

## Imperfections Charges October 2024 – September 2025

and

Reforecast Report October 2022 – September 2023

> Consultation Paper SEM-24-048

> > 1<sup>st</sup> July 2024

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## **1 EXECUTIVE SUMMARY**

The Regulatory Authorities (the RAs, i.e. UR & CRU) are consulting on the Transmission System Operators (i.e. EirGrid & SONI) 'Imperfections Charges Forecast Tariff Year 2024/25' (i.e., 01/10/2024 to 30/9/2025), prior to issuing its final decision on the Tariff Year 2024/25 Imperfections Charge.

The RAs invite stakeholders' views on any aspect of the content of the accompanying TSOs' submission. In particular, the RAs seek views on whether the TSOs' forecasts of costs and assumptions for Tariff Year 2024/25 are reasonable and if there are actions the TSOs could take to minimize the Imperfection Charge.

The purpose of the Constraints (Imperfections) Charge is for the TSOs to recover the total expected costs associated with managing the transmission system. SEMO levies the Constraints (Imperfections) Charge on suppliers. The Charge is made up of a number of components, the largest of which relates to Dispatch Balancing Costs (DBC).

For Tariff Year 2024/25, and similar to recent Tariff Years, Imperfections Costs are mostly due to Constraints. Constraint Costs occur due to the differences between the market determined schedule of generation to meet demand and the actual instructions issued to generators by the TSOs, these differences are normally a result of network limitations or operating reserve requirements. In the normal course of events the cost of constraining generators on or up is paid by SEMO on behalf of the TSOs to the relevant generators. Given the forecast element to the Imperfections allowance, such costs are also subject to a K-factor adjustment, when actual costs become known.

On 31st May 2024, the TSOs submitted the following documentation to the RAs in order to enable a decision on setting the 2024/25 Imperfections Tariff:

- 'Imperfections Charges Forecast for Tariff Year 2024/25' (reference Annex 1<sup>1</sup>); and
- 'Imperfections K-factor Submission' (reference Annex 2).

The RAs also received the related 'Imperfections Outturn Report' for Tariff Year 2022/23 from the TSOs.

In their submission, the TSOs forecast an Imperfections allowance of  $\in$ 592.02 million for the Tariff Year 2024/25, compared to the  $\in$ 448.81 million allowed by the RAs for Tariff Year 2023/24<sup>2</sup>. A significant driver of this increase is the inclusion of a provision for potential payments to market participants under Article 13 of Regulation (EU) 2019 / 943. The potential costs associated with the TSOs' interpretation of a recent High Court judgment is ( $\in$ 158 million) and it is proposed that this money is collected to help meet any future obligations which may arise. Commencing collection of money in the upcoming tariff period will smooth out potential costs over a longer period of time and will help reduce the impact of higher charges on customer bills in subsequent years.

For context, the SEMC Decision SEM 22009 was challenged in the High Court and Judgment was delivered on 10 November 2023 (the "**High Court Judgment**"). The CRU, as the Respondent, has indicated to the Court that it intends to appeal the High Court Judgement once final Orders have been made in the case.

The TSOs have also proposed a negative K-factor adjustment of  $\in 66.41$  million for inclusion in the Tariff Year 2024/25 Imperfections Charge. This results in a proposal by the TSOs for an Imperfections Charge of  $\in 592.02$  million for Tariff Year 2024/25, this equates to an Imperfections Price of  $\in 15.26$  per megawatt-hour (MWh)<sup>3</sup>. Such

<sup>&</sup>lt;sup>1</sup> On 12<sup>th</sup> June 2024 the TSOs reissued an updated version of the 'Imperfections Charges Forecast for Tariff Year 2024/25" report which incorporated minor wording updates. Such version is published in Annex 1.

<sup>&</sup>lt;sup>2</sup> The TSOs' submission for Tariff Year 2023/24 was €539.98 million, reference Decision Paper <u>SEM-23-067</u>. <sup>3</sup> The TSOs forecast demand for the 2024/25 tariff year is 38,800 GWh, which represents a 0.4% decrease from the 2023/24 forecast demand of 38,950 GWh.

costs compare to an Imperfections Charge of €448.81 million and Imperfections Price of €11.52 / MWh in Tariff Year 2023/24.

