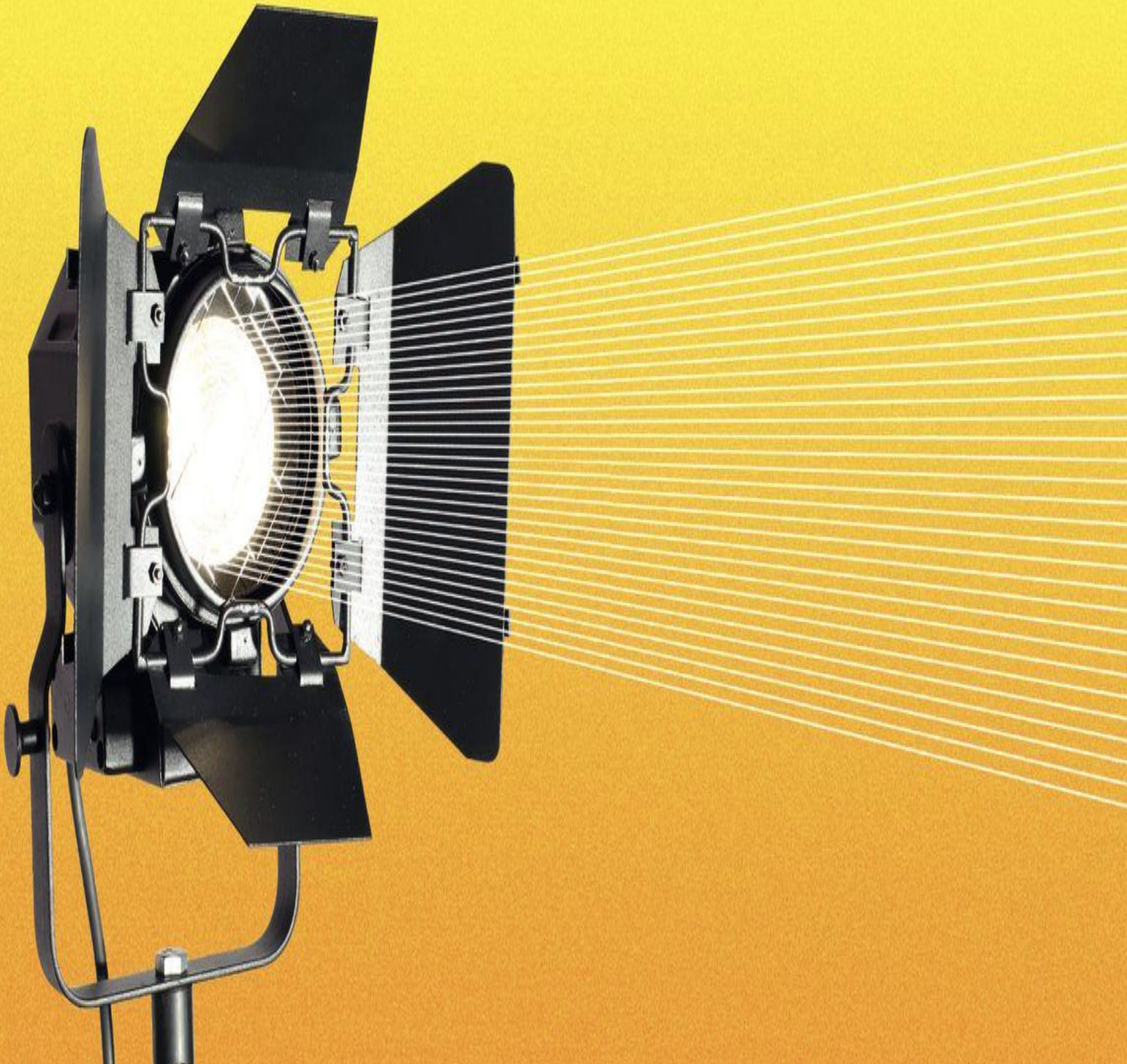


# Balancing Costs

## Hotspots

March 2019



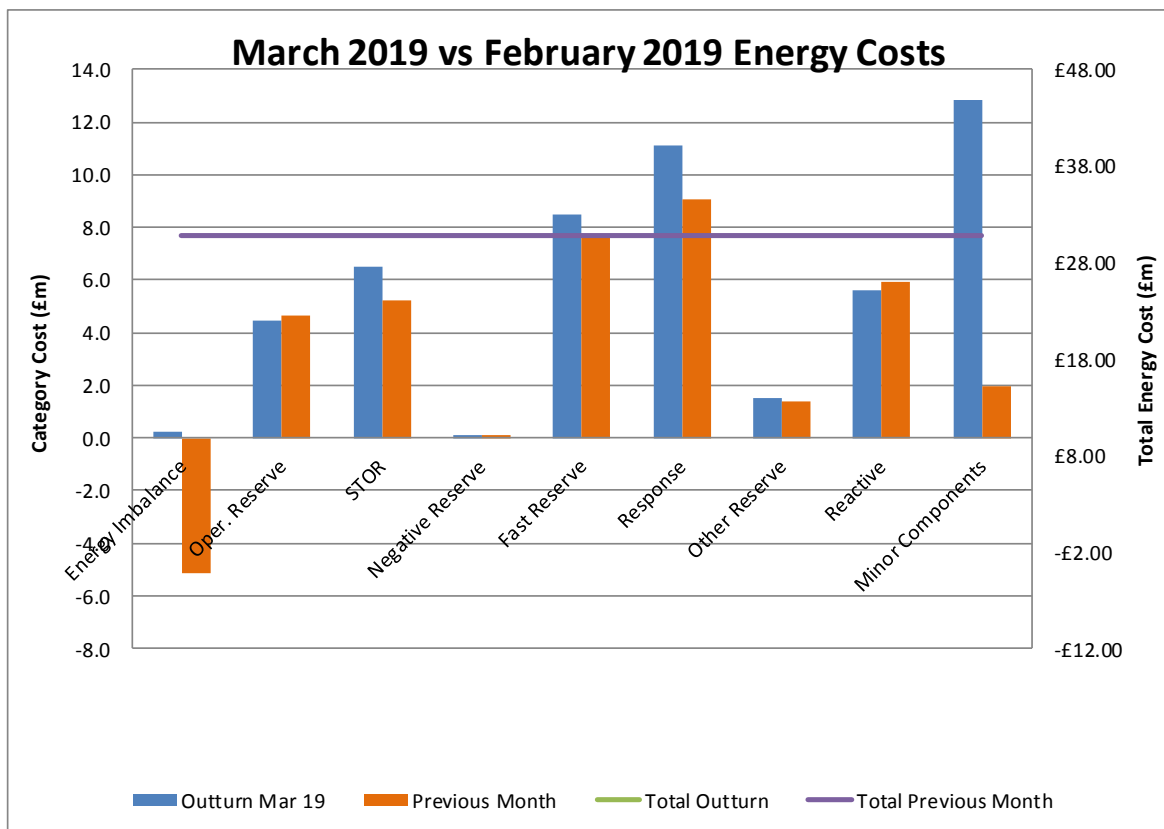
