

2-DAYS POWER OPTIONS

DAY 1 & 2

In this course you'll become familiar with outright power options, embedded power options, real power options, power options strategies, hedging power portfolios with options, power option pricing and the impact of volatility on the power option premium.

Outright Options

What are options? What kind of types are available in the power markets? How about the liquidity in these markets?

- Calls & puts on power.

Option Strategies

What strategies can be set up with power options?

- Spread options (power plants) and location spreads (Germany versus France).

Hedging with Options

How can power portfolios be hedged with options?

- Creating floors, caps & collars. Buying power options to hedge physical long or short positions.

Power Plants

How can power plants be considered as options? How can you allocate power plants based on the real option approach?

- Sequence of call options on the spark & dark spread.

Optimization

How can power portfolios be optimized?

- Delta hedging; Gamma trading.

Option Valuation

How are power options priced? What factors influence the option premium?

- The Black & Scholes model, and why it is not good enough for pricing power options.

Embedded Power Options

What is liquidity premium incorporated in energy sales contract prices?

- ITP mechanisms contain optionalities.

Embedded Power Options

Feed-in tariff for hydro plant is an embedded options.

- Contracts or regulation can bring along optionalities (floor).

Volume Swing & Price Flex

What is the risk related to energy sales contracts? And how should these risks be managed? What are swing options and flex options? How can they be optimized?

- Volume risk (delivery risk), price risk. Delta hedging.

Greek Variables

How sensitive is the value of your energy portfolio (including power plants and transport capacity) to changes in prices of electricity, and to changes in interest rates, and to changes in volatility, and to time passing by? And what about the dynamics of these factors over time?

- Delta, Gamma, Vega, Theta and Rho.

Sensitivity Analysis

How does a report look like when combining different types of analysis? Can this be shown in a compact overview? How to interpret the figures and what action is then required?

- Combining scenarios with sensitivities.