

2019/20 Imperfection Costs Reforecast

Tariff Year: 01 October 2019 to 30 September 2020

04 June 2021

Version 2.0



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1 Executive Summary

This report to the Commission for Regulation of Utilities (CRU) and the Northern Ireland Authority for Utility Regulator (UR), collectively known as the Regulatory Authorities (RAs), has been prepared by EirGrid and SONI, in their roles as the TSOs for Ireland and Northern Ireland respectively, concerning the 2019/20 Imperfection Costs Reforecast. This report covers the period from 01/10/2019 to 30/09/2020 inclusive, referred to as the Tariff Year 2019/20.

Imperfection costs are an inherent feature of the SEM design and arise due to the difference between the ex-ante market schedule and the real-time dispatch. These costs are levied on suppliers through the Imperfections Charge. EirGrid and SONI, as Transmission System Operators (TSOs), are responsible for managing imperfection costs, through efficient dispatch of generation, whilst maintaining a secure electricity system.

A process to incentivise the TSOs to reduce imperfections was announced by the Regulatory Authorities (RAs) in June 2012. With regard to the 2019/2020 period, however, as set out by the RAs in correspondence dated 09 March 2021¹, it was determined that no incentive should apply for the tariff year 2019/20.

The TSOs submitted a 2019/20 Forecast to the RAs on 30 May 2019. Using the submitted forecast as a base, the TSOs then updated a number of inputs based on actual data for this period, to create an ex-post adjusted forecast; the “reforecast”. A summary comparison of the 2019/20 Forecast with the 2019/20 Reforecast and the 2019/20 Actuals is shown in Figure 1 below. The 2019/20 reforecast is in the general range of the 2019/20 actual costs.

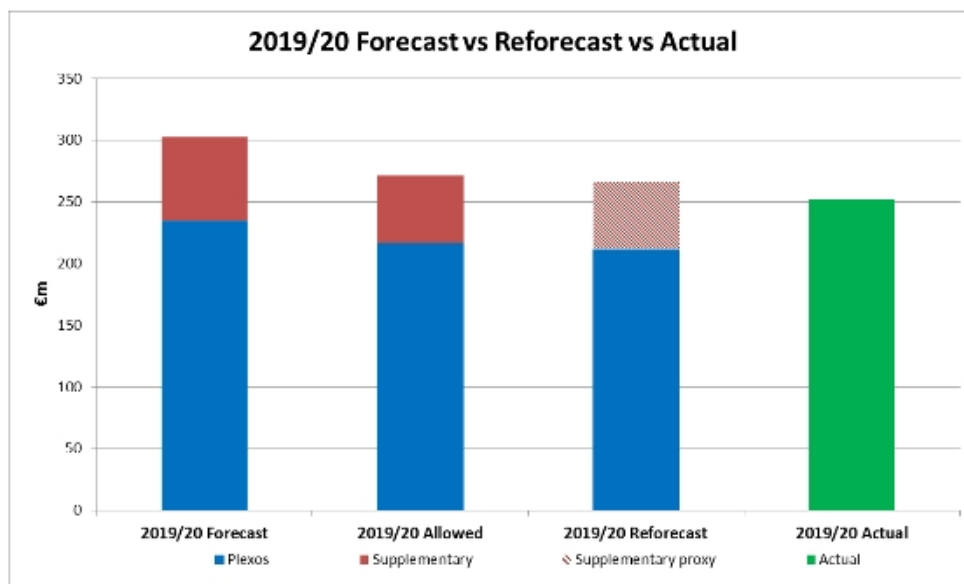


Figure 1: 2019/20 Forecast vs. Reforecast vs. Actual comparison

¹ Ref: letter from David Egan, 09/03/21 (CRU) titled 'Imperfections Incentive and Reporting for Tariff Year 2019/20'

2 PLEXOS Comparison

The PLEXOS modelled component of the reforecast for 2019/20 was found to be €212m. This is a decrease from the submitted PLEXOS forecast cost of €235m. As shown in Figure 2 updating the 2019/20 Forecast PLEXOS model with actual data led to a decrease of €23m.