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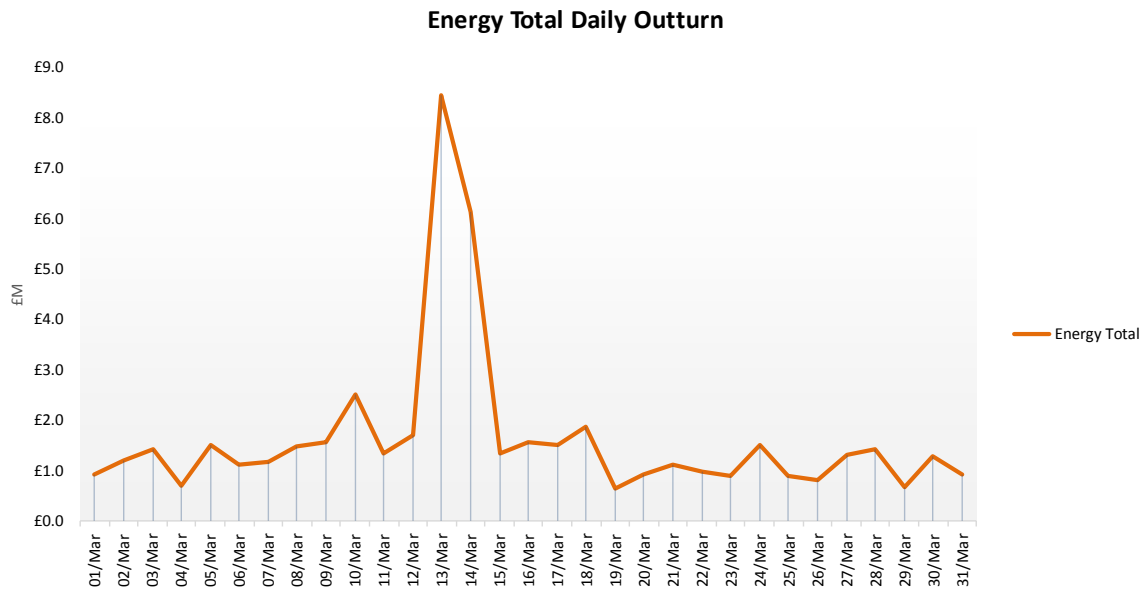
# Energy Costs

