SKF Group is a leading global supplier of bearings, seals, lubrication systems, mechatronics (combined electronics and mechanical engineering) and related services including technical support, maintenance services, condition monitoring and training. It is active in more than 130 countries, with 44,800 staff and over 100 manufacturing sites. The Group was founded in Sweden in 1907 and SKF (U.K.) Limited was established in Luton in 1911.

Sustainability is one of SKF’s key business drivers. The company believes that sustained commercial success is based on being economically, environmentally and socially sustainable. Consequently, the Group has had an environmental policy since 1989, has reported on environmental performance since 1992 and has been ISO 14001 certified since 1998.

It has undertaken formal sustainability performance reporting under Global Reporting Initiative G3 Guidelines since 2000 and reported on its emissions since 2001.

SKF subsequently launched the BeyondZero concept in 2005. This is the company’s commitment to achieving a net positive impact on the environment across all its activities: providing customers with environmentally-sound, energy-efficient products and services, and striving for higher efficiency in consumption of materials and use of energy in its operations.
Carbon dioxide is by far the most significant greenhouse gas generated as a result of SKF’s operations. Therefore, in addition to work on reducing carbon intensity, the Group set a target to reduce CO₂ emissions across its operations by a minimum of 5 per cent annually, irrespective of production volume increases.

In 2008, the emissions reduction was 9.1 per cent. This was achieved through a number of measures. SKF instituted internal energy management training, and all SKF sites with significant energy use have a designated energy co-ordinator, responsible for running energy saving activities. An energy management database has been introduced and energy assessments are performed to analyse where energy is used and to identify where savings can be made. In the 2007/08 period, these assessments identified total potential savings of around 9,000 tonnes of CO₂ worth about £1.56m [SEK 18 million].

Against this backdrop, SKF recognized the potential value of establishing a formal foundation for energy management. It therefore wanted to investigate BS EN 16001 to gain a practical understanding of its effectiveness and its implications. This experience will inform a decision as to whether BS EN 16001 should be integrated with the existing ISO 14001 management system across the Group.

Moreover, as Brian Morgan, Environmental Manager of SKF (U.K.) Limited puts it: “As a global organization we consider ourselves to be world leaders. We were the first in our sector to be certified to ISO 14001 and the first to be certified to BS OHSAS 18001. Energy management within our ISO 14001 requirements is not, perhaps, as detailed as it needs to be. We felt that 16001 was the next step, to formalize and quantify energy management as a significant environmental aspect for the company, and to maintain our position as an organization which leads the way.”

Implementation approach

The first step in SKF’s implementation of BS EN 16001 was to compare the clauses within the new standard to those already in ISO 14001, thereby identifying where more detail needed to be added over and above that which it already had. Then work was undertaken to fill what gaps existed. SKF’s environmental and health and safety policies commit SKF to resource reduction in all forms. In addition an energy policy was in place. However, Morgan characterises this latter as ‘very woolly’, and says “Using 16001, we added detail to the energy policy and that’s now implemented.”

The next step was to identify the significant energy aspects and to derive more detailed information on consumption. SKF chose to run the pilot implementation at its Luton site, which comprises six buildings consuming electricity, gas and a very little LPG. Gas makes up around 19 per cent of energy use, and is used for heating and hot water. Use for the factory areas is controlled from a PC in the maintenance department. Temperature sensors on site monitor the temperature of each building and the external temperature (allowing degree days for the site to be accurately calculated) and each element is individually controlled to optimize use. In other words, gas use was well understood and well under control.

Electricity, which accounts for around 80 per cent of energy use on the site, was more problematic. It was measured down to building level on a weekly basis in arrears, but SKF recognized that it didn’t have detailed visibility of use: exactly where and how it was consumed in each building.

To gain a more precise picture, data loggers were installed which record where electricity is being consumed across 24 hours in the day and seven days a week. “Using the standard made us drill down much farther into our energy use and consumption than we did before and in time this will identify our opportunities for improvement and reduction” notes Morgan. He adds: “Even in the office building, for instance, we’ve already noticed some irregularities in the air-conditioning control systems which wouldn’t have emerged without 24/7 logging. And that’s enabled us to rectify the system and reduce its use.”

For SKF, meeting the requirements of the standard in other areas was ‘fairly simple’. With a mature ISO 14001 management system in place it was just a matter of dropping the requirements of BS EN 16001 into the existing ISO 14001 system. The structures for records, responsibilities, communications and compliance already exist, so no significant additional work was necessary to meet these requirements. At time of writing, SKF (U.K.) Limited is implementing the standard in preparation for an audit of its compliance with the requirements of BS EN 16001.

