

ISO ongoing EE+RE developments and perspectives

IEA-IEC-ISO workshop – Paris 13 March 2014

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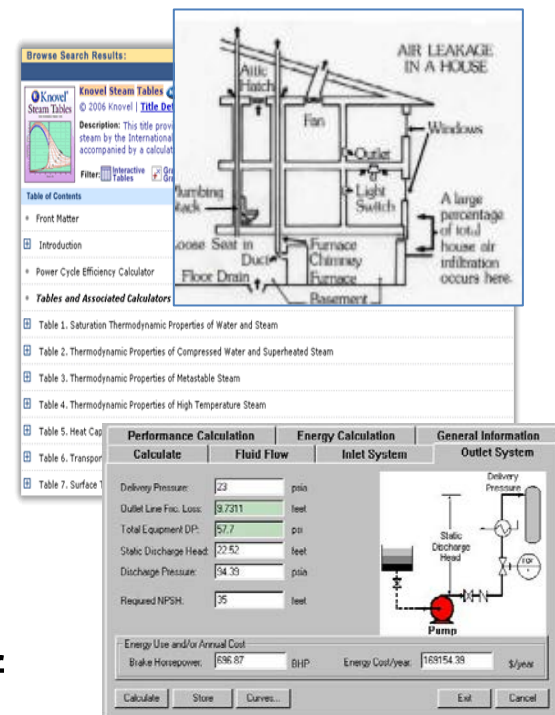
Energy – The value added by International Standards



- Promote good energy practices
- Scientific cooperation and harmonization of public policies
- Improve consumers and users understanding and confidence
- Avoid technical barriers to trade related to energy policies
- Enable the creation of world markets for energy technologies

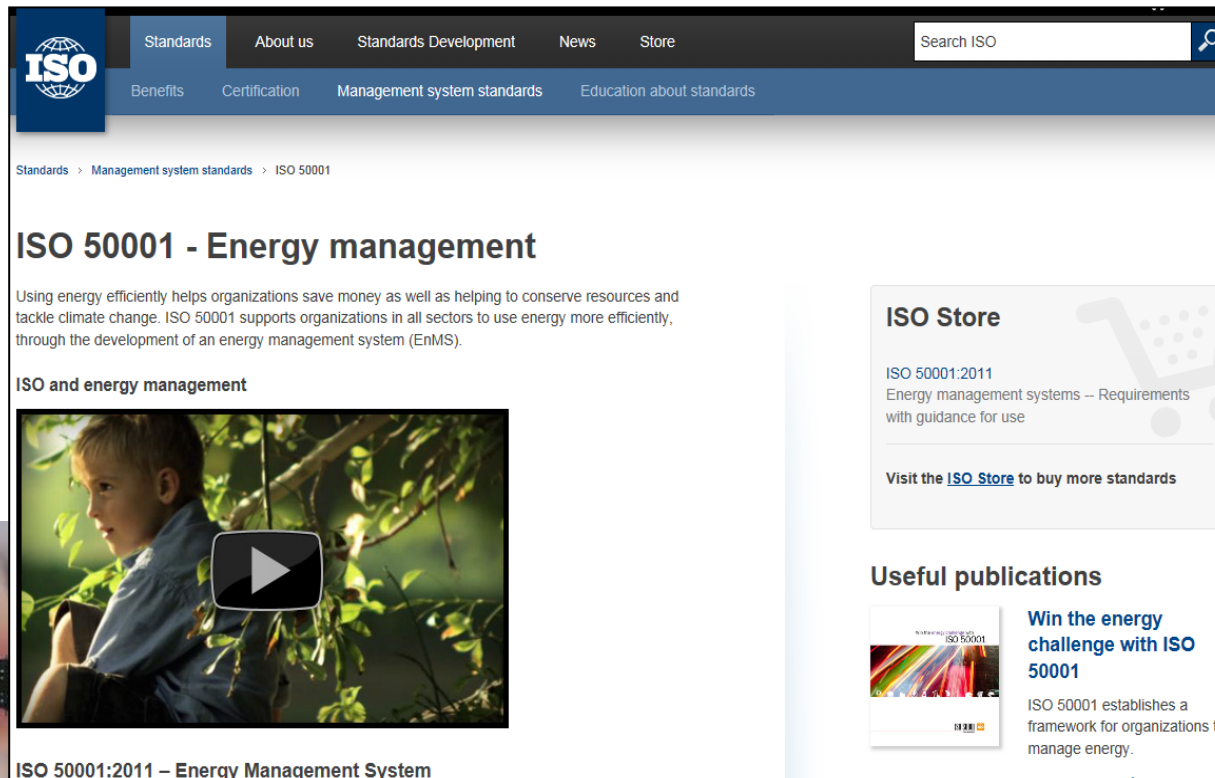
Energy – The value added by International Standards (cont)

- 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/TC 242 Energy Management

- **ISO 50001:2011** Energy management systems -- Requirements with guidance for use
- Helps organizations to **systematically plan and manage their energy use**



The screenshot shows the ISO 50001:2011 webpage. The top navigation bar includes links for Standards, About us, Standards Development, News, and Store. Below this, a secondary bar lists Benefits, Certification, Management system standards, and Education about standards. The main content area features the title "ISO 50001 - Energy management" and a paragraph explaining that using energy efficiently helps organizations save money and conserve resources. A video player with a play button is shown below the text. To the right, the "ISO Store" section promotes the ISO 50001:2011 standard and provides a link to the ISO Store. Below that, the "Useful publications" section highlights the ISO 50001 standard and its benefits. The bottom of the page features a banner for "ISO 50001:2011 – Energy Management System" with a video player and a small ISO logo in the bottom right corner.

