

# NEM Settlement Estimates Policy – IESS and related changes

Consultation paper -  
Standard consultation for the  
National Electricity Market

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New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

Australian Energy Market Operator Ltd ABN 94 072 010 327



## Explanatory statement and consultation notice

This consultation paper commences the first stage of the standard rules consultation procedure conducted by AEMO to consider proposed amendments to the National Electricity Market (**NEM**) Settlement Estimates Policy (**Policy**) made under clause 3.15.12(c) of the National Electricity Rules (**NER**), to:

- Reflect the terminology changes to be made with effect from 3 June 2024 by the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 (IESS Rule)*.
- Improve and simplify the settlement estimations data hierarchies.
- Improve the methodology for determining settlement estimations in the absence of meter data at the TNI level.
- Incorporate market SAPS resource providers (**MSRP**) into the Policy.

Clause 8.9.2 of the NER describes the standard rules consultation procedure applicable to this **proposal**.

### IESS rule change terminology update

The IESS Rule updates the regulatory framework to make it easier for energy storage systems and hybrid facilities to register and participate in the NEM. The IESS Rule also presents an opportunity to improve upon the current settlement estimation methodology and structure within the Policy which, in AEMO's view, should provide greater accuracy to estimated settlement data for the benefit of market participants. In light of the IESS rule change, AEMO proposes to update the Policy to replace load and generation terminology with terms reflecting energy quantities.

### Improving the settlement estimations data hierarchies

The current Policy applies four hierarchies of available data, in a decreasing order of preference relating to the accuracy of the data source, to determine settlement estimates where no preliminary data is available. Currently, the applicable hierarchy depends on whether the data being estimated is for load or generation, and whether data is being estimated for a market customer, market generator, or demand response service provider (**DRSP**).

To improve readability, reduce confusion and remove unused methodologies, AEMO is proposing to replace the four hierarchies with a single concise hierarchy of data to estimate Consumed Energy or Sent Out Energy for all market participant categories.

### Improving settlement estimations in the absence of meter data at the TNI level

Under the current policy, the lowest priority data source in the hierarchy when estimating energy for the previous day at the TNI level relies on applying a scaling factor to an amount of energy based on a like-day, where a like-day is the same day from the most recent billing period for which there is published preliminary data. AEMO has found this estimation method to be fundamentally flawed when applied under the current market conditions with high renewable penetration.

AEMO proposes to replace the scaling factor estimation method with a process that utilises a larger dataset relevant to each participant rather than a single like-day, thereby providing a more finely tuned estimation methodology.

### Accounting for MSRPs in the Policy

On 30 May 2023, the *National Electricity Amendment (Regulated stand-alone power systems) Rule 2022 (SAPS Rule)* came into effect to allow distribution network service providers (DNSP) to use stand-alone power systems (SAPS) where it is economically efficient to do so, while maintaining appropriate consumer protections and service standards. The SAPS Rule also created a new registration category, the MSRP, to allow market participants to supply electricity from generating units that are connected to a regulated SAPS.

AEMO is proposing to update the Policy to include the MSRP registration category.

The detailed sections of this consultation paper include more information on the proposal and AEMO's reasons for making it. A suggested draft of the Policy reflecting the proposal is published with this consultation paper to provide context.

### Consultation notice

AEMO is now consulting on this proposal and invites written submissions from interested persons on the issues identified in this paper.

Submissions may make alternative or additional proposals you consider may better meet the objectives of this consultation and the national electricity objective in section 7 of the National Electricity Law. Please include supporting reasons.

Before making a submission, please read and take note of AEMO's consultation submission guidelines, which can be found at <https://aemo.com.au/consultations>. Subject to those guidelines, submissions will be published on AEMO's website.

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so. Material identified as confidential may be given less weight in the decision-making process than material that is published.

Please provide any submissions to [prudentials@aemo.com.au](mailto:prudentials@aemo.com.au) by 5:00pm (Melbourne time) on 20 October 2023.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Interested persons can request a meeting with AEMO to discuss any particularly complex, sensitive or confidential matters relating to the proposal as per clause 8.9.1(k) of the NER. Meeting requests must be received by the end of the submission period and include reasons for the request. We will try to accommodate reasonable meeting requests but, where appropriate, we may hold joint meetings with other stakeholders or convene a meeting with a broader industry group. Subject to confidentiality restrictions, AEMO will publish a summary of matters discussed at stakeholder meetings.

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## 1. Stakeholder consultation process

As required by clause 3.15.12(c) of the NER, AEMO is consulting on proposed amendments to the Policy in accordance with the standard rules consultation procedure in NER 8.9.2.

Note that this document uses terms defined in the NER, which are intended to have the same meanings. There is a glossary of additional terms and abbreviations in Appendix A.

AEMO's indicative process and timeline for this consultation are outlined below. Future dates may be adjusted and additional steps may be included if necessary, as the consultation progresses.

