suspension frameworks, to appropriately reflect the differing natures of these market interventions. We received broad support for this recommendation.<sup>11</sup> Some stakeholders provided feedback in support of a more harmonised objective and others suggested minor revisions to the proposed objectives. These comments are addressed below.

<sup>10</sup> AEMC, *Review into electricity compensation frameworks*, [Draft report](#), chapter 2.

<sup>11</sup> Submissions to the draft report: Alinta Energy, p 1; AEC, p 2; Shell Energy, p 3; CS Energy, p 3; AGL, p 2; Hydro Tasmania, p 1; CEC, p 1.

### 3.1.1 The directions framework is distinct from the administered pricing and market suspension frameworks

The current objectives of the market suspension and administered pricing compensation frameworks are:<sup>12</sup>

- **Administered pricing compensation:** To maintain the incentive to supply services during price limit events.
- **Market suspension compensation:** To maintain the incentive to supply during market suspension periods.

Some stakeholders submitted that the directions objective should replicate the above, or suggested alternative harmonisation. For instance:

- AEMO suggested the objective may need to be drafted at a higher level to apply across all frameworks, for example 'to provide sufficient compensation to ensure the continued provision of services necessary to maintain the operation of the NEM in line with the interests of consumers'.<sup>13</sup>
- Snowy Hydro suggested that there should be a single objective and that the directions objective should be harmonised with the objective for administered pricing and market suspensions. Snowy Hydro noted that generators should be appropriately compensated for directions and that this is achieved by determining a level of compensation that maintains an incentive to supply. Snowy Hydro contended that it is therefore incorrect to draw a distinction between market suspension and administered pricing objectives, particularly as directions often also occur during periods of system stress.<sup>14</sup>
- The Justice and Equity Centre (JEC) proposed that the objectives should be similar across the frameworks and focus on compensation for costs (of supply or compliance with directions) and the need to reduce the costs to consumers during periods of system stress.<sup>15</sup>

The Commission has considered the submissions from stakeholders requesting a harmonised approach. However, for the reasons described below, the Commission considers that the directions compensation framework should be treated as distinct from the administered pricing and market suspension framework.

#### Objectives for the market suspension and administered pricing frameworks

During an administered pricing period (APP), the spot market continues to be the primary mechanism for procuring services and the administered pricing compensation framework is designed so that a participant is indifferent between participating in the market during the APP, even though there is an APC in place. Specifically, these arrangements are intended to *maintain the incentive* for market participants to supply services notwithstanding the application of an APC.

Similarly, the intent of the market suspension framework is to *maintain incentives* for participants to provide energy, ancillary services and demand response during the suspension. We noted in our draft report that it may not be practicable for spot prices to be determined by the market and that AEMO may need to apply the Market Suspension Pricing Schedule (MSPS). In this instance however, AEMO has noted that during a market suspension its preference is for participants to be encouraged to work with AEMO to restore the market to a safe and stable operating condition.<sup>16</sup> In

<sup>12</sup> AEMC, [Review into electricity compensation frameworks](#), Consultation paper, 2 November 2023, pp 6-7.

<sup>13</sup> AEMO submission to the draft report, p 3.

<sup>14</sup> Snowy Hydro submission to the draft report, p 1.

<sup>15</sup> Justice and Equity Centre submission to the draft report, pp 1-2.

<sup>16</sup> AEMC, *Participant compensation following market suspension*, Rule change request, pp 6-7.

the final determination on the rule change request *Participant compensation following market suspension*, the Commission considered that the rule was intended to encourage participants to voluntarily provide services during a market suspension period.<sup>17</sup>

Accordingly, under both the administered pricing and market suspension frameworks participants can still choose whether to provide services and supply.

### **How the directions framework differs to the market suspension and administered pricing frameworks**

By contrast, under directions a participant *must provide* the service for which it is directed.

Directions are intended to be a 'last-resort' mechanism to be used if normal market mechanisms have failed, or are not in place. Whilst the Commission recognises that in recent years directions have been frequently used to manage system security issues, the changes made through the *Improving security frameworks* rule change should mean that directions return to being a mechanism of last resort for managing system security and reliability.<sup>18</sup>

Consequently, the Commission considers that it is not appropriate for the directions compensation framework to be based around incentives to supply as directions are a last resort mechanism in AEMO's tool box when other market mechanisms have failed or do not exist. In particular, the Commission does not want to incentivise participants to seek directions, either during periods of normal market operation, or periods of market stress such as administered pricing or market suspension.

Further, the level of compensation should be to allow participants to be compensated for the cost of complying with a direction. By framing the directions objective around cost recovery, the Commission is providing operational and investment certainty to market participants that they will not be detrimentally financial impacted by last resort directions.

For these reasons, the Commission has not adopted the proposals put forward by Snowy Hydro and AEMO to have a single objective across all frameworks that, by implication, reflect incentives to supply in the directions objective.

The Commission also notes that whilst there may be simplicity benefits from having a single objective, these should not take primacy over the need for the framework objectives to reflect the nature of the specific interventions.

In relation to the proposal by the JEC, the Commission notes that the long-term interests of consumers underpin the NER by virtue of the NEO. The objectives governing administered pricing and market suspension place emphasis on the incentive to supply, as it is these incentives that facilitate reliability during periods of market stress that in turn are in the long term interests of consumers.

## **3.2 Stakeholders suggested other revisions to the directions objective**

Some stakeholders suggested revisions to the proposed directions objective. For example:

- the AEC and Shell noted that the directions compensation objective should reference 'costs including opportunity costs' in the interests of clarity<sup>19</sup>

<sup>17</sup> AEMC, [Participant compensation following market suspension](#) rule change, Final determination, 15 November 2018, p. i.

<sup>18</sup> AEMC, [Improving security frameworks for the energy transition](#) rule change, Final determination, 28 March 2024.

<sup>19</sup> Submissions to the consultation paper, AEC, p 2; Shell, p 3.



- AGL suggested that the directions compensation objective be qualified with a reference that directions are a 'last resort'.<sup>20</sup>

The Commission does not recommend including these proposals in the directions compensation objective. The term 'costs' in our recommended objective is sufficiently broad to be inclusive of opportunity costs. Further, we note that opportunity costs are not listed in the objectives for administered pricing and market suspension, as we consider their objectives to not be exclusive of opportunity costs considerations as currently worded.

AGL's recommendation to include the 'last resort' intent in the directions compensation objective is also not considered necessary, as the objectives are focused on the purpose of the compensation framework rather than the objective of directions themselves.

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20 AGL submission to the draft report, p 1.

## 4 We recommend improvements to the compensation methodologies

### Box 2: Key recommendations

To improve the methodologies for each compensation framework, being the directions, market suspension and administered pricing frameworks, the Commission's final recommendations are to amend the NER so that:

- participants can claim opportunity costs across each of the frameworks
- the methodology for upfront directions compensation is calculated in accordance with the volume weighted average price (VWAP) by technology type and region, across a 12-month period
- the upfront payment mechanisms across the directions and market suspension frameworks are harmonised.

We received strong support for these recommendations from stakeholders, with many submitting these changes would enhance achieving the relevant objectives across the compensation frameworks.

The Commission recognises the concerns that have been raised by stakeholders regarding the impact of constraining actions to address minimum system load (MSL) and other system security issues. We consider that in the first instance, it is appropriate for AEMO to continue to work with stakeholders on its proposed approach to seek to resolve the issues emerging from this evolving and dynamic situation including on the questions of compensation. We also note that, more broadly, the use of constraining tools for system security purposes raises questions that extend beyond compensation for participants. These include questions about:

- the scope of AEMO's powers to use these tools
- how these tools impact wholesale market prices, including operational and investment signals for participants
- whether MSL has implications for the economic signals and incentives within the current NEM design and whether adjustments to NEM design parameters are needed.

The Commission maintains its position, as stated in the draft report, that stronger obligations on participants to provide services during periods of market stress should not be implemented.

### 4.1 We recommend that opportunity costs apply across all compensation frameworks

The Commission's final recommendation is that the NER should be amended so participants can make claims for opportunity costs across all compensation frameworks.<sup>21</sup> This recommendation is strongly supported by most stakeholders through their submissions to the draft report.<sup>22</sup>

21 This includes the other compensable services (NER clause 3.15.7A) framework, which is currently used for payment to directed participants for services other than energy and market ancillary services. We note that AEMO sought clarification on this point in its submission to the draft report.

22 Submissions to the draft report: Alinta, p 1; AEC, p 3; Shell Energy, p 1; CS Energy, p 2; Stanwell, p 3; AEMO, p 3; Hydro Tasmania, p 1; AGL, pp 2-3; SnowyHydro, p 2; Origin, p 1; Energy Australia, p 1.

We consider that enabling participants to claim opportunity costs is important for achieving the objectives of these frameworks. This is because participants will be kept whole where value from an alternative opportunity is lost as a result of supplying electricity through an intervention event.

Opportunity costs can arise for participants regardless of the type of intervention that occurs.<sup>23</sup> As we noted in our draft report, the benefits of including opportunity costs across all three frameworks include improving:

- the ability of the frameworks to meet their objectives, being either:
  - to enable generators to be compensated for the costs of complying with a direction, or
  - to maintain the incentive to provide services
- consistency between the frameworks, leading to more predictable outcomes for stakeholders.

#### 4.1.1 Stakeholders support including opportunity costs across each of the frameworks

A number of stakeholders indicated in their submissions that extending opportunity cost claims across all three frameworks will increase incentives for market participants to supply.<sup>24</sup> Origin noted that this would help to ensure that impacted participants are returned to the position they would have been in had the intervention not occurred and should promote investment signals.<sup>25</sup> The Australian Energy Council (AEC) noted that opportunity costs exist regardless of which approach is used to bring generation into the market, whether it is by constraining on, direction, market suspension or administered pricing compensation. The AEC indicated that for all energy limited scheduled generators, a MWh that is dispatched at one time cannot then be dispatched again at a later point in time, potentially forgoing revenue at that later point.<sup>26</sup>

Snowy Hydro noted that the marginal cost of storage is opportunity cost and that failure to compensate fuel constrained plant for opportunity cost for directions or during market suspension will very likely under compensate asset owners, distorting investment signals and the efficient allocation of resources.<sup>27</sup> Alinta Energy's submission to the draft report highlighted that compensation for opportunity costs is an important safety net for participants and extending it to apply in all cases of market intervention will improve confidence in the compensation frameworks.<sup>28</sup>

Atmos Renewables noted that the extension of opportunity costs to directions will also promote confidence in supplying hedging products, knowing that unavailability to defend hedged positions due to directions can be recovered through opportunity costs.<sup>29</sup>

Conversely, the JEC submitted that opportunity costs should not be available for administered pricing claims as it undermines the objective of the administered pricing framework. The JEC indicated that the opportunity cost cannot be the profit the generator would receive were the APC not in place and should be set to \$0/MWh.

