Energy Management:

What you need to know about the new ISO 50001 standard... and how it may affect your business

As businesses, governments and citizens acknowledge the importance of sustainability, the push for greater energy efficiency has gained momentum. By managing energy resources more effectively, companies can reduce costs, improve environmental performance and become more competitive. The drive for energy efficiency may also create new business opportunities for Electro-Federation Canada (EFC) members who manufacture or market energy-consuming appliances... or equipment that measures or controls energy consumption.

That's why the newly released ***ISO 50001:2011, Energy management systems – Requirements with guidance*** is worth consideration, as an important tool by which manufacturers manage their energy. The voluntary standard is intended to provide organizations with management strategies to increase energy efficiency, reduce costs and improve energy performance. ISO estimates that the standard could have a positive impact on about 60 percent of the world's energy use. And because 5 to 40 percent of product costs may be related to energy, savings go directly to the bottom line.

A voluntary systemic approach

Adopted and published as a national standard of Canada in June 2011, the standard is still new and unfamiliar to most manufacturers. While interest may largely reside with significant energy users, the standard is intended for both large and small organizations across diverse commercial, industrial and public sectors. Even lighter users of energy can benefit from greater efficiency, cost reductions and the reputational benefits that may come with applying this new international standard. What's more, as producers of electrical products and equipment, EFC members may find themselves in the position of meeting ever-increasing demand for energy efficient solutions along the supply chain.

Experts from the national standards bodies of 44 ISO member countries, including Canada, participated in the development of the new ISO 50001 standard. Another 14 countries observed. The standard also drew on numerous national or regional energy management standards, specifications and regulations.

Consistent with ISO 9001 and ISO 14001, ISO 50001 follows a Plan-Do-Check-Act cycle that may be familiar to EFC members. Key elements include:

- Energy policy, reflecting top management's commitment to managing energy
- Energy review, to analyze energy data and to identify areas of significant energy use
- A baseline of the organization's energy use
- Energy objectives and targets that are measurable and have timelines for achievement
- Action plan to achieve energy objectives and targets
- Energy performance indicators (EnPIs) that are unique to the company to track progress

It's important to note that under the standard, organizations set their own goals – modest or ambitious – and demonstrate continual improvement against those goals.

Reducing costs and leveraging demand

Whether or not a company chooses to become certified by a third party to the standard, self-declares its conformity, or applies only those elements it deems most suitable, ISO 50001 provides a systematic way to make energy consumption visible at the appropriate levels and to provide for continual improvement of energy performance.

EFC member, Schneider Electric, is one company that has welcomed the new standard and sees certification as recognition of its commitment to energy efficiency and its expertise in the field. In a world first, Schneider Electric's Canadian head office has been certified as complying with ISO 50001.

"More than ever, we are aiming for the highest standards in energy management for both our customers' buildings and our own," says Gary Abrams, President of Schneider Electric Canada and Vice Chair of the Executive Committee of EFC's Board of Directors. "Our headquarters building, The Hive, provides valuable feedback that we can leverage to develop efficient, operational energy performance solutions that create value for our customers.

"The new ISO 50001 standard is designed to help organizations continuously improve the energy performance of their buildings, optimize their use and reduce their operating costs," he continues.

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"We are proud to be the first building to achieve this certification and we will continue to lead by example when it comes to energy management solutions."

Some of the expected benefits of applying ISO 50001, according to ISO, include:

- Building energy management into business practices
- Optimizing energy-consuming assets
- Improving operations and capital cost decisions
- Facilitating energy management best practices
- Improving the ability to benchmark, measure and report energy intensity improvements
- Improving transparency and communication on the management of energy resources
- Helping evaluate and prioritize new energy-efficient technologies
- Having a framework for promoting energy efficiency throughout the supply chain

For producers of electricity-consuming or controlling products and equipment, the benefits may not just be about cost-savings, but revenue generation too. Those companies that identify and meet market demand for innovative, energy efficient products can capture good business opportunities as well.

In support of the development of ISO 50001, Canada has undertaken three pilot projects under the Global Superior Energy Partnership Initiative, including one with the Ontario Power Authority to help five Ontario manufacturing facilities implement the ISO 50001 energy management standard. Another is a U.S.-Canada pilot program with 3M to identify and act on energy performance improvement opportunities in a Canadian plant. The third project is testing implementation of the standard for energy management in NRCan buildings. Feedback from these pilots suggests that small to medium sized enterprises can reduce energy costs by 5 to 20 percent within two to three years of implementing the standard. Even actions as straightforward as replacing windows or using more efficient pumps, air conditioning and lighting can contribute meaningful results.

Implementation resources

The Canadian Standards Association has mobilized a 60-person stakeholder group, representing industry, government, utilities, NGOs and others to develop ways of enhancing implementation of the standard in Canada. It is also working with utilities, Canadian Manufacturers & Exporters (CME) and the Canadian Industry Program for Energy Conservation (CIPEC) to help businesses apply the standard. ISO 50001 may be ordered online at http://shop.csa.ca/

More information about ISO 50001 Energy Management is available at http://www.iso.org/iso/iso_50001_energy.pdf

EFC will continue to monitor developments around the ISO 50001 standard and keep you informed.

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The Battle of the Bulbs

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privately-held family-owned business, adapting to the new legislation has posed some challenges.

"It has a huge impact on time and resources. We have had to coordinate complex project work that involves many areas of our business, including product development, engineering, supply chain, marketing, IT, and sales, in order to plan the discontinuation and introduction of products," says David Nathaniel, President.

The best way for the Canadian government to proceed, Nathaniel says, is to synchronize its lighting laws with those in the U.S., or else proceed with the 2014 extension to give industry more time to adapt.

"We support harmonization with the U.S. legislation; we think that would be the best scenario for Canadians. If that is not possible, then we support the delay in implementation to allow more time for alternative products to develop and become more affordable," Nathaniel says.

Under the Energy Independence and Security Act in the U.S., production or import of incandescent bulbs for its market will cease at various points over the next three years: 100 W by Jan. 1st, 2012; 75 W by Jan. 1st, 2013; and, 60W and 40W by Jan. 1st, 2014. Another key difference in the two countries' light regulations is that, in the U.S., these bulbs must become 30% more energy-efficient by their respective deadlines, while in Canada no such levels were mandated, leaving the decision up to individual manufacturers.

"We had asked the government to consider harmonizing with the U.S. approach and regulate the wattages down to the same levels across all four types of bulbs, because North America is essentially one large market for most major companies," says Joseph Howley, Manager of Industry Relations at GE.

Recently, GE announced the arrival between now and next fall of a full line of low-watt LED lights that are the world's first omni-directional LEDs. The Energy Smart product line will include a 13 W LED replacement for the 60 W incandescent and a 9 W LED replacement for the 40 W incandescent, both of which will have a lifespan of 25,000 hours.

Howley says GE will adapt to the extension if it goes through, but either way, the company will continue to innovate in energy-efficient light products.

Says Howley: "Sustainability is built into our DNA. We're always looking for the next best technology that provides light more efficiently."

Says Wayne Edwards of EFC: "EFC will continue to closely monitor this situation, reinforce maintaining the originally planned dates and keep members abreast of developments."

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