Single Electricity Market

(SEM)

SEM Tariffs and Charges to apply from 1 October 2023 – 30 September 2024

Decision Paper

SEM-23-058

12 September 2023

EXECUTIVE SUMMARY

As required under Trading and Settlement Code Part B, a number of market parameters require approval by the SEM Committee each year. This document includes the SEM Committee decisions for the following four Tariffs/Charges and one Conversion Rate:

- Supplier Capacity Charge Price
- Difference Payment Socialisation Multiplier
- Residual Error Volume Price
- Currency Cost Price and Currency Adjustment Charge Factor
- Annual Capacity Charge Exchange Rate

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1. Introduction

This paper provides a short description and review of the Single Electricity Market Operator (SEMO), submissions in relation to the following:

- Supplier Capacity Charge Price
- Difference Payment Socialisation Multiplier
- Residual Error Volume Price
- Currency Cost Price and Currency Adjustment Charge Factor
- Annual Capacity Charge Exchange Rate

The above market parameters are required to enable the Market Operator (MO) to calculate and issue Credit Cover Requirements to participants. Participants are then required to ensure that adequate Credit Cover is in place before 1 October 2023.

This paper also sets out the final values approved by the SEM Committee (SEMC) for each of the above items for the Tariff Year 1 October 2023 until 30 September 2024.

2. Supplier Capacity Charge Price

The Capacity Remuneration Mechanism (CRM) awards capacity determined via an auction process. Payment under the CRM is funded through a Capacity Charge that is socialised across all suppliers on a monthly basis, based on their daytime demand profile.

The MO submitted a proposal for this tariff on 30 June 2023 which was subsequently revised on 10 August to include the Provisional Capacity Auction results for the T-1 2023/2024 Capacity Auction, which took place in mid-July 2023. The provisional results were approved by the SEM Committee in line with the Capacity Auction Timetable[1] prior to the approval of this tariff. The T-1 2023/2024 Final Capacity Auction Results were published by the System Operators on 07 September 2023[2].

[1] T-1 2023/2024 Capacity Auction Timetable
[2] T-1 2023/2024 Final Capacity Auction Results

The RAs reviewed the MO submission for consistency, analysing the results of two Capacity Auctions, alongside Multi-year Reliability Options for the Capacity Year in question to arrive at a total capacity amount. An under-recovery Y-2 K-factor was then added.

This is outlined in Table 1 below:

Metric	Value (€)
Total (Annual) Capacity Amount for 2023/24	456,131,306
Y-2 K-Factor under recovery	7,398,549
Total	**463,529,855**

Table 1: Amounts included in Supplier Capacity Charge for Capacity Year 2023/24

The SEMC approve the MO proposed Supplier Capacity Charge Price tariff of €16.17/MWh.

3. Difference Payment Socialisation Multiplier

The Difference Payment Socialisation Multiplier relates to the Capacity Market. The purpose of building up the fund through a tariff is to ensure suppliers are fully hedged against high price events in cases in which there is not enough contracted capacity to cover sufficient difference payments for the pricing event. This is separate to the Supplier Capacity Charge itself.

If inadequate funds have been built up at a point where difference payments need to be drawn from the fund, the Market Operator may use the over recovery of other charges to cover difference payments. Otherwise the Market Operator has the right to "suspend and accrue" until funds are sufficiently built up again.

In the Tariff Years 2018/2019 and 2019/2020, a multiplier was set to calculate the Difference Payment Socialisation Charge to build up a fund of €15.0m, over two years, in the period from I-SEM Go-Live to the end of the Tariff Year September 2020. This target amount had not been reached by the end of FY 2020, however it was deemed reasonable to continue to seek to build / maintain a fund of €15.0m and charges for 2020/21 were set accordingly.