Consultation steps	Dates
NEM Wholesale Consultative Forum	15 August 2023
Consultation paper published	22 September 2023
Submissions due on consultation paper	20 October 2023
Draft report published	13 November 2023
Submissions due on draft report	8 December 2023
Final report published	18 December 2023

This consultation paper commences the formal standard rules consultation procedure on the proposal. AEMO introduced the proposal to stakeholder representatives at a meeting of the NEM Wholesale Consultative Forum on 15 August 2023.

Consultation materials, reports and submissions will be published on AEMO's consultation page for the proposal, at: <https://aemo.com.au/consultations/current-and-closed-consultations/nem-settlement-estimates-policy-consultation---iess-and-related-changes>.

## 2. Background

### 2.1. Context for this consultation

In December 2021, the AEMC made the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 (IESS Rule)*. The IESS Rule updates the regulatory framework to recognise energy storage systems and hybrid facilities in the NER (as ‘bidirectional units’ and ‘integrated resource systems’) and make it easier for operators of those facilities to register and participate in the NEM. The majority of NER changes introduced by the IESS Rule will come into effect on 3 June 2024.

The concepts and associated terminology introduced by the IESS Rule will necessitate corresponding terminology updates to the Policy. At the same time, AEMO has taken the opportunity to consider changes that can be made to the Policy for:

- Improving and simplifying the estimations data hierarchies.
- Improving the methodology for determining settlement estimations in the absence of meter data at the TNI level.
- Incorporating MSRPs into the Policy.

#### 2.1.1. Settlement estimations

AEMO monitors the daily prudential position of each market participant in the NEM through their outstandings, which is a key value used in their prudential assessment. This ensures that AEMO holds enough credit support to cover the liabilities of market participants and minimise credit risk to the NEM as a whole. Under clause 3.3.9 of the NER, AEMO is required to determine the outstandings of a market participant as a dollar amount, and under clause 3.3.11 of the NER, AEMO may take certain actions, including issuing a call notice to the market participant, if a market participant fails to maintain their outstandings below their trading limit.

Under clause 3.3.9 of the NER, the amounts used in the calculation of a market participant’s outstandings are the actual settlement amounts for billing periods where final statements have been issued by AEMO or AEMO’s reasonable estimate of the settlement amounts for billing periods (where final statements have not been issued).

In practice, AEMO uses preliminary billing runs in the assessment of a market participant’s outstandings where these are available. For days where no preliminary billing run has been performed, a settlement estimation process is used.

#### 2.1.2. IESS rule change

The IESS Rule will make a number of NER changes including:

- A new registration category, the Integrated Resource Provider (**IRP**), that allows storage and hybrids to register and participate in a single registration category rather than under two different categories.
- New classification categories for energy producing and consuming facilities, including bidirectional units, integrated resource systems and ancillary service units.

- Clarity for the scheduling obligations that apply to different configurations of hybrid systems, including DC-coupled systems, so that operators of these systems have the flexibility to choose whether to be scheduled or semi-scheduled.
- Allowing hybrid systems to manage their own energy behind the connection point, subject to system security limitations.
- Clarifying that the current approach to performance standards that are set and measured at the connection point will apply to grid-scale storage units, including when part of a hybrid system.
- Transferring existing small generation aggregators to the new IRP category, with new aggregators of small generating units and/or storage units also registering in this category.
- Aggregators registered in the IRP category will be able to provide market ancillary services from generation and load.
- Amending the framework to recover non-energy costs based on a market participant's net Consumed and Sent Out Energy at each market connection point over relevant intervals, irrespective of its registration category.

The proposal aims to ensure that the Policy will reflect all relevant changes from the IESS Rule. Further context on this aspect of the proposal is provided in Section 3.1.

### 2.1.3. SAPS rule change

The falling costs of renewable generation and batteries are leading to significant decreases in the costs of providing off-grid electricity supply. In some areas, including those prone to bushfire risk or that are heavily vegetated, off-grid supply may now be less costly than standard supply. The SAPS Rule allows DNSPs to use SAPS where it is economically efficient to do so, while maintaining appropriate consumer protections and service standards.

As the level of MSRP participation in the NEM is expected to increase, the proposal includes an MSRP settlement estimation methodology in the Policy. Further context on this aspect of the proposal is provided in Section 3.4.

## 2.2. NER requirements

The Policy is made under NER 3.15.12(c) and describe the principles and processes which AEMO applies when calculating *estimated settlement amounts* for the purposes of NER 3.15.12(b). AEMO also applies these principles and processes when estimating settlement amounts for billing periods under NER 3.3.9.

## 2.3. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO will seek to make a determination that is consistent with the national electricity objective (NEO) and, where considering options, to select the one best aligned with the NEO. The NEO is expressed in section 7 of the National Electricity Law as:

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.



