



Schneider Electric UK & Ireland

Schneider Electric leads
the way in ISO 50001 best practise

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Life Is On

Schneider
Electric

Background

When ISO 50001 was introduced in 2011, Schneider Electric knew it needed to get ahead of the curve in terms of compliance. Signing up to the framework wasn't compulsory, but as a global specialist in energy management, it was crucial that Schneider Electric walked-the-talk when it came to its in-house energy efficiency.

Designed by the International Organisation for Standardisation (ISO), ISO 50001 is a blueprint for improving the management of energy and resources. It defines requirements for establishing, implementing, maintaining and improving an Energy Management System (EnMS) and, using a structured methodology, it allows organisations to systematically assess and continually improve energy efficiency performance.

Since its introduction three years ago, over 7,000 sites around the world have been ISO 50001 certified. One of the key components of the framework is that there are no quantitative targets to reach. Each site seeking certification will be unique, so imposing absolute values is of little use. Rather, it is about the processes that are put in place to ensure that energy efficiency is constantly being improved upon. The ultimate goal is a reduction in greenhouse gas emissions, along with the corresponding savings on energy costs.

When it came to certification, Schneider Electric already had something of a head start. The company's head office in Rueil-Malmaison, on the outskirts of Paris, was the first building in the world to achieve ISO 50001 certification. Known as the Hive (Hall of Innovation and Energy Showcase), the 35,000 square metre building accommodates more than 1,800 employees. Several electric vehicles sit just outside the main building entrance, sheltered from the rain by a roof made of photovoltaic panels which connect to a charging station underneath.

Goal

When ISO 50001 was introduced in 2011, Schneider Electric knew it needed to get ahead of the curve in terms of compliance. Signing up to the framework wasn't compulsory, but as a world leader in energy management, it was crucial that Schneider Electric walked-the-talk when it came to its in-house energy efficiency.

Solution

Designed by the International Organisation for Standardisation (ISO), ISO 50001 is a blueprint for improving the management of energy and resources. It is a specification that defines requirements for establishing, implementing, maintaining and improving an Energy Management System (EnMS). Using a structured methodology, it allows organisations to systematically assess and continually improve energy efficiency performance.

Quote

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Inside the Hive, technology is no less impressive. Acting as a customer showroom as well as Schneider Electric's global headquarters, the building exhibits some of the most cutting-edge, energy-efficient technology on the planet. Of course, as part of the ISO 50001 certification, this technology must also be constantly assessed and improved upon.

Data analysis, daily monitoring and staff behavioural education have resulted in a massive reduction in energy consumption, from 150 kWh/m² to 78 kWh/m². But reduction in energy use is only one part of the puzzle.

Through effective water and waste management, 100 per cent of waste at the Hive is now recycled or energy recovered.

"The Hive is a fantastic demonstration of what buildings can achieve with the right concept, planning and technology," says Jones. "Being able to design that site from scratch with our own technology and needs in mind, we were able to create something truly special, but many of the systems and practices in place at the Hive can be applied to other buildings. ISO 50001 certification is the perfect place to start that journey."

Employing some of the lessons learned from construction of the Hive, Schneider Electric has since had 20 of its sites across the UK&I ISO 50001 certified, making energy savings of 16.5 per cent over two years. What's more, all improvements have come through the use of the company's own products and services.

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Mark Jones,

Sustainability Manager at Schneider Electric



“It’s absolutely vital to practice what you preach,” says Mark Jones, Sustainability Manager at Schneider Electric. “Energy management solutions are what we do, so for us it was essential that we were able to manage our own operations as efficiently as possible.”

When the ISO 50001 requirements were published in June 2011, Jones was tasked with making sure Schneider Electric got up to speed as quickly as possible. Having someone to spearhead the implementation is essential, and support needs to be in place throughout the organisation, from top executives down to operations staff.

“First and foremost, you need to have an Energy Plan, and that plan needs to be bought into by everyone,” says Jones. “A few lone voices, no matter how loud, won’t impact on energy efficiency across an organisation unless there is widespread buy-in. It’s helpful to have an Energy Champion for each site, but you need to have all levels on board.”

The planning stage consists of conducting an energy review and establishing a baseline. From there, energy performance indicators (EnPIs), objectives and targets can be drawn up. Once these metrics have been agreed, an action plan for improving performance can then be formulated.

Covering about 17,000 square metres and home to around 450 staff, Schneider Electric’s Leeds site is its largest manufacturing site in the UK. The company’s Medium Voltage Switchgear and MV/LV Distribution Transformers are manufactured there, meaning the site consumes a lot of energy. Combined annual consumption of electricity and gas is around 5,900,000 kWh, or the equivalent of almost 300 typical homes.

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When the Leeds site started to implement the Schneider Electric Energy Management System in 2011, production area lighting was one of the first things addressed. Approximately 330 old metal halide lighting fittings were replaced with energy efficient T5 fluorescent fittings. To maximise the energy efficiency of the new lighting set up, a Schneider Electric C-Bus intelligent lighting control system was also installed.

The control system provides time scheduling to ensure lights are only in use when required, and occupancy sensing to switch lights off in certain areas when there is no activity. When sufficient external daylight is available, the system is intelligent enough to know that lights inside can be dimmed.

The lighting project has been a huge success, resulting in energy savings of around 235,000 kWh per year. It has been accompanied by several other projects at Leeds, including the addition of a Schneider Electric Variable Speed Drive to the existing compressor arrangement, a change that resulted in savings of approximately 134,000 kWh per year.

“The savings we’ve made at Leeds are typical of what we’ve been able to achieve at our manufacturing sites,” says Jones. “Obviously we’ve had big infrastructural changes such as the lighting system, but equally important is the methodology we’ve put in place to encourage energy-efficient behavior, reduce waste, and continually improve practices.”

Looking ahead, a proposed photovoltaic (PV) scheme is also currently being evaluated for the Leeds site. With advances in technology, renewable sources of energy such as solar are becoming increasingly practical, even in countries like the UK, and the installation of PV units at Leeds would help significantly reduce the site’s carbon footprint.

About Schneider Electric

Schneider Electric is the global specialist in energy management and automation. With revenues of €25 billion in FY2014, our 170,000 employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives. At Schneider Electric, we call this Life Is On.

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