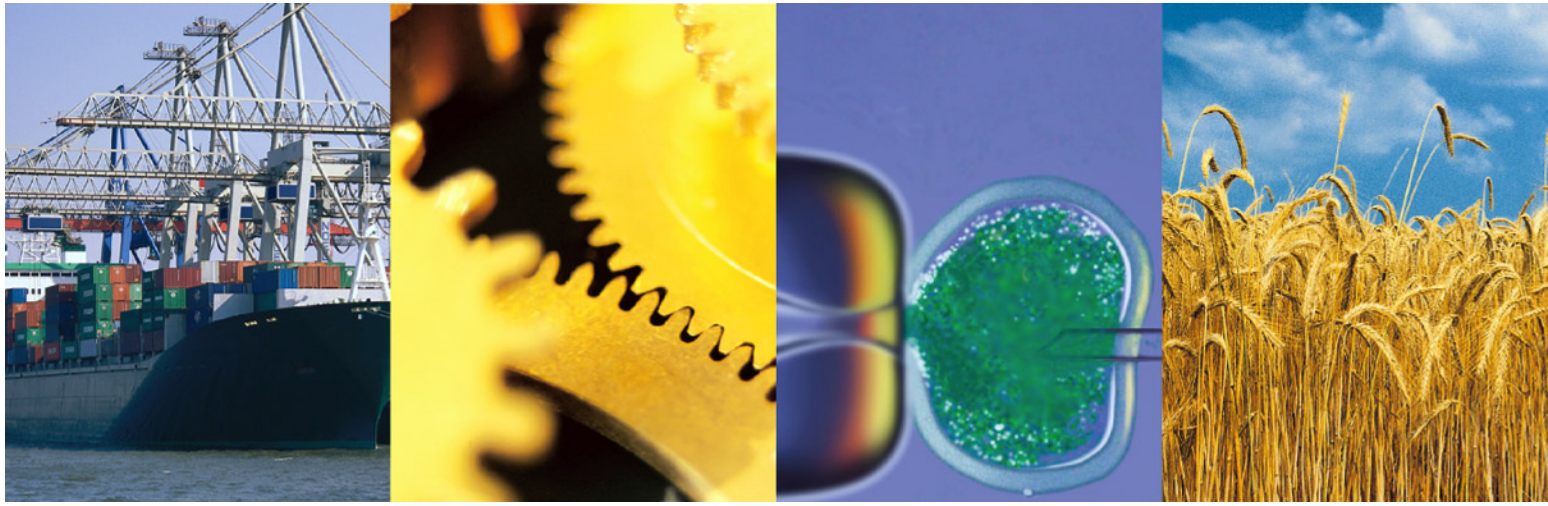
ISO meeting challenges in energy management



