Intelligent energy management cuts bills and carbon emissions for city council
Requirement:
Leeds City Council wanted to achieve better value for money in its energy purchasing across its large and diverse estate. The council also sought to update its energy procurement methods so that it could benefit from lower prices in the fluctuating wholesale markets. As well as reducing the cost of energy purchased, the council aimed to reduce the volume of electricity consumed across its premises to help achieve its carbon-reduction targets.

The Solution:
ENGIE offered precisely the solution Leeds City Council was looking for, with an approach that combined effective purchasing strategies to reduce energy costs with energy-management strategies to reduce consumption volumes.

Tailored contracts to reduce energy costs
Peter Leighton-Jones, Senior Project Officer at Leeds City Council, says: “We appointed ENGIE as our gas and electricity supplier – via two separate exercises – and included an embedded advisory service as part of the contracts. We wanted to tap into ENGIE’s energy trading expertise to help us get the best value from our energy buying. It enables us to benefit from energy contracts tailored to our requirements and our risk profile, and to enjoy ongoing support from the experienced energy buyers at ENGIE.”

The contract with ENGIE covers electricity supplies to 90 half-hourly metered sites and 2,200 smaller premises, gas supplies to 650 sites, and electricity supplies to the city’s unmetered sites, which include all street lighting.

ENGIE devised flexible gas and electricity contracts for the council. Decisions about when to buy energy are informed by a risk-management strategy developed by the ENGIE Global Trading team, working closely with the council.

Peter explains: “We developed a hedging strategy to suit our low-risk approach to energy buying, with the aim of flattening out our price across the whole contract period, rather than trying to chase the very lowest prices. The approach we follow is to buy most of our energy well ahead of the delivery date, looking for the best deals in long-term markets, while leaving a proportion to be bought in the day-ahead market where we can benefit from the generally lower prices available.”

The council has a weekly conference call with the Global Trading team at ENGIE, who advise on purchasing strategies in the light of global, market and sector events that could influence energy prices. ENGIE also provides reports and market data to inform the council’s decisions.

Peter adds: “It’s a strategy that’s proved very effective in reducing our energy costs. We have built up trust in the ENGIE trading team, and they have proven their expertise in helping us to buy at the right times. The strategy suits our attitude to risk and in the first year enabled us to save around 10% on our overall gas and electricity costs.”
Intelligent software to reduce energy consumption

As well as helping the council to reduce the pence per kWh cost of the energy it buys, ENGIE is using advanced software to help the council reduce the volume of energy it consumes. This involves understanding when and where energy is consumed at sites ranging from council offices and depots to leisure centres and schools.

Smart meters at these sites send data to ENGIE’s C3NTINEL energy-management software. This intelligent tool analyses and compares the data to benchmarks and similar sites, and produces spreadsheets, charts and reports on energy use across the entire portfolio. This data is proactively monitored by ENGIE’s bureau team, and mapped against expected usage based on floor area, building type and historic trends. The council also accesses the data daily on a secure online platform.

C3NTINEL has learning algorithms that enable it to create expected usage profiles for each property, taking into account factors like the weather, ambient temperature and other variables. If the system identifies anomalies or any usage that falls outside accepted tolerances, it raises an alert with the council.

This enables the council to quickly notify the site concerned and investigate the issue. There could be many reasons for the anomaly, from meter or equipment faults, to changes in behaviour or working patterns at the site, or new equipment being installed. With so many hundreds of sites to monitor, these anomalies in energy usage would never previously have been spotted.

Peter adds: “Using C3NTINEL enables us to keep track of usage across our portfolio and to act quickly to tackle energy wastage or inefficiency. It is reaping dividends in terms of making us aware of such issues, giving us powerful intelligence that we’ve never had before.”

“Our relationship with ENGIE is quite different to traditional supplier-customer relationships. It’s much more of a collaboration, a partnership. We’re open to new ideas, we trust each other, and we work together to develop initiatives that will achieve our energy-related goals.”

Peter Leighton-Jones, Senior Project Officer, Leeds City Council