The RAs invites feedback from stakeholders on the TSOs' Imperfections Charges Forecast for Tariff Year 2024/25 by close of business on Friday 26 July 2024. Following consideration of stakeholders' feedback, SEMC intends publishing its decision in early September 2024.

## **2 INTRODUCTION**

The RAs are consulting on the TSOs' Imperfections Charges Forecast submission for Tariff Year 2024/25 (i.e. 1<sup>st</sup> October 2024 to 30<sup>th</sup> September 2025), prior to issuing a final decision on the 2024/25 Imperfections Price and Imperfections Charge Factor.

Imperfections Charges allow SEMO to recover the total expected costs associated with managing the transmission system, and is levied on suppliers, under the provisions of the Trading and Settlement Code. Typically, costs covered by Imperfections Charges are due to network constraints, resulting in generators being compensated for being redispatched.

Under the Trading and Settlement Code, Imperfections Charges are levied on the Loss-adjusted Metered Quantities of Supplier Units. These charges are intended to recover the Dispatch Balancing Costs (DBC), Fixed Cost Payments and Charges, and any other imbalances between Trading Payments, Trading Charges, Capacity Payments and Capacity Charges over the Year (reference Figure 1).

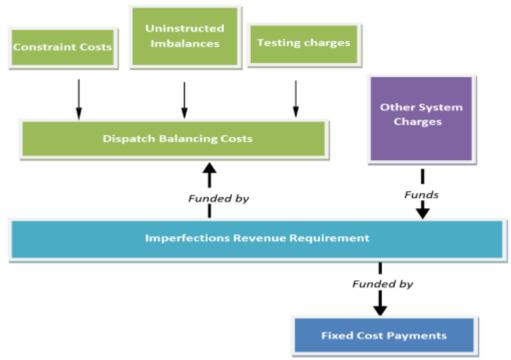


Figure 1: Imperfections Charge Components

DBCs are one of the most material components of Imperfections Charge costs. DBCs cover the costs associated with balancing the system, and result from a combination of offer and bid prices of redispatched generation and how successfully the TSOs manage network constraints, including through measures such as network and outage planning. The vast majority of DBCs are caused by constraints on the system.

Section F.12 of the Trading and Settlement Code requires SEMO to report to the RAs proposed values, for approval, of the Imperfections Price (PIMPy) and Imperfections Charge Factor (FCIMPy), which are used in the calculation of Imperfections Charges. The Trading and Settlement Code also requires that SEMO sets out relevant research of analysis and justifying the values proposed.

The TSOs have submitted a report, 'Imperfections Charges Forecast submission for Tariff Year 2024/25' (reference Annex 1), with their forecasts of the costs to be covered by Imperfections Charges during the period 1 October 2024 to 30 September 2025.

In this Consultation Paper, the RAs are requesting stakeholder feedback on such forecasts and any views on actions the TSOs could take to minimise Imperfections costs. In response to views received, the RAs may request the TSOs to revise these

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forecasts and will approve proposed values of the Imperfections Price and Imperfections Charge Factor, on this basis.

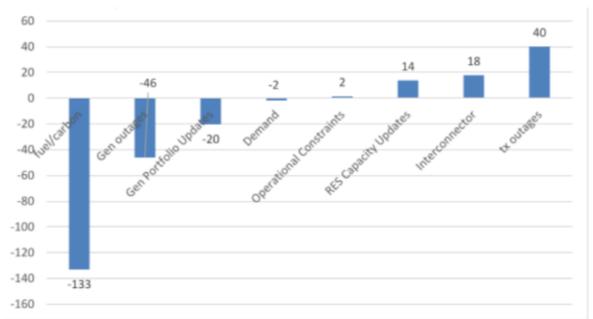
## 3 THE TSOS' IMPERFECTIONS CHARGES FORECAST FOR TARIFF YEAR 2024/25

The TSOs' Imperfections Charges Forecast for Tariff Year 2024/25 was prepared jointly by the TSOs (EirGrid and SONI). It presents an all-island estimate of the Imperfections Charges for Tariff Year 2024/25. All costs are ex-ante estimates to be recovered from suppliers on a MWh basis.

