CHOOSING THE BEST APPROACH TO ENERGY PURCHASING

Bob Collinson, managing director at Noveus Energy

Data centres have a complex task that includes delivering budget certainty, maintaining sustainability goals, providing detailed energy reports to tenants, and importantly, ensuring a competitive energy price.

With billions of kilowatt-hours of electricity being used annually by data centres across the globe, getting it right when it comes to your energy price and procurement is crucial.

One statistic I came across is that annual data centre energy consumption around the world amounted to 40% more than all the energy consumed by the United Kingdom, an industrialised country with over 65 million people. That's a lot of energy for data centres to procure effectively.

GROWING DEMAND AND MANAGING RISK

Around 40-50% of a data centre's annual expenditure is likely to be on energy. And this is only increasing, as the demand for data centre processing power and reliability becomes greater.

If you're responsible for energy purchasing at a data centre – and as you look to better manage risk and search for a competitive energy price – you're likely already considering ongoing budget pressures, can foresee expected market fluxes and demand increase, and are self-generating energy on-site.

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In amongst all of this, you have two options when it comes to managing energy purchasing and the associated risks: a static approach or a dynamic approach.

STATIC ENERGY PURCHASING

Most consultants adopt static purchasing for their clients, where the strategy is set at the beginning of a contract and is rarely – if ever – reviewed or adjusted.

A static approach would include:

- Using a pre-defined purchasing strategy for the whole contract duration and not revisit it
- Automatic triggering of purchases when prices spike
- Setting fixed upper triggers regardless of market conditions
- Always buying when lower trigger is reached, even if prices are expected to fall further
- Providing vague performance measurement data with limited context
- To generally simplify strategy selection by grouping multiple clients (to reduce their time spent managing the process).

The above static approach may be for you. Everyone's propensity to risk is different and a static approach can be reassuring.

DYNAMIC ENERGY PURCHASING

With a dynamic approach, energy purchasing is constantly reviewed and adjusted. The result: greater opportunity to maximise market changes, and control and reduce costs.

A dynamic approach would include:

- Tactical review – adjusting the strategy to suit prevailing market conditions, such as tactical switching between seasonal and monthly buying
- Market spike review – no immediate purchasing, with a call to discuss appropriate action
- Trailing upper trigger – in a falling market reduce the upper trigger to lock in benefits already secured whilst protecting from a change in market direction
- Trailing lower trigger – considering whether reducing a lower trigger further (combined with the protection of a trailing upper trigger) has merit
- Shadow strategy – comparing the performance of an alternative strategy with the option to switch strategies if appropriate
- Bespoke approach – developing a strategy that meets the specific requirement of each client.

Bob Collinson is managing director at UK-based business energy consultancy Noveus Energy. Having been immersed in the energy market for over 20 years, Bob has built up hugely detailed knowledge of suppliers and pricing structures, as well as market trends and new dynamics driven by technological innovation. At Noveus Energy he currently works with an array of high-profile data centres, bringing innovation and dynamism into an energy marketplace that he feels needs to re-focus on delivering for customers.

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MAXIMISING OPPORTUNITY

I believe a static approach is a lost opportunity, particularly when the electricity market is twice as volatile as the FTSE 100 (as shown opposite). The market can vary by up to 50% during any year.

Put it this way, most of us would expect our financial adviser to continually review the market and adjust our position on an ongoing basis. However, in the electricity market, despite greater volatility, this rarely happens.

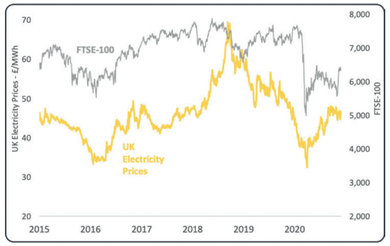
With a dynamic approach to energy purchasing, a lower commodity cost is delivered by maximising the benefit of this market volatility and limiting the risk of buying when prices are artificially high. It requires daily analysis and ongoing adjustments to deliver a price lower than the average market, and which reflects your financial and operational objectives.

• Example: Up to 10% savings with a dynamic approach

For many data centres, they can see that the energy market is rapidly changing and want to find a way to maximise the opportunity. With the increasing reliance of intermittent renewables for our generation adopting a dynamic strategy is essential as there will be far greater volatility and thus opportunity in market pricing. For one client, I have seen consistent savings of >10% with a dynamic approach in place.

• Example: More flexibility with a dynamic approach

For other data centres I've worked with a static approach has even proved problematic, particularly during times when the centre itself and its energy needs have been expanding exponentially. A more adaptable approach to energy purchasing has provided the flex required during intense growth periods, which is particularly important for new build/early-stage data centres.



	UK Electricity Prices (£/MWh)			FTSE-100		
YEAR	MIN	MAX	VARIANCE	MIN	MAX	VARIANCE
2015	£36.45	£47.48	**30%**	5,847	7,104	**21%**
2016	£33.30	£49.43	**48%**	5,537	7,143	**29%**
2017	£41.10	£48.25	**17%**	7,099	7,688	**8%**
2018	£45.18	£69.50	**54%**	6,585	7,877	**20%**
2019	£43.87	£60.15	**37%**	6,693	7,687	**15%**
2020	£32.45	£48.14	**48%**	4,994	7,675	**54%**

Graph shows fluctuations in the FTSE and energy markets

IN CONCLUSION

Data centres continually look to better manage energy purchasing risks and find a more competitive price. That's the reality when such huge amounts of energy are being used.

Each centres propensity for risk will be different – and whilst also considering their budget, expected fluxes and demand, and even self-generation – they will choose either a static or a dynamic approach to energy purchasing.

I believe a static approach is a lost opportunity. With a dynamic approach you can consistently deliver savings of >10% above static models and benefit from greater flexibility.

It is essential you work with a team who understand the market, can continually review risks, adjust how you purchase and maximise the market's volatility to buy at the right time and lower your costs.