
CC43 - Review of the Credit Assessment Price Process (CC42 Action 2)

Credit Committee

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Summary

Considering high System Prices in 2021, in its 42nd meeting the Credit Committee discussed whether changing the Credit Assessment Price (CAP) calculation process to take a higher weight of forward market peak prices into account would better reflect the System Price.

Elexon carried out analysis using two scenarios, analysed the difference between 30-day moving average of System Buy Price and Credit Assessment Price, and compared the results for two scenarios to the current process. The current process seems to have worked quite well particularly since October 2018. We have also looked into the Imbalance Volumes over the peak hours as well as the history of idea of solely using peak prices.

This paper recommends that no changes to the current defined process is needed.

Elexon invite the Credit Committee to consider the content of this paper and decide whether they would like to recommend a change of the process to the Panel.

1. Background

- 1.1 The Credit Assessment Price (CAP) is a parameter defined in BSC Section M1.4 as 'the price which it would be appropriate to use to determine the equivalent financial amount of Imbalance Parties' Energy Indebtedness'.
- 1.2 The BSC Panel has delegated responsibility for reviewing and determining the CAP to the Credit Committee (CC). The process for reviewing the CAP is set out in the [CAP Review Guidance](#).
- 1.3 Currently, Elexon performs a weekly check comparing the CAP to a reference price, which is calculated based on forward market prices for the next two months, taken from the ICIS Heren report. If the reference price diverges from the CAP by a pre-determined value (referred to as the 'trigger level'), a review of the CAP is initiated following this breach.
- 1.4 System Prices were high in 2021 particularly between 6 to 8 January, high prices between £1,000/MWh and £4,000/MWh increased the average of System Prices to around £73/MWh over period 1 January to 15 February. The Credit Committee expressed their concern that the current way of calculating reference price and CAP might not fully reflect the System Prices. The Credit Committee suggested that the process could better incorporate peak forward market prices, as they seem to be reflecting the recent System Prices better. They discussed that such arrangements might provide more support to ensure Parties had sufficient collateral prior to going out of business to avoid mutualisation.
- 1.5 Elexon carried out analysis using historic data to help evaluate whether considering a higher weight for, or solely using, forward market peak prices would make a difference. This paper is to present the analysis results to the Credit Committee for their potential recommendation to the Panel.

2. Scenarios included and corresponding assumptions in the analysis

- 2.1 We have considered two scenarios, and presented our analysis comparison with the current arrangements.
- 2.2 The current process is defined in the [CAP Review Guidance](#), and based on a 5-day rolling equal weighted average of baseload and peak forward market prices for the next two months. The current arrangements are referred to in this paper as “**current**” scenario.
- 2.3 The “**Peak_only**” scenario takes only peak prices into account for calculating the reference price and the CAP. The “**P2B1**” scenario takes peak and baseload prices into account but attributes a weight to the peak prices which is double that of baseload prices.
- 2.4 The period analysed covers 5 April 2016 to 15 February 2021. The 5 April 2016 was when the reference period in the process changed to the next two months instead of quarters.
- 2.5 The assumptions in simulating the scenarios are, in line with the latest CAP Review Guidance following the last changes made in October 2019, as follows:
 - 2.5.1 On the first working day of each week the CAP value is compared to the reference price;
 - 2.5.2 The trigger level is set to 10% of the CAP value;
 - 2.5.3 In case of a breach, it is assumed that consultation of a new CAP based on the value of the reference price on the implementation day receives no objection from the industry and the Credit Committee.
 - 2.5.4 A consultation period of five Working Days following by an implementation period of 15 Working Days is assumed.

3. The difference between 30-day moving average System Price and CAP

- 3.1 After calculating reference price for the two scenarios mentioned above, the difference between 30-day moving average of System Prices and CAP is calculated. 30-day moving average System Price is the average of the System Prices over the previous 30 days inclusive of the current day. This is believed to be a good measure of accuracy, as we consider CAP to be a proxy for outturn System Prices.
- 3.2 **Figure 1** shows the 30-day moving average price, the current CAP and the CAP in the two calculated scenarios.