The TSOs forecast total constraint costs to be €658.43 million for Tariff Year 2024/25. With the addition of the forecast negative K-factor (€66.41 million), the TSOs estimate the total Imperfections Charges for Tariff Year 2024/25 to be €592.02 million. Such charges will be recovered from suppliers at an estimated Imperfections Price of €15.26/MWh<sup>4</sup>. This represents a 32% increase from the €448.81 million allowed Imperfections Charge for Tariff Year 2023/24. A key driver of this increase is the inclusion of a provision for potential payments to participants under Article 13 of Regulation (EU) 2019 / 943. This provision (€158 million) is sought to ensure sufficient funding is allowed to meet any potential future obligations that may arise, without prejudice to the outcome of the appeal of the High Court Judgment. The TSOs note "*no payments would be made until the legal process is finally concluded and there is a regulatory approved calculation methodology and payment mechanism in place*". The TSOs also identified transmission outages and increased renewable and interconnector capacity as having an inflationary impact on their forecast Imperfections Charges for Tariff Year 2024/25.

Cognisant of the above, the TSOs provided analysis (reference Figure 2) of their forecast Imperfections Charges for Tariff Year 2024/25 relative to their Tariff Year 2022/23 backcast findings. The main change observed is the projected decrease in fuel prices and generator outages relative to Tariff Year 2022/23.

<sup>&</sup>lt;sup>4</sup> Based on the TSOs estimated total forecast demand in the SEM for Tariff Year 2024/25 of 38,800 GWh.



*Figure 2.* The key drivers of the change in the TSOs 2024/25 PLEXOS Imperfections Costs relative to the TSOs backcast findings from Tariff Year 2022/23

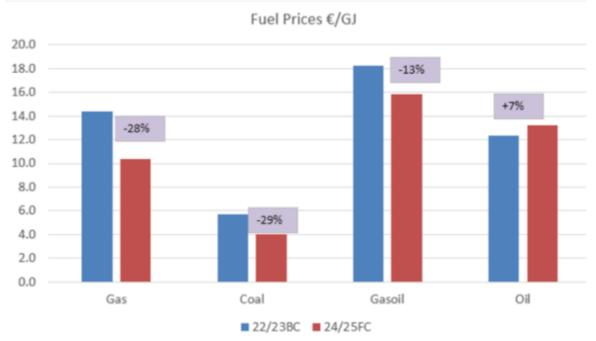


Figure 3 provides more detail on the individual fuel price components.

Figure 3. The decrease in key fuel prices observed between the TSOs backcast findings from Tariff Year 2022/23 and the TSOs forecasts for Tariff Year 2024/25

Details on the forecasts for each of the Imperfections Charge components, comprising Dispatch Balancing Costs (DBC), Fixed Costs payments and Other System Costs, are provided below and in the TSOs' submission, which is attached as Annex 1.

#### 3.1 DISPATCH BALANCING COSTS

Dispatch Balancing Costs (DBCs) form the majority of the TSOs' forecast costs for Tariff Year 2024/25<sup>5</sup>. DBCs include but are not limited to the following;

- Constraint Costs;
- Uninstructed Imbalance Payments; and
- Generator Testing Charges.

## 3.2 DBC - CONSTRAINT COSTS

Constraints arise where the TSO needs to reduce the output of one or a specific group of generation units to manage an issue, such as a restriction in the transmission network. In such an instance, the TSOs compensate generators for costs incurred as a result of being ran differently by the TSO (constrained up or on or down or off) than the market scheduled.

As Uninstructed Imbalances and Testing Charges are both forecast by the TSOs' at zero for Tariff Year 2023/24 (reference Section 3.3 and 3.4) the TSOs' forecast Constraint Costs is comprised of DBCs only.

Constraint Costs are forecast using a combination of a PLEXOS model and Supplementary modelling.