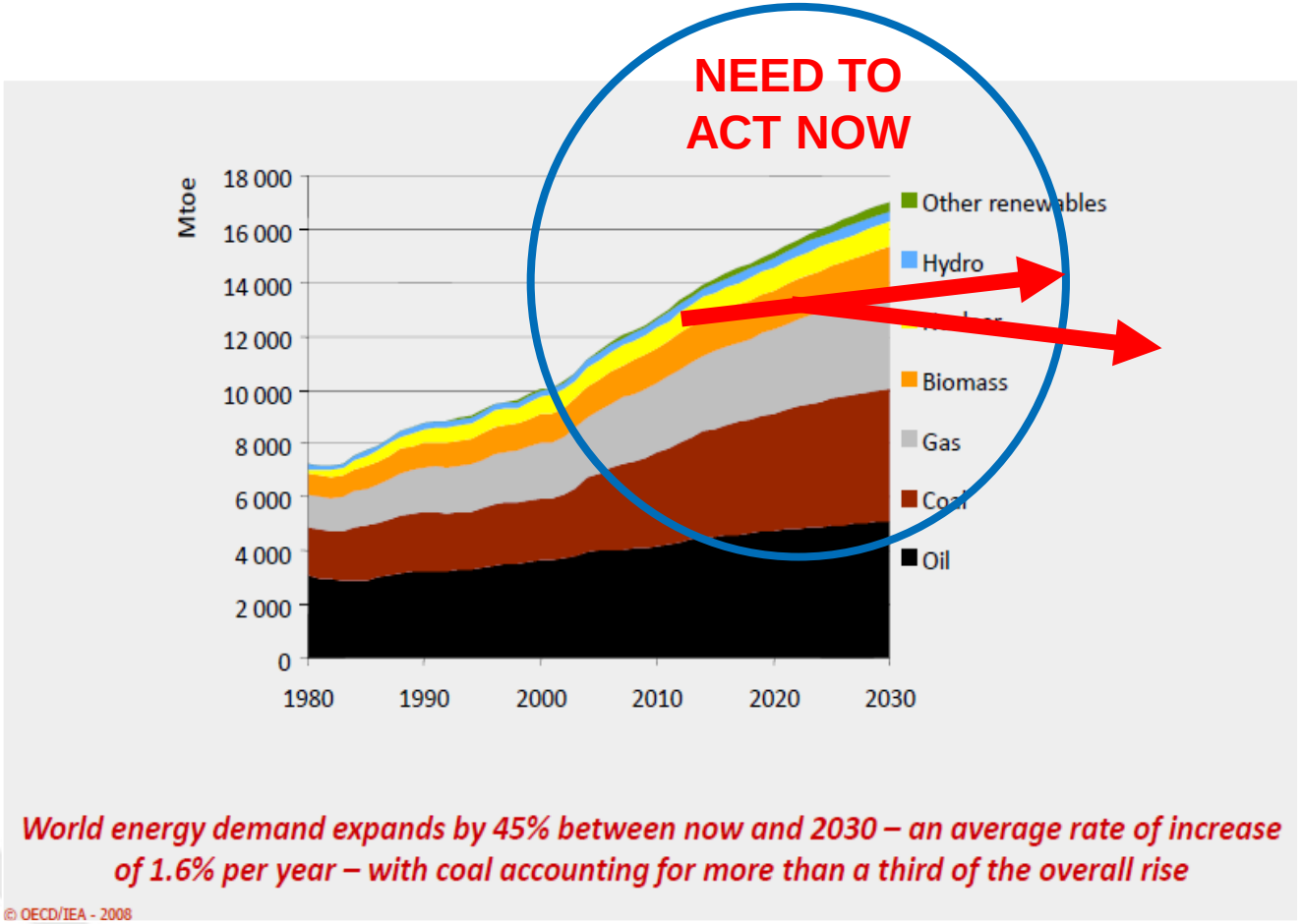
Launch of ISO 50001 energy management standard

Rob Steele
ISO Secretary-General
17 June 2011

Trends in world energy demand give the sense of urgency

IEA WEO 2008 "reference scenario" shows once more that "business as usual" is not an option

the time to act is NOW



World energy demand expands by 45% between now and 2030 – an average rate of increase of 1.6% per year – with coal accounting for more than a third of the overall rise

Energy, the value added by International Standards

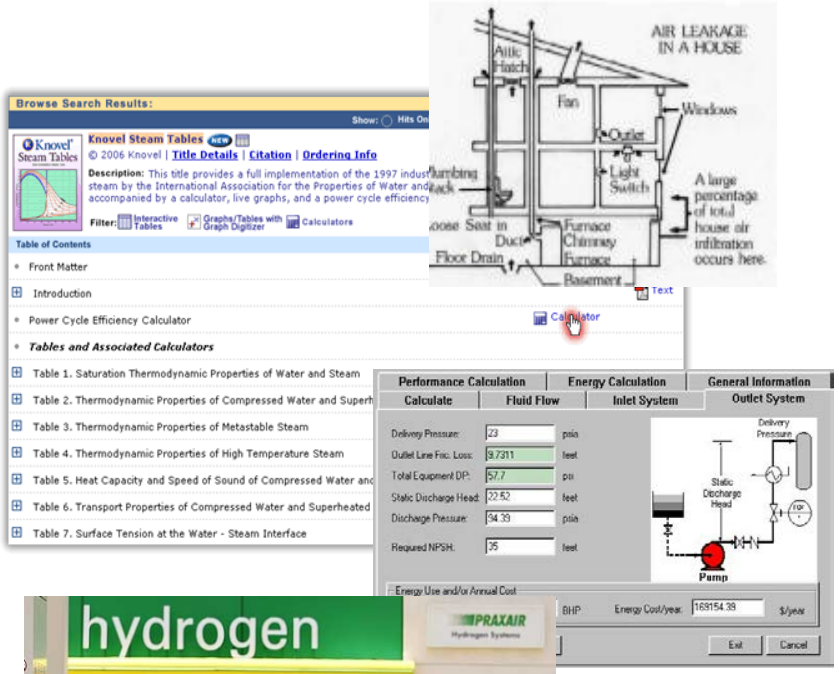
- Promoting good energy management practices
- Supporting scientific cooperation and possible harmonization of public policies
- Helping to improve consumers and users understanding and confidence
- Avoiding unnecessary technical barriers to trade related to energy policies
- Enabling the creation of world markets for energy efficient technologies