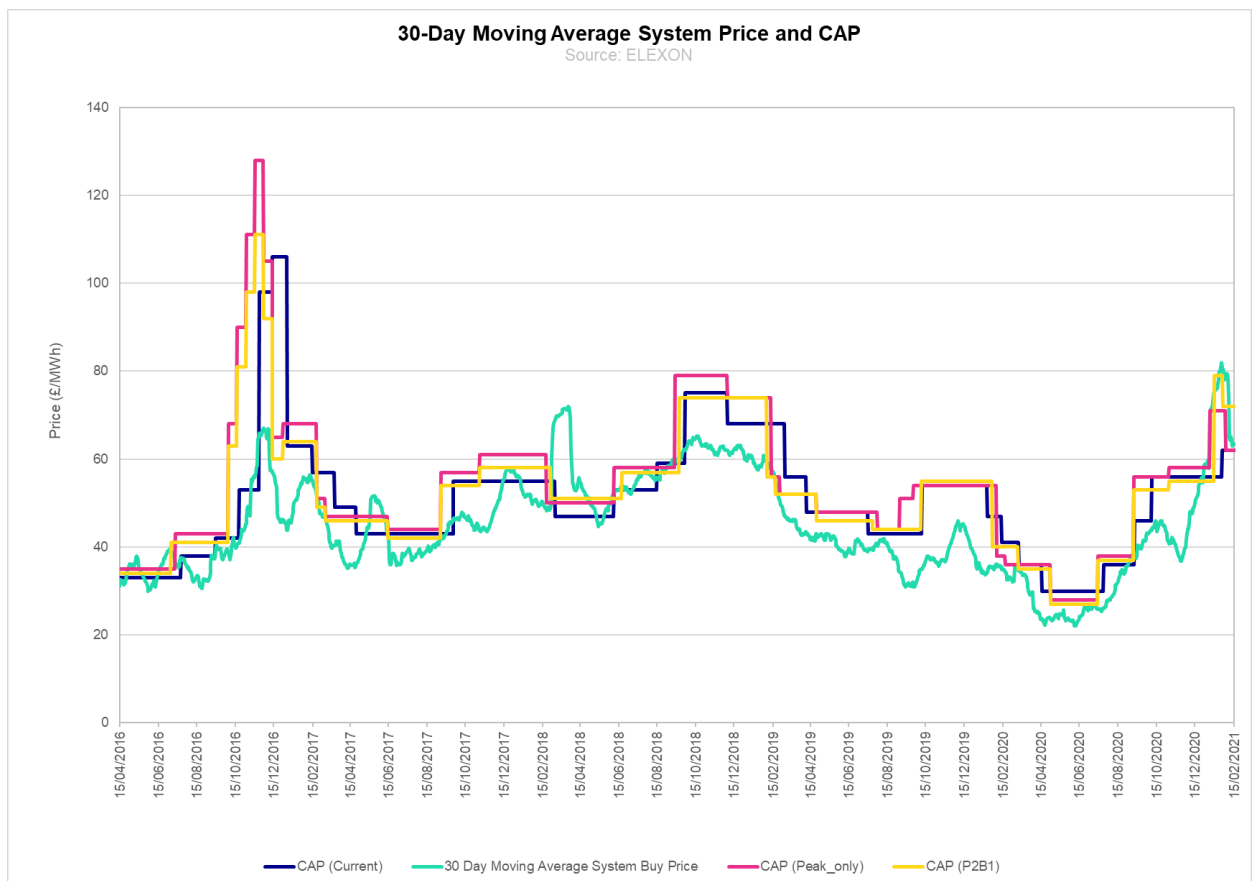


Figure 1. 30-day moving average System Price and CAP for all scenarios

- 3.3 **Figure 2** shows the difference between 30-day moving average of System Prices and CAP under current arrangements since 5 April 2016. The data is split into two time periods as a different behaviour of the current arrangements has been seen over these two periods. The first period corresponds to 5 April 2016 up to the end of September 2018. The second period covers October 2018 to 15 February 2021.
- 3.4 When referring to the difference between 30-day moving average of System Prices and CAP:
- Positive difference indicates that the 30-day moving average of System Prices is higher than CAP, this is shown with red dots in the graph.
 - Negative difference indicates days where CAP was higher than the 30-day moving average of System Prices, this is shown with green dot.
- 3.5 The current CAP had been higher than the 30-day moving average between October 2018 and the end of December 2020. Figures for Peak_only and P2B1 scenarios are provided in the Appendix.
- 3.6 Our analysis shows Peak_only and P2B1 scenarios would have decreased the number of days with a positive difference from current 322 days to respectively 144 and 179 days over the first period. However, since October 2018 the current 60 days decrease to 55 days in Peak_only scenario and remain unchanged in P2B1 scenario.
- 3.7 The CAP value would have been on average £6/MWh higher than the current CAP over the first period in the Peak_only scenario and £2/MWh in the P2B1 scenario. This is £2/MWh in Peak_only scenario and £1/MWh in P2B1 scenario over the second period.



Figure 2. The difference between 30-day moving average System Price and CAP

- 3.8 **Table 1** shows the analysis results for Peak_only and P2B1 scenarios compared to the current arrangements broke down for the two periods since April 2016. An annual breakdown of this table is provided in the Table 2 in the Appendix.
- 3.9 Years 2018, 2016, and 2017 have the highest number of days where the current CAP is less than the 30-day moving average System Price with respectively 172, 86 and 64 days. The number falls to zero in 2019 and to 14 days in 2020 showing how the CAP has been higher than 30-day moving average System Price in recent years.
- 3.10 Between April 2016 and September 2018, there were 322 days with 30-day moving average of System Price greater than CAP. This would have fallen to 144 under Peak_only and 179 days under P2B1 scenario.