The JEC stated that for generators who are dispatched at a price below their short run marginal cost, the compensation should be set at the level that equals the losses they bear as a result of being dispatched. For generators that are dispatched at above their short-run marginal cost (SRMC), the JEC indicated that no opportunity cost-based compensation is appropriate. Instead of

23 Submissions to the consultation paper: AGL, p 2; Alinta, p 3; AEC, p 4; Shell, p 4; Origin, p 1.

24 Submissions to the draft report: Origin, p 1; CS Energy, p 3; CEC, p 1; Hydro Tasmania, p 2.

25 Origin submission to the draft report, p 1.

26 Submissions to the draft report: AEC, p 3; AGL, pp 2-3.

27 Snowy Hydro submission to the draft report, p 2.

28 Alinta submission to the draft report, p 1.

29 Atmos Renewables submission to the draft report, p 1.

relying on opportunity cost compensation, the JEC submitted that the approach should be to require market participants to supply during an APC period as a principle of good faith market engagement, akin to the bidding in good faith principle.<sup>30</sup>

The Commission notes that the objective of the administered pricing framework is to maintain the incentive to supply services during price limited events. Accordingly, the inclusion of opportunity costs is appropriate for maintaining that incentive and helps to deliver reliability during periods of market stress in the interests of consumers. The Commission considers that an incentive-based approach is preferable to good faith principles or obligations reliant on potential enforcement actions after an event.

#### 4.1.2 The AEMC's compensation guidelines will clarify the method for assessing opportunity costs

As noted in chapter 5, the Commission will maintain responsibility for publishing guidelines on opportunity costs. In updating those guidelines following this review, the Commission seeks to clarify the method for assessing opportunity costs to promote greater certainty for participants when dealing with future costs, and improve an applicant's ability to submit high quality claims for assessments.

As set out in the compensation guidelines, opportunity costs are currently defined as:<sup>31</sup>

the value of the best alternative opportunity for eligible participants during the application of a price limit event or at a later point in time. The opportunity cost is the foreclosure of this alternative opportunity to use scarce capacity or resources more profitably at the same point in time or at a later point in time.

In assessing opportunity cost claims and the value of an 'alternative opportunity', the Commission provided clarification of its methodology in the May 2024 final report for Snowy Hydro's claim for direct and opportunity costs. There, the Commission stated:<sup>32</sup>

We consider that the value of the forgone opportunity should be the revenue associated with the alternative opportunity less the costs that would have been incurred in pursuing it. This means that the value of opportunity costs reflects the profit forgone and not the revenue forgone.

Accordingly, the Commission's final recommendation is to update the compensation guidelines to reflect this clarification on the methodology applied.

A number of stakeholders commented on the importance of updating the AEMC's compensation cost guidelines, particularly for opportunity costs and the applied methodology. Origin indicated that this would provide greater clarity for market participants.<sup>33</sup> Hydro Tasmania commented that it is important that the AEMC's guidelines are updated before opportunity cost compensation arrangements are implemented across all three compensation frameworks.<sup>34</sup>

30 Justice and Equity Centre submission to the draft determination, p 2.

31 AEMC, [Compensation guidelines](#), 1 December 2022, p 12.

32 AEMC, [Snowy Hydro Limited direct and opportunity cost claim](#), Final decision, 16 May 2024, p ii.

33 Origin submission to the draft report, p 1.

34 Hydro Tasmania submission to the draft report, p 2.

#### 4.1.3 Other clarifications to the compensation guidelines can be addressed through the Commission's review process

Stakeholder feedback sought further clarifications be made to the AEMC's compensation guidelines. For example, Snowy Hydro commented that the guidelines should consider the role of hedging contracts in the assessment of opportunity costs.<sup>35</sup> Delta commented that more clarity is needed in the guidelines on issues including the setting of clear thresholds for determining whether a generator is technically limited by fuel supply and reducing decision maker discretion in this area.<sup>36</sup>

The Commission acknowledges the comments received from stakeholders on these issues and considers that it would be more appropriate for these matters to be addressed when the Commission reviews the compensation guidelines.

The Commission also notes that:

- opportunity costs can vary across different technology types and operation methods (this is particularly so for batteries - the Commission will need to further consider its approach to determining opportunity costs) as well as be dependent on the context of the intervention
- there are a wide range of views regarding what should be considered as an opportunity cost, the types of situations where they can arise and the appropriate way to value a claim.

In practice the bespoke and uncertain nature of opportunity cost claims means that the compensation guidelines need to be flexible. However, the Commission considers there is also scope to improve the guidelines to provide more transparency and predictability for market participants. Greater certainty around opportunity cost claims should ultimately provide better incentives for participants to supply energy during administered pricing events, thereby supporting reliability.

As noted above, the Commission will therefore undertake further work with stakeholders to review the compensation guidelines. The comments provided by Snowy Hydro and Delta will be considered further as part of this process.

## 4.2 We recommend applying the VWAP for upfront directions compensation

The Commission's final recommendation is that the NER should be amended so that upfront compensation for directions is based on the VWAP by technology type in each region, calculated over a 12-month period and with upfront compensation capped at the level of the APC.<sup>37</sup>

We consider this approach will address problems with the 90th percentile approach to upfront compensation, namely that it is not a measure that is reflective of generator costs across a range of technology types, and therefore risks either under or over-compensating directed generators relative to their costs.

As noted in our consultation paper instances of over or under-compensation also risk increased costs for consumers.<sup>38</sup> For instance, if a directed participant considers that they have been under-compensated, they may lodge a claim for additional compensation to recover a shortfall in their direct costs under NER clause 3.15.7B. However, consumers do not have any mechanism to claim back costs in the event of over-compensation to directed participants. This inherent asymmetry

35 Snowy Hydro submission to the draft report, pp 3-4.

36 Delta submission to the draft report, pp 2-3.

37 The VWAP approach was recommended, among other methodologies, in AEMO's submission to our consultation paper.

38 AEMC consultation paper, Review into electricity compensation frameworks, November 2023, p 12.

between market participants and consumers means that the risk of over-compensating directed participants is not identical to the risk of under-compensating them.

The Commission considers that the VWAP approach has a number of benefits, namely that it:

- ensures greater cost reflectivity for the relevant technology type by having targeted compensation payments that is more reflective of actual generator costs and therefore reduces risks of under or over compensation
- reflects generator decision-making about market participation in the presence of start-up costs and energy constraints
- ensures reliable cashflows, so that participant business operations are not materially affected by directions
- achieves the best balance between the objectives of upfront compensation.

#### 4.2.1 We received strong support from stakeholders to apply the VWAP approach to upfront compensation

Most stakeholders indicated their support for our draft recommendation that upfront compensation be calculated based on the VWAP.<sup>39</sup> Submissions stated the following:

- The proposal to use a VWAP as an input into the assessment of upfront payments market suspension and to determine the upfront payment for directions is an improvement to the existing framework.<sup>40</sup>
- Upfront payment for directions compensation should be based on the VWAP received by assets of the same technology type over the previous 12 months.<sup>41</sup>
- The use of VWAP by technology will more closely approximate the appropriate level of payment to each type of generator and minimise over-payment and under-payment due to the large variation in dispatch outcomes across technology types, as identified in the draft report.<sup>42</sup>
- The VWAP approach to determining upfront compensation for the directions framework is an improvement to the SRMC benchmarking methodology that was initially proposed.<sup>43</sup>
- Upfront payments calculated per the VWAP for each technology type is favoured as it is a trusted method.<sup>44</sup>
- This approach is likely to result in more cost-reflective outcomes relative to the current 90th percentile approach, since calculations are based on technology-specific prices.<sup>45</sup>
- Shifting from 90th percentile price to the VWAP approach for upfront directions compensation will reduce claims for additional compensation.<sup>46</sup>

Whilst there was strong support for the VWAP approach, a number of stakeholders commented on the methodology for calculating the VWAP. These comments focused on a number of issues including:

39 Submissions to the draft report: Alinta Energy, p 1; AEC, p 3; Shell Energy, p 4; CS Energy, p 3; AGL, p 4; Hydro Tasmania, p 1; Stanwell, p 2; CEC, p 3; Origin, p 1; Energy Australia, p 1; Atmos Renewables, p 1; Engie, p 2.

40 Alinta Energy submission to the draft report, p 1.

41 AEC submission to the draft report, p 3.

42 Shell Energy submission to the draft report, p 4.

43 CS Energy submission to the draft report, p 3; The SRMC benchmarking methodological approach was proposed in the *Improving security frameworks for the energy transition* rule change.

44 CEC submission to the draft report, p 3.

45 Origin submission to the draft report, p 1.

46 Tesla submission to the draft report, p 1.

- how periods in which AEMO has issued directions should be treated in calculating the VWAP, with stakeholders generally supporting the exclusion of these periods from the calculation.<sup>47</sup>
- the exclusion of periods from the VWAP calculation where AEMO has deployed system services contracts or used constraining tools.<sup>48</sup>
- the treatment of negative pricing periods and whether these should be excluded from the calculation.<sup>49</sup>
- how the VWAP should be calculated for battery storage services and technologies.<sup>50</sup>
- that claimants may still incur losses under the VWAP and should therefore be able to make additional claims.<sup>51</sup>
- whether the VWAP approach would sufficiently reflect the costs incurred by plants that are new or that are fewer in number in a region and/or dispatched infrequently (such as pumped hydro and open-cycle gas turbine) in an energy system dominated by renewables.<sup>52</sup>
- whether some potential remains for manipulation of the compensation amounts and whether the AEMC should consider the risk of higher costs from larger compensation payments being passed through to the consumer.<sup>53</sup>

Separately, AEMO also raised a number of concerns that the VWAP methodology may underestimate costs resulting in a high volume of additional claims being made to it. AEMO cited a number of reasons for this including that:

- the VWAP may not account for all costs (e.g. start up costs)
- that an average cost will not reflect marginal costs exhibited in periods of supply constraints where market interventions often arise, and
- that the per unit VWAP cost is likely to under compensate generators for periods in which they are operating at minimum generation to comply with AEMO directions.<sup>54</sup>

The Commission recognises that establishing a detailed methodology for calculating the VWAP as set out by stakeholders requires resolving a range of issues. Questions regarding the calculation of the VWAP will require further consideration as part of the rule change process to implement the final recommendations from this Review.