### 3. Proposal discussion

#### Questions

- **Is any additional clarifying information required to simplify and improve the estimations data hierarchies?**
- **Do any unintended/adverse consequences arise from using the DLF instead of generation static regional scaling factors?**
- **Are there any unintended/adverse consequences from estimating the Consumed Energy for market generators as zero when there is no meter data or SCADA?**
- **Is any additional clarifying information required for the settlement estimation methodology?**
- **Are there any additional options for estimating previous day energy?**
- **Do any other unintended/adverse consequences arise out of the proposed changes to the settlement estimation methodology as described?**
- **Is any additional clarifying information required to include MSRPs in the settlement estimations methodology?**

#### 3.1. Changes to reflect the IESS Rule

AEMO proposes to amend the Policy to reflect the amendments to the NER made by the IESS Rule. All of these changes are administrative (i.e. replacing existing terms with corresponding newly defined terms), and no changes to the calculation of settlement estimations under the Policy will result from these changes.

##### 3.1.1. Description and effect of proposal

AEMO proposes to update the Policy to reflect and give effect to the IESS Rule, consistent with clause 11.145.9 of the NER. The most significant changes will be to:

- Where appropriate, replace load and generation terminology with terms reflecting energy quantities.

These changes reflect the updates that will be made in AEMO's systems. They will promote consistency with the NER, enhancing clarity and certainty of interpretation, which aligns with the NEO.

##### 3.1.2. Issues for consultation

AEMO has not identified any issues arising from this change.

#### 3.2. Improving the estimations data hierarchies

##### 3.2.1. Issue description

The current Policy outlines the process for determining settlement estimates for market participants in the NEM. Under this process, the methodology for determining settlement estimations is based on specific hierarchies of available data in a decreasing order of preference relating to the accuracy of the data source, when no preliminary data is available. These hierarchies split energy estimates into four broad categories:

- Generation for market generators,
- Load for market generators,
- Load for market customers, and
- Wholesale demand response settlement quantity for DRSPs.

These hierarchies only cater for four specific participant categories and present the data sources in a repetitive way, thus causing confusion for market participants especially those registered in other categories. The Policy also contains data sources and estimation methodologies that add insufficient value to the estimation process.

The Policy is proposed to be updated to be more simple and concise whilst improving the settlement estimations process going forward.

### 3.2.2. Description of proposal

AEMO proposes the following updates to the current Policy:

- Replacing the existing four data hierarchies with a single, concise hierarchy to cover all market participants rather than specific participant categories. Therefore section 3.2.4 of the Policy will be removed as it will be treated as part of the general hierarchy.
- Changing the first priority data source from using sufficient quality meter data, to use the latest metering data available regardless of quality. This will make other sections regarding the use of lower quality meter data unnecessary, hence sections 3.2.3 (3), 3.2.3 (4), and 3.2.4 (2) of the Policy will be removed.
- Removing estimated load for market generators based on like-day energy (section 3.2.2 (2) of the Policy).
- Removing estimating load for market customers based on like-day energy and wholesale connection point scaling factor (TNISF) (section 3.2.3 (5) of the Policy).
- Removing estimating load for market customers based on like-day energy and regional scaling factors with a market participant specific calculation refinement (section 3.2.3 (6) of the Policy).
- Replacing the use of generation static regional scaling factors for the purpose of correcting SCADA data for differences in point of measurement to metering data (section 3.2.1 (2) of the Policy) with the appropriate DLF at the relevant TNI. As these generation scaling factors are no longer required AEMO will stop reviewing and publishing them. Although DLF does not relate directly to the SCADA point, AEMO's analysis has shown that this will provide a more precise adjustment for most of the participants than a single static regional scaling factor applied to all generators in a region over all trading intervals in a year.
- Replacing the method for estimating data based on like-day energy and regional scaling factors (section 3.2.3 (7) of the Policy) with a statistical model. Further detail on the statistical model is provided in Section 3.3 of this paper.

### 3.2.3. Impact of proposal

The key outcomes from the proposed improvements to the data hierarchies in the Policy will be to:

- Streamline and simplify the data hierarchy to apply to all market participant categories.
- Remove confusion arising from repetitiveness and ineffective steps of the hierarchies in the current Policy, improve clarity, and ultimately provide more accurate estimations.

### 3.2.4. How the proposal meets the objectives

The proposed changes will provide clarity for all market participants on the settlement estimation process.

### 3.2.5. Issues for consultation

- Is any additional clarifying information required for to simplify and improve the estimations data hierarchies?
- Do any unintended/adverse consequences arise from using the DLF instead of generation static regional scaling factors?
- Are there are any unintended/adverse consequences from estimating the Consumed Energy for market generators as zero when there is no meter data or SCADA?

## 3.3. Replacing estimated data based on like-day energy and regional scaling factors with a statistical model

### 3.3.1. Issue description

The data hierarchies in the current Policy provide a process for estimating settlement amounts when preliminary data is unavailable. Within these data hierarchies the higher priority data sources are available meter data and SCADA, and such sources are known to provide sufficiently accurate estimates.

