

	2018/2019 YTD Outturn (€m)	2017/2018 YTD Outturn (€m)	2018/2019 Q4 Outturn (€m)	2017/2018 Q4 Outturn (€m)
CPREMIUM	109.7		20.2	
CDISCOUNT	101.4		22.9	
CABBPO	3.0		0.0	
CAOPO	2.8		-0.2	
CTEST	-0.2	Note [1]	0.0	Note [1]
CUNIMB	-3.5		-0.5	
CCURL	-4.3		-0.5	
<b>Dispatch Balancing Costs (DBC)</b>	<b>208.9</b>	<b>190.5</b>	<b>41.9</b>	<b>35.3</b>
<b>Fixed Cost Charges/Payments (CFC) [2]</b>	<b>64.1</b>	<b>7.9</b>	<b>8.5</b>	<b>1.9</b>
<b>Energy Imbalance</b>	Note [5]	-2.5	Note [5]	-0.5
<b>Other System Charges (OSC) [3]</b>	<b>-7.0</b>	<b>-11.4</b>	<b>-1.5</b>	<b>-2.5</b>
<b>Imperfections Costs Outturn</b>	<b>266.0</b>	<b>184.5</b>	<b>48.9</b>	<b>34.2</b>
<b>Imperfections Costs Forecast Allowed</b>	<b>197.6</b>	<b>180.4</b>	<b>40.7</b>	<b>36.8</b>
<b>Variance: Forecast Vs. Outturn [4]</b>	<b>68.4</b>	<b>4.1</b>	<b>8.2</b>	<b>-2.6</b>
<b>Variance %</b>	<b>34.6%</b>	<b>2.3%</b>	<b>20.1%</b>	<b>-7.1%</b>

### Key Points

- Costs are based on actual initial settlement figures however there will be significant variations in the final year end figures as a result of resettlement, system defect fixes and Trading and Settlement Code modifications. To date, M+4 Resettlement has occurred up as far as 27/01/19 and net imperfections cost considering resettlements is €43m greater than the initial.
- The Imperfections Cost Forecast is profiled based on the RA approved model, which assumed zero payments for OSC.
- The Imperfections Cost Outturn is subject to fluctuation relative to the forecast.

Key Factors Affecting Imperfections Costs	Forecast Assumptions for TY1819 [11]	Actual TY1819	Impact [12]
<b>T&amp;S Code and System Changes</b>	Data as per forecast submission	CFC payments decreased significantly in Q4 compared to previous quarters due to the implementation of a number of modifications in the June release. As outlined in Note [2] these modifications have affected the CFC payments throughout the year however this decrease signifies a move in the right direction. As with previous quarters, the new settlement rules have impacted imperfections costs. In particular, the rule that generators are paid the better of the imbalance price and their offer price has resulted in increases in imperfections this quarter against the allowed budget.	↑
<b>Reserve Policy and TCGs [6]</b>	Primary & Secondary Operating Reserve 75% LSI [7] TCG data as forecast per submission	Transmission constraint S_NBMAX_SW_NB was active since May 2019 and was not included in the forecast model. This increased imperfections costs over the last quarter.	↑
<b>Reserve Provision</b>	Data as per forecast submission	The minimum daytime operating reserve requirement in Ireland was 135 MW compared to the forecasted figure of 110 MW, thus increasing imperfections.	↑
<b>System Demand</b>	Data as per forecast submission	Actual system demand was broadly in line with that forecast.	→
<b>Forced Generation Outages</b>	Data as per forecast submission	Average actual rate for this quarter was 9.27% [8]. This was slightly higher than forecast and was a driver to increased imperfections over the quarter.	↑
<b>Scheduled Generation Outages</b>	Data as per forecast submission	Scheduled generator outages were broadly in line with those forecast.	→
<b>Forced Transmission Outages</b>	No outages forecast	There were some forced outages, including 400 kV and 220 kV, which resulted in constrained generation.	↑
<b>Scheduled Transmission Outages</b>	Data as per forecast submission	Scheduled transmission outages were broadly in line with those forecast.	→
<b>Commercial Offer data - Fuel Costs &amp; Carbon [9]</b>	Data as per forecast submission	Wholesale fuel prices for the quarter were as follows; Gas: 30% lower than forecast, Coal: 25% lower, Distillate: 6% higher, Oil: 1% lower and Carbon: 168% higher. Therefore the cost of constrained generation was notably lower than forecast for the most used fuels decreasing DBC for the period.	↓
<b>Wind Variability</b>	Data as per forecast submission	Installed all-island capacity at period end: 5,045MW [10] Average Wind Capacity Factor for Q4 was 22%, which was broadly in line with that forecast.	→

**Mitigation Measures**

The following are a list of mitigation measures undergoing review to seek to increase downward pressure on imperfection costs:

1. Daily review of Non-Compliances / Performance Monitoring events e.g. trips;
2. Weekly review of imperfections costs and drivers;
3. Ongoing review of Reserve Policy and TCGs <sup>[6]</sup>;
4. Flexibility services as required;
5. Grid Code/ Trading and Settlement Code review and modifications;

**Notes**

[1] Not all settlement cost components had an equivalent pre 01/10/2018.