A key issue that will need to be resolved is the governance framework in which the VWAP and the methodology for its calculation are located. For example, there may be benefits in establishing a VWAP methodology document under the NER that is overseen by a market institution and which can be amended as needed through stakeholder consultation. This could provide a flexible framework for the VWAP to exist, which can be changed in response to changing market circumstances.

The Commission notes the comments received by the AER in relation to the risks of manipulation and larger compensation amounts and considers it may be appropriate to cap the level of upfront compensation at the APC. This should be further considered through the rule change process. Nevertheless, the Commission's view is that a 12-month rolling average VWAP should also mitigate the impacts of pricing manipulation, although careful consideration will also need to be

47 Submission to draft report: Shell Energy, p 3; AGL, p 4; Engie, p 2; AEC, pp 3-4; CEC, p 3.

48 Submissions to draft report: Shell Energy, p 3; Alinta, p 2; AEC, pp 3-4; CEC, p 3.

49 CS Energy submission to draft report, p 3.

50 CEC submission to draft report, p 3.

51 Submissions to draft report: Snowy Hydro, p 2; Origin, p 2.

52 Submissions to draft report: CS Energy, p 3; Engie, p 2; AEC, pp 3-4.

53 AER submission to draft report, p 2.

54 AEMO submission to draft report, pp 4-5.



given to how technologies are categorised under the VWAP approach, noting the separate stakeholder comments that data sets for some technologies may be limited.

#### 4.2.2 The VWAP should be calculated over the previous 12 months

The Commission's recommendation is to calculate the VWAP based on the previous 12 months from the time of the direction. This approach received broad support from stakeholders in their submissions to our draft report and has many benefits.<sup>55</sup>

We note that in Stanwell's submission to the draft report,<sup>56</sup> they considered a preceding 90-day approach would be most optimal as it would better reflect the market in the lead up to an event, thereby lessening the risk of participants receiving an unfair advantage or disadvantage. While there are some benefits associated with a shorter time frame, such as reflecting variable input costs, the Commission considers the 12-month approach better achieves the objectives for the following reasons:

- **Cost reflectivity:** the Commission has considered the cost-reflectivity for participant costs against the upfront VWAP for the preceding 12 months and preceding 90-day, as well as against the 90th percentile approach that is currently in place. We have observed that, based on publicly available information relating to generator costs and through our consultation with stakeholders, the 12-month approach is more cost reflective. This is important as cost reflectivity provides participants with certainty as to their upfront compensation amount and ensures reliable cash flows. As we indicated in our Draft Report, patterns of fluctuation in prices will also likely be captured to some extent in a longer-term average. For example, if gas prices generally fluctuate from low in shoulder periods to high in peak periods, the VWAP of gas-powered generators over the previous 12 months should capture some of this variability.
- **Volatility:** the Commission has considered the potential volatility of the three methodological approaches against participant costs over the past few years. We have observed that the 12-month approach is the least volatile, with fewer fluctuations that would represent instances of under or over-compensation. A volatile or highly variable price may lead to less confidence from market participants in the amount of compensation received at different times. As such, it is important that a less volatile method be applied to calculating up front compensation payments, which we consider to be the 12-month approach.
- **Optimal data sets and minimising potential manipulation:** the Commission favours an approach that avoids relying on small data sets for particular generation technologies, which could otherwise result in distorted prices. A number of stakeholder submissions point to this risk with certain generation technologies only being dispatched on a few occasions, particularly as renewable penetration increases.<sup>57</sup> We note that the AER has also indicated that there may be some risks of manipulation of the VWAP. We consider that a 12-month approach provides a more valuable data set as compared to a shorter period, thereby minimising the chance of price distortions or manipulations.

Whilst the Commission recommends the 12 month approach, the Commission will explore the timeframe in more detail throughout the rule change process against the above criteria and to ensure that under and over-compensation risks are appropriately mitigated.

<sup>55</sup> Submissions to the draft report: Alinta Energy, p 1; AEC, p 3; Shell Energy, p 4; CS Energy, p 3; AGL, p 4; Hydro Tasmania, p 1; CEC, p 3; Origin, p 1; Energy Australia, p 1; Atmos Renewables, p 1; Engie, p 2.

<sup>56</sup> Stanwell submission to the draft report, p 2.

<sup>57</sup> For example, see Engie submission to the draft report, p 2 and CS Energy submission, p 3.



### **VWAP will exclude periods where generators have been directed**

Consistent with our draft report and in response to stakeholder submissions,<sup>58</sup> the Commission considers that the VWAP should exclude periods where any generator in a technology class is being dispatched due to a direction. Including periods where a generator is being dispatched due to a direction is likely to undermine the reasons for using the VWAP as a basis for upfront compensation payments. Low spot prices have been a contributing factor to directions being made; therefore, including periods where a generator is being dispatched due to a direction is likely to undermine the reasons for using the VWAP as a basis for upfront compensation payments.

This is because including these low spot prices in the VWAP calculation would likely lower the compensation amount paid to directed participants below the level needed for them to voluntarily participate in the market. This would therefore reduce the effectiveness of VWAP to reflect amounts needed to cover the SRMC of the generator in question, and increase the number of claims made for additional compensation.

### **Technology types can be specified by AEMO's NEM generation information spreadsheet**

The Commission proposes that the categories of technology type can be set based on information in AEMO's *NEM Generation Information* document.<sup>59</sup> This document provides 21 "technology type" categories based on the design of the generator.

### **Claims for additional compensation will be retained to account for any instances of significant under-compensation**

For clarity, the Commission proposes to retain the ability for claimants to make claims for additional compensation if the upfront payment is not sufficient.<sup>60</sup> As set out in section 4.1, the Commission's final recommendation is that claims for additional compensation for directions should include opportunity costs.

The Commission notes the concerns raised by AEMO regarding the risks of the VWAP under-compensating participants leading to additional claims.<sup>61</sup> However, as noted above, the VWAP should provide a more cost-reflective basis on which to provide compensation for directions that is superior to the current 90th percentile approach.

## **4.3 We recommend harmonising the upfront payment mechanisms**

The Commission recommends harmonising the upfront payment mechanisms by applying the VWAP methodology to upfront compensation for market suspension claims.<sup>62</sup> This recommendation was supported by stakeholders.<sup>63</sup> The upfront payment mechanism for market suspension compensation would therefore be the greater of the market suspension price and the VWAP by technology type for the previous 12 months in that region.

The Commission considers that this approach is likely to simplify the compensation process by removing unnecessary complexity. It will also help to maintain the incentive to supply services during a market suspension period. This is because any plant dispatched during the MSPS will be

58 For instance, see submissions to the draft report: Alinta Energy, p 1; AEC, pp 3-4; Shell Energy, p 4; AGL, p 4.

59 AEMO, [Generation information](#).

60 We note that stakeholders, such as Engie in their submission to the draft report at p 2, and Origin Energy at p 2, expressed the importance of allowing for additional compensation claims where the upfront amount is not sufficient.

61 AEMO submission to the draft report, p 5.

62 The current approach is based on benchmarking.

63 Origin submission to the draft report, p 2.

either no worse off or better off compared to if it was directed. Stakeholders broadly support this recommendation.<sup>64</sup>

## 4.4 AEMO and industry are working to address MSL conditions

Our draft report recommended that no changes be made to the NER regarding AEMO constrained-on actions that impact market participants including generators and battery operators.<sup>65</sup> The Commission's draft report indicated that issues regarding the use of constrained-on actions for system security purposes should be addressed through the mechanisms established by the *Improving security frameworks* rule change. This rule change enables AEMO to procure system security services from market participants on a transitional basis.

We also note that, more broadly, the use of constraining tools for system security purposes raises questions that extend beyond the compensation for participants.

### 4.4.1 Stakeholders have concerns about constrained on actions

Most stakeholder submissions to the draft report raised concerns regarding AEMO's increased usage of constraining actions to manage minimum system load conditions, particularly in Victoria and an inability to obtain compensation for these actions under the compensation frameworks. These include actions taken by AEMO that effectively constrain the ability of batteries to re-charge early in the morning, such that re-charging is undertaken in the afternoon to increase load on the system. By increasing battery load on the system in the afternoon, AEMO is able to mitigate the system security impacts of minimum system load caused by increased solar PV generation at these times.

#### Stakeholder concerns

Stakeholders broadly expressed concern about compensation not being available for constrained-on participants as well as the use of directions and constrained on actions to manage system security issues.<sup>66</sup>

A range of concerns were raised by stakeholders on these matters including:

- AEMO was likely to use constraints to manage system security issues, including MSL in preference to the *Improving security frameworks* transitional services framework.<sup>67</sup>
- The transitional services framework may not cover all circumstances, such that AEMO may continue to use constraining tools for future system security issues as the energy transition progresses.<sup>68</sup>
- Constraining-on actions for system security impacting and distorting wholesale market prices and bidding behaviour.<sup>69</sup>
- A directions-based approach by AEMO to addressing minimum system load will lead to under-compensation and that the compensation framework has not been designed to address actions on issues such as MSL.<sup>70</sup>

<sup>64</sup> For further discussion, refer to our draft determination.

<sup>65</sup> AEMC, draft report.

<sup>66</sup> Submissions to the draft report: Alinta, p 2; CS Energy, pp 4-5; AEC p 2; AGL p 1; Clean Energy Council p 1; Shell, p 2.

<sup>67</sup> CS Energy submission to the draft report, pp 4-5.

<sup>68</sup> Submissions to the draft report: AEC, p 1; Alinta Energy, p 2; CEC, p 1.

<sup>69</sup> Submissions to the draft report: AGL, p 1; Alinta Energy, p 2; Energy Australia, p 2.

<sup>70</sup> Submissions to the draft report: AGL, p 1; Tesla, p 1.