The lowest priority of estimation, which is based on like-day energy and a regional scaling factor, has proven to be problematic and fundamentally incorrect in certain circumstances, and in such cases have become more common overtime. This correlates to the steady decrease in accuracy over the years since the initial implementation of this methodology in 2013.

This type of estimation applies only to situations where the meter data is provided at the TNI level, also known as aggregated reads.

Currently, estimating market participant outstandings for a day where neither meter data nor SCADA is available for the Prudential system, requires consideration of the two components listed below:

- Participant Consumed Energy or Sent Out Energy on the same day of the week from the most recent billing period for which a preliminary billing run is available and is published. Normally this would be one or two weeks before the estimated day, and this date is known as a like-day.
- Regional scaling factor calculated as a ratio of the regional demand of the day being estimated over the regional demand of the like-day.

The regional scaling factor is applied to the participant like-day energy at each TNI on a trading interval basis.

Nowadays, in any given trading interval, the ratio of like-day energy and estimated day energy in a region no longer correlates to changes to a specific participant's Consumed Energy or Sent Out Energy. Therefore, applying such a ratio produces estimations that have abnormal deviations to the true energy values.

### 3.3.2. Supporting analysis

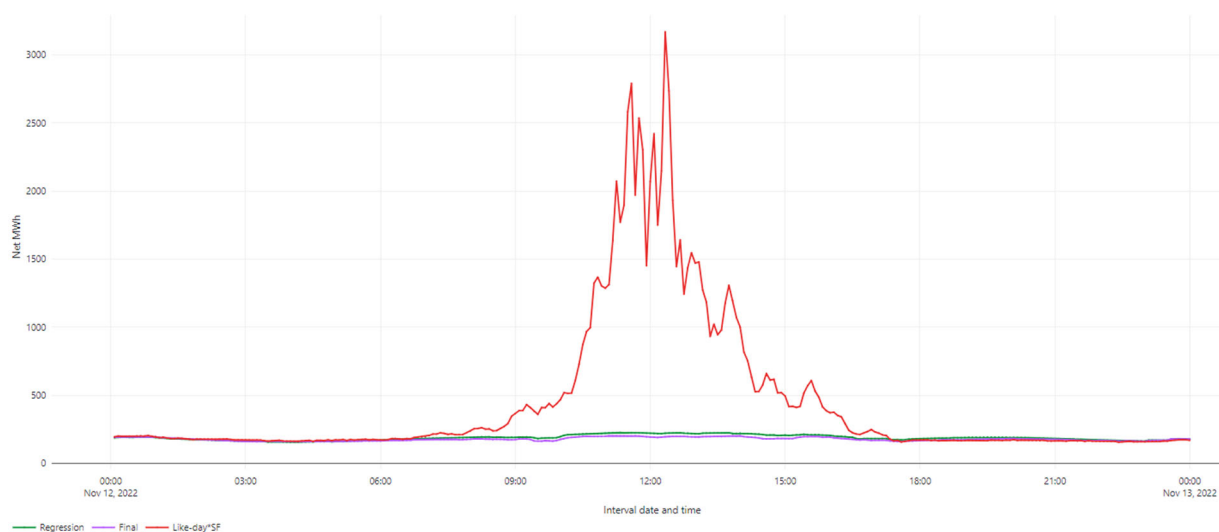
#### Scaling factors are no longer fit for purpose

AEMO believes the scaling factor methodology is no longer fit for purpose and will continue to degrade over time. Furthermore, having the same regional scaling factor for every participant in a region fails to reflect the different energy patterns of individual market participants.

As an example, when the regional demand for the previous day is high due to poor weather or high cloud coverage, and the demand for the like-day is small in the same trading intervals due to sunny conditions, then the calculated scaling factor will be abnormally large. Applying this scaling factor to the participant like-day energy can cause an overestimation of the outstandings (with the inverse also being true, thus causing an abnormal underestimation). Ultimately this estimation method may cause a market participants’ trading margin to be adversely impacted or increase prudential risk in the market due to underestimation.

Figure 1 below shows the largest recorded scaling factor in South Australia on 12 November 2022, which significantly overestimated market participant outstandings accrued in the region. The red line in the graph shows the net energy estimated using an abnormal scaling factor, while the true values shown in purple, remain under 240 MWh. We can observe a trading interval where the estimation goes up to 3,170 MWh at 12:20 interval, 16 times the actual value. Additionally, such overestimations can last for many trading intervals starting from approximately 9:00am until 4:00pm given the evidence of correlation to rooftop solar.

**Figure 1 Scaling factors recorded in South Australia on 12 November 2022**



Although this example represents an extreme case AEMO has observed that such occurrences are becoming more frequent in South Australia and are starting to occur in other regions to a lesser extent.

