

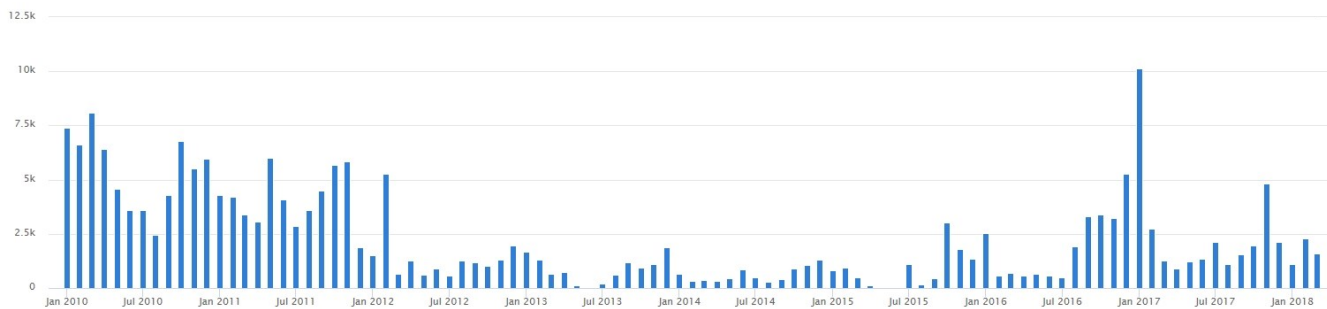
Power plant and option Report

Plant Value	Name	DE Intrinsic €/MWh	DE Simulation €/MWh	UK Intrinsic £/MWh	UK Simulation £/MWh	FR Intrinsic €/MWh	FR Simulation €/MWh
	Coal 46%	4.16 ↑	7.71 ↑	4.48 ↑	6.06 ↑	8.34 ↑	11.08 ↑
	Coal 46% option	6.90 ↑	10.04 ↑	7.35 ↑	8.71 ↑	11.08 ↑	13.42 ↑
	Gas 60%	2.40 ↑	6.19 ↑	6.43 ↑	7.78 ↑	5.83 ↓	8.83 ↓
	Gas 60% option	2.93 ↑	6.57 ↑	7.02 ↑	8.36 ↑	6.30 ↓	9.15 ↓