- Generic constraints applied in dispatch for any reason create an uncontrollable risk for market participants. This risk unnecessarily impacts the investment environment created by the NEM in the absence of a compensation mechanism.<sup>71</sup>

### AEMO's response

AEMO is currently engaging with market participants on how to best address minimum system load conditions, focusing on the management of these issues in Victoria and is developing two key approaches:

1. **Issuing directions:** AEMO has indicated it intends to use its power to issue directions to address minimum system load conditions, and has provided information participants on access to compensation under these directions arrangements. Broadly, AEMO has indicated that it may direct battery operators in Victoria to fully discharge batteries early in the morning and direct battery operators to hold the batteries at minimum charge during the morning, with the direction lifted in the early afternoon. As noted above, AEMO is engaging with stakeholders on this process and the compensation arrangements that would be available. AEMO has indicated that market participants would be able to access compensation under the 90th percentile framework in respect of battery discharge early in the morning, and access compensation as 'other compensable services' in respect of directions to hold batteries at minimum charging levels.<sup>72</sup>
2. **System security procurement:** AEMO is also considering procuring system security contracts through the transitional services framework introduced in the *Improving security frameworks for the energy transition* rule change. AEMC, [Improving security frameworks for the energy transition](#), 28 March 2024. This framework is summarised in Box 2 below. The Commission notes that this process is currently underway and that AEMO has recently published its Transitional Service Guideline governing the procurement processes for system security services under the *Improving security frameworks* rule change<sup>73</sup>, as well as the 2024 Transition Plan for System Security.<sup>74</sup> In order to procure services to address minimum system load, AEMO would need to publish a 'statement of need' before progressing a procurement process.

The Commission recognises the concerns that have been raised by stakeholders regarding the impact of constraining actions to address MSL and other system security issues.

The Commission considers that in the first instance, it is appropriate for AEMO to continue to work with stakeholders on its proposed approach to seek to resolve the issues emerging from this evolving and dynamic situation including on the questions of compensation.

The Commission also notes that through our final recommendations from this Review, market participants would be able to make additional claims for opportunity costs if they have been directed by AEMO. This is particularly relevant to battery operators impacted by MSL directions. Whilst the Commission notes that directions should be a last resort mechanism, being able to access opportunity costs in these circumstances should mitigate some concerns regarding compensation.

In section 4.1.2 above, the Commission has discussed updating the compensation guidelines to provide further clarity to market participants regarding the assessment of opportunity costs. The Commission considers that the treatment of batteries and battery services provided under

71 Submissions to the draft report: Shell Energy, p 2; Atmos Renewables, p 2.

72 NER clause 3.15.7(a1)(2).

73 Transitional Services Guideline, AEMO, 8 November 2024.

74 AEMO, [2024 Transition Plan for System Security](#), 2 December 2024. AEMO's plan states that it may procure Type 1 transitional services to maintain demand above thresholds at p 31.

direction is expected to be an area where further guidance may be beneficial on opportunity costs.<sup>75</sup>

### Box 3: What is the transitional services framework?

The objective of the transitional services framework is to allow AEMO to procure services with the aim to move to a low- or zero-emissions power system where AEMO can maintain power system security. To achieve this, AEMO can procure two types of transitional services:

1. **Type 1 contracts** — can be procured where security services are not able to be procured through an existing framework.
2. **Type 2 contracts** — are to support AEMO in building its understanding and confidence in how it can manage security in a low- or zero-emissions system. AEMO could use this framework to trial either *new technologies* or the new application of *existing technologies* to manage power system security.

Note: For more information regarding the transitional services framework, see AEMC, *Improving security frameworks for the energy transition*, Final determination, 18 March 2024.

#### 4.4.2 The transitional services framework is currently the appropriate mechanism to manage MSL

The Commission maintains its view as set out in the draft report that directions should only be applied as a mechanism of ‘last resort’ and that the transitional services framework is currently the appropriate mechanism to procure system security services to manage MSL conditions, reducing reliance on utilising directions. The Commission notes that AEMO is considering the deployment of Type 1 system security contracts to address MSL conditions.

Under this framework, Type 1 contracts can be used to procure security services where they cannot be procured through an existing framework, to meet an immediate and critical need of the power system. The Commission considers that type 1 contracts are likely the most applicable for procuring system security services to address minimum system load conditions.

These contracts can run for a maximum of three years, with this procurement power expiring after five years.<sup>76</sup> We therefore note that this is not a permanent, but transitional measure, for procuring services.

The costs of these contracts will be recovered from market customers, in line with existing non-market ancillary services (NMAS) frameworks.<sup>77</sup>

#### 4.4.3 The use of constraining tools raised broader policy issues

More broadly, the Commission considers that the use of constraining tools for system security purposes raises questions that extend beyond the question of compensation for participants. These include questions about the scope of AEMO’s powers to use these tools and how these tools impact on wholesale market prices, including operational and investment signals for participants.

<sup>75</sup> The Commission notes that the CEC submission also pointed to the importance of developing methodologies to assist in accurate opportunity cost assessments for batteries, including taking account of potential differences between battery technologies and hydro powered generation. See CEC submission at p 3.

<sup>76</sup> AEMC, *Improving security frameworks for the energy transition*, [Final determination](#), 18 March 2024, p. 74.

<sup>77</sup> AEMC, *Improving security frameworks for the energy transition*, [Final determination](#), 18 March 2024, p. 70.

The Commission also notes that the management of MSL may have implications for the economic signals and incentives within the current NEM design and that there may be other actions including adjustments to NEM market design that may help to address the MSL problem.

## 4.5 No recommendations for stronger obligations at this time

The Commission maintains its position, as stated in the draft report, that stronger obligations on participants to provide services during periods of market stress should not be implemented.<sup>78</sup>

Following the disruptive market events from June 2022, the AER made several recommendations to ensure participants must prioritise power system security over commercial considerations during periods of market stress.<sup>79</sup> These recommendations acknowledged the compensation frameworks had failed to incentivise generators to supply energy during the APP as per their stated objective.

As highlighted in the draft report, the Commission agrees with the Australian Energy Regulator (AER) that the current frameworks may not have achieved the objective to maintain the incentive to supply capacity at all times. The Commission notes that there are a number of changes that have been made, or are currently being considered, to address this issue. For instance, the APC has been increased from \$300/MWh to \$600/MWh until 30 June 2028.<sup>80</sup>

Further, the changes in this review aim to improve the compensation frameworks to ensure that the objectives are met during future periods of system stress, leading to better market outcomes during these periods.

<sup>78</sup> This was broadly supported by stakeholders. See for instance Shell Energy submission to the draft report, p 3.

<sup>79</sup> AER, [June 2022 market events report](#), December 2022.

<sup>80</sup> AEMC, [Amendment to the market price cap, cumulative price threshold and administered price cap](#), Final determination, 7 December 2023.

## 5 We recommend streamlining governance for the compensation frameworks

### Box 4: Key recommendations

The Commission makes the following final recommendations for the NER to be amended, streamlining governance of the compensation frameworks:

1. AEMO should receive all compensation claims.
2. AEMO, together with the independent expert, should assess all compensation claims.
3. The AEMC should continue to provide guidance for opportunity costs.

### 5.1 We recommend that AEMO should receive all compensation claims

The Commission's final recommendation is that AEMO should receive all claims for compensation. The Commission considers this approach will maximise stakeholder certainty and confidence in the compensation processes. This, in turn, will lead to better reliability and security outcomes for consumers.

AEMO is currently responsible for receiving compensation claims for directions and market suspension, and the Commission is responsible for receiving claims for administered pricing compensation.<sup>81</sup> Following the June 2022 market disruption events, stakeholders were confused as to which market body ought to be receiving compensation claims relating to market suspension or administered pricing.<sup>82</sup>

The Commission agrees with stakeholders that having two points of receipt for administered pricing compensation claims creates unnecessary confusion at times of market stress. We therefore recommend that the NER be amended so that AEMO receives all compensation claims and note stakeholders overwhelmingly support AEMO being the sole recipient.<sup>83</sup> For instance, AGL submitted:<sup>84</sup>

We support a single point of receipt for all compensation claims to reduce complexity and potential delays in the assessment and payment for compensation claims. We consider AEMO is best placed to assume responsibility for the compensation frameworks.

### 5.2 We recommend that AEMO and the independent expert should assess all compensation claims

The Commission's final recommendation is that AEMO and the independent expert should be responsible for assessing all compensation claims, including claims for opportunity costs. We consider that this approach will:

81 NER clauses 3.14.5B(a); 3.15.7B(a); 3.14.6(h).

82 For more discussion, see our [consultation paper](#).

83 Submissions to the draft paper: AEC, p 4; Shell, p 4; CS Energy, p 2; Stanwell, p 1; AEMO, p 6; CEC, p 1; Hydro Tasmania, p 2; AGL, p 4; Snowy Hydro, p 3; Origin, p 1; EnergyAustralia, p 1; Atmos Renewables, p 1; Tesla, p 1; Engie, p 1; AER, p 1.

84 AGL Submission to the draft report, p 4.

- increase predictability in the process by aligning the assessment of all compensation claims
- promote administrative efficiency by having one market body involved in the claim assessment
- result in minimal changes to roles and responsibilities compared to the status quo.

Opportunity cost claims are often complex and require rigorous assessment. We recommend below that the Commission retain its role in publishing guidelines on opportunity cost claims, and consider the guideline would apply to the independent expert when conducting opportunity cost claim assessments.<sup>85</sup>

### 5.2.1 The independent expert will assess compensation claims

The Commission notes that the independent expert's assessment of administered pricing compensation claims would be in addition to the current arrangements for the assessment of directions and market suspension compensation claims. This is because the Commission considers:

- the independent expert has the appropriate skills to assess claims for opportunity costs
- this approach is aligned with a well-established process for assessing compensation claims
- it removes unnecessary administrative complexity
- implementation of this approach will be straightforward.

Claims for additional compensation would be sent to the independent expert if it is a claim:

- for additional market suspension compensation and the value of the claim is greater than or equal to \$50,000<sup>86</sup>
- for additional directions compensation and the value of the claim is greater than or equal to \$20,000 and the additional intervention claim that includes the claim is greater than \$100,000<sup>87</sup>
- for additional administered pricing compensation
- under any framework for opportunity costs.

