Ideas at work

Essential services for business, delivered with energy

If you don't measure it, you can't manage it!

Sub-metering

Energy and carbon management is a growing practice among organisations that operate large buildings, campuses, and other complex facilities. Though sometimes an afterthought, sub-metering can bring great benefits and value to optimise energy and help drive carbon reduction.

Successful energy and carbon management requires detailed information on how and when they are being utilised. However, this valuable information is not always available within facilities, and main meters alone.

The whole organisation needs to understand exactly how and where their energy is being consumed within their estate.

Energy efficiency is the first step in achieving sustainability in buildings, helping to control increasing energy costs whilst reducing their carbon footprint. A Building Energy Management System (BEMS) can help provide a monitoring function for metering and sub-metering that allows individuals within an organisation to gather data and help them understand where and how energy is being used in their buildings.

Borg Warner are a manufacturer of turbo-chargers across the world for a number of major vehicle manufacturers. As part of the manufacturing process Borg Warner utilise large amounts of energy for machining, and must carefully control the environment to maintain quality of the product.

<1 year
Return on Investment

3 days
Installation time

sse Enterprise | Energy Solutions
Becoming SSE Energy Solutions

sseenergyoptimisation.co.uk

The Problem

The Health & Safety Advisor came to SSE and asked if we could help reduce Borg Warner's energy usage whilst still maintaining tight control on the environment. Having already implemented basic energy saving strategies, such as installing LED lighting, he was now looking to achieve further long term utility savings.

Upon visiting the production facility, SSE noticed there were a large number of air-conditioning units in the manufacturing area; a total of twenty eight providing a stable, space-conditioned environment for the manufacturing process.

SSE asked Borg Warner a number of questions about the facilities operation such as:

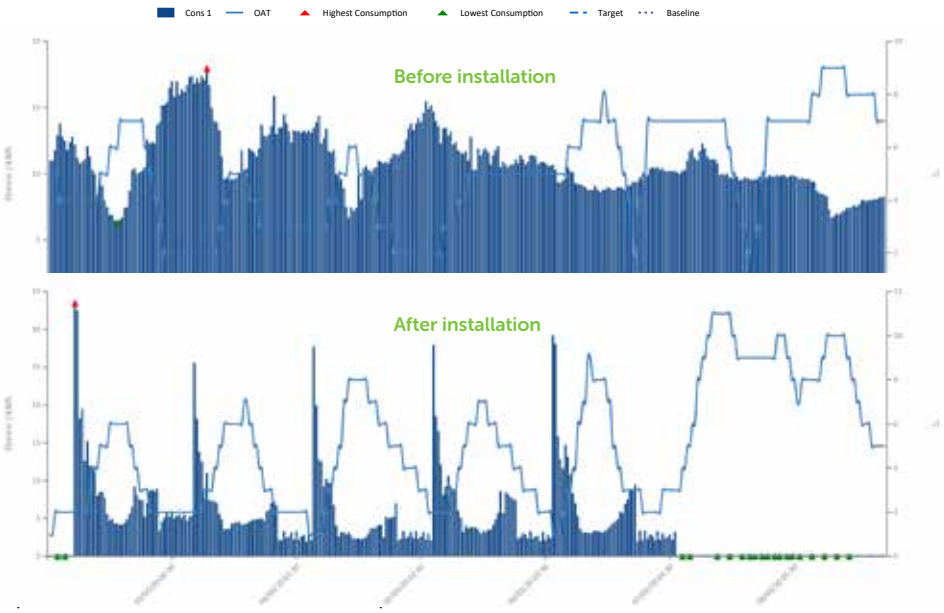
- How are the air-conditioning units being controlled?
- Have any changes taken place since the system was first commissioned?
- Is the control system easy to interact with to make changes?
- Are the space conditions required to be maintained 24/7 365 days a year?

Upon further investigation with the customer, we found that the air-conditioning units were installed, set and left running with fixed time schedule and control parameters. There was facility to make adjustments to the system, however the control device was not positioned in an easily-accessible area.

The Solution

SSE deployed our Remote Optimal solution which provides the customer with the ability to make adjustments remotely to the control parameters within the factory facility air-conditioning system without the need for engineers to attend site.

SSE calculated the saving and payback to be less than one year based on a 5% reduction. SSE installed our sub-metering solutions before we made any changes to the BEMS control system. The installed sub-metering system could then provide proof of adjustments and reduced energy, carbon and cost for the customer.



Energy consumption and outside air temperature with time.

The sub-metering was installed over three days, with energy use monitored via our Building Energy Intelligence (BEI) platform. The necessary controls and revised control parameters were put in place. The customer could immediately see energy usage drop once the air-conditioning units adopted a new control regime. This ensured the air-conditioning units and associated plant operations were now aligned to production shift patterns.

The Outcome

Within four weeks, and before COVID-19, the customer had already saved a large percentage of the cost of the solutions and made significant savings during shut down periods as a result of COVID-19.

Thanks to SSE's monitoring and control solution, Remote Optimal, Borg Warner are now in the process of sub-metering the rest of the production facility, plant items such as compressors, lighting in offices, test and quality rooms.

Our customer will soon have over twenty eight sub meters feeding into our BEI platform, giving our customer the ability to monitor and record energy usage and make the subtle changes that will greatly reduce plant consumption and reduce energy, carbon and costs.

Client testimonial

"Environmental control is a key aspect of our manufacturing process, and SSE Enterprise Energy Solutions were meticulous in their approach to ensure our working environment was not compromised whilst deploying their Remote Optimal technology.

We are delighted with the energy savings achieved to date, and look forward to further enhancing these by sub-metering the rest of our production facility in the coming months."

Health & Safety Advisor, Borg Warner

- Energy
- Contracting
- Lighting
- Telecoms
- Utilities
- Energy Solutions

For energy saving ideas, talk to SSE Enterprise Energy Solutions.

0345 0729 529 **info@sseenergyoptimisation.co.uk**