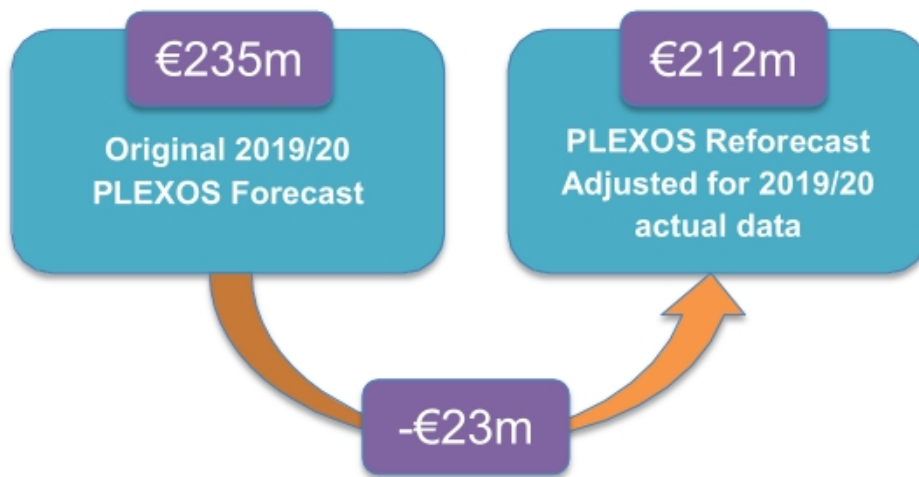


Figure 2: PLEXOS adjustment for actuals

Figure 3 shows the drivers which make up this decrease of €23m.

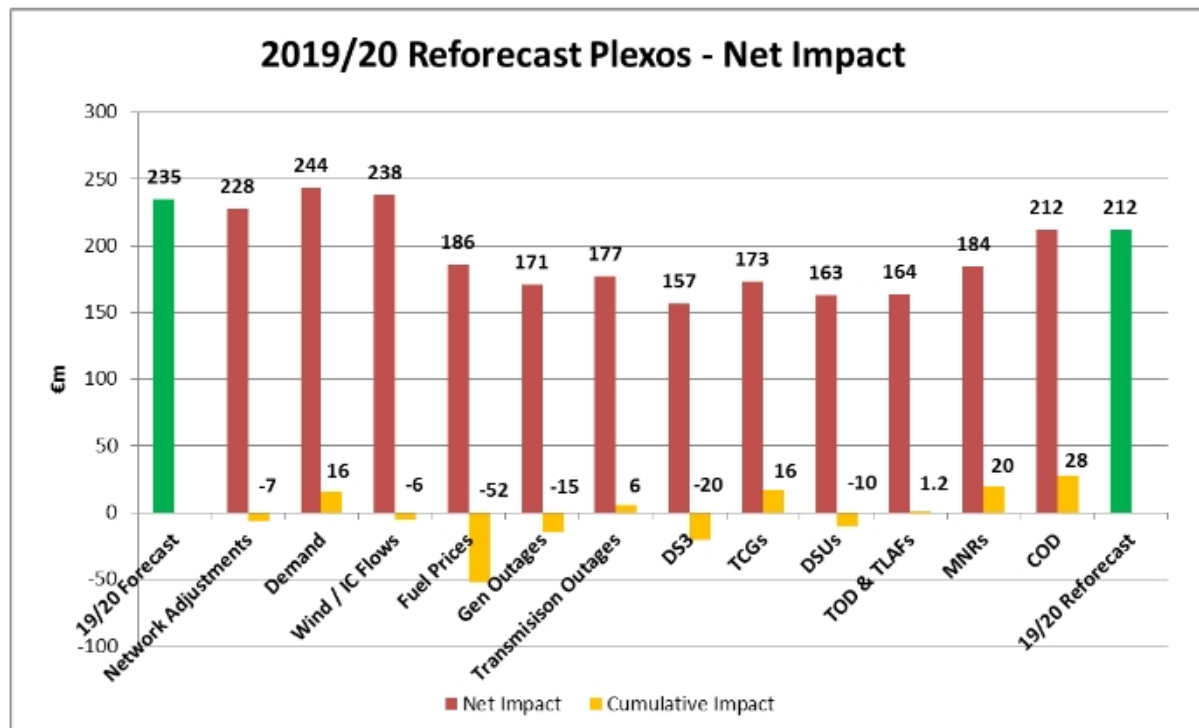


Figure 3: 2019/20 Reforecast PLEXOS – Net Impact

2.1 Network Adjustments

Performing general network updates, including updates to reflect most common current operational busbar and coupler configurations, resulted in a decrease in model costs of €7m.

2.2 Demand

The actual all-island demand (total energy requirement) was 6% lower than forecast. This resulted in a €16m increase in model costs.

2.3 Wind / IC flows / North South Flows

Updating the 2019/20 Forecast with actual 2019/20 interconnector flows and wind availability, and updating the North South limits resulted in a €6m decrease in model costs.