As set out in NER clause 3.12.3(d), the final report and final assessment of the independent expert is final and binding. The Commission recommends that this would continue to be the case for any new types of compensation assessed by the independent expert.<sup>88</sup>

### 5.2.2 Stakeholders generally support assessment of compensation claims by the independent expert

Stakeholders broadly support the independent expert assessing administered pricing compensation claims.<sup>89</sup> For instance:

- The AEC said there should be maximum consistency across different compensation frameworks. This would help make generators indifferent about whichever compensation framework is used.<sup>90</sup>

<sup>85</sup> See section 4.1.2 of this Review which discusses clarifications to the AEMC's compensation guidelines.

<sup>86</sup> NER clause 3.14.5B(f)(1).

<sup>87</sup> NER clause 3.15.7B(c)(1).

<sup>88</sup> This is broadly supported by stakeholders. For example, see Origin submission to the draft report, p 3.

<sup>89</sup> Submissions to the draft report: Alinta Energy, p 1; CS Energy, p 1; Hydro Tasmania, p 1; CEC, p 1; Stanwell, p 3; Tesla, p 1; Engie, p 2; Delta Electricity, p 3.

<sup>90</sup> AEC submission to the draft report, p 4.



- Shell Energy submitted the use of the independent expert function is a sensible approach and ensures that appropriate expertise is applied on a consistent basis across frameworks and events.<sup>91</sup>
- AGL submitted that this will support objective generator decision-making towards the framework used.<sup>92</sup>
- Snowy Hydro submitted conflicting and uncertain interpretations of the compensation frameworks ultimately reduced confidence in the compensation process. Snowy Hydro therefore supports the recommendation that all compensation claims should be lodged with AEMO and that an independent expert should be used to assess opportunity costs, given the additional complexity.<sup>93</sup>

Support for this recommendation was also provided from AEMO, who submitted:<sup>94</sup>

AEMO agrees with AEMC, that while it should process and administer opportunity cost claims, AEMO is not best placed to conduct opportunity cost assessments, and this function is best allocated to an independent expert.

Given the potential challenges involved in assessing opportunity costs at the commencement of the framework, AEMO may look to review and enhance our panel of independent experts to ensure that collectively they will have the necessary capabilities and capacity. It may also be worthwhile considering alternative or last-resort processes in the event the panel of independent experts does not have sufficient capacity to assess a high volume of claims.

The AER also submitted:<sup>95</sup>

The AER considers that opportunity cost claims being assessed by the independent expert, while the AEMC retains responsibility for publishing the guidelines, strikes an appropriate balance of expertise and transparency.

Further feedback we received in response to the draft report included proposals to:

- amend the NER to improve transparency in the process for the selection of parties who form the independent expert panel, as this process is currently regarded as opaque
- clarify how independent expert fees are calculated, their scope of role and engagement/reporting obligations, and importantly how costs are expected to be recovered from the three compensation frameworks
- clarify the value of opportunity costs, so that independent expert assessments are transparent.<sup>96</sup>

The Commission acknowledges this feedback and considers it appropriate for these items to be addressed in the rule change process following this Review.

91 Shell Energy submission to the draft report, pp 5-6.

92 AGL submission to the draft report, p 4.

93 Snowy Hydro submission to the draft report, p 3.

94 AEMO submission to the draft report, p 6.

95 AER submission to the draft report, p 1.

96 Submissions to the draft report: Shell Energy, p 6; Energy Australia, p 1; Atmos Renewables, p 1; Engie, p 2; Delta Electricity, pp 2-3.



## 5.3 We should continue to provide guidance for opportunity costs

The Commission's final recommendation is that it should develop guidelines to inform the independent expert's assessment of opportunity cost claims across all compensation frameworks. This will be an extension of the Commission's current role for the administered pricing compensation framework, where the Commission develops guidelines setting out how claims will be assessed.<sup>97</sup>

Consideration of opportunity costs has impacts for a range of stakeholders. Having the Commission continue to provide guidance on opportunity costs is likely to have benefits for stakeholders, including:

- improving the predictability of the outcomes of claims for opportunity costs
- ensuring that the decisions made are aligned with the objectives of the frameworks and remain consistent over time
- guiding claimants on the information needed to make a claim which will reduce the administrative complexity of the claims process.

Given our recent role in assessing the opportunity cost claims for the June 2022 APP, it would be appropriate for the Commission to retain responsibility for these guidelines.<sup>98</sup>

The guidelines would be applied to all compensation frameworks, following input from all relevant stakeholders. As is currently set out in the rules, the guidelines will set out the:

- types of opportunity costs that claimants can claim
- methodology to be used to calculate compensation payable
- information required to support a claim.

We received broad support from stakeholders, who generally acknowledged the need for greater clarity in the compensation guidelines regarding opportunity costs, and the Commission's experience in processing opportunity cost claims.<sup>99</sup> For example, the AEC and Origin Energy submitted that they support the AEMC retaining the responsibility for the guidelines to assess opportunity cost claims. They also emphasised that the independent expert process decisions should be consistent with the guidelines, thereby increasing transparency and timeliness of the claims process.<sup>100</sup>

The Commission also received a number of comments on the content of the administered pricing compensation guidelines. These comments are addressed further in chapter 3.

### 5.3.1 The guidelines will be developed through consultation with industry

The current administered pricing compensation guidelines are developed by the Commission in accordance with the transmission consultation procedures, set out in part H of chapter 6A of the NER.

The Commission recommends that the guidelines continue to be developed in accordance with part H of chapter 6A of the NER so that they can be reviewed and expanded in consultation with industry. This means the Commission will:

- receive submissions from stakeholders on the proposed opportunity cost guidelines

<sup>97</sup> NER clause 3.14.6(e); AEMC, [Compensation guidelines](#), 1 December 2022.

<sup>98</sup> For more discussion, see our draft report.

<sup>99</sup> Alinta Energy, p 1; Shell Energy, p 5; CS Energy, p 2; AGL, p 4; Hydro Tasmania, p 2; CEC, p 1; Energy Australia, p 2; Tesla, p 1; Atmos Renewables, p 1; Engie, p 1; AER, p 1.

<sup>100</sup> Submissions to the draft report: AEC, p 5; Origin, p 3.

- engage with industry to develop the content of the guidelines to provide clarity and certainty regarding the treatment of opportunity costs.

The Commission considers that it will be able to facilitate this process as well as contribute its experience in assessing these claims.

## 6 We recommend a range of administrative improvements

### Box 5: Key recommendations

The Commission makes the following final recommendations for the NER to be amended, improving administration of the compensation frameworks:

- Administered pricing compensation should be assessed by trading interval within an eligibility period rather than by net revenue in an eligibility period.
- Administered pricing compensation should be assessed on an individual unit level rather than across all units that make up a claim for compensation.
- There should be the same time limits on all compensation claims including claims for administered pricing compensation. The time limits should be aligned with AEMO's intervention settlement timetable, which currently sets out the time frames for directions and market suspension compensation processes.
- The same types of direct costs should apply to all compensation frameworks and be identified in a single list.
- Cost recovery for administered pricing compensation should be determined on a trading interval basis, with costs recovered from the region where the price is set by the APC.
- The same standards of supporting information should be required across all compensation frameworks.

We received strong support from stakeholders in response to these administrative changes that would enhance the efficiency and timeliness of the compensation frameworks.

### 6.1 Administered pricing compensation should be assessed in a more targeted manner

In the draft report, the Commission recommended that claims for administered pricing compensation should be assessed in a more targeted manner. This involved assessing claims on the basis of trading intervals within an eligibility period and on an individual unit basis.

The Commission notes that stakeholders supported the changes and, as such, the final recommendations remain unchanged from the draft recommendations. The Commission notes that these changes will improve the ability of the administered pricing compensation framework to meet its objective of maintaining the incentive to supply services. Although the Commission recognises that these changes will likely lead to higher compensation payments by consumers, the additional reliability benefits achieved by this change mean it is in the long-term interests of consumers.

#### 6.1.1 Claims should be assessed on a trading interval basis within an eligibility period

The Commission's final recommendation is that administered pricing compensation is assessed on a trading interval basis within an eligibility period.

In its draft report, the Commission noted that the current approach of assessing net revenue for an entire eligibility period for administered pricing claims leads to a number of issues.

These issues were outlined in detail in our draft report and include:

- Unclear interactions between administered pricing and the other compensation frameworks. Because administered pricing compensation is assessed over an eligibility period, there can be instances where a claimant is eligible for both administered pricing compensation and directions or market suspension compensation. The NER and compensation guidelines currently suggest that in these situations, the Commission should re-assess and potentially revise earlier compensation decisions determined by a separate market body.
- Perverse incentives for generators that do not support the objective of the framework. The Commission noted that for regions affected by price scaling, any profit made in intervals where the price is not scaled may be used to offset losses made in intervals where the price is scaled. A generator in a profitable position ahead of the prices being capped by the APC may have an incentive to withdraw to maximise overall profitability.

Further detail on eligibility periods and price scaling are outlined in Box 2 below.

#### Box 6: Eligibility periods and price scaling

An eligibility period is defined as the period between the first trading interval where a price limit event occurs in a trading day, until the last trading interval of that day.\*A price limit event is defined in clause 3.14.6(a)(1) to (4) of the NER, and means that either the spot price for a trading is set:

- by the APC or AFP during an administered price period, or
- as a result of “price scaling”.

Price scaling is set out in clause 3.14.2(e)(2) of the NER. This clause states that if any regional reference node (RRN) is set by the APC, then spot prices at all other RRNs connected by regulated interconnectors that have energy flows towards the capped RRN must not exceed the APC divided by the average loss factor that applies in the direction of energy flow. An eligibility period can therefore begin before the APC is applied in that region.

Note: \*See clause NER clause 3.14.6(a).

The Commission’s draft report also noted that the approach of assessing claims over an eligibility period was introduced to achieve a particular policy outcome, namely to reduce the incentive for generators to cycle units on and off and to therefore enhance the reliability of the electricity system.

Stakeholders were generally supportive of the Commission’s approach in the draft report. Shell Energy suggest that in combination with assessing compensation on an individual unit basis, assessing by trading interval will improve the incentives for operating plants efficiently during the eligibility period.<sup>101</sup> The Commission therefore maintains its view that assessing compensation by trading interval within an eligibility period is the best option to address the identified issues, while maintaining the policy intent of eligibility periods.<sup>102</sup>

<sup>101</sup> Submission to the draft report: Shell Energy, p 2.

<sup>102</sup> Submissions to the draft report: AEC p 5 Shell Energy p 5; AEMO p 6; Hydro Tasmania p 2; AGL p 4; Tesla p 1.