In considering the 2021/22 tariff it was estimated that the fund would exceed the €15.0m target and as such the multiplier was set to €nil. During consideration of the 2022/23 tariff, it was estimated that the fund would reach €20.2 and consistent with the approach taken in setting the 2021/22 multiplier, the SEM Committee approved the setting of the multiplier at €nil for a second consecutive year.
SEMO submitted a proposal for this multiplier on 30 June 2023 which was subsequently revised following the recent T-1 2023/2024 Capacity Auction, as noted in section 2 above.

The current best estimate of this fund by September 2023, as provided by SEMO, is €25.8m. SEMO have proposed to maintain the fund at €20m, returning the estimated excess of €5.8m via a Difference Payment Socialisation Multiplier of -1.3% for the Tariff Year 2023/24.

The estimated Capacity Difference Socialisation Fund at the end of Tariff Year 2022/23 and the excess to be returned in 2023/24 is outlined in Table 2 below:

Estimate of Capacity Difference Socialisation Fund	**€**
Estimated value of fund in Tariff Year 2022/23	25,800,000
Estimated balance to return in Tariff Year 2023/24	(5,800,000)
Estimated Socialisation Fund Value at end of 2023/24 Tariff Year	**20,000,000**

Table 2: Estimate of Capacity Difference Socialisation Fund

SEMO propose to review the value of the fund again during the next tariff setting process in 2024/25.

The SEMC are content with the approach and methodology used in the submission and approve the multiplier of -1.3%.

4. Residual Error Volume Price

Residual Error Volume Price (REVP) relates to differences between actual and anticipated metered volumes, that can swing in both positive and negative directions.

The concept and principles applied to REVP in I-SEM are similar to those previously applied in the SEM. As part of the I-SEM design, participants wanted to reduce weekly billing volatility associated with REVP and requested the introduction of a tariff arrangement. Thus, the key difference in REVP between SEM and I-SEM is the manner in which costs are recovered, where it has moved from a recovery in close to real time in SEM, to a tariff arrangement in I-SEM.

SEMO submitted a proposal for this Tariff on 30 June 2023, outlining a proposed change to the methodology to be used for the 23/24 Tariff Year. The RAs commenced a period of engagement with SEMO following which a revised submission was submitted to the RAs on 04 September.

In their submission, the MO noted that the residual error is affected by meter estimates, particularly in instances where there is a significant difference between the metered volumes at initial, M+4 and M+13 settlement periods. Following a review of data from October 2018, the MO observed larger differences between the initial and resettled meter data from mid-2021 than had previously been the case. The MO stated that this, along with high prices, resulted in significant differences in the imbalance component payments and charges, notwithstanding the corrections that are made through resettlement.

As a result of this analysis, the MO were of the view that residual error calculations need to be completed after M+13 resettlement to determine what the final residual error volumes and cash imbalances are for any given year. The MO stated in their submission that using this revised approach will ensure that the residual error tariff and K Factors going forward are not affected by metering estimates, that will ultimately be resolved through resettlement.

SEMO advised the RAs that when using final settled values, the discrepancies identified between M+4 and M+13 Loss Adjusted Meter Differences resulted in an under recovery of c.€18m under the old methodology used for Tariff Years 2018/19, 2019/20 and 2020/21.

The MO acknowledged that the proposed new methodology for recovering residual error volume costs will allow for the calculation of final costs on a Y-3 basis, as opposed to the previous approach which incorporated a Y-2 K Factor. With that said however, the MO also stated that, as their submission was based on reviewing final data for the first 3 years post go-live, further analysis will be required to determine if any subsequent changes to the methodology will be required in future years.

The RAs considered the issues raised by SEMO alongside the rationale behind the proposed new methodology during the review of this proposed tariff and were of the view that the previous methodology was no longer sustainable given the meter data issues identified.

The Residual Error Volume Price relates to meter differences (difference between Loss-Adjusted Metered Generation Supplied and Loss Adjusted Metered Demand). In their submission, SEMO proposed to use the Loss Adjusted Meter Difference volume for the last Tariff Year for which final M+13 resettlement has taken place. As 2020/2021 is the last Tariff Year to have completed M+13, the MO deemed the 2020/2021 Loss Adjustment Meter Difference volume to be the best estimate to predict the volumes for the 2023/2024 tariff calculation.

