Swiss Re
Corporate Solutions

Electricity Price & Outage Solutions (ELPRO)

Managing power price volatility is often a challenging task, and unexpected outages create problems even in less volatile markets. An unplanned outage which leaves a power generator short may inevitably lead to losses – either from the purchase of an offsetting position in a high-cost spot market or from the opportunity cost of lost generation in a favorable market. As such losses have proven significant and painful, no counterparty with generation exposure should ignore the risk.

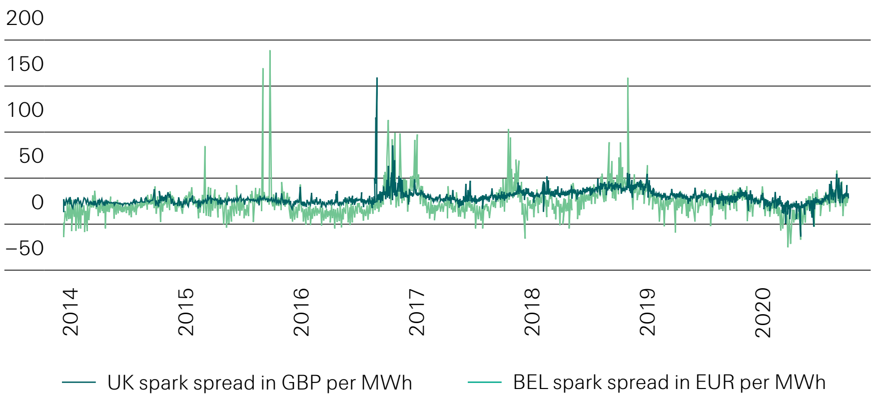
In Europe, for example, generation margins have become more volatile in recent years (see chart 1), following those in other energy markets. Commodity markets can hedge pure price risk very effectively, but what if the exposure is triggered by an unexpected outage?

Our solution

Power producers can manage that risk through Swiss Re Corporate Solutions' Electricity Price & Outage (ELPRO) cover, which compensates them for output lost from unplanned outages based on market conditions at the time of the loss. ELPRO competes very effectively with the costs of retaining the risk; utilities that choose to keep this exposure consistently over-look the real costs of their strategy:

- Hedging by owning extra reserves ties up capital and does not optimize the use of the generation capacity
- Hedging by counting on market reserves to mitigate the cost of buying replacement power is speculative exposure to volatility risk

Chart 1: **Margin volatility is growing**
Spark spreads in the UK and Belgium since 2014



What kinds of clients are using ELPRO cover?

To a utility's insurance risk manager, ELPRO is a tailored form of business interruption protection without property damage requirements to trigger, long waiting periods to retain, or lengthy claim adjustment negotiations. To a trading risk manager, ELPRO is a "just in time" call option on a power price or spread priced at a discount reflecting the contingent nature of the trigger event.

Some examples of how ELPRO is used by power producers and traders:

- A European power producer wants to take operating risk out of a business unit's operating profits – ELPRO guarantees the margin even if the plants cannot operate as planned
- In the US, an ERCOT power trader is offered an attractive discount from a producer who wants to sell without guaranteeing availability from a particular unit – ELPRO backs up the plant's production to enable a successful deal
- An Australian power producer wants to fully contract generating capacity for a season to take advantage of high medium-term prices – ELPRO hedges the risk of being short in a rising market if an outage occurs

How does ELPRO work?

Imagine a sudden outage or de-rating. If power prices are benign, the loss ma be very modest. However, if a power outage occurs at the same time as prices are spiking, then producers could be exposed to substantial losses which can accumulate quickly.

The 90-day outage shown below (see chart 2) would cost the producer GBP 5 727 600 in lost profit given the spreads prevailing at the time.

With ELPRO, the insured producer is paid the total of the lost production times the prices – or spreads – that were in place at the time of the outage. Subject to the pre-agreed limits of the contract, payment continues until the outage is over.

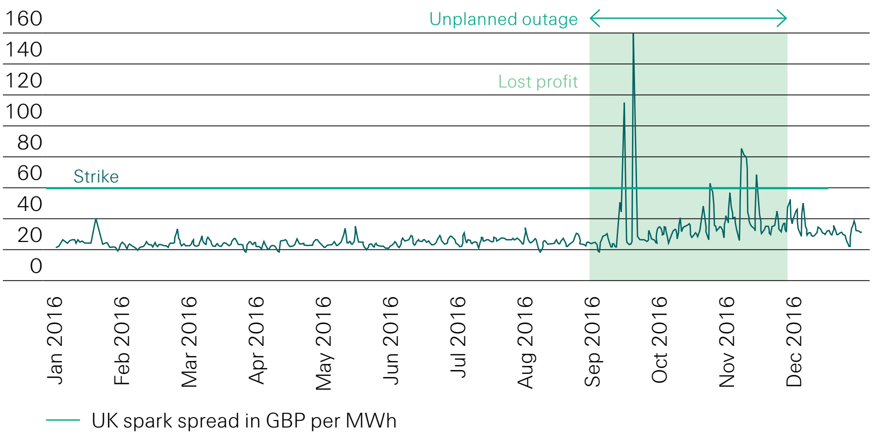
ELPRO cover is underwritten for each deal's own risk, instead of priced across a pool of loss experience, like insurance. Therefore, lower risk means lower premium. Finally, the claims process is fast and efficient and the payout is prompt, since settlement formulas are preagreed.

Features of our ELPRO cover

- Dual trigger volume and price protection
- Product tailored to specific client needs
- No physical damage required
- Can cover for risks of power, other commodities, generation (e.g. spark) margins
- Fast and transparent index-based loss settlement
- "Buys down" gap between start of loss event and business interruption inception

Chart 2: **Outages are expensive**

Potential profit margin losses in 90-day outage



Days with Spark Spread > Strike	Lost Production in MWh	Spark Spread in GBP/MWh	Strike in GBP/MWh	Compensation paid by SR in GBP
15.09.2016	24000	116.39	60	1353360
19.09.2016	24000	159.87	60	2396880
24.10.2016	24000	63.87	60	92880
07.11.2016	24000	85.71	60	617040
08.11.2016	24000	82.50	60	540000
09.11.2016	24000	81.15	60	507600
14.11.2016	24000	69.16	60	219840
			Total Compensation in GBP:	**5727600**

Our team

Operating from our offices in Houston, London, Luxemburg, New York, Sydney and Zurich, our highly-skilled and experienced team designs ELPRO cover to best fit any client's situation.

Over the years, our dedicated underwriters have structured ELPRO solutions for more than 100 GW of power generation across the globe.

Contact us today to learn more

For more information about the Weather & Energy team and the wide array of innovative services and solutions we can offer, please contact:

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Swiss Re Corporate Solutions provides risk transfer solutions to large and mid-sized corporations around the world. Its innovative, highly customised products and standard insurance covers help to make businesses more resilient, while its industry-leading claims service provides additional peace of mind. Swiss Re Corporate Solutions serves clients from offices worldwide and is backed by the financial strength of the Swiss Re Group. For more information about Swiss Re Corporate Solutions, please visit corporatesolutions.swissre.com or follow us on Twitter @SwissRe_CS.