**The like-day methodology is degrading in accuracy**

AEMO has investigated the accuracy of the like-day scaling factor estimation methodology; by analysing final billing amounts from 2014 to 2023, we calculated the percentage difference between estimated energy values and actual energy values used in final statements for each trading interval, participant, TNI and meter type. This percentage difference was then used to classify the actual energy used in final statements in 10% ranges with a central range of -5% to +5% difference. This was done for both Consumed Energy and Sent Out Energy.

**Figure 2 Decreasing accuracy of like-day scaling factor model 2014 - 2023**

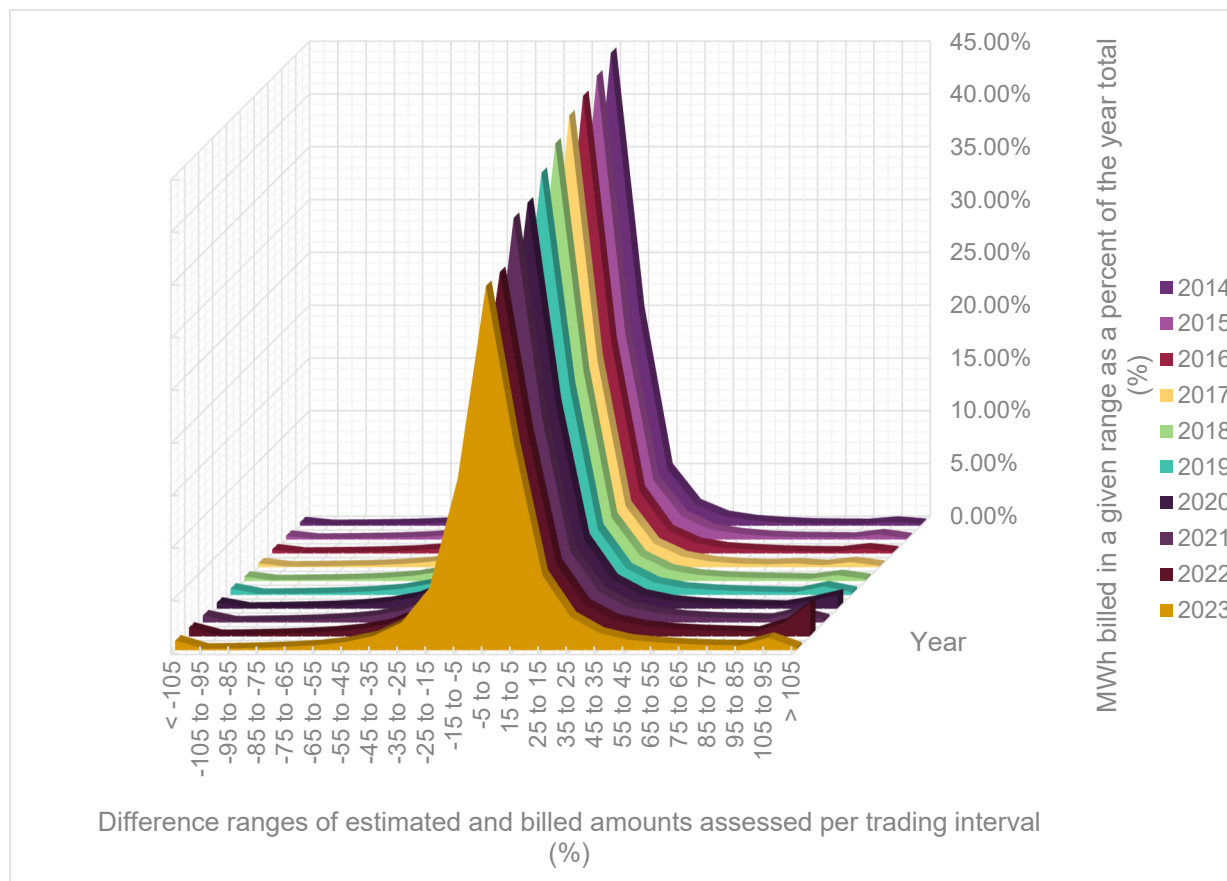


Figure 2 above shows the total amount of Consumed Energy and Sent Out Energy used in final statements as a percentage value of the total energy for each year in each range. The analysis shows that:

- Since 2014 there has been an increased probability of either significantly larger or smaller than normal scaling factors resulting in more overestimated or underestimated settlement amounts. This can be seen in the increasingly fat-tailed distributions from 2020 to 2023 as shown in Figure 2.
- Every year since 2014 the accuracy of the like-day scaling factor has been decreasing, and among other factors this is likely due to the increasing impact of rooftop PV on regional demand. This can be seen in the year by year degradation of the distribution peak in the central -5% to +5% difference range as show in Figure 2.

- One of the biggest drops in accuracy is observed from 2021 to 2022 which is due to the change of financial settlement from 30-minute intervals to 5-minute intervals which occurred on 1<sup>st</sup> October 2021.

### 3.3.3. Description of proposal

Due to the negative trend in accuracy of the like-day scaling factor methodology, AEMO believes that a new statistical model for estimating energy needs to be implemented.

