

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

2-DAYS GAS OPTIONS

DAY 1 & 2

Outright Options

What are options? What kind of types are available in the gas markets?

- Calls & puts on gas.

Option Strategies

What strategies can be set up with gas options?

- Time spreads (gas storage) and locations spreads (NBP versus TTF).

Hedging with options

How can gas portfolios be hedged with options?

- Creating floors, caps & collars. Buying gas options on physical short positions in fuels.

Option Valuation

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

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

Volatility

What is volatility and how does it impact option prices? How can standard option pricing models be adjusted for energy?

- Future volatility, estimated volatility, historical volatility, and implied volatility. Skew & Kurtosis.

Embedded Options

What is liquidity premium incorporated in energy sales contract prices?

- Internal transfer pricing mechanisms contain optionalities.

Greek Variables

How sensitive is the value of your energy portfolio (including transport capacity and gas storages) to changes in prices of gas, 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.

Gas Storage

How can gas storage facilities be considered as options? How can you allocate gas storage facilities based on the real option approach?

- Spread options; time spreads

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.