Energy costs (including energy imbalance) for March 2019 out-turned at around £52m, showing an increase of £20m from the past month. A positive Energy Imbalance spend and an increase of £2.0m and £1.3m for Frequency Response and STOR costs respectively were the main drive for the energy cost increased from February 2019. All the other categories showed little or no variance from the past month.

**Since, by the time we are writing this report, there is a data issues on Wednesday 13<sup>th</sup> and Thursday 14<sup>th</sup> March 2019. The total cost will be correct; however, the costs haven't been split out correctly, and the category Minor Components is currently capturing those costs. This might be also reflected in the daily costs for the remaining categories.**



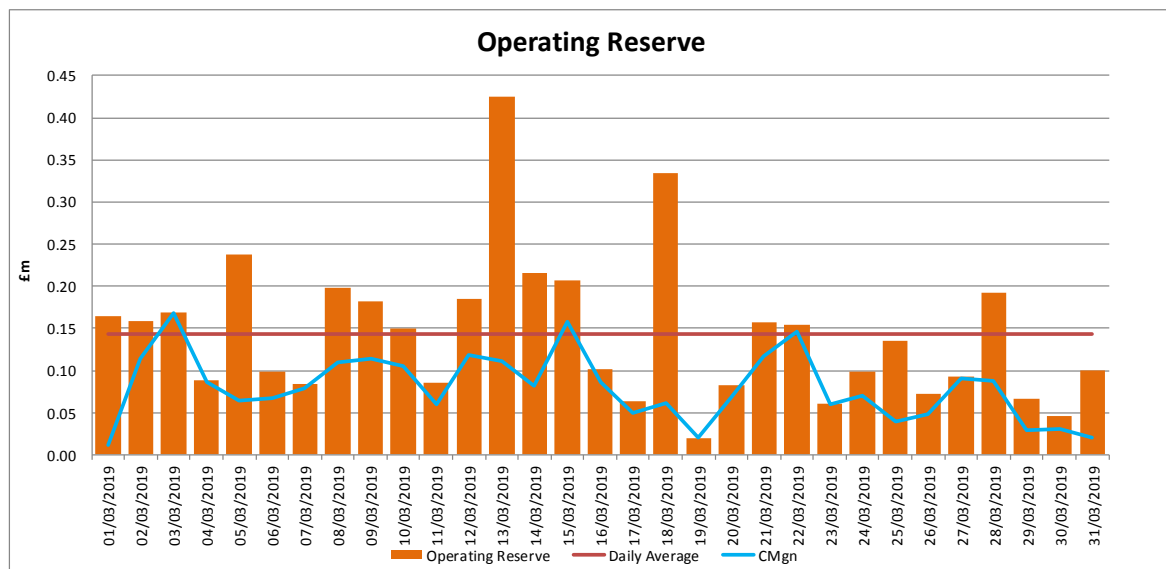
## 1. Energy Total Daily Outturn



The average daily energy spend for the reporting month was around £1.6m. Daily energy costs remained below £2m for most days in March 2019, except for Sunday 10<sup>th</sup> when the daily spend was around £2.5m. An energy imbalance spend of over £1.1m, due to a prevalently short market, in excess of 2000MW over the morning peak and in excess of 2800MW over the darkness peak, was the main drive for this high cost day.