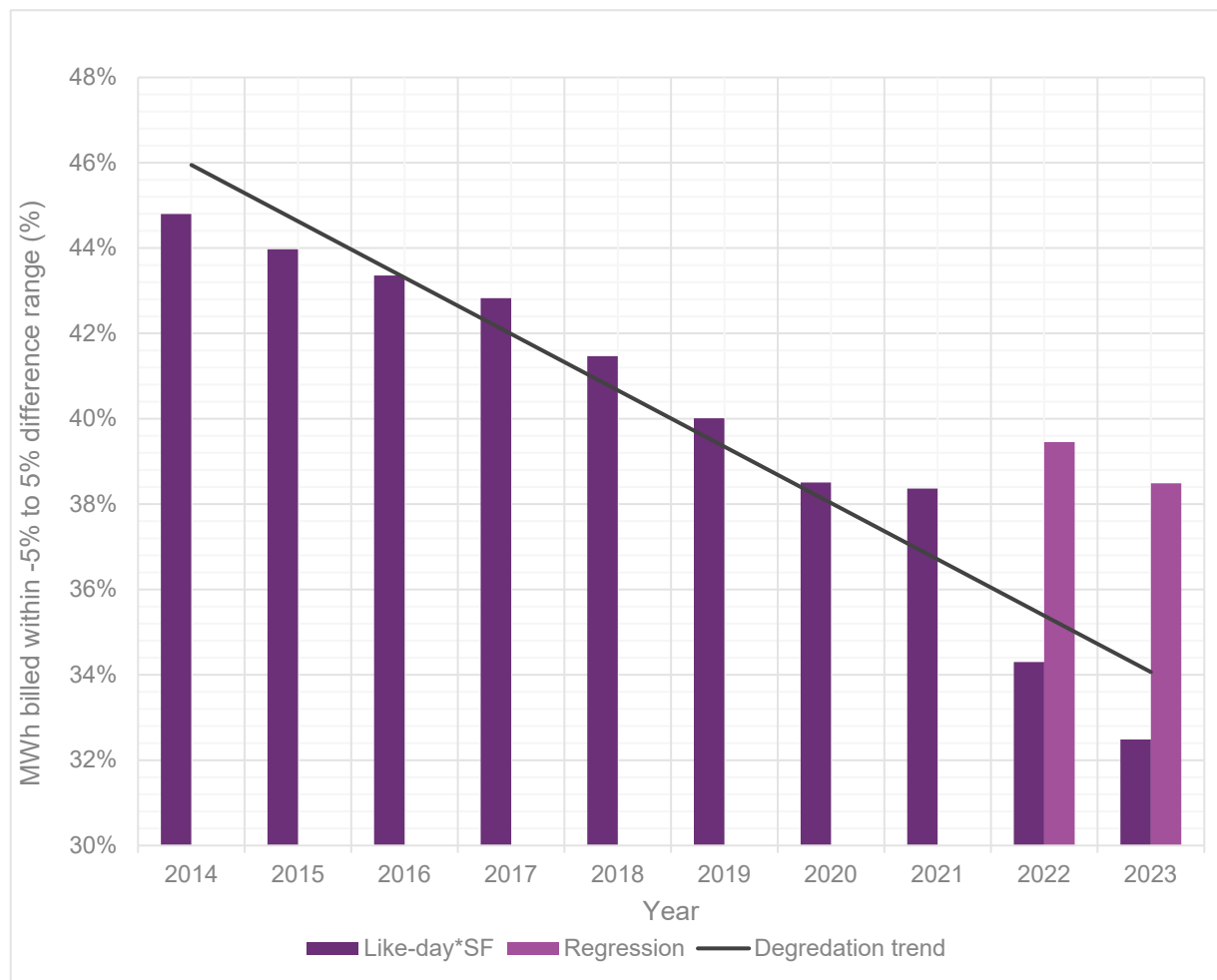
AEMO is proposing to amend the Policy by:

- Replacing the regional scaling factor estimation method for market customers (section 3.2.3 (7)) with a multivariable linear regression model. The general form of a multivariable regression model is as follows:
  - $y_t = \beta_0 + \beta_1 x_{1,t} + \beta_2 x_{2,t} + \dots + \beta_k x_{k,t}$
  - Where:
    - $y_t$  is the dependant variable of the model which is calculated for Consumed Energy and Sent Out Energy, where  $t = 8064$  observations from 288 periods over 28 days.
    - $x_{k,t}$  are explanatory variables where  $k = 291$ , and these variables are:
      - Region demand.
      - Business day vs non-business day, as single numerical variable with a value of 1 or 0.
      - Date being predicted as an ordinal number in the time series sequence.
      - Period ID as 287 categorical variables for each interval in a day, 1 less than 288 periods to avoid over-fitting.
      - $x_{0,t} = 1$  constant for the intercept.
    - $\beta_0$  is the coefficient for constant term.
    - $\beta_k$  are the slope coefficients for each of the 291 explanatory variables.
- Replacing the data source for participant energy from settlement values to meter data values. The current methodology for like-day energy uses the resulting value from the settlement calculation done based on meter data. The proposed method will use the metered data which provides greater granularity. It will consider each regression at the following level:
  - TNI.
  - FRMP.
  - LR.
  - NMI Classification, additional level of detail with the change of source.
  - Meter TCD, additional level of detail with the change of source.

