Managing your energy usage with ISO 50001

In the previous issue of the TAPPSA Journal, we discussed how South Africa's proposed carbon tax will indirectly spike electricity prices as Eskom is able to pass its own carbon tax costs through to the end user. Instead of looking to the renewable energy market in response, fraught with high barriers to entry, industry would do well to first embrace what has been referred to as the *forgotten fuel* – energy efficiency.

While updated machinery and technology play an important part in energy efficiency, how your *energy usage is managed* forms an equally effective tool. Enter ISO 50001, the Energy Management standard published in June 2011. Despite South Africa being one of the first countries to adopt IS0 50001 just one month later, our local industry has been relatively slow to align their energy management practices accordingly. But now that the country's first 20 lead auditors have been accredited in October last year, it should be all systems go for local companies wanting to embrace the savings certainty of ISO 50001.

So what is ISO 50001? Essentially, it is an international framework for the supply, use and consumption of energy in institutions, commerce and industry. Most importantly, ISO 50001 facilitates the development of an energy management system (EnMS) that provides:

- a framework for understanding what and where energy is used
- action plans for the continual review and improvement of energy performance
- and structures to sustain energy performance improvements, and the management thereof.

It is closely aligned with the underlying ISO practice of 'plan, do, check, act' found in other standards.

Benefits of implementing ISO 50001

Becoming ISO 50001 certified offers a range of benefits – most notably an improvement of overall operating costs as a direct result of a more efficient energy usage and management.

The Industrial Energy Efficiency Improvement Project (IEE) was launched in 2010 by the United Nations in partnership with the National Cleaner Production Centre of South Africa (NCPC-SA), to equip industry with energy management systems practices through training workshops. The four industry participants (Toyota SA, Durban plant; ArcelorMittal, Saldanha Bay plant; Saint-Gobain Gyproc, Cape Town; Gelvenor Textiles, Hammarsdale) that are implementing an EnMS programme through the IEE Project have reported actual savings of 190 GWh in the two-year period spanning 2010 to 2012. According to Alfred Hartzenburg, Senior Project Manager at NCPC-SA, the pulp and paper industry has a technical savings potential of 20%.

ISO 50001 certification also provides a competitive edge regarding your environmental impact, as the implementation of an effective EnMS will help reduce your reliance on traditional energy sources but also reduce your greenhouse gas emissions.

Additional to the environmental and financial savings that ISO 50001 can offer, it is also relatively easy to integrate it into your existing environmental and quality management systems, as ISO 50001 is based on the same continual improvement management model as ISO 9001 and 14001. In particular, ISO 50001 is able to adapt the environmental policies outlined in ISO 14001 to incorporate energy, facilitating partial or full integration with ISO 14001.

Becoming ISO 50001 certified

At present, successful implementation of ISO 50001 relies on the commitment and buy-in of your company's management, as compliance is still voluntary. But this may not always be the case. ISO 50001 is already regarded as a 'key component' of national energy plans such as the National Energy Efficiency Strategy and the Integrated Resource Plan for Electricity 2010-2030 (or IRP2010), that call for increased energy management activities and audits.

If your management is committed to becoming ISO 50001 compliant, your company may be applicable for certification provided that it:

- Identifies significant energy users that account for 80% of energy
- Develops Energy Performance Indicators
- Lists the opportunities for energy usage improvement
- Implements operational controls, including training and parameters

To date, the NCPC-SA has trained 30 auditors through its ISO 50001:2011 Lead Auditor Certification Programme to carry out certification audits at those companies interested in certification. For more information, visit the following websites: http://ncpc.csir.co.za; www.sabs.co.za/Certification/certification_process.asp; www.energy.gov.za. ■

For any industry implementing EnMS, NCPC-SA predicts the following general savings:

Industrial enterprises that implemented EnMS	2-3% Annual energy intensity reductions
Business as usual	1% Annual energy intensity reduction
Organisations new to energy management	10-20% savings during the first 2 years