### 6.1.2 Administered pricing compensation should be assessed on an individual unit basis

The Commission's final recommendation is that administered pricing compensation is assessed on an individual unit basis.

#### Compensation is currently assessed in aggregate across all claimed units

In its assessment of opportunity cost claims arising from June 2022, the Commission applied NER clause 3.14.6(b) and assessed compensation across all units that make up a claim.<sup>103</sup> For example, if a claimant submitted a claim for three of its generating units, eligibility for compensation is determined by the net costs incurred across those three units in aggregate.

In its draft report, the Commission noted that the approach of assessing compensation claims across all claimed units can lead to compensation outcomes that may not support the objective of the compensation framework. This is because operation over multiple generating units can be a non-profit maximising approach in certain circumstances.

As noted in the draft report, the issue particularly arises when in a trading interval or group of trading intervals, one region is being affected by the APC, and another region is not. The generator in the capped region where their SRMC is lower than the APC will sustain a loss. The generator in the uncapped region will make a profit if the price they are dispatched at is higher than their SRMC. Assessment of compensation eligibility across both generators leads to losses incurred by the generator in the capped region being offset by profits earned by the generator in the uncapped region. This leads to an overall lower profit outcome compared to if the generator in the capped region had not run. The Commission considers that this does not send the right signals to participants during periods of market stress and may increase risks to reliability and security.

The Commission considers an assessment of compensation by individual unit would preserve the incentive to operate generators in the capped region. By facilitating the objective of maintaining the incentive to supply services, this approach should promote reliability and security outcomes for consumers during administered pricing periods.

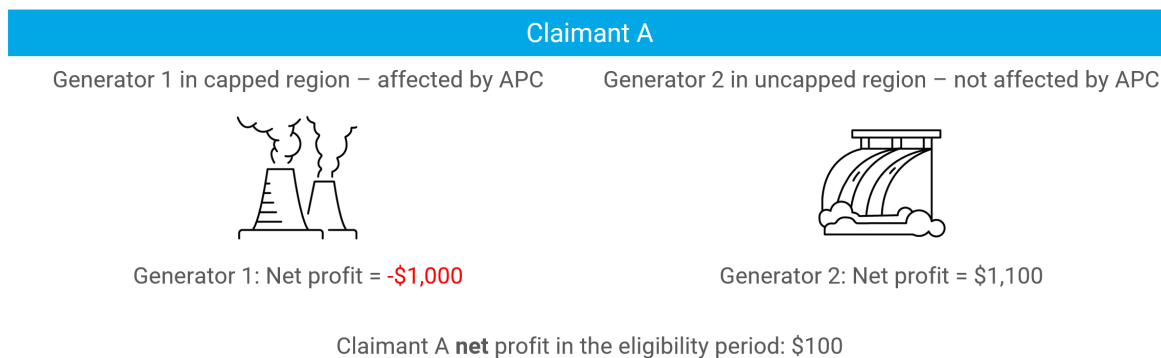
Stakeholders broadly supported the Commission's recommendation of assessing administered pricing compensation by individual unit.<sup>104</sup>

As such, the Commission has maintained its proposed approach.

<sup>103</sup> AEMC, [Final decision - Snowy Hydro direct and opportunity cost claim](#), 16 May 2024, pp 13-14.

<sup>104</sup> Submissions to the draft report: AEC p 5; Shell Energy p 5; AEMO p 6; Hydro Tasmania p 2; AGL p 4; Tesla p 1.

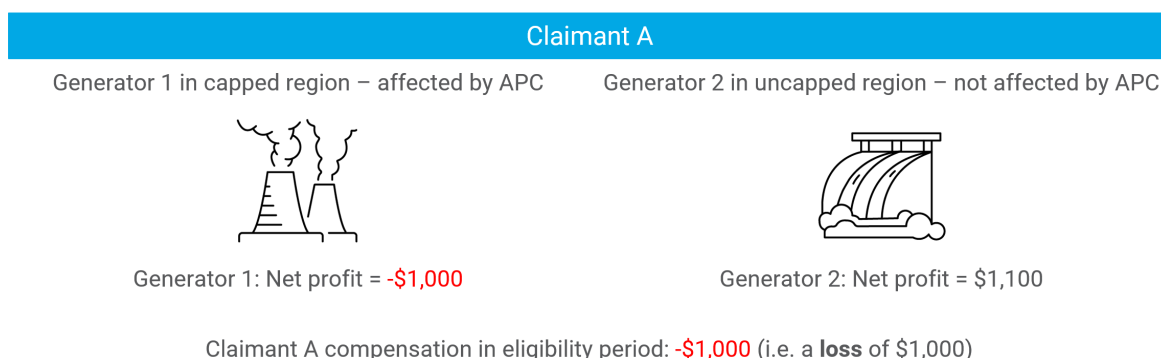
**Figure 6.1: Current approach: units are assessed in aggregate.**



Source: AEMC

Note: The dollar figures are for example only, and reflect the total profit earned by each generator in the relevant eligibility period.

**Figure 6.2: Proposed approach: each unit is assessed separately.**



Source: AEMC

Note: The dollar figures are for example only, and reflect the total profit earned by each generator in the relevant eligibility period.

## 6.2 There should be a time limit for submitting supporting information for an administered pricing claim

The Commission is making a final recommendation that the administered pricing compensation process should broadly follow the timelines set out in the intervention settlement timetable. This approach would align the time frames across all three compensation processes, removing unnecessary complexity for stakeholders.

The Commission's final recommendation is that claimants would have 60 business days following the end of the billing week in which a price limit event occurs to submit claims for direct and opportunity cost compensation.

A number of stakeholders proposed that setting time frames for administered pricing compensation claims would be important to improving confidence in the process, but noted that additional time was needed to submit information to support these claims.<sup>105</sup>

### 6.2.1 The administered pricing compensation framework does not include a time limit for claimants to submit supporting information

The administered pricing compensation framework currently does not include a time limit for claimants to submit supporting information to their claim, which would amount to an additional compensation claim. This is different from the directions and market suspension frameworks in the NER.<sup>106</sup>

The absence of a clear time frame for providing supporting information led to several issues during the assessment process for claims stemming from the June 2022 market disruptions, including:

- Uncertainty for the Commission about when the assessment of claims would begin, leading to resourcing uncertainty
- Consequences for cost recovery, including:
  - delayed pass-through to retailers
  - interference with the liquidation of failed retailers due to requirements to hold capital for future compensation cost recovery
  - implications for the Default Market Offer and Victorian Default Offer, in estimating the amount of compensation that will need to be recovered from customers
- Uncertainty about the interaction of this with other compensation processes.<sup>107</sup>

### 6.2.2 Stakeholders support introducing a time limit for claimants to submit supporting information

In light of these issues, the Commission's draft report proposed to include time frames for providing supporting information across each compensation framework. In the case of the administered pricing compensation framework, these time limits would apply to the provision of both information on direct and opportunity cost claims. In the case of the directions and market suspension frameworks these timelines would cover information for additional claims and opportunity costs.

This proposal was broadly supported by stakeholders, who indicated there is a need for time limits that are clearly stipulated in the NER.<sup>108</sup>

The time frames for the directions and market suspension compensation processes are set out in AEMO's intervention settlement timetable, which they are required to produce under NER clause 3.12.1.<sup>109</sup> The current timing for claim assessment provides 33 business days for submission of a claim for additional compensation following end of the billing week when the intervention takes place. As noted in section 1.2.1 above, there are no time limits for the provision of supplementary information under the administered pricing compensation framework.

<sup>105</sup> Submissions to the draft report: AEC p 5; CS Energy p 3; Stanwell p 3; AEMO p 6; Hydro Tasmania p 2; AGL p 5; Snowy Hydro pp 4-5; Origin p 3; Engie p 3; AER p 2.

<sup>106</sup> The time frames for claiming additional directions and market suspension compensation are set out in clauses 3.15.7B(a) and 3.14.5B(a) respectively, and the Intervention settlement timetable provided in NER clause 3.12.1.

<sup>107</sup> AEMC, [Consultation paper](#), 2 November 2023, p 40.

<sup>108</sup> Submissions to the draft report: AEC p 5; CS Energy p 3; Stanwell p 3; AEMO p 6; Hydro Tasmania p 2; AGL p 5; Snowy Hydro pp 4-5; Origin p 3; Engie p 3; AER p 2.

<sup>109</sup> See AEMO's [Intervention settlement timetables](#).

In response to our draft report, several stakeholders indicated that a 33-business day time limit for claimants to provide supporting information is too short, citing the complexity of preparing opportunity cost claims and the disruptive impact of administered pricing events on business operations and resourcing.<sup>110</sup>

In their responses stakeholders suggest different time limits for the provision of information:

- The AEC suggested a period of 40 days would be appropriate.<sup>111</sup>
- AGL said there is utility in having time frames, though they should be generous as APP events are significant.<sup>112</sup> This sentiment was shared by Origin, who submitted that time frames for information submissions should not be unnecessarily short.<sup>113</sup>
- CS Energy suggests that 30-business days following notification by AEMO of provisional compensation (amounting to 48 business days overall) would be more appropriate.<sup>114</sup>
- Snowy Hydro considers that a period of at least 45 business days for the provision of supporting information would be more appropriate.<sup>115</sup>
- Delta Electricity considered that 10-12 weeks after the notice of claim has been submitted would be preferable.<sup>116</sup>
- Shell Energy recommended a period of 120 business days, to account for staff resourcing during times of market stress.<sup>117</sup>

In response to stakeholder feedback, the Commission proposes that:

- For administered pricing claims, claimants be allowed 60 business days from the end of the billing week to provide information to support direct and opportunity cost claims.
- For market suspension and directions claims, claimants be allowed 42 business days from the date on which provisional compensation is notified to lodge a claim for additional compensation (including opportunity costs). As provisional compensation is notified after 18 business days, this would create an overall timeline of 60 business days for information to be provided.

By increasing the overall timeline for provision of information to 60 business days across all three frameworks, this should assist in addressing stakeholder concerns around organisational resourcing during periods of system stress and challenges associated with preparing opportunity cost claims. We also note that the time frame falls within the range of recommended time limits provided by stakeholders of 40 to 120 business days.