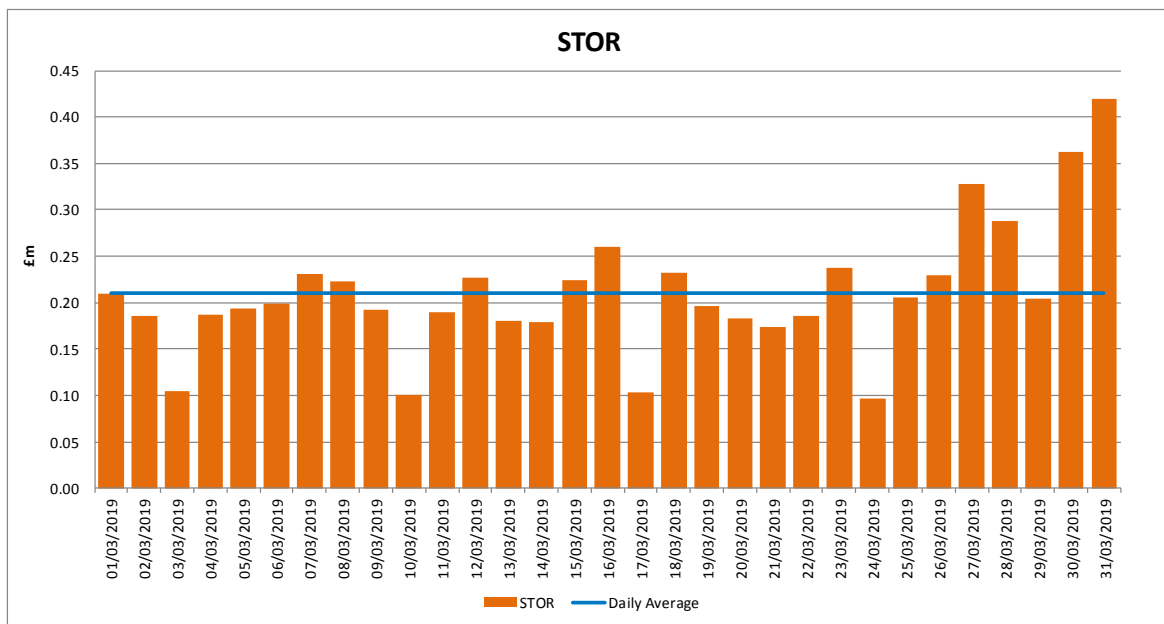
## 2. Operating Reserve

Operating Reserve out-turned at around £4.4m showing a decrease from the previous month of roughly £0.2m. The average daily cost was around £0.14m in March 2019. The most expensive day for this category were Wednesday 13<sup>th</sup> with an outturn of around £0.4m and Monday 18<sup>th</sup> with an outturn of around £0.3m.



