Power
No. 12 • February 2018

Power plant and option Report

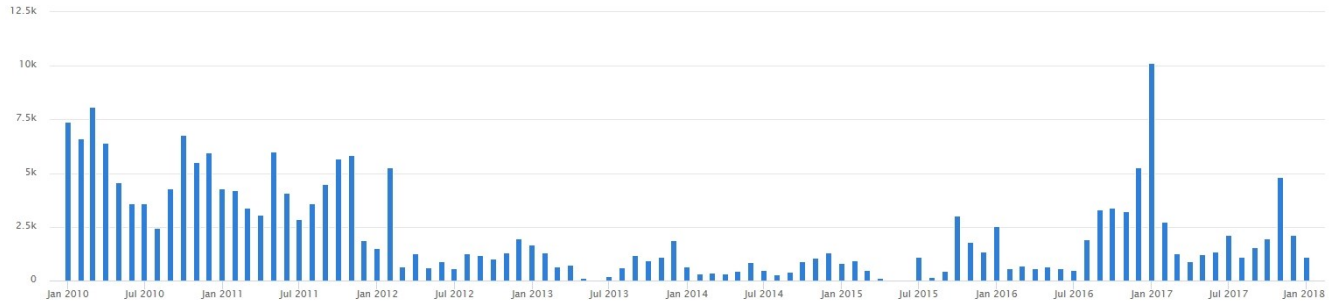
Plant Value	Name	DE Intrinsic €/MWh	DE Simulation €/MWh	UK Intrinsic £/MWh	UK Simulation £/MWh	FR Intrinsic €/MWh	FR Simulation €/MWh
	Coal 46%	3.90 ↓	7.31 ↓	3.20 ↓	4.92 ↓	7.84 ↓	10.71 ↓
	Coal 46% option	6.60 ↓	9.59 ↓	5.90 ↓	7.40 ↓	10.70 ↓	13.04 ↓
	Gas 60%	2.45 ↓	6.10 ↓	5.50 ↓	6.90 ↓	5.72 ↓	8.73 ↓
	Gas 60% option	2.96 ↓	6.47 ↓	6.11 ↓	7.49 ↓	6.23 ↓	9.05 ↓

Remarks

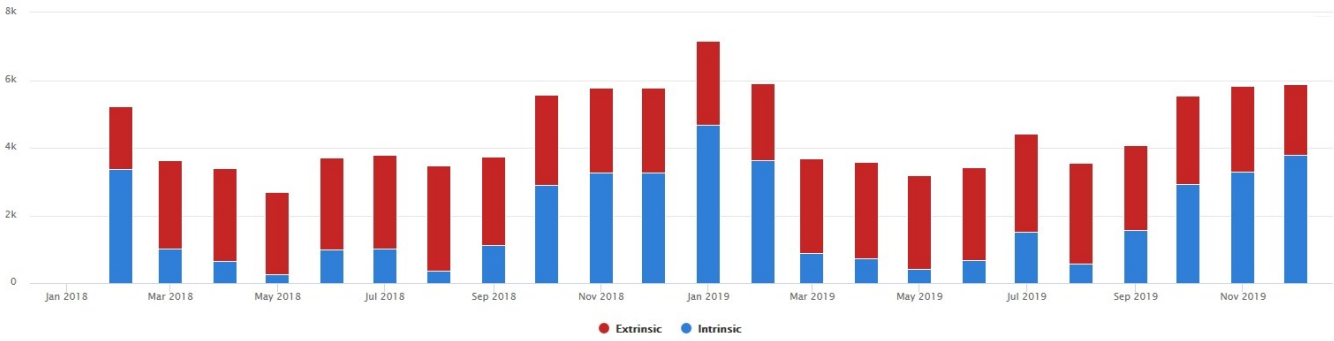
- The valuation date for the analysis is 31 January 2018.
- Volatilities, correlations and other parameters are calibrated on 2 years of historical price data.
- The main assumptions for this analysis can be found at the end of this document.
- In this second report of the year, we have switched from valuation year 2018 to 2019. In all three markets, and both in power and gas, the gross margins for power producers decreased significantly. Hence, all the arrows point downwards in the above table.
- The average decline in plant value was 0.91 €/MWh in Germany, 1.20 €/MWh in France and 0.34 £/MWh in the UK. The decline in plant value was about twice as high for the gas fired plants than the coal fired plants.
- The change in the outlook could potentially be driven by the low profitability of power plants during the current winter period. After rather disappointing November and December months, also January was not very profitable, as can be seen in the graphs on the next page.