- 3.11 The Peak_only scenario would have had six days in 2019 where the CAP was less than the 30-day moving average price, in the P2B1 scenario this would have been 17 days. This was zero days with the current CAP. This is because a CAP value weighted more towards peak prices would have caused more breaches of the lower trigger level, resulting in setting a new CAP lower than that of the current scenario.

Table 1. The difference between 30-day moving average of System Buy Price (SBP) and CAP

Months Covered	Scenario	No. of CAP Changes	Number of days where moving average SBP is more than CAP	Average difference where moving average SBP is more than CAP (£/MWh)	Number of days where moving average SBP is lower than CAP	Average difference where moving average SBP is greater than CAP (£/MWh)
Apr 2016 to Sep 2018	current	15	322	4.95	587	-8.77
	Peak_only	17	144	6.17	765	-11.47
	P2B1 ¹	17	179	5.22	730	-8.88
Oct 2018 to Feb 2021	current	13	60	10.49	809	-9.06
	Peak_only	15	55	4.79	814	-10.39
	P2B1	13	60	4.59	809	-8.96

- 3.12 Between 1 January 2021 and 15 February 2021 the System Prices were more volatile, with a high of £4,000/MWh and a low of -£8.50/MWh. This has also been the case with the forward market peak prices particularly in January and February 2021 resulting in two breaches of upper trigger level of the CAP, one in late December 2020 and one in January 2021. While in December 2020 peak prices varied between £50.25/MWh and £60.35/MWh, they were between £56.80/MWh and £88.05/MWh in January 2021 and between £63.25/MWh and £104.25/MWh in February 2021.
- 3.13 The 30-day moving average of System Prices has been higher than the current CAP for all 46 days of 2021 analysed. In the Peak_only scenario the CAP would have been lower in 44 days. However, the high System Prices of £1,000/MWh to £4,000/MWh from the first week of January remained in the 30 day moving average until 7 February 2021, this may have distorted the 30-day moving average for this period.
- 3.14 Overall between October 2018 and February 2021, there were 60 days where the current CAP was greater than the 30-day moving average System Price. There would also be 60 days in the P2B1 scenario, the Peak_only scenario would have decreased the number by 5 days. The CAP value would have increased on average by £2/MWh in Peak_only scenario and by £1/MWh in P2B1 scenario. This is where the two scenarios prove no major difference than current arrangements.