Energy, the value added by International Standards

- Performance definitions, measurement and test methods
- Codification of best practices and management systems
- Design of checklists and guides
- Interoperability
- State-of-the-art knowledge formalized by recognized experts through double level of consensus, amongst stakeholders and across countries



ISO and energy issues

- 20 ISO Technical Committees involved in aspects of energy efficiency and renewables
- ISO SAG on Energy efficiency and renewable sources (SAG-E)

- Joint ISO/IEC JTC 2 on international terminology for energy efficiency and renewable energy sources
- Energy management systems (ISO 50001, ISO/PC 242)
- Industrial energy efficiency (SAG-E recommendation)
- Increase of efficiency of road vehicles and tyre (ISO/TC 22, partnership with UNECE WP 29 and ITF)
- Energy efficiency of buildings
- ISO/TC 238 on solid biofuels and ISO/PC 248 on sustainability of biofuels

Why an Energy Management System?

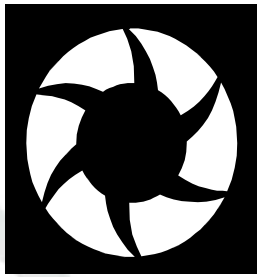
- Most energy efficiency achieved through changes in how energy is managed rather than through installation of new technologies;
- An energy management system provides a method for integrating energy issues into existing management systems for continual improvement;
- The PDCA model of management systems has proven successful for quality, health and safety, and environment.

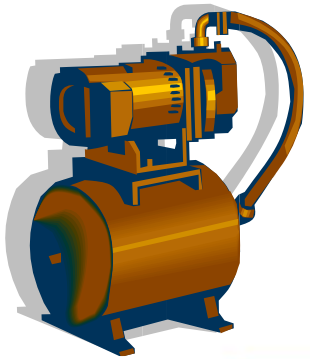
Impact of Energy Management Systems on these issues?

- Efficient components can bring about, in best-case scenarios, efficiency gains in the range of 2-5%
- System optimization measures can attain average system efficiency gains of 20-30%
- Energy management systems standard raises awareness of need for and benefits of system optimization – helps to lead and sustain systems optimization, management awareness – not the answer in itself

For example…

- Industry accounts for 35% of worldwide final use of energy (more than 50% in developing countries)…
- …with an estimated potential to decrease energy intensity by 26%
- Yet there is a lack of energy efficiency awareness of corporate management (large corp.) and business owners (SMEs), and a lack of culture and motivation of plant-managers;
- Along with (often) missing or ineffective policy measures and incentives in favor of energy efficiency .



Impact for Developing Countries

- Energy pricing and the possible impact on developing countries is a significant concern
- Developing countries use twice as much oil per unit of economic output as OECD
- Sustained USD 10 bbl delivers an equivalent 1,47% loss of GDP for many countries (0,44% in GDP for highest income group but up to 4% of GDP for poorest countries[1])

Focus on Industrial Energy Efficiency is Growing

- China initiated plan to reduce energy use 20% per unit of GDP over 2005 levels by 2010, focus on Top 1000 industrial enterprises.
- Energy efficiency is now a major focus of G-8 meetings and is recognized by the International Energy Agency as a primary source of short-term GHG emission reductions.

ISO 50001 energy management standard

- Developed by ISO/PC 242 to help organizations to improve their energy performance, increase energy efficiency and reduce climate change impacts;
- Establishes a framework for industrial plants, commercial facilities or entire organizations to manage energy;
- Provides a proven model that helps organizations systematically plan and manage their energy use. It is estimated that the standard could influence up to 60 % of the world's energy use.

Standards tomorrow