#### 3.2.1 PLEXOS MODELLED CONSTRAINTS

The TSOs' PLEXOS Model forecasts Imperfection Costs in Tariff Year 2024/25 to be €448.71 million. The TSOs used an ex-post adjusted "2022/23 backcast" model from

<sup>&</sup>lt;sup>5</sup> In order to increase transparency around DBC, the SEMC has reporting requirements for the TSOs. The TSOs provide quarterly updates on the levels of Constraint Costs, drivers behind Constraint Costs, mitigating measures being taken and other information or commentary that the TSOs believe will aid transparency in this area. These Quarterly Imperfections Costs Reports are available on EirGrid's and SONI's websites.

Tariff Year 2022/23 to compare values against outputs from their 2024/25 forecast model<sup>67</sup>.

The RAs invite stakeholders to share their views both on the overall TSOs' PLEXOS modelled constraints costs as well as any of its individual component parts (reference Figure 2). The most significant components are outlined below.

#### 3.2.1.1 Wholesale Fuel and Carbon Prices

The TSOs state that wholesale fuel and carbon prices are a fundamental driver of Imperfections Costs. The TSOs' analysis notes the cost impact due to the change in wholesale fuel and carbon prices is a reduction of €-133 million compared to their base backcast model. Lower fuel costs makes the cost of constraining an out-of-merit generation less expensive and drives a lower production cost in the constrained model. The result is that the disparity between the unconstrained and constrained model production costs decreases, and consequently, the DBC. Figure 3 (above) shows the various fuel costs used in the PLEXOS model.

#### 3.2.1.2 Forecast Generator Outages

The TSOs have indicated that their PLEXOS model results reveal that generator outages have had a lower cost impact on Imperfection Costs compared to the 2022/23 base backcast model. Generator outages are found to have the second largest impact on forecast constraints costs in 2024/25 imperfections forecast. The model results give a decrease of €46 million relative to the 2022/23 backcast model. The TSOs note that generator outages can be significantly influenced by other system factors and conditions. Therefore, generator outages can result in either a relatively small or substantial cost impact, depending on various concurrent factors such as wind levels, other units experiencing forced outages, and demand levels.

<sup>&</sup>lt;sup>6</sup> Note, the TSOs state in previous years they compared the values of their forecast to the values of the previous Tariff Year's forecast, however, during their calculation for the 2024/25 forecast, they used a backcast model based on the 2022/23 Tariff Year. The TSOs note theiir decision was driven by the "backcast model's ability to layer changes onto a known starting point" and the model "is likely to have data in common with the forecast model".

<sup>&</sup>lt;sup>7</sup> The TSOs conducted a "Take-Out-One-at-a-Time" (i.e., TOOT) analysis to determine the approximate scale of each input change relative to the final model. Due to the nature of the TSOs' TOOT analysis, each component is considered in isolation and all other inputs remain constant. The sum of all increases/decreases in values does not infer an aggregate increase/decrease.

#### 3.2.1.3 Generator Portfolio Updates

The TSOs note adjustments were made to account for changes in the generation fleet within their PLEXOS Model. Such adjustments included the retirement of specific coal units and addition of new thermal generation expected to come online. The TSOs note this has led to a reduction in costs of €20 million as the less flexible units are being phased out and the more flexible generation sources are being connected to the grid.

#### 3.2.1.4 Transmission Outages

Transmission outages have the greatest inflationary impact on the PLEXOS modelled Imperfections costs. Such outages are forecast to increase Imperfections costs by  $\in$ 40 million during Tariff Year 2024/25. The TSOs state that a significant program of outages planned for the transmission system will lead to the increase in DBC. Specifically, the TSOs note the refurbishment of critical elements of the 220kV and 400kV networks form a significant aspect of the program of outages planned for the transmission system in the 2024/25 tariff year. The TSOs note in the 2023/24 forecast, a provision of  $\in$ 13 million for Transmission Outages was included as part of the Supplementary Model process however this year, the TSOs have incorporated such outages into their PLEXOS Model.