Learning and implications

SKF had no major issues with implementing BS EN 16001. However, Morgan and his colleague, Ian Bloxham, SKF’s Industrial Division Manufacturing Sustainability Manager, did note that the clause numbering – which is consistent across ISO 9001, ISO 14001 and BS OHSAS 18001 – is different in BS EN 16001. This was felt to be very unhelpful. (This arose because a paragraph present in other standards isn’t in BS EN 16001, but the anomaly has been noted and BSI anticipates that consistent numbering will be restored when the ISO version is published.)

SKF is liable under the Carbon Reduction Commitment and is well prepared for its introduction in April 2010. Additionally, it has worked with the Carbon Trust. However Morgan feels that BS EN 16001 offers him more value. For Morgan, commitment is very important in yielding results, and he believes the standard goes further than other schemes which often lack detail and commitment. He notes: “You have an
initiative, which becomes just another project, which can be sidestepped or dropped. But as soon as you start putting in a standard and getting certified, and externally audited, then the commitment to get it done is there, including from senior management, not only in the UK, but from a global perspective as well.”

Benefits of the standard

Morgan identifies the main benefit of BS EN 16001 as being that authority, responsibility and activity with regard to energy will be formalized beyond the looser organization which currently exists under SKF’s ISO 14001 certification. Having a formal standard makes everybody in the organization a lot more aware of energy management, from the shop floor right up to senior management, and ensures the necessary commitment is in place.

Cost saving is another key benefit. Using the standard SKF will be able to effectively profile where energy is being used, establish targets from this and then identify and take opportunities to make savings. Bloxham adds: “In the current business climate, there is a strong push on costs; and working with BS EN 16001 will very much support not only the reduction of energy use, but the reduction of costs as well.”

Moreover, Bloxham believes that implementing and certifying to the new European energy management standard will bring significant market advantage too. He says, “We will get to the stage where 16001 will go a long way in relationship building within the business environment of the kinds of companies that we seek to work worth, with our customers. We see significant advantages, not only in implementing 16001 in our manufacturing, but also from an external point of view in informing the perception of our customers about who we are as an organization.” Morgan adds: “If you’re in early enough and you show your organization’s commitment to the standard and the sustainability issues that it covers, then there’s a definite business advantage.”

Conclusions

SKF already feels that BS EN 16001 is set to become as important as any of the other standards it has in place. Notes Bloxham: “You need standards to work with larger customers, so we see 16001 as an obvious move for us now and the next step within energy management, cost reduction and environmental care.”

He adds: “If companies are looking at their environmental impacts and are looking at how much and where energy is being used, then 16001 is the obvious way to go. It brings energy management out into the open. Really, I think every company should be looking at implementing 16001.”

Further information

www.skf.co.uk
www.skf.com
www.bsigroup.com/bsen16001
To order your copy of BS EN 16001 Energy management systems. Requirements with guidance for use please visit: www.bsigroup.com/bsen16001

“Using the standard made us drill down much farther into our energy use and consumption than we did before and in time this will identify our opportunities for improvement and reduction.”

Brian Morgan
Environmental Manager, SKF (U.K.) Limited
About BS EN 16001 Energy management systems. Requirements with guidance for use

With rising energy costs, energy efficiency has become an important component of business efficiency and cost management.

**BS EN 16001 Energy management systems. Requirements with guidance for use** provides a road map to help organizations improve energy efficiency, reduce greenhouse gas (GHG) emissions and drive down energy costs.

It is a best practice document that will allow businesses to implement their own energy management systems and to get an appreciation of their own energy usage. It explains what steps they need to take and who they need to get involved in their businesses to help.

The standard applies to all energy-related activities under the control of an organization. For example, it takes account of the power used by machinery and the energy needed to heat office buildings. These ‘energy aspects’ represent elements of an organization's activities, goods or services that can affect energy use.

The standard can also be used to turn energy into a key performance indicator alongside such elements as unit cost and customer satisfaction.

[www.bsigroup.com/bsen16001](http://www.bsigroup.com/bsen16001)

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About BSI

BSI is a global independent business services organization that inspires confidence and delivers assurance to over 80,000 customers with standards-based solutions. Originating as the world's first national standards body, BSI has over 2,400 staff operating in over 120 countries through more than 50 global offices. BSI's key offerings are:

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