

# Paradigm Change: The Weather is Manageable

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Historically, companies lost money as a result of the weather, sometimes a significant percentage of their profit margins, and it was generally accepted that there was little to nothing they could do about it. But recently, the outlook has changed, and there is an unprecedented increase in the number of companies who insure, or are about to insure, against the consequences of unfavourable weather. Long confined to the ranks of fate, the consequences of weather on a business's profits are now manageable like all other risks. Many understand and welcome this development, while others struggle.

Over the last ten years, we have met many business leaders, treasurers, CFOs and marketing analysts seeking to better understand the vulnerability of their business to the daily vagaries of weather. In most cases, the a priori assumption was that whilst weather was affecting sales, production costs, yields, prices or results, it was an external factor not worth attention, investigation or the allocation of resources. Whether the agricultural sector, manufacturing, transport, tourism, retail, mining, or beverages, the conclusion was always the same: these companies had always lived with the weather, and accepted its effects, and there was no reason to change that.

However, there was one exception to this rule: the energy sector. Regulatory bodies have long required energy companies to know the exact energy demand in order to be able to ensure that consumers' energy needs are met, and so as to not have energy being produced at great cost when not needed. As consumers' energy demands almost entirely depend on the weather (variations in temperature, to be exact), energy companies have monitored the weather and analysed the precise relationship between the weather and sales and profits and even responded to the risk of weather anomalies by putting in place hedging solutions in the form of weather derivatives.

The fact that other industry sectors have not sought to establish the precise link between their economic activity and weather, and even analysts and academics have avoided this research, is easily explained, however. Generally, companies did not have access to reliable data. Weather data was expensive, often historic weather data was available, and there were too few stations and virtually no satellite or radar data. Thus, it was extremely difficult to access the data necessary to make the link between the activity of a company or the sales of a product over wide geographic areas. Secondly, there was really no need for such analysis anyway. For even if a company had been able to establish to a degree of temperature or to a millimetre of precipitation the effects on sales, the value of this information was limited because there was no practical way to ensure against the financial losses caused by unfavourable weather. At most, this information would have been interesting to explain abnormally high or low revenues.

In 2007, we conducted a study on the management of weather risks across France, Belgium and Luxembourg. At the time, 67% of risk managers at major corporations across this region felt that the weather had an impact on their business, 21% had some knowledge of this impact, but only 5% were considering finding solutions to cover the consequences of unfavourable weather. This may have been justified by the fact that 88% were confident that their competitors did not manage the weather risk and had no risk management policy for weather risk either.

This same study conducted in late 2014 revealed a very different landscape: 85% then thought that their activity is weather-sensitive, but more than 56% claim then had knowledge of the relationship between their activity and weather. This signified a rise of 36% in seven years in their awareness of their weather risks. Even more impressive, 40% were then planning to cover the consequences of unfavourable weather, this being an increase of 35%. In fact, they considered this essential to their competitive success, as 20% were certain that their competitors were already seeking to manage this risk.

In terms of how these same risk managers viewed the evolution of this trend in analysing and responding to weather risks: 90% of treasurers surveyed believe that companies will have no choice but to know precisely the impact of the weather in the coming years, and 63% plan to hedge the weather in the years ahead.

What can explain this big leap in attitudes towards weather risk management in a reasonably short period of time? Three technological developments are responsible. First, weather data technology has rapidly evolved. Today's weather data is reliable, widely accessible, and historic data is often available for over thirty years for any given region. In addition to the observations of ground stations, we now use satellite and radar data, and with downscaling algorithms, we can know the weather virtually anywhere on the globe. It has become easy to write the relationship between the activity of a company and weather, regardless of its location. Secondly, weather forecasts are now sufficiently reliable up to one to two weeks in advance. These forecasts can be inserted into weather sensitivity models to help agile businesses take advantage of the opportunities of weather or to better manage their purchases and stocks when the weather becomes unfavourable. Thirdly, with the development of new index weather hedging tools, all companies can reduce or eliminate the consequences of unfavourable weather at economically competitive prices. When the weather continues to be unfavourable for a long enough duration, it is not enough for a company to be agile and responsive- it requires financial coverage. Such hedging tools have made possible by the arrival of companies like Meteo Protect,

which incorporates the entire value chain of the weather data in the customized hedging solution, when previously it was necessary to call multiple stakeholders.

At the same time, there is a climatic reason for companies being much more interested than before in weather risk. Climate variability, that is to say deviations from the weather from its normal value, has increased significantly since the early 2000s. The variability of temperature has doubled since 2000 in Western Europe, for example, which means for companies, if the temperature had an impact on a company's outcome 15 years ago, this impact has doubled. Globally, the cost of climate variability each year is nearly 2,000 billion Euros. For a company such as Coca-Cola, weather accounts for nearly one billion euros in lost sales, and that is company considered among the most market savvy.

Today, weather is a massive factor in every company's risk outlook, and this situation will only worsen. Climatologists at the World Meteorological Organization and IPCC have converged to warn that there is going to be an increase the number and intensity of weather anomalies. There is no possibility of companies being able to ignore or not act on their weather risks. For farmers, whose income depends directly on the weather, and for whom in some cases there is only one harvest a year, this risk is even more pronounced. In interviews conducted by Meteo Protect with producers, there is a genuine sense of regret: "Before, when the weather was bad, we always managed to rebuild ...", is oft repeated. Or, "In the past, even the poor producers managed .... ". Many have already made changes to their crops, but now are finding that they must insure against weather risks to be a sustainable producer.

Similarly, in the energy market, the position is much different. For years, profits of energy distributors fluctuated with temperature changes. Today, the increase in weather variability is such that even the largest and most competitive energy producers in the sector must limit the effects of temperature changes on their income statement by using hedging solutions. It is the same case for most industries, from auto spare parts and tires, tourism, to construction.

A page has turned. Leading companies now know that weather is a manageable risk and have integrated climate change into their management of short-term climate variability.