# 3.2.1.5 Interconnector Flows and Renewable Energy Sources (RES) Capacity Updates

Interconnector flows and RES Capacity Updates (combined) are forecast to increase Imperfections Costs by  $\in$ 32 million in Tariff Year 2024/25. The TSOs' modelling analysis shows that while increased interconnector flows reduced overall system generation costs, it increased imperfection costs by  $\in$ 18 million due to an increase in costs observed in their unconstrained modelling exercise. Similarly, the TSOs found that the increase in renewable generation from wind and solar reduced overall system generation costs, their constrained model costs do not reduce as certain thermal units must be run to meet system constraints.

#### 3.2.2 SUPPLEMENTARY MODELLING CONSTRAINTS

The TSOs' Supplementary Model forecast for the tariff year 2024/25 is for €51.72 million. As it is not possible to model all constraint cost drivers in the TSOs' PLEXOS model, the TSOs include further costs that are derived through Supplementary Modelling. Further information can be found in Annex 1.

#### 3.2.2.1 Constrained Wind/Solar

Constrained wind forms the largest cost component of the TSOs' Supplementary Modelling Results at  $\in$ 23.02 million, an increase from  $\in$ 22.64 million in the TSOs' 2022/23 backcast model findings. The TSO note this provision is based on the actual CDISCOUNT that wind/solar participants received in the last 12 months up to 30/04/2024.

#### 3.2.2.2 Dispatch of Pump Storage Units

The TSOs Supplementary Modelling results show the cost of Pump Storage Running is forecasted to be the second largest Supplementary Model cost component in Tariff Year 2024/25 (€17.98 million). This equates to a notable reduction of €5.96 million by comparison to the 2022/23 backcast model results. The TSOs state that pump storage units are mostly dispatched overnight in pump mode in order to minimise curtailment levels and facilitate more priority dispatch. The TSOs note the running profile of such units is different than the profile that clears in the Day Ahead Market and therefore, the units differ from their Physical Notifications in the Balancing Market. Consequently, large CPREMIUMS and CDISCOUNTS payments are made to the pump storage units. The TSOs state the provision of €17.98 million is based on the actual CPREMIUM and CDISCOUNT payments that the pump storage units received in the last 12 months.

#### 3.2.2.3 Interconnector Counter Trades

Based on the actual cost of countertrades to Imperfections in the last 12 months, an allowance of  $\in$ 6.9 million has been requested by the TSOs for the 2024/25 forecast. This compares to  $\in$ 8.74 million in costs output from the 2022/23 backcast exercise.

#### 3.2.2.2 Additional CPREMIUM and CDISCOUNT<sup>®</sup>

An additional provision of  $\leq 1.46$ m has been calculated within the TSOs supplementary model for the 2024/25 Tariff Year, a notable reduction from the  $\leq 9.7$  million output from the TSOs' 2022/23 backcast. The TSOs note the main driver for the decrease in this cost component is the decrease in generator offer prices.

#### 3.2.2.5 Payment for Energy Imports for Units in System Service Modes

The TSOs note Modification 13\_19 allows the remuneration of energy consumption for units that are dispatched by the TSOs in system services mode. The TSOs forecast the cost of redispatching units to cover the imported energy of units in system services mode will be €2.36 million during Tariff Year 2024/25, unchanged from the 2022/23 backcast findings. The TSOs note the cost was determined based on historic unit data and imbalance price data in the 12 months preceding 01 March 2024.

## 3.2.3 ITEMS OMITTED FROM FORECAST IMPERFECTIONS CHARGES FOR TARIFF YEAR 2024/25

#### 3.2.3.1 DSU Energy Payments: Modification 02\_23

The TSOs note that in their forecast of Imperfections Charges for Tariff Year 2023/24, a provision of €56 million was included for DSU Energy Payments. The TSOs note that such provision has been removed from the forecast Imperfections Charge for Tariff Year 2024/25 due to "ongoing consultation in the area, and the costs associated with this change remain uncertain".

