



Thorn Lighting Sector: Manufacturing

How BSI certification to ISO 50001 enables Thorn Lighting to demonstrate outstanding energy efficiency

The challenge

Thorn Lighting manufactures an extensive portfolio of indoor and outdoor lighting, supplying wholesalers, contractors, specifiers and end-users. Its products are recognized globally for their quality, reliability and ease of use. The company is a trusted partner to its customers, offering them valuable support in addition to lighting solutions.

Like many manufacturers, Thorn Lighting is subject to rapidly mounting utility costs. In 2016, the company partnered with energy efficiency specialist TEST Consulting to help it drive down its energy consumption and costs by implementing a continual energy reduction framework at its manufacturing plant in Spennymoor, County Durham. The challenge was to make the factory 'best in class' for energy efficiency, cutting consumption, wastage and carbon emissions, and cost containment, whilst also improving its customer offering and brand reputation.

The solution

Over the following three years, Thorn Lighting worked with TEST to implement its continual energy reduction framework. The partnership was so successful that Thorn became one of the first lighting manufacturer in the UK to achieve BSI certification to ISO 50001:2018.

TEST helped Thorn deliver significant behavioural and cultural change in both environmental and energy management. The consultancy drove bespoke energy improvement techniques to deliver measurable results and ongoing savings. For the first time, the company was able to identify its top 10 significant energy users (SEUs) and introduce real-time visibility to reduce the consumption of each. Without this systematic and dogged approach, the impressive results would not have been possible.

Benefits

Since the start of the project, an overall reduction of 21% in energy use and a significant reduction in CO2 emissions have been made. In the year to April 2019, when Thorn achieved BSI certification to ISO 50001, it saved £150,000 in energy costs, £20,000 in CRC (carbon reduction commitment) payments, and £10,000 from BSI certification to ISO 50001 negating the need for ESOS reporting.

"We recognized the need to take a more structured approach to energy management and ISO 50001:2018 helped us do that. We're incredibly proud of our BSI certification and industry recognition for being one of the first UK lighting manufacturers to achieve it. It gives us a real competitive edge."

Mark Helm,
Quality Assurance and Lean Six Sigma Manager | Thorn Lighting



Company background

Thorn Lighting is part of Austrian multinational Zumtobel Group. Around 600 staff are employed at Thorn's Spennymoor plant. With experience and expertise developed over 90 years, the company's indoor lighting solutions create comfortable, efficient light for living and working. Outdoors, it is a 'smart city' specialist, using innovation to improve urban safety and wellbeing.

Focusing on energy

In 2016, Thorn's leadership team set itself the challenge of making its Spennymoor factory 'best in class' for energy efficiency, by cutting consumption, wastage, carbon emissions and costs, while simultaneously improving its customer offering and brand reputation.

To achieve these goals, Thorn partnered with energy management specialist TEST Consulting, a member of BSI's Associate Consultant Programme, which connects businesses with independent experts in their region. Over the following three years, TEST's director, John Swallow, worked closely with Thorn to implement a continual energy reduction framework at Spennymoor.

TEST provided the sophisticated measurement systems needed for Thorn to truly understand its energy consumption and act upon changes required. Leveraging existing Kaizen and Hoshin management methods to drive awareness and therefore progress, the solution involved implementing a plant-wide, cloud-based energy platform with digital monitoring controls.

For the first time, the company was able to use over 150 meters deployed across the site to see energy usage in real time, which enabled it to identify its top 10 significant energy users (SEUs) and introduce new standard operating procedures, such as audits and guidelines, to help reduce the consumption of each.

As Swallow explains, "Energy KPIs are set across the business, driving a sense of responsibility. Every employee, from senior management to the factory floor, has become heavily invested in reducing energy consumption. Staff are empowered to be the eyes and ears of the plant and to come forward with new ideas for improvements. We've seen incredible behavioural change take place."

Specific improvement measures have included ensuring that energy training takes place for new starters, the company's energy policy is now on display throughout the factory, and the policy is required of all contractors. Awareness has also spread to procurement, which now strives to purchase products that are 'best in class' for energy efficiency.

Thorn has moved away from a 30-day retrospective view of its energy consumption to real-time visibility. It uses the data from the multiple meters deployed on site in a more strategic way, analyzing performance at an individual machine level, and diving deeper into problems and how to rectify them. This makes for better business decisions on where to invest capital for continual energy savings.

BSI certification

Throughout the project, there were regular energy catch-ups, where TEST worked with Thorn's senior managers, including Mark Helm,

Quality Assurance and Lean Six Sigma Manager, and Steve Robson, Manufacturing Engineering Manager, to drive the process. Swallow worked as one of the team to ensure a rigorous and systematic approach, thereby driving best in class results.

In early 2018, Thorn set out to become one of the first lighting manufacturer in the UK to achieve BSI certification to ISO 50001:2018. As Helm explains, "We'd already been doing a lot of good things on energy efficiency with TEST, but we recognized the benefits of working in a more structured manner – and we could see that BSI certification to the new standard would help us do that."

Helm continues, "We chose BSI as our certification partner because we wanted to continue working with a certification body that has the expertise to give us meaningful audits. BSI's reputation really means something, both to us and to our customers."

Robson adds that BSI's guidance on the standard "helped us identify areas where we could improve further – it helped us focus and plug gaps."

BSI certification to ISO 50001 works hand-in-hand with Thorn's other certifications, ISO 9001 (quality) and ISO 14001 (environmental management). As well as focusing on driving energy savings, managers are tasked with enhancing quality and environmental benefits, such as minimizing waste and improving employee conditions. For example, when Thorn's paint plant was re-insulated to prevent heat transfer, making it more energy efficient, an evaporative cooling system was also installed to enhance airflow and working conditions on the factory floor in accordance with ISO 7730. Similarly, forklift trucks on the shopfloor were big energy users, so moving to driverless, guided vehicles provided energy savings, while also making for a calmer, safer space.

Looking to the future

Thorn Lighting's work with TEST, culminating in BSI certification to ISO 50001, has achieved impressive tangible savings (summarized on page 1) as well as a major cultural shift in terms of environmental and energy awareness and behaviour within its factory. Now, there is determination to drive continual improvement and also repeat the approach taken at Spennymoor across the Zumtobel Group.

Mark Helm sums up, "We're incredibly proud of our BSI certification and industry recognition for being one of the first UK lighting manufacturers to achieve it. Senior management within Zumtobel see the value and benefit that this certification delivers, and how, through our work with TEST and BSI, we're able to pass on these benefits not only to our employees but also to customers. It gives us a real competitive edge."