2.4 Fuel/Carbon Prices

Updating the model for actual fuel costs decreased model costs by €52m. This was primarily due to significant decreases in actual gas and coal prices between the 2019/20 Forecast and the Reforecast. See summary of model prices below:

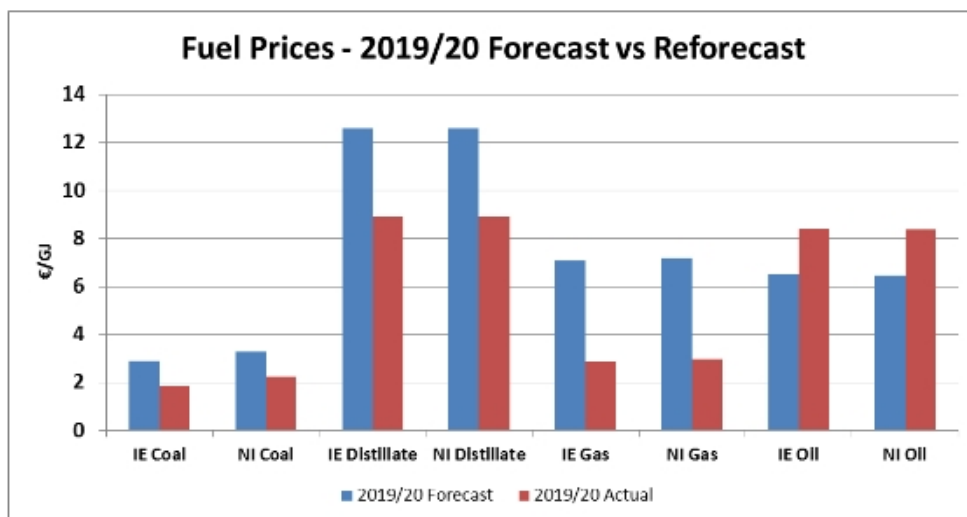


Figure 4: Fuel Prices – 2019/20 Forecast vs. Reforecast

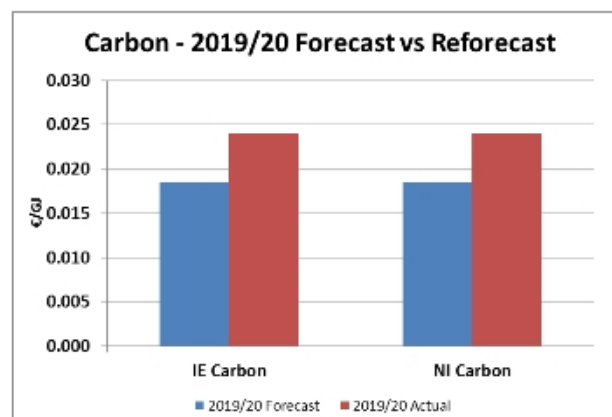


Figure 5: 2019/20 Carbon Prices – Forecast vs. Reforecast

2.5 Generator Outage Updates

Forecast outages were updated to reflect the actual outages that happened in 2019/20, and there were significantly less outages than planned, probably due to the impact of carrying out works with Covid restrictions. This led to a decrease in the model costs of €15m.

2.6 Transmission Outages

The model was updated to reflect the actual transmission outages that took place in 2019/20. These increased the model costs by €6m.

2.7 DS3 Adjustments

Actual dates for the introduction of SNSP and Inertia changes were updated in the model which led to a decrease in the model costs of €20m. SNSP contributed to a large proportion of this, where actual SNSP was lower than what had been forecasted.

2.8 Updated Operational Constraints (TCGs)

The operational policies/Transmission Constraint Groups (TCGs) were updated to reflect the updated policies/TCGs on the system in 2019/20. This resulted in an increase of €16m in the model costs. A significant proportion of this is the South West Generation must run at night & low wind constraint.

2.9 DSU updates

As we have more data on DSU running, we have a better understanding of typical energy capabilities and availabilities. DSU ratings were significantly decreased for the reforecast to represent realistic availability levels. This led to a decrease in model costs of €10m.

2.10 TOD and TLAFs

For unit TOD, some units have changed their minimum stable generation levels, and others have increased their 'min off' times. Combined with using actual TLAFs for the year, there was a slight increase in model costs of just over €1m.

2.11 Must Not Runs (MNRs)

As a result of the Covid pandemic, a number of generation units were not able to schedule their maintenance and therefore had limited run hours available. Hence must not run constraints came into effect from May 2020 for four units: B31, B32, HN2 & DB1. Limited run hours were placed on these units, which led to increases in CDISCOUNTS for the four units in question, and additional CPREMIUMs for other units that were dispatched on/up to meet demand. When modelled, this led to an increase in model costs of €20m.

2.12 Commercial Offer Data (COD)

Commercial offer data, including the cost of gas transportation capacity costs, for each unit (based on analysis of historic bids) were updated. This update resulted in increased constraints costs, where the units had been constrained on in the dispatch, to meet reserve, transmission or security constraints on the power system. This amounted to an increase in model costs of €28m.