#### **3.3** DBC - UNINSTRUCTED IMBALANCES

Uninstructed Imbalances occur when there is a difference between a Generator Unit's Dispatch Quantity and its Actual Output. Uninstructed Imbalances have a direct effect

<sup>&</sup>lt;sup>8</sup> CPREMIUM is paid when an offer is scheduled in balancing (and delivered) at an offer price above the imbalance settlement price. CDISCOUNT is paid when a bid is scheduled in balancing (and delivered) at a bid price below the imbalance settlement price

on DBCs as TSOs re-dispatch generators to counteract the impact of Uninstructed Imbalances on the system.

The forecast for Uninstructed Imbalances is zero in the TSOs' Imperfections Charges submission for Tariff Year 2024/25 as it is assumed that any resulting additional Constraint Costs will, on average, be recovered by separate Uninstructed Imbalance Payments.

#### **3.4** DBC - TESTING CHARGES

As a testing generator unit typically poses a higher risk of tripping, additional operating reserve is required to ensure that system security is not compromised, which gives rise to increased system operating costs.

A forecast of zero is included in the TSOs' Imperfections Charges submission for Tariff Year 2024/25 for Testing Charges, as it is assumed that Testing Charges will offset any additional Constraint Costs.

#### 3.5 FIXED COST PAYMENTS

Fixed Cost Payments in the new market comprise: Make Whole Payment, Recoverable Start Up Costs and recoverable No-Load Costs. In their report, the TSOs have assumed that these costs have largely been captured in the PLEXOS model.

#### **3.6** OTHER SYSTEM CHARGES

Other System Charges (OSC) include Generator Performance Incentive Charges, Short Notice Declaration Charges, Trip Charges, which are Transmission Use of System Charges levied on Generators Users in respect of events or the provision of services that affect DBC and Ancillary Service Costs.

The TSOs assume that generators are compliant with the Grid Code requirements and no charges will be recovered through Other System Charges, i.e. a forecast of zero is

included for OSC for Tariff Year 2024/25. It is assumed that any deviation from this assumption will result in an increase in DBC, and that any monies recovered through OSC will net off the resultant costs to the system in DBC.

## 3.7 ARTICLE 13.7 COSTS

The TSOs seek a provision of €158 million for potential payments to participants under Article 13 of Regulation (EU) 2019/943. The TSOs state a provision is sought to ensure sufficient funding is in place to meet any potential future obligations that may arise, without prejudice to the ongoing judicial review process.

As indicated, the CRU shall appeal the High Court Judgment. Arising from the High Court Judgment there is a potential liability which the TSOs have estimated. Against this background, the SEM Committee considers it appropriate to include the current best estimate of the potential liability in tariffs based on the TSOs estimate. The collection of these costs in the upcoming tariff serve to mitigate the risk of a potentially significant, higher increase in charges on customer bills in a subsequent year.

The TSOs note no payments would be made until the legal process is concluded and there is a regulatory approved calculation methodology and payment mechanism in place.

As stated in the Executive Summary the CRU shall be appealing the High Court Judgment once final orders have been made in the case.

## 3.8 K-FACTOR

The K-factor is the TSOs within-year estimate of the funding position of the current Tariff Year (i.e., 2023/24). The K-factor is based on the actual outturn Imperfections costs for the first seven months (i.e., 1 October 2023 to 30 April 2024), plus an estimate for the remaining five months (i.e., 1 May 2024 to 30 September 2024).

Differences between the Imperfections Charges paid out by the TSOs to generators and the amounts paid to the TSOs by suppliers based on the Imperfections Price for the current Tariff Year can lead to a surplus or shortfall across the Tariff Year. The TSOs refund any surplus or seeks to recover any shortfall through an adjustment to the Imperfections Price in the following Tariff Year. A further adjustment, to account for differences between the estimate and the outturn made for the remaining five months, may be required in the next Tariff Year plus 1 i.e., 2026/27.

The K-factor submitted by the TSOs for Tariff Year 2024/25 is an over-recovery of €66.41 million, comprising of an actual under-recovery of €21.59 million for Tariff Year 2022/23 and an estimated over-recovery for Tariff Year 2023/24 of €88 million (reference Table 2 below and Annex 2 for the TSOs' submission).

