Future ISO 50001 for energy management systems

by Edwin Piñero, Chair, ISO/PC 242, Energy management

No topics are probably more in the public eye right now than energy and climate change. From energy prices to climate change impacts, to foreign oil dependence, energy-related topics are the source of constant discussions, debates and news. What's more, nearly all sectors of society are getting involved. Whether it is energy-conscious home owners, or government-backed policies and incentives, or businesses looking to reduce their carbon footprint, everyone is doing their part to contribute.

An equally growing movement is the use of international management system standards as tools to improve organizational efficiency and productivity. Product standards have been around for a long time, but the use of International Standards to manage how an organization functions, rather than the nature of their product, has been growing.

ISO is known for its world-famous suite of management system standards for quality (ISO 9000 series) and the environment (ISO 14000 series) respectively. Both have successfully stimulated substantial, continual efficiency improvements within organizations around the globe.

We are now experiencing an interesting nexus of the need for effective energy management and the successful growth of international, consensus-based management system standards. Therefore, it is clear that the time has come for an energy management system standard. Effective energy management is a priority focus not only because of the significant potential to save energy, but also because of its role in reducing greenhouse gas (GHG) emissions worldwide.

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ISO has identified energy management as one of the top five areas requiring the development and promotion of International Standards. This need did not go unnoticed in several countries, with initiatives underway in China, Ireland, the Republic of Korea, the USA and the European Union with its EN 16001. And clearly, the first major users of such a standard will be industry. The expected benefits of the future standard are numerous, including major, long-term increases in energy efficiency of more than 20 % in industrial facilities.

Why a new standard?

The standard will provide organizations and companies with technical and management strategies to increase energy efficiency, reduce costs, and improve environmental performance. Based on broad applicability across national economic sectors, the future standard could influence up to 60 % of the world's energy demand. Although originally intended for industry, the standard will apply to any type of organization wishing to effectively manage its energy uses and efficiency.

It is envisioned that the future standard will provide organizations and companies with a recognized framework for integrating energy efficiency into their management practices. International organizations will have access to a single, harmonized standard for implementation across the organization, with a logical and consistent methodology for identifying and implementing energy efficiency improvements.

International backing

The United Nations Industrial Development Organization (UNIDO) recognized both industry's need to mount an effective response to climate change, and ISO's need to address the proliferation of national energy management standards. To this end, UNIDO requested that ISO look into developing an international energy management standard.

In February 2008, the ISO technical management board approved a new project committee ISO/PC 242, *Energy management*, to develop the new ISO energy management system standard, building on the most advanced good practices and existing national or regional standards.

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The standard will also accomplish the following:

- Assist organizations in making better use of their existing energy-consuming assets
- Offer guidance on benchmarking, measuring, documenting, and reporting energy intensity improvements and their projected impact on reductions in GHG emissions
- Create transparency and facilitate communication on the management of energy resources
- Promote energy management best practices and reinforce good energy management behaviours
- Assist facilities in evaluating and prioritizing the implementation of new energy-efficient technologies
- Provide a framework for promoting energy efficiency throughout the supply chain
- Facilitate energy management improvements in the context of GHG emission reduction projects
- Allow integration with other organization management systems (environment, health and safety).

The future ISO 50001 will establish an international framework for industrial and commercial facilities, or other types of organizations, such as public sector operations, to manage all aspects of energy, including procurement and use. As with the ISO 9000 and the ISO 14000 series, it is likely that there will be a certification process for ISO 50001 to certify the management system itself.

Merging of innovative thinking

The inaugural meeting of ISO/PC 242 was held in September 2008, with more than 80 delegates representing 25 ISO member countries from all regions of the world, as well as several organizations in liaison with ISO. Excellent progress was made in the technical discussions and a first working draft was circulated for comment.

A major point of discussion was the need to ensure compatibility with the existing suite of ISO management system standards. The committee, therefore, took the key decision to base the draft on the common elements found in all ISO management system standards.

The committee's second meeting, which took place in Rio de Janeiro, Brazil, in March 2009, delved more into the substance of ISO 50001 and its uniqueness. This included discussion about energy performance improvements, the need for relevant data, and the need for the ability to prioritize energy issues.

Clearly, the urgent need for a management tool to tackle the critical issue of energy, combined with an urgency to harmonize the proliferation of similar

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national standards, has resulted in a very fast-moving and smooth International Standard development process. Since the Brazil meeting, a committee draft (CD) is being prepared for the third quarter of 2009, with a final International Standard ready for the end of 2010.

As with any ISO standard, there is ample opportunity for stakeholder input, and as the process moves to the CD stage, the role of national delegations grows in importance. From this point on, it is expected that each member country will develop its own opinions and comments on the ensuing drafts. In addition, energy leaders are encouraged to participate in their country's national mirror committee which will coordinate the country's participation in writing the standard.

The future shines bright

It is hoped that the introduction of ISO 50001 will result in widespread uptake among all types of energy users. The Plan-Do-Check-Act model has been proven successful for managing quality and environmental issues. Each new management system standard is an improvement over the prior ones, based on lessons learned from past experience.

Hence, ISO 50001 will be strong in integrating performance measurement and data with the management system framework. It will not only lead to effective management of the process, but will also increase energy efficiency and more prudent energy use.