This change also removes the dependency on the SETCPDATA table which will no longer be populated after IESS project go live.

This model has been run for every day from June 2022 to June 2023 using all the data available at the time of analysis after the Global Settlement project went live. The results obtained were then analysed applying the same methodology used for Figure 2, and from this we can compare the central range of -5% to +5% difference from estimate to value used in the Final statement as seen in Figure 3 below.

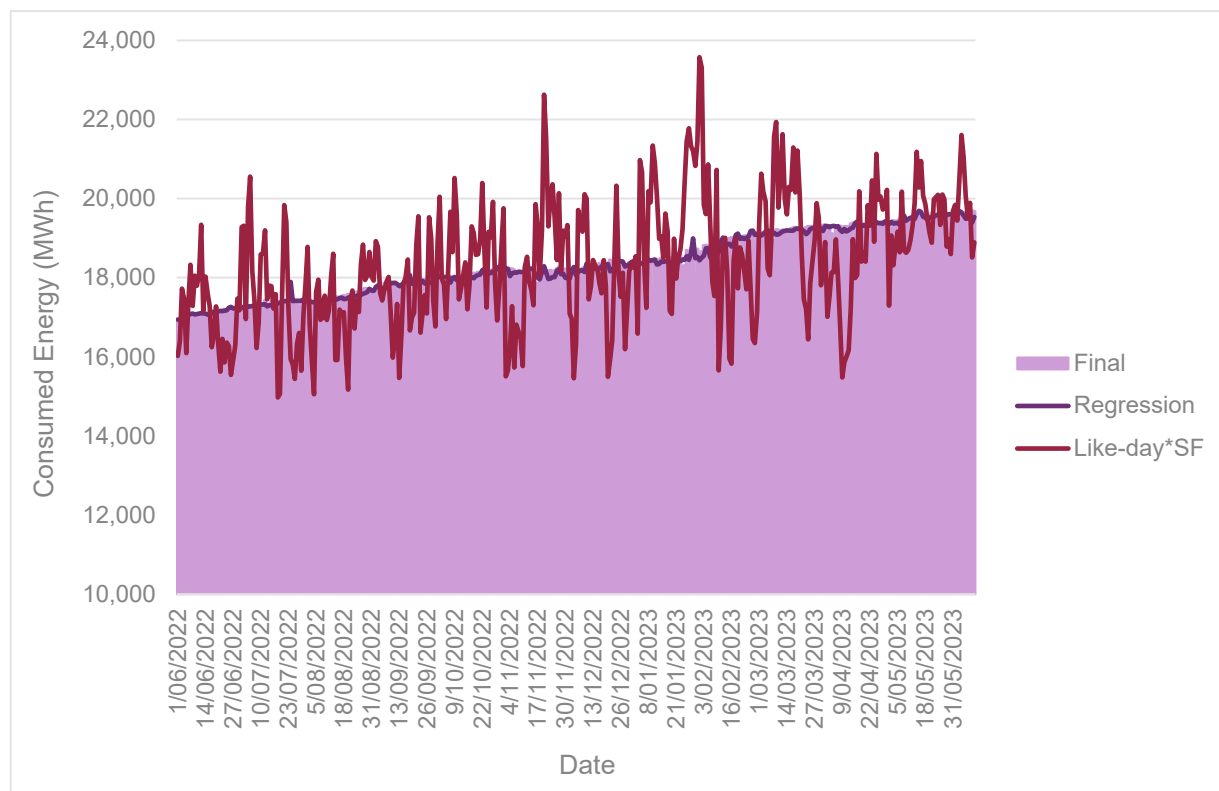
**Figure 3 Accuracy comparison: like-day scaling factor vs regression model**



In Figure 3 we can see that the regression model performs at same level as when financial settlement was performed at 30-minute intervals back in 2020. This regression model is expected to remove the intrinsic problems of regional scaling factors and should maintain the same level of accuracy over time.

Additionally, the regression model will benefit participants that were adversely affected by inaccurate estimation of like day and scaling factors due the nature of their load. This can be seen in Figure 4 below that shows a market participant with stable load over the course of a year. The scaling factor method estimates inaccurately, as it attempts to apply scaling that is calculated for the corresponding region to estimate the load. In comparison, the regression model which estimates the load based on the most recent 28 days of historical data reflects a better estimation that is more in line with the participant behaviour.