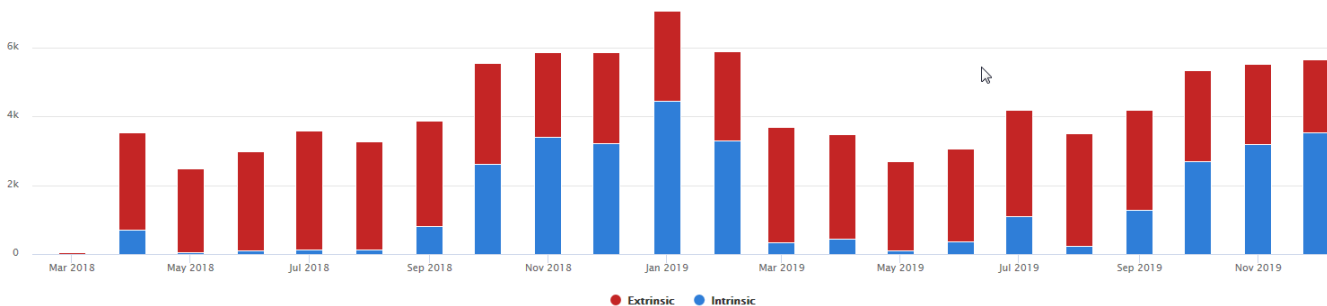
Remarks

- The valuation date for the analysis is 4 April 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.
- Compared to one month ago, the outlook for power generation improved. Only French gas-fired generation exhibited a small decrease in value, of around 0.10 €/MWh. This is very minor though compared to the rise in (simulation) values for German coal approaching 0.90 €/MWh, and the UK coal spreads being close to 1.30 £/MWh.
- Especially coal-fired generation benefited from lower coal prices (by about 5 USD/t) and higher power prices in Germany, the UK and France (all going up by about 2 € or £ per MWh). This positive price development more than offset the negative impact of higher gas and CO₂ emission prices.
- For readers interested in projections going further out than 2019, we refer to the KYOS fundamental power report. The general outlook for power generation seems to have improved also for longer horizons, although a lot depends on policy decisions. For example, our latest fundamental report discusses potential scenarios of German coal plant closures. Until such closures take effect, coal plants may have a few years left to make money. And then, for a number of years, gas-fired generation could serve as an intermediate solution. This is also mentioned as a reason for some gas-fired generators to reverse earlier mothballing decisions.
- As can be seen in the graphs on the next page, March 2018 was a relatively good month for power producers in Germany. The realized value for both the coal and gas fired power plants was higher than in March 2017 and 2016, and almost as high as in February this year, a traditionally rather profitable month.

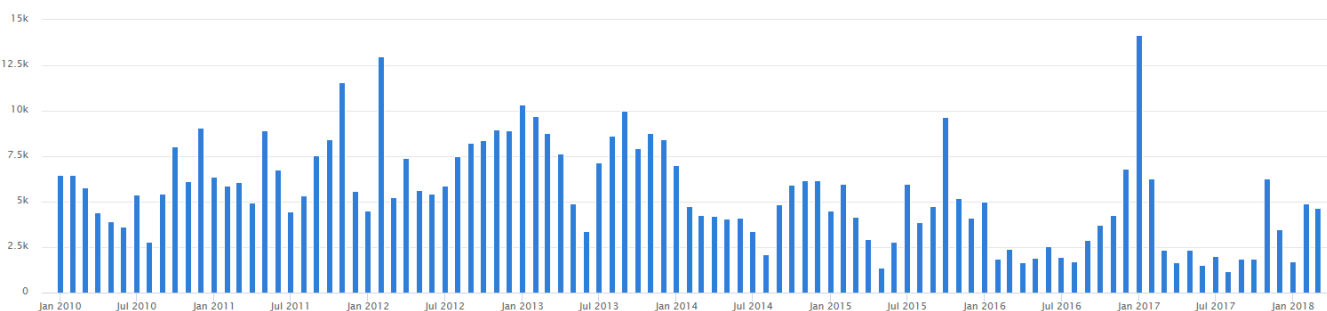
Realized value for the Gas 60% plant product (German market, value per MW)



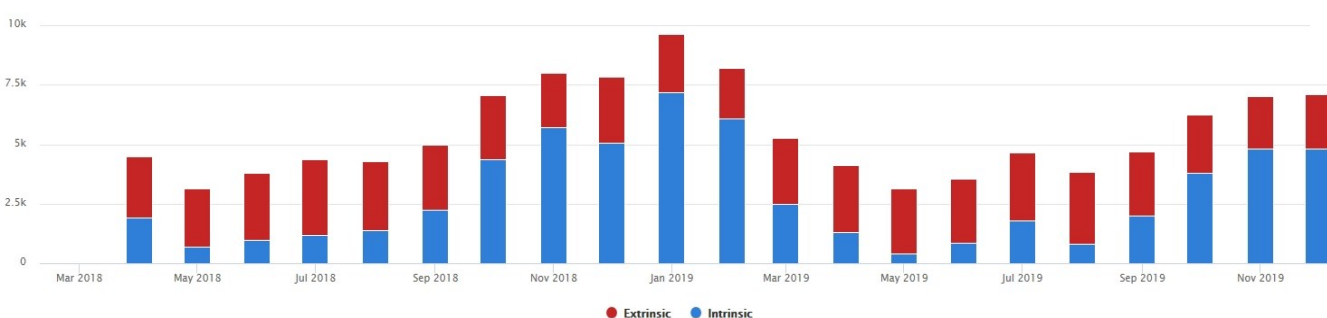
Estimated future value for the Gas 60% plant product (German market, value per MW)



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.

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