KYOS

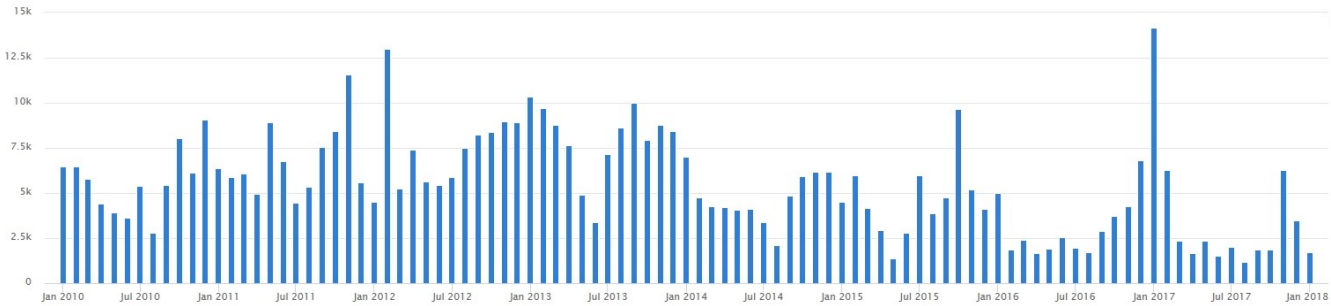
Realized value for the Gas 60% plant product (German market, value per MW)



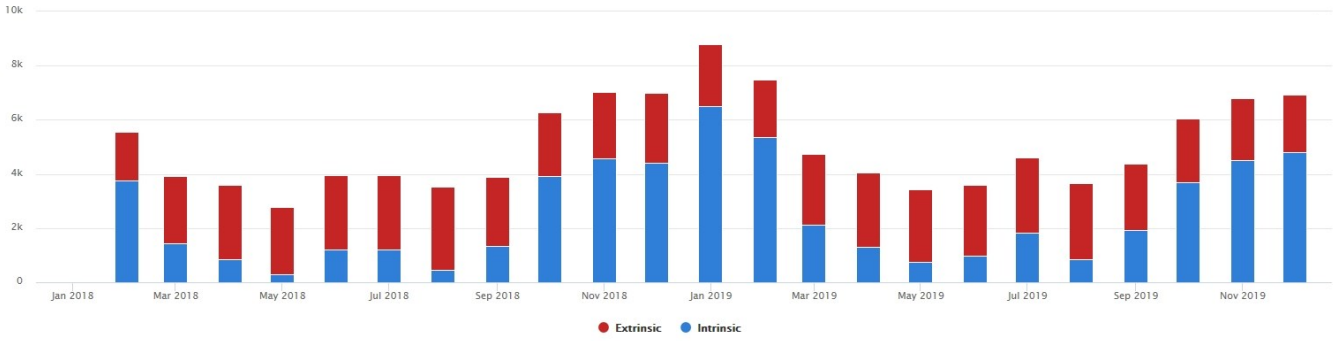
Estimated future value for the Gas 60% plant product (German market, value per MW)



Realized value for the Coal 46% plant product (German market, value per MW)



Estimated future value for the Coal 46% plant product (German market, value per MW)



Explanation

All valuations have been performed with KYOS software, in particular KyPlant and KySim. Simulation values are the average across a large number of Monte Carlo price simulations and using the least-squares Monte Carlo methodology to derive the optimal dispatch (exercise) of the products.

All plants and option products have a maximum capacity of 1 MW, at which they reach the maximum efficiency. The reported values in the table are for calendar year 2019. The 'option' products are strips of hourly clean spark or dark spread options, with no start costs and a single efficiency.

The other two products are more like real plants: they have start costs of EUR 30 (GBP 25) for coal and EUR 12.50 (GBP 11) for gas. Furthermore, to avoid a start, they can produce at 0.5 MW capacity at an efficiency which is 6% point lower.

The variable costs per MWh are EUR 3 (GBP 2.60) for the coal plant, and EUR 2.50 (GBP 2.15) for the gas plant. The coal plant also faces coal transport costs of 10 EUR (GBP 8.60) per tonne.

No other plant operational, investment or financing costs are assumed. Nor did we include maintenance, trips, minimum on- and off-times, ramp rates, etc. All these features can easily be modelled by KyPlant, but for simplicity are left out from this report.

Contact us for more information:
info@kyos.com
www.kyos.com