



A Quick Guide to Weather Derivatives

Q. What is a weather derivative?

- A weather derivative is a risk management tool that allows a company to protect itself against adverse weather.
- Weather derivatives are most often used to address the volume risk that a company faces. For example, a gas distributor may sell less gas in a mild winter thereby reducing profit.
- The weather derivative market can be divided into secondary market products which have an energy focus (eg “Heating Degree Days” contracts) and tailored structures created to suit the exposure of particular businesses.
- Weather derivatives have traded since 1999.

Q. What is the most heavily traded weather derivative type?

- The secondary market trades futures and options contracts based on Heating Degree Days (HDD) and Cooling Degree Days (CDD). While most liquidity is found in the over-the-counter (OTC) market, many of these contracts are also listed on the Chicago Mercantile Exchange (CME).
- An HDD index is calculated by subtracting the average of the daily high and low temperatures from 18 Celsius (65 Fahrenheit in the USA), representing the point where space heating is typically switched on. Negative values are ignored. These daily HDD values are then accumulated over monthly or seasonal periods. HDDs are often used as a proxy for gas demand.
- A CDD index is calculated by subtracting 18 Celsius (65 Fahrenheit in the USA) from the average of the daily high and low temperatures. Negative values are ignored. These daily CDD values are then accumulated over monthly or seasonal periods. CDDs are used as a measure of demand for power driven by air-conditioning. These daily CDD values are then accumulated over monthly or seasonal periods. CDDs are often used by companies exposed to air-conditioning derived power demand.
- OTC contracts are usually capped meaning that the payout is limited. The cap is typically 200 HDD/CDDs.
- Options are also traded on HDD and CDD indices.

Q What sort of institutions provide weather derivative protection?

- A large number of institutions in Europe and the USA are now able to offer weather derivative structures. These include banks, insurance companies, investment funds and some of the larger energy companies.

Q How does the contractual side and settlement work?

- OTC contracts typically have an initial settlement two days after the expiry of the index period. There may be a subsequent true-up based on final quality controlled settlement data from the respective national meteorological office.
- Standard ISDA templates are usually used for HDD and CDD contracts.

Q How are weather derivatives priced?

- The average of the payoff of a structure over the last 10-30 years can be used as a starting point. Recent trends are important and will also be taken into account.

Q. My company's exposure is complex. Will a weather derivative work for me?

- Weather derivatives can be tailored to correspond to very complex exposures. The weather market is accustomed to creating a product that fits the client's need exactly.
- Weather structures can be multiple triggers (ie be linked to rainfall and temperature for example), multi-site and cover one or more years.

Q. What sort of companies have used weather derivatives?

- A wide range including energy, water, wind power generators, retail, construction, earth-moving, bar and restaurant chains, amusement parks, clothing manufacturers.

Q. Why don't I just buy Insurance?

- Insurance contracts tend to cover high risk, low probability events whereas weather derivatives also cover low risk, high probability scenarios.
- With a weather derivative it is possible to design a payout to be in proportion to the magnitude of the adverse weather phenomena.
- Weather derivatives are index-based securities giving total transparency.
- With weather derivatives, there is no loss-adjustment process.

Q. My company gets accurate weather forecasts – why bother hedging with weather derivatives?

- Knowledge of likely future weather is important, and may assist in planning decisions, but does not necessarily protect against long-range volume risk.
- Hedging volume risk allows a component of business risk to be removed and can reduce earnings volatility.

Q. Are these products just for large multinational companies? Would they cost too much for a business with a small turnover?

- No. Weather derivatives can be used by businesses of all sizes. The cost will depend on the size and the probability of the payout.
- Smaller businesses are often less able to cope with a volatile revenue stream

Q. Where do I go from here?

- Speedwell Weather Derivatives have extensive experience of identifying a company's weather exposure and of placing the risk in the market.

Contact Us

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