	€ Million
Actual Under-Recovery in 2022/23	(21.59)
Estimated Over Recovery in 2023/24	88
Total Estimated Over Recovery	66.41
Total K-Factor to be Applied in	66.41
2024/25	00.41

 Table 2.
 K-Factor calculation for 2024/25.

In calculating the K-factor for Tariff Year 2024/25 as shown above, the TSOs considered two factors for the within year K factor for 2023/24; Estimated Outturn Expenditure and Estimated Outturn Revenue. The within year K factor for 2023/24 Estimated Outturn Expenditure resulted in an over recovery of €100.48 million, whilst the Estimated Outturn Revenue estimated an under recovery of €12.48 million, combined this resulted in an estimated over recovery of €88 million for 2023/24. In terms of the 2022/23 actual under recovery calculation, the TSO note this is comprised of a €120 million under recovery for 2022/23 (which was included when setting the 2023/24 tariff), plus an actual €98.4 million K factor over recovery arising from the 2022/23 year.

## 4 PROVISIONAL IMPERFECTIONS CHARGE FOR TARIFF YEAR 2024/25

The TSOs proposed an Imperfections Charge of €592.02 million for the Tariff Year 2024/25. This comprises of total constraints costs of €658.41 million (most of which are attribute to Constraints Costs and costs associated with the Clean Energy Package) and a K-factor adjustment of -€66.41 million, provides a total forecast Imperfections Charge of €592.02 million. When the total forecast Imperfections Charge is divided by the forecast demand, of 38,800 GWh<sup>9</sup>, it equates to an Imperfections Price of €15.26/MWh for Tariff Year 2024/25. This is a 32% increase on Imperfections Charges during Tariff Year 2023/24 (€11.52/MWh). The trend in the Imperfections Prices and costs is summarised in Table 3 below.

€ Million	TSO Proposed	2023-	2022-	2021-	2020-	2019-	2018-19	2017-
	2024-25	24	23	22	21	20	2010-13	18
Total Constraints costs	658.43	539.98	694.14	341.01	271.09	256.97	190.44	177.6
Uninstructed Imbalances								
Testing charges								
Dispatch Balancing Costs	658.43	539.98	694.14	341.01	271.09	256.97	190.44	177.6
Energy Imbalance					-			-
Fixed Cost Payments				-	15.38	14.35	7.19	2.7
K-factor Adjustment	(66.41)	(91.17)	140.36	(10.18)	(0.37)	84.44	(13.86)	(7.34)
Other System Charges					-	-	-	-
Total Imperfections Charge	592.02	448.81	834.53	330.83	286.10	355.76	183.77	173.02
Forecast Demand ('000 MWh)	38,800	38,950	38,200	36,000	33,600	34,200	35,200	34,550
Imperfections Price / MWh	15.26	11.52	21.85	9.19	8.51	10.40	5.22	5.00

 Table 3: Imperfections Charge over time

<sup>&</sup>lt;sup>9</sup> The TSOs forecast demand for the 2024/25 tariff year is 38,800 GWh.

### **5 NEXT STEPS**

The RAs invite stakeholders responses on the TSOs' Imperfections Charge for Tariff Year 2024/25. The RAs request stakeholders views on both the totality of the proposed Imperfections Charge and for any comments on its constituent parts, in particular, the TSOs';

- forecast demand (38.8 TWh) for Tariff Year 2024/25;
- new PLEXOS modelling approach;
- forecast costs associated with:
  - operational constraints;
  - transmission outages;
  - pumped storage units; and
  - Potential costs associated with Article 13 of Regulation (EU) 2019/943

All responses received will be published, unless the respondent specifically requests otherwise. Accordingly, respondents should submit any sections that they do not wish to be published in an appendix that is clearly marked "confidential".

Responses to this paper should be forwarded to Lisa Murray (<u>mmg@cru.ie</u>) and Mary Farrelly (<u>mary.farrelly@uregni.gov.uk</u>) **by close of business on 26th July 2024**.

Following consideration of responses received and further review of the TSOs' submission, the RAs intend publishing a decision in early September 2024.