[2] Fixed Cost Payments/Charges (which include a calculation for Make Whole Payments) were introduced as part of Trading and Settlement Code Part B. Unintended consequences of this calculation have led to significant Make Whole Payments to units with negative imbalance revenue. A modification (Mod\_34\_18) to change the rules around Make Whole Payments for negative imbalance revenue was approved by the SEM Committee, effective 27 January 2019. In addition, Modification Proposal Mod\_07\_19 "Correction to No Load Cost" has been approved by the Modifications Committee effective 03 May 2019. These were both implemented in the June release and have the effect of reducing CFC. For settlement runs between the effective dates of the modifications and the June release, the changes in CFC are reflected in the values presented for the last quarter and will be corrected as part of resettlement for previous quarters. However, a fix is still required for the Recoverable Cost Start Up defect (CSUR – due to heat state) and has been implemented in the first quarter of 2019/20 tariff year.

In addition, Modification\_09\_19 "Removal of Locational Constraints from Imbalance Pricing Calculation" has been approved by the Modifications Committee effective 02 May 2019, which has an effect on imperfections costs by changing the units settled on complex commercial offer data due to being Flagged or Tagged. M+4 resettlement have begun and CFC payments have increased.

The imperfections cost forecast includes an estimate for Make Whole Payments. Make Whole Payments are not subject to the incentive process.

[3] Includes Other System Charges up to September 2019, as published at [www.eirgridgroup.com](http://www.eirgridgroup.com) and [www.soni.ltd.uk](http://www.soni.ltd.uk).

[4] Positive value indicates outturn is higher than forecast. Negative value indicates outturn is lower than forecast.

[5] A number of defects have been identified in the settlement of interconnectors. A recent estimate of the net position at the end of Q4 is a charge to the TSO of €9.56m. This has not been included in the figures in the table above as it was based on shadow settlement.

[6] TCGs mean Transmission Constraint Groups or Operational Constraints as published at [www.eirgridgroup.com](http://www.eirgridgroup.com) and [www.soni.ltd.uk](http://www.soni.ltd.uk).

[7] LSI means the Largest Single Infeed which is used in the calculation of the system reserve requirement.

[8] Calculated from the average monthly all-island forced outage rates from July 2019 to September 2019.

[9] The forecast and actual fuel and carbon costs were based on data taken from Thomson Reuters.

[10] The installed wind capacity is the August 2019 figure as published at [www.eirgridgroup.com/how-the-grid-works/renewables](http://www.eirgridgroup.com/how-the-grid-works/renewables), as the full data for September was not available at time of publication.

[11] Forecast is over an annual time horizon. Information and figures are for this period unless otherwise stated. Forecast assumptions are published at: <http://www.semcommittee.eu>

[12] Increase from Forecast



Decrease from Forecast



No Change from Forecast



**Component Description**

**Fixed Cost Charges/Payments:** Payments for additional fixed costs incurred, or charges for fixed costs saved from dispatching a unit differently to its market position, if not sufficiently covered through the unit's other payments or charges.

**Dispatch Balancing Costs** are made up of the following components:

- **CPremiums:** Paid when an offer is scheduled in balancing (and delivered) at an offer price above the imbalance settlement price.
- **CDiscounts:** Paid when a bid is scheduled in balancing (and delivered) at a bid price below the imbalance settlement price.
- **CABBPO/ CAOPO:** Bid Price Only and Offer Price Only Payments and Charges, adjustment payment or charge to result in net settlement at the offer price for increments, or bid price for decrements, for undo actions on generators.
- **CCURL:** Adjustment payment or charge to result in net settlement at a specific curtailment price for curtailment actions on generators.
- **CTEST:** Charges applied to units under test.
- **CUNIMB:** Charges for imbalances, and bids and offers accepted in balancing but not delivered, which were outside of a tolerance. Undelivered quantities are settled at the imbalance settlement price.