3 Reforecast Results Compared to Actuals

This section contains a comparison of the following for the Tariff Year 2019/20:

- The 2019/20 Forecast Submission & RA Allowance
- The 2019/20 Reforecast (PLEXOS revision only) & Actual Outturn²

3.1 2019/20 Forecast Submission & RA Allowance

For the 2019/20 Tariff year, the TSOs submitted an Imperfections forecast of €302.65m. This comprised of €235m for the PLEXOS model and €68m for the supplementary model. Following consultation, the RAs determined a total allowance of €271.33m for the year, deducting elements from both the PLEXOS model and supplementary model. These values are represented by the first two bars in Figure 6 below:

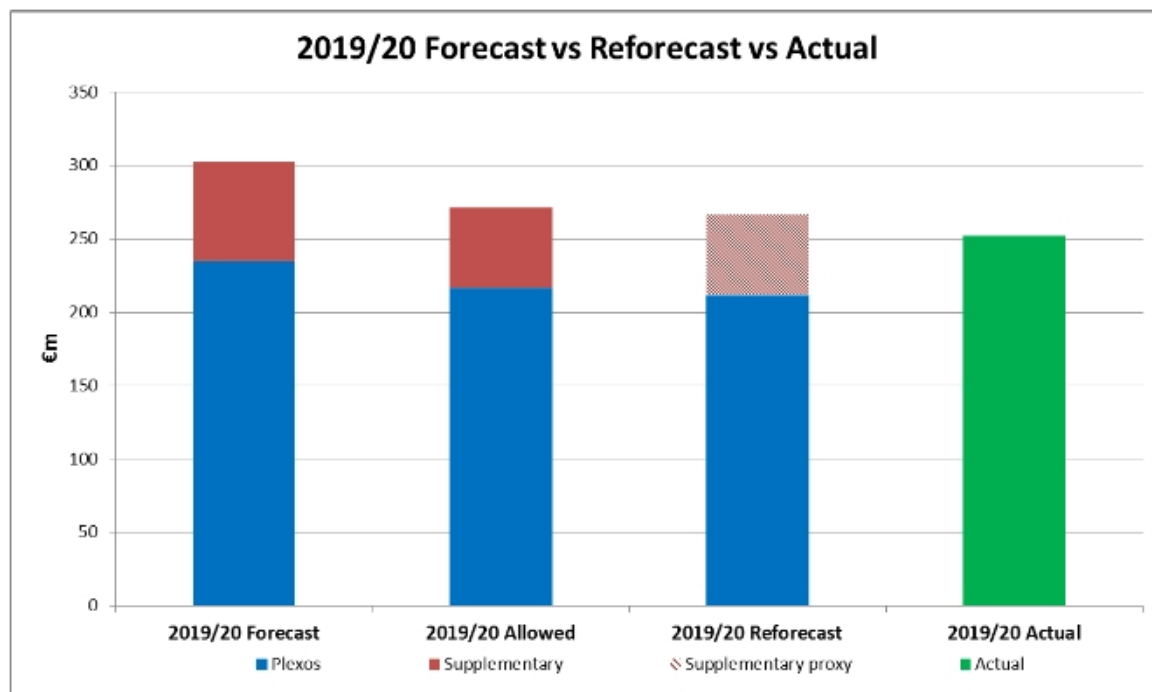


Figure 6: 2019/20 Forecast vs. Reforecast vs. Actual comparison

² The actual outturn used in this document is the current total including the latest M+13 resettlement.

3.2 2019/20 Reforecast & Actual Outturn

Reforecast PLEXOS: From Figure 6 it can be seen that when updating the original forecast with actual data, the PLEXOS element decreases from €235m to €212m.

Reforecast Supplementary: The purpose of this report is to see the changes in the PLEXOS model from using actual data, with supplementary modelling not being considered. The TSOs have therefore included a proxy for the supplementary model, which was the RA approved value. For reference, the RAs reduced the TSOs' submitted supplementary model from €68m to €55m.

The current resettled actual cost for the 2019/20 year are €251.7m (shown in green in Figure 6), and the total reforecast cost of €266.5m are in the general range of these actual cost. It should be noted that the TSOs' Control Room Operators strive to reduce costs in their daily practices, via decisions based on practical experience. It is impossible to add these efficiencies into the model, but the continued TSOs' efforts to reduce Imperfection Costs can be seen in the fact that the actual cost (€251.7m) is lower than the reforecast cost (€266.5m). It should also be noted that some minor changes would have resulted from a review of the supplementary modelling.