The Commission notes that the implementation of 60 business-day overall time limit for the provision of supporting information across all frameworks would require a 42 business-day extension to the overall AEMO intervention settlement timetable, to ensure that AEMO and the independent expert have sufficient time to assess the claims and confirm final payment arrangements.

AEMO has also requested that it has flexibility to extend the time frames for the consideration of complex and difficult claims and that the intervention settlement timetable also be extended by

110 Submissions to the draft report: AEC p 5; Shell p 5; CS Energy p 3; AGL p 5; Snowy Hydro p 5.

111 AEC submission to draft report, p 5.

112 AGL submission to the draft report, p 5.

113 Origin submission to the consultation paper, p 6.

114 CS Energy submission to the draft report, p 3.

115 Snowy Hydro submission to the draft report, p 5.

116 Delta Electricity submission to the consultation paper, p 4.

117 Shell Energy submission to the draft report, p 5.



AEMO where market circumstances are likely to compromise the ability for AEMO or claimants to adhere to the timetable. AEMO has indicated that any extension to timelines would be time-limited.

The Commission considers that there is merit in providing AEMO with an ability to extend the timelines for the assessment of more complex and difficult additional claims (including opportunity cost claims) and agrees that there may be market events that result in a significant number of complex claims that need to be assessed, for which a time extension facility is justified.

However, the Commission considers that any extension should be time-limited to provide market participants with certainty around both the determination of the claim amount and recovery of costs for successful claims. The Commission has not consulted or reached a view as to how long an extension should be granted for, and considers that this is best addressed through the rule change process for implementing the recommendations of this review.

The Commission has set out in Figures 6.3 and 6.4 below the proposed overall intervention settlement timetables and processes for claims under each framework.

**Figure 6.3: Proposed AEMO intervention settlement timetable**

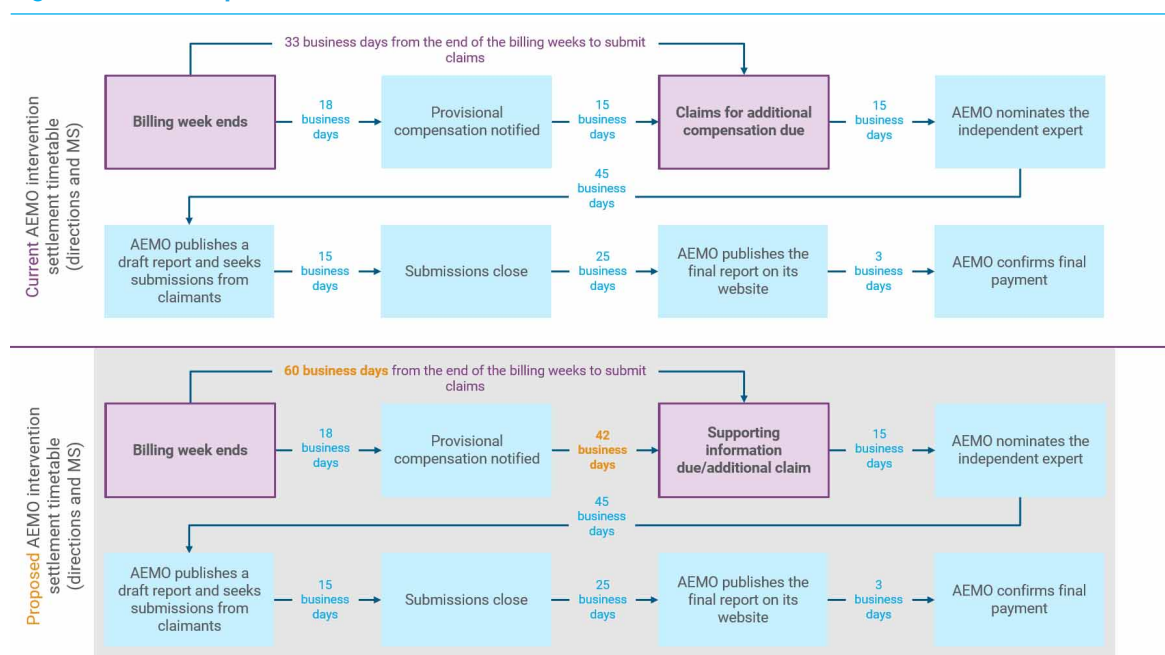


Figure 6.4: Proposed administered pricing timetable



### 6.3 Definitions for direct costs should be harmonised across the frameworks

The Commission's final recommendation is that the types of direct costs available for compensation should be harmonised across the three relevant frameworks.

In its draft report, the Commission noted that there are differences in the type of costs under the banner of direct costs across the three compensation frameworks and differences in the definitions of these kinds of costs (e.g fuel costs and wear and tear). Accordingly, the Commission recommended that the NER should be amended so that there is a single list of claimable direct costs that captures the range of costs currently included across the three frameworks. This would improve consistency and reduce confusion experienced among market participants. Stakeholders in response to our draft report generally supported harmonising these definitions.<sup>118</sup>

In its draft report, the Commission recommended that the list should include:

- Energy input costs incurred during the relevant eligibility periods<sup>119</sup>
- Operating and maintenance costs directly attributable to the pattern of operation to provide services during the relevant eligibility periods, including acceleration or delay costs of maintenance work
- Wear and tear directly attributable to the pattern of operation during the relevant trading intervals<sup>120</sup>
- Other costs incurred in connection with the relevant claimant operating during the intervention.

<sup>118</sup> Submissions to the draft report: AEC p 5; Shell Energy p 5; CS Energy p 3; AEMO p 7; Hydro Tasmania pp 2-3; AGL p 5; Snowy Hydro p 5; Origin p 2; Tesla p 2.

<sup>119</sup> In harmonising these definitions, the Commission recommends that fuel costs is referred to as 'energy input costs' to better account for storage units. This recommendation takes into consideration EnergyAustralia's submission at p 3, which provided that the definitions ought to be broad enough to accommodate different technologies, but workable so as not to add complexity or subjectivity to claim assessments.

<sup>120</sup> The Commission notes that wear and tear is distinct from operating and maintenance costs because it covers non-routine maintenance costs.

Stakeholders made a number of comments on the proposed list noting that it should not be exhaustive as well as including other potential direct cost categories such as voiding of warranties and life cycle costs and shortened asset lives for battery systems.<sup>121</sup>

The Commission agrees that the list of direct cost categories should not be exhaustive. The Commission has not reached a view on the proposed additional cost categories and considers that these questions can be further considered through the rule change process for the implementation of the review recommendations.

## 6.4 The Commission has considered various issues related to cost recovery

In its draft report, the Commission considered three issues regarding cost recovery in the compensation processes:

- improving clarity regarding cost recovery for administered pricing compensation
- consideration of cost recovery during periods of high consumer energy resources (CER) output
- cost recovery mechanism for 'capacity' directions, raised in a rule change request by Tilt Renewables.<sup>122</sup>

Stakeholders generally supported the Commission's draft recommendations on issues related to cost recovery. As such, the Commission maintains its recommendations on these issues which are discussed below in turn.<sup>123</sup>

### 6.4.1 Cost recovery for administered pricing compensation should be calculated on a trading interval basis from the beneficiaries of the intervention

The Commission recommended in its draft report that cost recovery for administered pricing compensation should be recovered on a trading interval basis from the region where the price is being set by the APC. This aligns with the change for compensation to be calculated on the basis of trading intervals within an eligibility period. It also aligns with the policy intent of the Commission's *Compensation arrangements following application of an administered price cap and administered floor rule change*.<sup>124</sup>

#### There are scenarios that should be addressed for cost recovery

The Commission considers that the NER should be clarified to set out the cost recovery process in more detail. This can be achieved by:

- setting out that costs are to be recovered on a trading interval basis
- specifying the approach that should be taken to cost recovery in specific scenarios.

Based on the events of June 2022, the Commission and AEMO have identified the following scenarios that should be covered by the NER regarding cost recovery for administered pricing compensation:

1. single cost recovery region
2. multiple cost recovery regions including the claimant's region

121 Submissions to the draft report: Snowy Hydro p 5; Origin pp 2-3.

122 AEMC, [Recovery of funds for capacity directions](#), Rule change request, 23 February 2023.

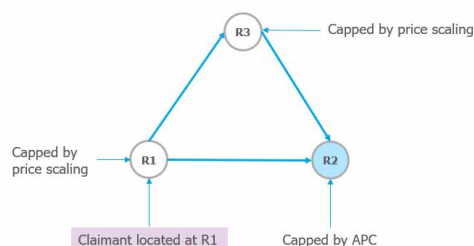
123 Submissions to the draft report: AEC p 5; Shell Energy p 6; AEMO p 7; Hydro Tasmania pp 2-3, AGL p 5; Snowy Hydro p 5; Tesla p 1; Atmos Renewables p 2.

124 AEMC, *Compensation arrangements following application of an administered price cap and administered floor price*, 2016.

3. multiple cost recovery regions not including the claimant's region
4. multiple cost recovery regions with claimant facilities in multiple regions.

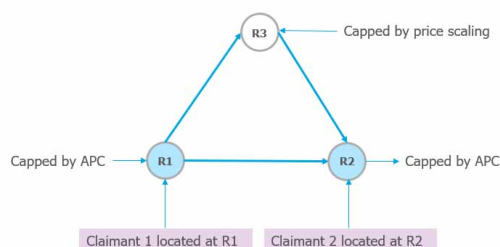
### Scenario 1: Single cost recovery region

- The Claimant is located at R1.
- The price is capped by the APC in R2.
- R2 is the cost recovery region
  - All costs are recovered from R2.



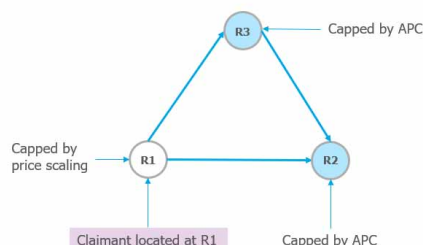
### Scenario 2: Multiple cost recovery regions including the claimants' region

- Claimant 1 is located at R1. Claimant 2 is located at R2.
- The price is capped by the APC in R1 and R2.
- R1 and R2 are the cost recovery regions.
  - Costs for Claimant 1 are recovered from R1
  - Costs for Claimant 2 are recovered from R2



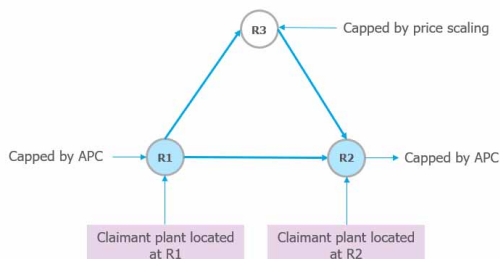
### Scenario 3: Multiple cost recovery regions not including the claimant's region

- Claimant 1 is located at R1.
- The price is capped by the APC in R2 and R3.
- R2 is the cost recovery region
  - Costs for Claimant 1 are recovered from R2 and R3 based on their proportion of total demand in the two regions.



