What does a number above 100% indicate?

The capture rate is defined as the average realized spot price of a (renewable) asset divided by the equally weighted average (baseload) spot price. A capture rate of over 100% means that the asset generates on average during hours with a spot price above the average baseload spot price. This can for example happen with solar assets in winter. Current electricity peak prices in winter months can be, especially in NWE, higher than the base load price. A solar asset produces only during (part of these) peakload hours and can therefore have a capture rate over 100%.

Does the capture rate include a volume risk (high wind correlated to negative prices) or computed in normal weather conditions?

In our models we first calculate the expected development of the capture rate. This forecast takes into account the correlation between renewable asset generation and price, and how this correlation is going to increase (typically) over the coming years as a result of more renewable generation capacities. In a second step, our model generates price and volume scenarios. The model ensures that on average over any month the expected capture rate is achieved. For example, if the (average) forecasted capture rate is 85%, in one scenario it may be 75%, while in another it is 95%. Each scenario reflects a correlated situation of generation and market price, so with higher or lower correlation in high wind/low price, low wind/high price (and similar for solar).

Do you also have a model for flexibility prices? If so, what are the outcomes?

Our fundamental power model provides a power forward curve with hourly granularity. This can be used together with our models for energy storage (KyBattery) to assess the value of flexibility. We also have standard solutions for the valuation of flexible conventional generation, and can provide bespoke analysis to value the flexibility (e.g. storage) which are directly combined with renewable energy generation or other elements in a portfolio.

Can the forecast model (to some extent) include strategic bidding behavior?

No.

What types of PPA structures can you mimic with your platform? Can you talk through some of the different options?

Our KyPPA model comes standard with a library to value a wide range of PPA structures, e.g. priced to spot index or fixed price and with pay-as-produced volume and baseload volume. Due to the flexible set-up of KyPPA, it is easy to add new pricing structures using small programming scripts written in Python. This can be done by KYOS, but also easily by the customer. Extensive documentation and support is part of our service.

Can you use Data Science (Regressions models) when evaluating PPA?

We have not applied that to PPA valuation, but do apply it in many other areas.

what can you say about the duration of the PPA and the price? what is the "penalty" a producer would need to endure or an offtaker would need to charge for a time of 15 yrs vs 10 yrs?
There are two components to a long-term price in a PPA contract: the expected future spot price and the liquidity premium/discount. The first component is included in our analysis and results from modeling the fundamentals of the future power markets. The second component (premium/discount) is hard to quantify and will be very market- and period-specific.

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