## Quarterly Imperfections Cost Report 1st January 2018 - 31st March 2018

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	2017/2018	2016/2017	2017/2018	2016/2017		
	YTD Outturn (€m)	YTD Outturn (€m)	Q2 Outturn (€m)	Q2 Outturn (€m)		
Dispatch Balancing Costs (DBC)	112.6	80.8	60.3	40.7		
Make Whole Payments	3.6	1.4	2.1	0.8		
Energy Imbalance	-1.7	0.3	-1.0	0.3		
Other System Charges (OSC) <sup>[2]</sup>	-6.1	-4.3	-3.6	-2.0		
Imperfections Costs Outturn	108.4	78.2	57.8	39.8		
Imperfections Costs Forecast	108.0	82.1	54.4	44.3		
Variance: Forecast Vs. Outturn	0.4	-3.9	3.4	-4.5		
Variance % <sup>[3]</sup>	0.4%	-4.8%	6.3%	-10.2%		

## Key Points

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• The Imperfections Costs Forecast are profiled based on the submitted model which assumed zero payments for both OSC and Energy Imbalances.

• The Imperfections Costs Outturn are subject to fluctuation dependent upon power system conditions and will vary significantly within the year relative to the forecast. The differing power system conditions and external conditions (for example system demand) need to be taken into account when comparing quarterly periods and year to date figures.

Key Factors Affecting Imperfections Costs	Forecast Assumptions for TY1718 <sup>[5]</sup>	Actual TY1718	Impact <sup>[11]</sup>
Reserve Policy and TCGs <sup>[6]</sup>	Primary & Secondary Operating Reserve 75% LSI <sup>[7]</sup> TCG data as forecast per submission	A number of units in NI were removed from load-based TCG. During periods of adverse weather where there was an increased system risk, the TSOs implemented measures to mitigate the consequences of this risk. Such measures included but were not limited to providing additional reserve and running machines out of merit	\$
Reserve Provision	Data as per forecast submission	No change from forecast in this quarter.	
Regulatory Policy Changes	Data as per forecast submission	No change from forecast in this quarter.	
System Demand	Data as per forecast submission	Actual system demand was relatively consistent with the forecast and had a negligible impact on DBC over the Quarter.	
Forced Generation Outages	Data as per forecast submission	Average actual rate for this quarter: 6.15% <sup>[8]</sup>	
Scheduled Generation Outages	Data as per forecast submission	EWIC was on a maintenance outage from 28th February to 29th March.	↑
Forced Transmission Outages	No outages forecast	There were no significant forced transmission outages during this period.	♠
Scheduled Transmission Outages	Data as per forecast submission. N-S Tie Line maintenance outage was not included in the forecast submission.	There was a 10 day Tie Line outage between Friday 30th March and 8th April for essential planned maintenance. Ireland and Northern Ireland were run as separate synchronous systems for the duration of the outage. In order for the TSO to maintain system stability there were irregular dispatch patterns, curtailment and constraining of renewable generation and irregular interconnector flows.	ſ
Commercial Offer data - Fuel Costs & Carbon <sup>[9]</sup>	Data as per forecast submission	Wholesale fuel prices for the quarter were as follows; Gas: 22% higher than forecast, Coal 33% higher, Distillate 28% higher, Oil 15% higher and carbon was c. 103% higher. Therefore the cost of constraining on generation (Gas and Coal units) was higher than forecast and has increased DBC over the quarter.	₽
Wind Variability	Data as per forecast submission	Installed Capacity at period end: 4,562MW <sup>[10]</sup> Estimated Capacity Factor Q2: 39% The wind capacity factor was in line with the forecasted value for the quarter (39%).	\$

Mitigation Measures
The following are a list of mitigation measures undergoing review to seek to increase downward pressure on Imperfection Costs:
<ol> <li>Daily review of Non-Compliances / Performance Monitoring events e.g. Trips;</li> </ol>
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 review and modifications;
6. System Operator counter trading on the Interconnectors; and
7. EWIC export plan to reduce LSI.
Notes
[1] Costs are actual initial settlement figures. There may be variations in the final figures as a result of resettlement or regulator approved derogations.
[2] Other System Charges amounts as published at www.eirgridgroup.com.
[3] Positive value indicates under forecast, Negative value indicates over forecast.
[4] Imperfections Cost Forecast includes forecast for Make Whole Payments. Make Whole Payments are not subject to the
incentive process.
[5] 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
[6] TCGs mean Transmission Constraint Group or Operational Constraints as published at www.eirgridgroup.com.
[7] LSI means the Largest Single Infeed which is used in the calculation of the system reserve requirement.
[8] Percentage availability is an average of the Ireland January to March figures.
[9] Fuel and Carbon Costs forecast and actual performance based on data taken from Thomson Reuters.
[10] Installed capacity is as of end March 2018.
[11] Increase from Forecast Decrease from Forecast

No Change from Forecast