4. Excluding high System Prices

- 4.1 The System Prices equal to or above £1000/MWh in 2021 were excluded to calculate their impacts on the System Price average.
- 4.2 There were seven Settlement Periods including three £1000/MWh, one £1400/MWh, one £2750/MWh, and two £4000/MWh.
- 4.3 Note even after removing these there were still System Prices as high as £995/MWh, £990/MWh, £980/MWh, £725/MWh, and £600/MWh remained in the calculation. These contribute to System Prices higher than £300/MWh in eleven Settlement Periods.
- 4.4 The System Price average in 2021 fell from £72.47/MWh to £65.90/MWh. Although the 30-day moving average of System Prices were still above current CAP in all 46 days, the difference fell from £13.17/MWh to £6.60/MWh.

¹ Scenario P2B1 i.e. the weight of peak price is double weight of baseload price in reference price calculation.

4.5 Excluding System Prices higher than £300/MWh, for 11 Settlement Periods in addition to seven prices mentioned in 4.2, would decrease the average of System Prices to £63/MWh. The 30-day moving average of System Prices would also be less than the current CAP for eight days.

5. Imbalance Volume over peak hours

5.1 We have also looked at what percentage of Imbalance Volumes occur in peak and off peak hours as this gives an indication of whether BSC Parties Energy Imbalance Volumes will be subject to peak or off-peak prices. A percentage higher than 50% indicates that more Energy Imbalance Volume will be priced at peak System Prices.

5.2 The forward market peak prices used in the reference price calculation corresponds to the hours from 7am to 7pm from Monday to Friday.

5.3 **Figure 3** shows the Imbalance Volume during peak hours as a percentage of total Imbalance Volume since 2016. The Imbalance Volumes over the peak hours have not exceeded 43% of total Imbalance volume per a year since 2016. Hence the majority of Energy Imbalance Volumes do not occur during the peak price periods.

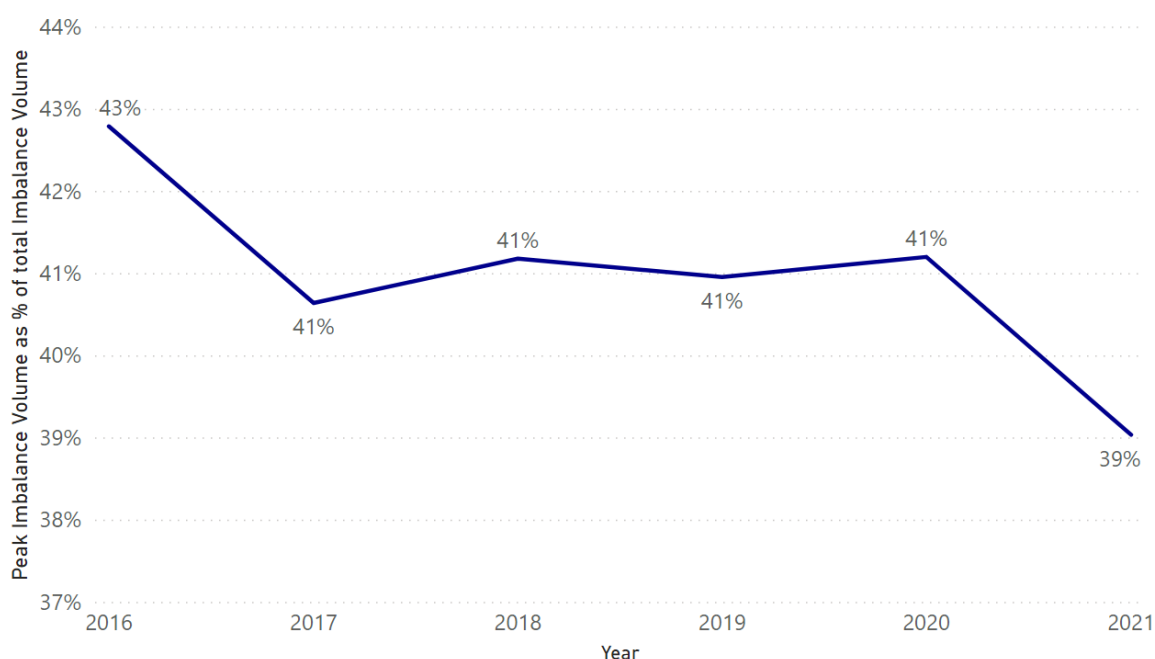


Figure 3. Imbalance Volume over peak hours as a percentage of total Imbalance Volume

5.4 The CAP is used to make sure Parties have lodged sufficient collateral as Credit Cover for their Indebtedness. The CAP should be representative of the System Price that Energy Imbalance Volumes will be charged at.