Figure 4 Like-day scaling factor vs regression: example of estimating a stable load



### 3.3.4. Impact of proposal

This proposed change will impact existing market participants with meter data that is aggregated at the TNI level. The proposed approach will:

- Remove the regional scaling factor methodology.
- Result in more accurate estimations of settlement data.
- Result in a fairer methodology for market participants. Unlike the like-day scaling factor methodology, the regression model will be unique to each market participant based on their behaviour.

### 3.3.5. How the proposal meets the objectives

For existing market participants with meter data that is aggregated to the TNI level, AEMO believes that by replacing the like-day scaling factor methodology with the new multiple linear regression model, market participant prudential risk and financial impacts from trading margin underestimation and overestimation will be reduced.

### 3.3.6. Alternative options

AEMO also considered the following alternative options:

- Distributing the regional demand among participants given behaviour on a like-date.
  - This method provided inaccurate and ineffective results and so was disregarded.
- A regression model that automatically selects the best predictors based on R-squared or the Akaike information criterion.



- This method was ruled out as the complexity it introduced did not reflect more accurate results than compared to preselecting a fixed set of predictors for the model. Ultimately, we found that selecting a combination of predictors at run time significantly increased computation time without providing more accuracy, whilst most of the time the selected combination was the same.
- A multiple linear regression model was chosen, and the following predictors were considered but ultimately ruled out:
  - Price: high priced events skewed the model such that the predicted values were not useful or accurate.
  - Temperature: there was no clear path for correlating temperature based on location with the data available, and then introducing this relationship into the model.
  - Day of the week: we found it was simpler to introduce a binary predictor of business day vs non-business day that produced similar results compared to seven categories.

### 3.3.7. Issues for consultation

- Is any additional clarifying information required for the settlement estimation methodology?
- Are there any additional options for estimating previous day energy?
- Do any unintended/adverse consequences arise out of the proposed changes to the settlement estimation methodology as described?

## 3.4. Accounting for MSRPs in the settlement estimations methodology

### 3.4.1. Issue description

Currently the Policy does not consider MSRPs. With the SAPS Rule coming into effect on 30 May 2023, AEMO is expecting an increase in SAPS being registered in the NEM and is updating its relevant guides and procedures to accommodate this change.

The Policy needs to be updated to reflect the SAPS Rule change.

### 3.4.2. Description of proposal

AEMO proposes the following updates to the Policy:

- To include the current practice for estimating Consumed Energy and Sent Out Energy in a Regulated SAPS for MSRPs. The current practice is to use the latest metering data available regardless of quality, otherwise an estimate of zero is used.

### 3.4.3. Impact of proposal

The key outcomes from the proposed inclusion of MSRPs in the Policy will be to provide clarity to current and future MSRPs about settlement estimations for MSRPs.

### 3.4.4. How the proposal meets the objectives

The proposed changes will help promote efficient investment in, and efficient operation and use of, electrical services for the long term interests of consumers of electricity.

### 3.4.5. Issues for consultation

- Is any additional clarifying information required for including MSRPs in the settlement estimations methodology?

## 3.5. Proposed effective date

The proposed effective date for all amendments to the Policy considered in the proposal is 3 June 2024, when the IESS Rule comes into effect.

## 4. Drafting for proposed changes

To help interested parties respond to this consultation paper, AEMO has published a draft of the Policy incorporating the changes AEMO proposes for consultation. Clean and change-marked versions are available at: <https://aemo.com.au/consultations/current-and-closed-consultations/nem-settlement-estimates-policy-consultation---iess-and-related-changes>.

## Appendix A. Glossary

Term or acronym	Meaning
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
Aggregated reads	Consumed Energy and Sent Out Energy aggregated to a TNI level
Consumed Energy	For a market connection point for a trading interval is calculated as follows: $ME- \times DLF$
DLF	The distribution loss factor applicable at the market connection point
DNSP	Distribution Network Service Provider
DRSP	Demand Response Service Provider
Individual reads	Consumed Energy and Sent Out Energy at a NMI level
IRP	Integrated Resource Provider
ME-	For a market connection point for a trading interval, the amount of electrical energy estimated in accordance with paragraph 3.2.1 of the Policy, expressed as a negative value in MWh, flowing at the connection point in the trading interval, where the flow is away from the transmission network connection point to which the connection point is assigned.
ME+	For a market connection point for a trading interval, the amount of electrical energy estimated in accordance with paragraph 3.2.1 of the Policy, expressed as a positive value in MWh, flowing at the connection point in the trading interval, where the flow is towards the transmission network connection point to which the connection point is assigned.
MSRP	Market SAPS Resource Provider
NEM	National Electricity Market
NER	National Electricity Rules
NMI	National Metering Identifier
Policy	The NEM Settlement Estimates Policy
SAPS	Stand-alone power system
SCADA	Supervisory Control and Data Acquisition
Sent Out Energy	For a market connection point for a trading interval is calculated as follows: $ME+ \times DLF$
TNI	Transmission Node Identifier