Table 3 below details the final resettled meter differences for the first three years of I-SEM, as provided by the MO:

Tariff Year	Loss Adjusted Meter Differences
2018/19	556,589
2019/20	308,289
2020/21	201,668

Table 3: Final Resettled Meter Differences

SEMO acknowledged varying prices seen in the market post go-live, deeming it reasonable to propose an estimate price for the Tariff Year 2023/2024 using an average price from the current calendar year, i.e. 1 Jan 2023 to 31 May 2023. The MO proposed using the average price of €135.13 per MWh.

Using the average price as proposed by the MO results in a Residual Error Volume cost of €27,251,397 for the 2023/24 Tariff Year, as shown in Table 4 below:

Tariff Year	Loss Adjusted Meter Differences	2023 Average Price € / MWh	€
2020/21	201,668	135.13	**27,251,396.84**

Table 4 – Proposed Residual Error Volume Cost

The forecast all Island SEM demand for Tariff Year 2023/2024 is 38,950 GWh and applied to throughput based on the Non-Interval Energy Proportion (the average NIEP for calendar year 2022 was 53%), which gave a forecast NIEP demand of 20,643,500 MWh.

In considering an appropriate Residual Error Volume Price for 2023/2024, SEMO again reflected on the impact of differences identified between metered volumes at initial settlement and M+13 resettlement. On that basis, the MO were of the view that it would not be prudent to reflect differences that will be resolved through the resettlement process at this point and therefore proposed to exclude a Y-2 K Factor (2021/2022) in this calculation as final resettlement has not yet taken place.

As part of the proposed new methodology, the MO conducted a review of all years post I-SEM go-live where final resettlement data was available, encompassing 2018/19, 2019/20 and 2020/21, to true up the differences to provide a basis for calculating a K Factor to be applied in the 2023/24 tariff.

Table 5 below details the final Residual Error K Factor amounts for each year, outlining a total over recovery of €15,187,376 across three years:

Residual Error K Factor Calculations	2018/19 €	2019/20 €	2020/21 €	Total €
Residual Error Charges recovered in year	23,236,694	22,567,803	29,432,756	75,237,253
Actual CIMB Cost for year after resettlement	31,729,829	11,194,857	17,125,191	60,049,877
K Factor for Year	**-8,493,135**	**11,372,946**	**12,307,565**	**15,187,376**

Table 5 – Yearly K Factor

SEMO also provided the actual K Factors applied across the same tariff periods as outlined in Table 6 below:

Year	K Factor Applied (€)
2018/19	-4,296,424
2019/20	10,970,407
2020/21	26,703,673
Total	**33,377,655**

Table 6 – K Factors Applied in Previous Tariffs

The MO concluded that the K Factors applied across the years for which M+13 has taken place resulted in an under recovery of €18,190,279 (€33,377,655 - €15,187,376), attributed to the differences between tariff charges collected and final Residual Error charges which were impacted by meter data issues between M+4 and M+13 final resettlement.

In their resubmission to the RAs, SEMO proposed to recover the €18m across two tariff years i.e. €9m in this 2023/2024 tariff calculation and €9m in the 2024/2025 tariff calculation. The RAs considered the recovery proposal and given the meter data issues identified, determined it reasonable to progress recovery over two tariff years.