6. Other considerations

6.1 Note that in February 2016 the proposal of solely using peak prices to calculate the reference price was recommended by the Credit Committee to the Panel to be included in a consultation document for the industry to comment upon. All respondents rejected the proposal as it would potentially lead to constant over-collateralisation for the industry (Note [CC 27 Minutes](#)).

6.2 In its last review of the process, the Credit Committee recommended to the Panel in January 2021 that no changes to the current defined process was needed (Note [CAP Review Process Review 2020](#)).

7. Next Steps

- 7.1 Considering the analysis given, this paper is recommending no changes to the current defined process of calculating reference price and the CAP value.
- 7.2 If the Credit Committee recommend a change to the current process to the Panel, Elexon will present a paper to the March Panel with the Credit Committees views.

8. Recommendations

- 8.1 We invite you to:
- a) **NOTE** the contents of this paper;
 - b) **APPROVE** that no changes to the current process of calculating reference price and the CAP is needed;
 - c) **CONFIRM** whether a paper recommending any potential changes to the CAP Review Guidance will need to be presented to the Panel.
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Table 2. Yearly breakdown of Table 1

Year	SBP ² Avg.	Scenario	CAP ³ Avg.	Number of Days when 30dma_SBP ⁴ >CAP	Average of differences	Number of days when 30dma_SBP<CAP	Average of differences
2016	45	current	51	86	3.37	185	-12.34
		Peak_only	57	43	2.19	228	-19.54
		P2B1 ⁵	52	43	2.59	228	-14.76
2017	45	current	51	64	3.78	301	-8.45
		Peak_only	53	23	3.07	342	-9.30
		P2B1	51	32	3.15	333	-7.09
2018	57	current	58	172	6.17	193	-6.48
		Peak_only	62	78	9.28	287	-8.69
		P2B1	60	104	6.94	261	-6.86
2019	42	current	52	0	0	365	-9.65
		Peak_only	63	6	1.04	359	-10.70
		P2B1	52	17	1.76	348	-9.52
2020	35	current	42	14	1.64	352	-8.18
		Peak_only	43	5	0.5	361	-9.05
		P2B1	42	13	1.38	353	-7.97
2021	73	current	59	46	13.19	0	0
		Peak_only	66	44	5.79	2	-0.52
		P2B1	69	30	7.60	16	-5.64

² Average of System Buy Price (£/MWh)

³ Average of Credit Assessment Price (£/MWh)

⁴ 30-day moving average System Buy Price (£/MWh)

⁵ The weight of peak price is double weight of baseload prices.