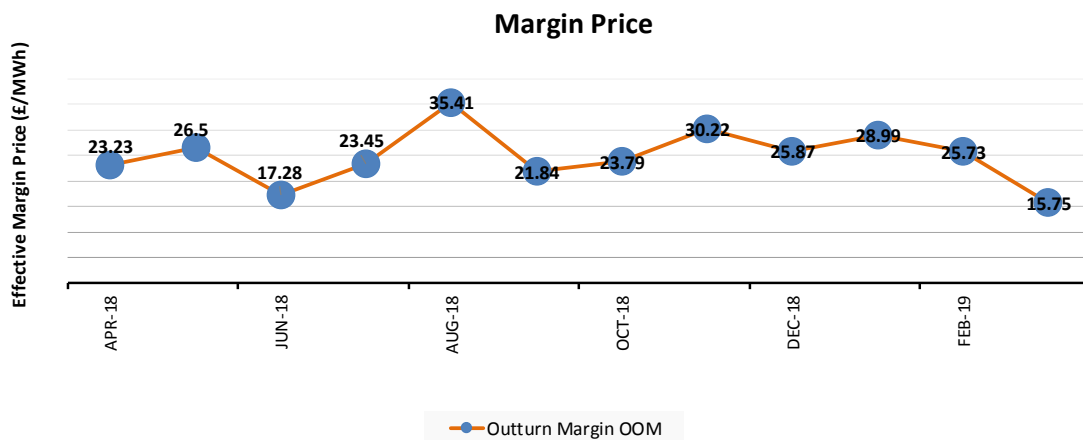
### 3. STOR

STOR cost for March 2019 was around £6.5m showing an increase from the previous month of around £1.3m. The average daily cost was around £0.2m. the highest daily cost for this category were recorded on Saturday 30<sup>th</sup> and Sunday 31<sup>st</sup> with a spend of around £3.6m and £4.0m respectively. A mix of tight margin and demand under forecast over the darkness peak was characterizing the last days of the month requiring to run STOR in excess of 700MW.



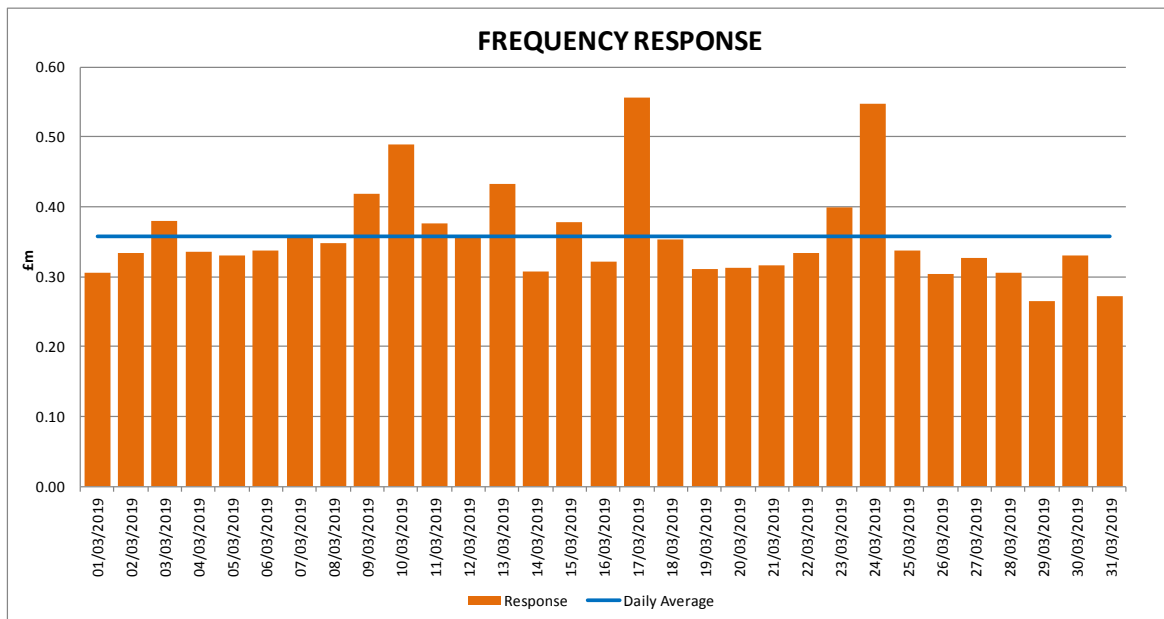
### 4. Margin Price

The Average margin price in March 2019 decreased further from the previous month out-turning at £15.75/MWh.