ISO 50001:2011 – Energy Management System

ISO/TC 242 – Active projects

ISO/DIS 50004
Guidance for the
Implementation,
Maintenance and
Improvement of an
EnMS

ISO/DIS 50015
Monitoring,
measurement,
analysis and
verification of
organizational energy
performance

ISO/DIS 50006
Energy Baseline and
Energy Performance
Indicators (EnPIs) --
General Principles
and Guidance

ISO/FDIS 50002
Energy audits --
Requirements with
guidance for use

ISO/DIS 50003
Energy management
system audits and
auditor competency

Evolution of new energy standards

- Over 20 ISO TCs involved in aspects of energy efficiency and renewables
- ISO/TMB SAG E - Strategic Advisory Group on Energy efficiency and renewable energy sources - Established in 2008
 - Advice the ISO/TMB on EE&RE issues
 - Assist in characterizing, prioritizing, coordinating this work across ISO



Projects monitored or recommended by SAG E

- **Energy management:** ISO 50001 published, new ISO/TC 242
- **Buildings:** holistic approach adopted by the JWG formed by ISO/TC 163 *Thermal performance and energy use in the built environment* and ISO/TC 205 *Building environment design*
- **Calculation methods:** new concept for energy savings calculations resulted the creation of ISO/TC 257 *Evaluation of energy savings*
- **Terminology:** ISO and IEC approved the creation of ISO/IEC JPC 2 in 2009

Industrial energy efficiency - Examples

- **ISO/TC 17** Steel
- **ISO/TC 115** Pumps
- **ISO/TC 117** Fans
- **ISO/TC 118** Compressors and pneumatic tools and equipment
- **ISO/TC 244** Industrial furnaces and associated processing equipment

ISO 14404:2013
(Parts 1 & 2)

Calculation method of
carbon dioxide emission
intensity from iron and
steel

ISO 11011:2013

Compressed air --
Energy efficiency --
Assessment

Future

ISO/ASME 14414

Pump system energy
assessment

Recent committees - Examples

ISO/TC 285

Clean cookstoves
and clean cooking
solutions

ISO/TC 265

Carbon dioxide
capture, transportation,
and geological storage

ISO/TC 263

Coalbed
methane

ISO/TC 257

Evaluation of
energy savings

ISO standardization supporting renewable energy and alternatives

Biofuels:

ISO/TC 28/SC 7
Liquid biofuels

ISO/TC 238
Solid biofuels

ISO/TC 255
Biogas

ISO/TC 180
Solar energy

ISO/PC 248
Sustainability
criteria for
bioenergy

ISO/TC 197
Hydrogen
technologies



Joint work with IEC - Examples

- JWG with IEC on **Wind Turbines**
- ISO/IEC JPC 2 – **Energy efficiency and renewable energy sources – Common terminology**
- ISO/IEC JTC 1/SC 39 WGs – **Resource Efficient Data Centres and Green ICT**



Energy in building sector - Examples

- **ISO/TC 163** Thermal performance and energy use in the built environment and **ISO/TC 205** Building environment design
- Recent publications:

Energy performance of buildings

ISO 16343

Methods for expressing energy performance and for energy certification of buildings

ISO 16346

Assessment of overall energy performance

ISO/TR 16344

Common terms, definitions and symbols for the overall energy performance rating and certification

ISO 12655

Presentation of measured energy use of buildings

ISO 13153

Framework of the design process for energy-saving single-family residential and small commercial buildings

ISO/TC 59/SC 15

Performance description of houses

ISO 15928-5

Houses -- Description of performance -- Part 5: Operating energy

Energy in transport sector

ISO/TC 22 Road vehicles:

- extensive work in the area of Electric Vehicles, Hybrid-electric vehicles and fuel cell vehicles
- numerous standards on batteries, testing energy consumption measurement and safety
- work with UNECE WP 29 and ITF
- work has extended into further collaboration with the IEC, with several current projects under joint development

IWA on
international
harmonized
method(s) for a
coherent
quantification
of CO₂
emissions of
Freight
Transport

Summary

- ISO's energy, energy efficiency and renewables work is extensive – but there are gaps!
- Essential to have clear international policy direction and needs





Thank you

Confidence has a nickname...

[iso.org](https://www.iso.org)