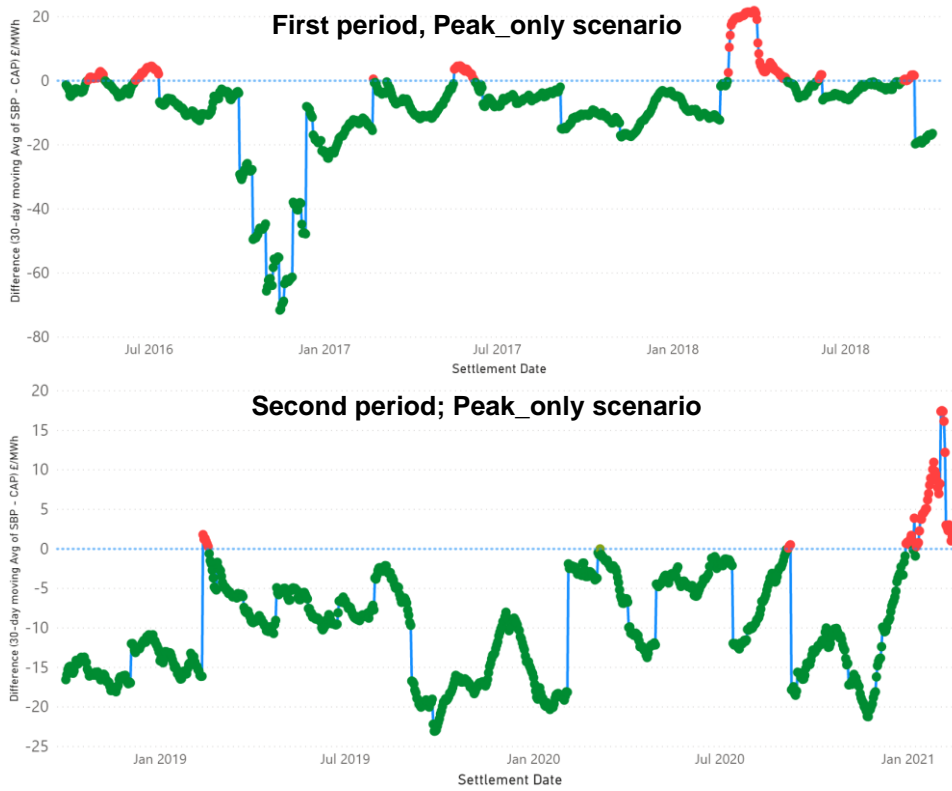


Figure 4. The difference between 30-day moving average of System Price and CAP for Peak_only scenario

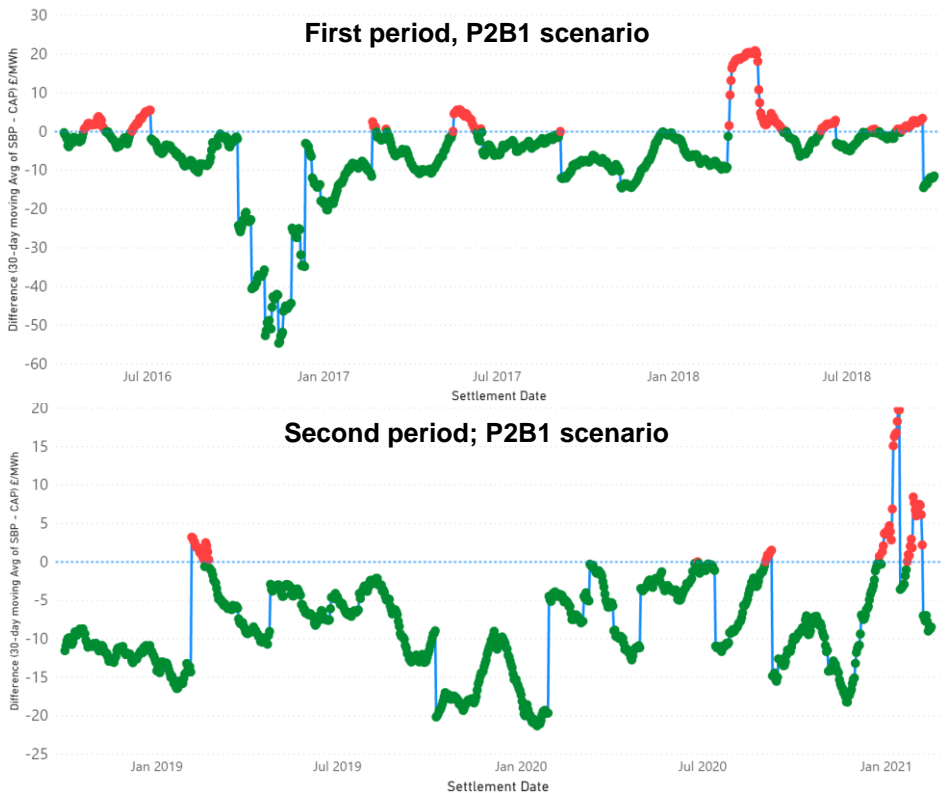


Figure 5. The difference between 30-day moving average of System Price and CAP for P2B1 scenario