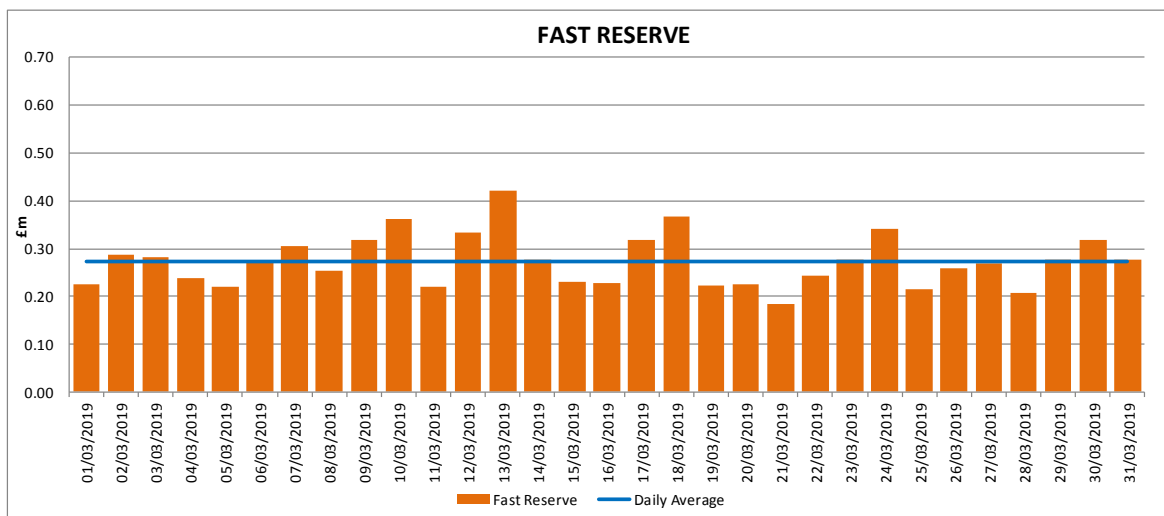
## 5. Frequency Response

Frequency response in March 2019 out turned at around £11m which is £2m higher than the previous month. The daily average spend was around £0.36m. Sunday 17<sup>th</sup> and Sunday 24<sup>th</sup> were the most expensive days with a cost of circa £0.6 on both days. In the first case wind volatility requiring additional primary, secondary and high to be held, was the drive behind the high cost day for this category. On 24<sup>th</sup>, as the demand was turning out lower than forecast, further actions for frequency responses were required.



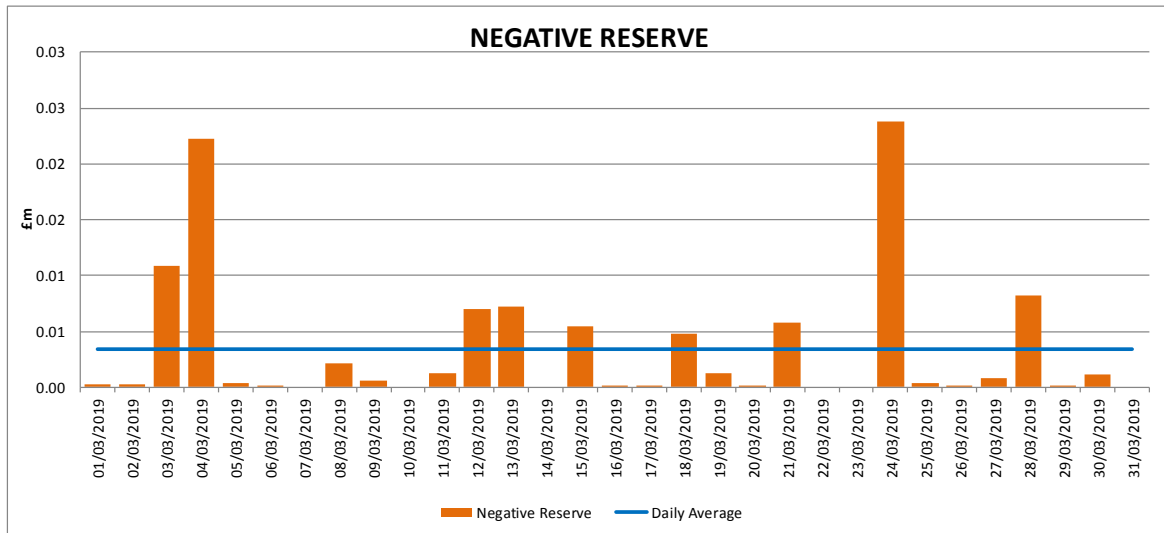
## 6. Fast Reserve

Fast reserve out turned at around £8.8m in March 2019, with an increase from the previous month of roughly £0.8m. The average daily cost was around £0.27m and the ancillary costs made up around 86% of the total costs, most of which is incurred on the SpinGen service.