SEMO's submission, using the components as detailed above, proposes a Residual Error Volume Charge Price (PREVy) of 1.76 €/MWh for Tariff Year 2023/2024 as detailed in Table 7 below:

Tariff Year 23/24 – 1 October 2023 to end Sept. '24	€
Estimated Residual Error Volume cost 23/24	27,251,397
K Factor Adjustment for previous K Factors under recovery (3 years 18/19, 19/20 & 20/21)	33,377,655
K Factor to return Actual over recovery (3 years 18/19, 19/20 & 20/21)	-15,187,376
Year one under recovery adjustment	9,095,140
Residual Error Volume cost 23/24, including K Factors	36,346,537
Forecast NIEP demand (MWh)	20,643,500
Residual Error Volume Price (PREVy) €/MWh	**€ 1.76**

Table 7 - Proposed REVP for 2023/2024

The SEMC are content with the approach and methodology used and approve the proposed tariff of 1.76 €/MWh for Tariff Year 2023/2024.

5. Currency Cost Price and Currency Adjustment Cost Factor

As the Single Electricity Market operates via two currencies, variation can occur in incoming and outgoing amounts in the market over the year. This variation is covered through the Currency Adjustment Charge.

The concept and principles applied to currency costs in the old SEM are similar in the new market. However, the mechanism for the recovery of these costs in the Balancing and Capacity Markets has changed. As part of I-SEM design, a tariff arrangement was introduced which reduces weekly and monthly billing volatility associated with currency as seen by suppliers. Therefore, recovery of costs have moved from close to real time in the old SEM to a tariff arrangement in I-SEM.

The MO submitted a proposal for this tariff on 30 June 2023 and the RAs have reviewed the submission.

The MO currently estimates the actual 2022/23 Capacity and Balancing Market FX exposure against the business out-turning at a c. €0.25m under recovery, noting that FX rate movements are unpredictable, and any variation will be accounted for through a K-factor. There is an underlying assumption of a stable economic environment, whereby no economic shocks would give rise to significant FX rate fluctuations.

SEMO considered it reasonable to estimate the Currency Cost Amount (excluding any applicable K Factor) at €0.25m for the 2023/24 Tariff Year. Their submission also outlined a 2021-2022 K Factor under recovery amount of -€878,100, which needed to be considered within the 2023/24 tariff.

Based on the under recovery being larger than the forecasted Currency Cost amount, the MO submitted a proposed tariff of €0.029/MWh for the Currency Cost Adjustment factor for the Capacity Year 2023/24.

The SEMC approve the MO proposed tariff of €0.029/MWh for the Currency Cost Price and Currency Adjustment Charge Factor of 1.000 for the 2023/2024 Tariff Year.

6. Annual Capacity Charge Exchange Rate

The purpose of the Annual Capacity Exchange Rate is to translate the Annual Capacity Charge from Euro (€) to Sterling (£) for billing purposes.

An Annual Capacity Payment Exchange Rate for Capacity Year 2023/2024 (which commences at 23:00 on 30 September 2023 and ends at 23:00 on 30 September 2024) was published recently within the T-1 2023/2024 Final Auction Information Pack[3] (FAIP) in July 2023. The FAIP rate was fixed at €1 = £0.8745 following SEM Committee approval.

The MO noted in their tariff submission that it had considered using another exchange rate or a blended exchange rate for 2023/2024 as a separate Annual Capacity Payment Exchange Rate fixed at €1 = £0.9462 was confirmed within the FAIP for the T-4 2023/2024 Capacity Auction[4] which took place in April 2020.

Following that consideration, the MO has proposed the Annual Capacity Charge Exchange Rate is set equal to the Annual Capacity Payment Exchange Rate (€1: stg: £0.8745) as approved for the recent T-1 2023/2024 Capacity Auction as this will mean that that both Capacity Payments and Capacity Charges related to the T-1 Capacity Auction will be billed using the same exchange rate during the 2023/2024 Capacity Year.

In addition, the MO believes that the application of the same rate will ensure that any currency gains/costs that may arise are not inadvertently recovered through Capacity Charges rather than through the Currency Adjustment Charge.

The SEMC approve the Annual Capacity Charge Exchange Rate of €1 = £0.8745.

[3] T-1 2023/2024 Final Auction Information Pack
[4] T-4 2023/2024 Final Auction Information Pack