### Scenario 4: Multiple cost recovery regions with claimant facilities in multiple regions

- Claimant is located at R1 and R2.
- The price is capped by the APC in R1 and R2.
- R1 and R2 are the cost recovery regions
  - Costs for Claimant are recovered from R1 and R2 based on compensation payable to each plant in each region (if possible).



The approach to cost recovery aligns with the policy intent set out in the Commission's *Compensation arrangements following application of an administered price cap and administered floor rule change*.<sup>125</sup>

#### 6.4.2 The Commission recommends no changes are made regarding cost recovery during periods of high CER output

The Commission considers that no changes should be made to the NER to account for periods of low demand due to high CER output affecting compensation payments. The *Integrating energy storage systems into the NEM* rule change, which commenced on 3 June 2024, addresses this issue.<sup>126</sup>

The *Integrating energy storage systems into the NEM* final determination outlined changes to the non-energy cost recovery process, which includes directions compensation. This approach changes cost recovery to be based on consumed and sent out energy, removing the effect of rooftop PV netting off consumption.<sup>127</sup> Because this change will address the issues raised by stakeholders, the Commission's position is that no further action is needed.

#### 6.4.3 The Commission recommends that the costs associated with capacity directions should be recovered from consumers

In its draft report the Commission recommended that compensation for directions to storage plant to consume energy for the purposes of ensuring reliability at a later point, or "capacity directions" should be recovered from customers. The Commission considers that this approach will:

- Provide appropriate incentives to act in a way to contributes to overall reliability and security outcomes
- align with the principal of recovering costs from the beneficiaries of an intervention.

Stakeholders generally supported the Commission's draft recommendation.<sup>128</sup> Atmos Renewables suggests that the Commission's draft recommendation correctly identifies that consumers are the beneficiaries of increased security and reliability, and the associated costs borne by generators under the current arrangements may incentivise generators to withdraw supply, leading to worse reliability and security outcomes.<sup>129</sup> AEMO also support the Commission's draft recommendation, noting that careful rule drafting will be required as capacity directions are not an explicit direction type under the NER.<sup>130</sup>

#### Capacity directions are recovered from consumers and generators

Directions for services other than energy or ancillary services are currently recovered from both customers and generators.<sup>131</sup> Directions for storage plant to consume energy for the purposes of ensuring reliability at a later point are classified by AEMO as directions for services other than energy or ancillary services.<sup>132</sup>

<sup>125</sup> AEMC, *Compensation arrangements following application of an administered price cap and administered floor price*, 2016.

<sup>126</sup> AEMC, *Integrating energy storage systems into the NEM*, 2024.

<sup>127</sup> AEMC, *Integrating energy storage systems into the NEM* final determination, 2 December 2021.

<sup>128</sup> Submissions to the draft report: AEC p 6; Shell Energy p 6; AGL p 5; AEMO p 7; Hydro Tasmania pp 2-3, Tesla p 1; Atmos Renewables p 2.

<sup>129</sup> Submissions to the draft report: Atmos Renewables p 2.

<sup>130</sup> AEMO submission to the draft report, p 7.

<sup>131</sup> NER clause 3.15.8(g).

<sup>132</sup> AEMO, *NEM Event Directions Report 10 to 23 June 2022 (Supplementary report)*, July 2023, p 6.

During the events of June 2022, AEMO made a number of these directions to maintain the power system in a reliable operating state.<sup>133</sup> The costs of these directions were recovered from customers and generators.

#### **The Commission received a rule change request regarding this issue**

A rule change request was submitted by Tilt Renewables (Tilt) in 2023 regarding the cost recovery process for capacity directions.<sup>134</sup> The rule change request seeks to correct a possible inefficient cost allocation that exists within the NER, whereby cost recovery for capacity directions is partially covered by generators.

In the rule change, Tilt proposed either:

- changing NER clause 3.15.8, being the clause that covers directions compensation cost recovery, or
- defining capacity directions as a form of energy directions for the purposes of cost recovery.

#### **The Commission's final recommendation is that costs associated with these directions are recovered from consumers**

The Commission recommends that capacity directions could be defined separately to the existing definitions of energy, ancillary services and other services for the purposes of cost recovery.

The Commission considers that the current cost recovery approach may create perverse incentives for generators at times when these directions are in place. Given that costs are currently allocated based on the proportion of energy contributed to total demand, generators may face an incentive to reduce output during periods when these directions are in place. This would reduce their liability for compensation payments. The Commission considers this could contribute to poor reliability and security outcomes during these periods.

The Commission also considers that the current rules treat storage plant differently to other forms of generation in relation to the management of reliability and energy shortfalls and that this inconsistent treatment places this plant at a competitive disadvantage.

Overall, the Commission considers that consumers are the beneficiaries of directions of this nature because they are made to keep the system in a reliable operating state. As is the case with other elements of the compensation frameworks, the Commission considers that the costs of an intervention should be recovered from the beneficiaries of the intervention.

For these reasons, the Commission's final recommendation is that the costs associated with capacity directions should be recovered from consumers. The Commission considers this is a more efficient allocation of costs and should promote improved reliability outcomes which benefit consumers.

The Commission notes the comments received from AEMO in relation to the potential rule drafting needed to capture capacity directions, and proposes that these issues are addressed through the rule change process.

## **6.5 Guidance on the standard of evidence to be included in a supporting claim**

In its draft report, the Commission recommended that the same standards for supporting information should be applied across all compensation frameworks.

<sup>133</sup> Ibid.

<sup>134</sup> AEMC, [Recovery of funds for capacity directions](#), Rule change request, 23 February 2023.

As noted in our consultation paper, when assessing the claims from June 2022, the Commission significantly engaged with claimants so that they could provide further information in support of claims being made. Having this information earlier in the process would likely reduce the time taken to process any future claims.<sup>135</sup>

The Commission noted in its draft report that the NER requires participants to submit information to substantiate claims for additional directions compensation as well as additional market suspension compensation.<sup>136</sup>

The Commission recommended that the administered pricing compensation framework be aligned with the directions and market suspension frameworks, so that parties have a clear understanding on the level of evidence required to support a claim for compensation.

The Commission also noted that there may be value in providing more specificity regarding the level of authority required to sign off that the information provided is true and correct. It may be appropriate to require signature of a high level of authority within a claimant's business, such as the chief executive officer or chief financial officer.

Stakeholders generally support the Commission's draft recommendation on this issue.<sup>137</sup> Snowy Hydro agreed with the draft recommendation in principle, but notes that care should be taken that such standards do not directly or indirectly restrict the types of supporting information available to be provided, particularly for opportunity cost claims.<sup>138</sup> As such, the Commission maintains its recommendation that the standard of information set out in the NER for directions and market suspension compensation is applied to the administered pricing compensation process.

## 6.6 Clarification of arrangements for administered pricing during market suspension periods

In its draft report the Commission noted that a number of stakeholders had identified that there is a lack of clarity in the NER about whether administered pricing compensation can be claimed during market suspension periods. The lack of clarity may have contributed to uncertainty regarding compensation claims during the events of June 2022.

In response to these concerns, the Commission indicated that it is not proposing to allow claims relating to administered pricing during a market suspension period. The Commission considered the need for this change is reduced given other changes proposed in the draft report, including:

- allowing participants to claim opportunity costs during market suspension periods
- having all claims for compensation submitted to AEMO
- existing examples of how the NER operates during these periods, including through published compensation determinations.

The Commission also noted there were existing examples of how the compensation arrangements applied during these periods and that these were accessible through published determinations.

The Commission considered that with these changes in place, there would be no benefit to allowing administered pricing compensation to be claimed during market suspension periods.

<sup>135</sup> AEMC consultation paper, 2 November 2023, p 43.

<sup>136</sup> NER clauses 3.15.7B(b) and 3.14.5B(c), respectively.

<sup>137</sup> Submissions to the draft report: AEC p 6; Shell Energy p 6; AGL p 5; AEMO p 7; Hydro Tasmania p 3; Tesla p 1.

<sup>138</sup> Snowy Hydro submission to the draft report, p 5.

## A Regulatory impact analysis

The Commission has undertaken regulatory impact analysis to make its final recommendations.

### A.1 Our regulatory impact analysis methodology

Our regulatory impact analysis has been informed by stakeholder submissions to the consultation paper in addition to other information and data. The Commission designed and developed its recommendations with the aim of improving the operation of the compensation frameworks.

If implemented, the draft recommendations would:

- Improve the functioning of the compensation frameworks during periods of market stress, resulting in better security and reliability outcomes.
- Reduce the uncertainty and administrative burden of engaging with the compensation frameworks, promoting confidence for all stakeholders.
- Enable faster resolution of compensation claims to increase confidence in the frameworks.

The Commission notes that, particularly for administered pricing compensation, some proposed changes are likely to increase the quantum of compensation payments made by consumers in future events. This is because the current arrangements may under compensate participants such that participation during an administered pricing period may lead to them being worse off in certain circumstances.

In the Commission's view the best interests of consumers are primarily met by having compensation frameworks that result in good reliability and security outcomes. This is achieved by making sure there are the right incentives in place for participants to respond in times of market stress, which includes having certainty that appropriate level of costs will be recovered.



## Abbreviations and defined terms

AEC	Australian Energy Council
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APC	Administered price cap
APP	Administered price period
CEC	Clean Energy Council
CER	Clean Energy Regulator
Commission	See AEMC
ISF	Improving security frameworks
JEC	Justice and Equity Centre
MSL	Minimum system load
MSPS	Market suspension pricing schedule
MWh	Megawatt hour
NEL	National Electricity Law
NEO	National Electricity Objective
NER	National Electricity Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
NERR	National Energy Retail Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NMAS	Non-market ancillary services
RRN	Regional reference node
Solar PV	Solar photovoltaic
SRMC	Short-run marginal cost
VWAP	Volume-weighted average price