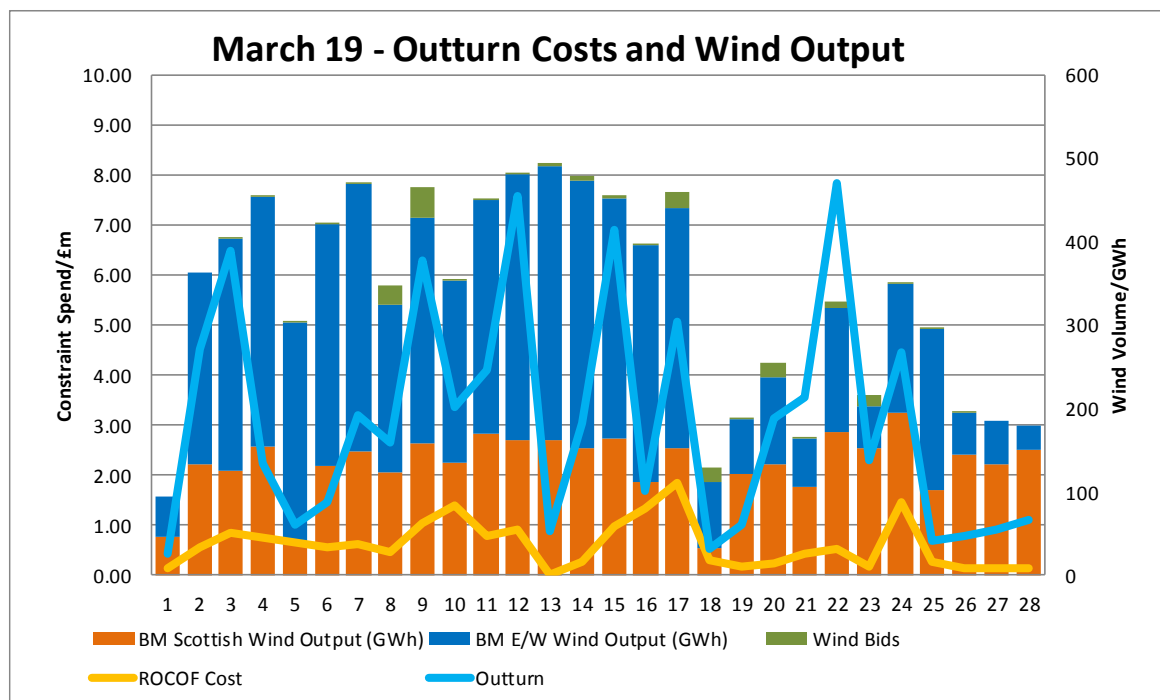
## 7. Negative Reserve

Negative Reserve out turned at around £0.1m, showing little variance from the past month. The costs for this category were nil or below £0.01m for most of the days. The highest spend day occurred on Monday 4<sup>th</sup> March and Sunday 24<sup>th</sup> with cost peaking at just over £0.02m in both cases.



# Constraints Costs

The total constraints cost for March 2019 was £89.3m; £0m for England and Wales, around £26m for Cheviot, around £26m for Scotland, £16.2m for Sterilised Headroom, £18m on ROCOF, and £3.6m on Ancillary Services costs.



The graph above shows the daily outturn costs and the portion made up by ROCOF. It also shows output levels of BM wind and volume of wind bids (including trades) to indicate the extent to which wind output drives constraint costs.

Constraint cost in March 2019 are around £40m higher than the one recorded the previous month. The increase in costs is largely due to increases in volume of actions for Constraints and for RoCoF. High levels of wind generation particularly in Scotland meant a large volume of actions needed to be taken to manage constraints in Scotland and on the Scotland England border. These constraints are eased when the Western Link HVDC cable is available but it became unavailable between 19<sup>th</sup> February and 22<sup>nd</sup> March, pushing up constraint costs.

The highest constraint costs in March 2019 were recorded on Tuesday 12<sup>th</sup>, Friday 15<sup>th</sup> and Friday 22<sup>nd</sup> with a daily spend peaking at around £7.8m, £7m, and £7.6m respectively. In all cases, the main drive behind these high costs were the sustained high wind levels across the country, resulting in a large volume of wind generation being constrained with BM actions and trades, particularly on the network boundary between England and Scotland.

## 8. RoCoF

The RoCoF outturn for March 2019 was around £18m, which is £11m higher than the previous month.

The high levels of wind combined with the introduction of new interconnectors has displaced some conventional and inertia providing generation, which along with ongoing nuclear outages has led to low RoCoF limits with actions required to manage large infeeds into the system.

The highest daily spend for this category was on Sunday 17<sup>th</sup> with a cost of around £1.8m. Other high cost days were Sunday 10<sup>th</sup> and Sunday 24<sup>th</sup> with a spend of around £1.4m in both cases.

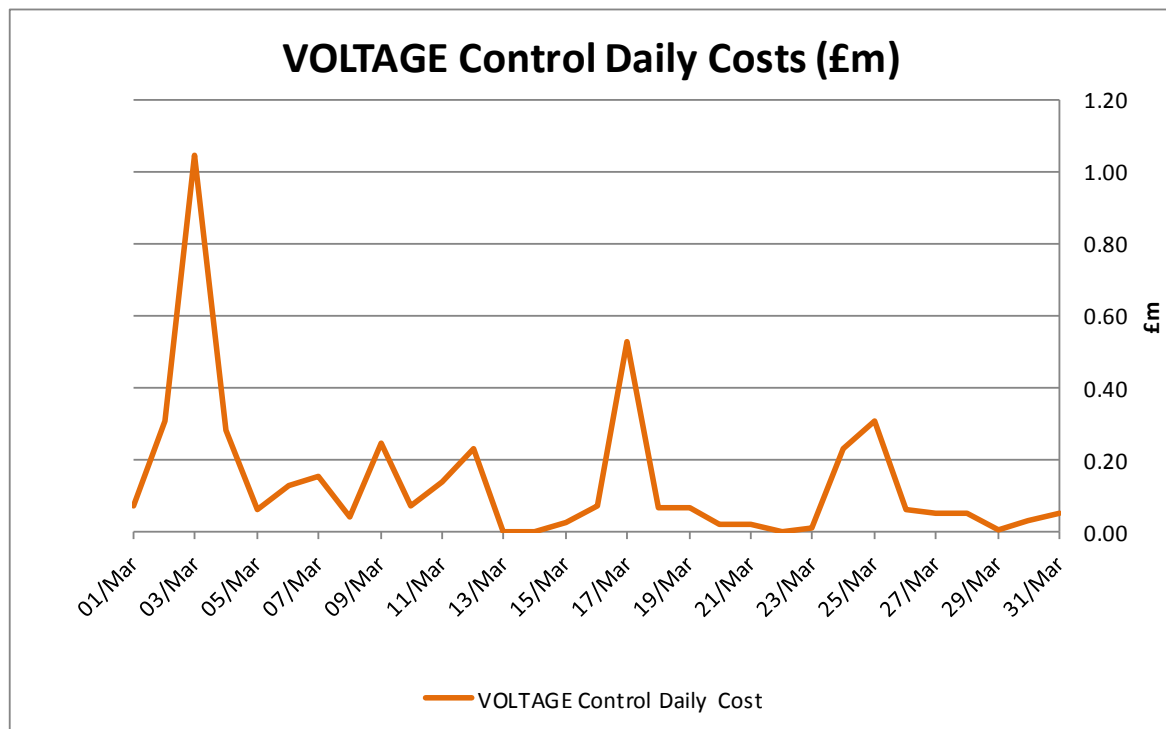


## 9. Voltage

These costs relate to the buying of energy in order to access the voltage capability on the generating units. The costs for voltage are reported in the Reactive Power category.

Voltage costs in March 2019 out-turned at around £4.4m to deliver 236GWh of energy with voltage supporting capabilities, of which around 40% of volumes were solved with forward trading.

There were no days during the reporting month when no voltage costs were incurred as the voltage management requirement was met by the market. The highest daily cost for this category occurred on Sunday 3<sup>rd</sup> with daily cost peaking at around £1m.



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