


Energy Management and ISO 50001

What does that mean for the Management
Systems of your business?

Agenda

- ▶ What is ISO 50001?
- ▶ What are the benefits?
- ▶ How can it fit into your existing ISO 9001 and ISO 14001 based management systems?


What is ISO 50001?

- ▶ ISO 50001:2011 – Energy management systems – Requirements with guidance for use
 - ▶ Energy Management System (EnMS) – set of interrelated or interacting elements to establish an energy policy and energy objectives, and processes and procedures to achieve those objectives
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Purpose and Scope

- ▶ Improve energy performance, including energy efficiency, use and consumption
- ▶ Lead to reductions in greenhouse gas emissions and other related environmental impacts and energy costs
- ▶ **Energy** – electricity, fuels, steam, heat, compressed air, and other like media
 - Note 1: for the purpose of this International standard, energy refers to the various forms of energy, including renewable, which can be purchased, stored, treated, used in equipment or in a process or recovered.
 - Note 2: Energy can be defined as the capacity of a system to produce external activity or perform work.

Benefits

- ▶ Improved operational efficiencies
 - ▶ Decreased energy intensity
 - ▶ Energy data for fact based decisions (support for grants)
 - ▶ Support for organizational and cultural change
 - ▶ Drivers for organizational integration
 - ▶ Reduced environmental impacts
 - ▶ Competitive advantages over firms that neglect resource management
 - ▶ Visible demonstration of social responsibility
 - ▶ Positioning for carbon accounting
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Why is this important?

- ▶ Energy is critical to operations
 - ▶ Can be a major cost
 - ▶ Can pose environmental and societal costs, such as climate change
 - ▶ New and renewable energy sources take time to develop
 - ▶ Individual organizations cannot control energy prices, government policies or the global economy
 - ▶ Based on an existing PDCA model
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Who has implemented?

- ▶ By the end of Jan. 2012, approx. 100 organizations in 26 countries has achieved certification
- ▶ Including:
 - Coca-Cole in Wakefield, England
 - Northern Marine Management, UK and USA
 - Heritance Ahungalla Hotel, Sri Lanka
 - University College Cork, Ireland

ISO 50001 in a nutshell

- ▶ Develop a policy for more efficient use of energy
 - ▶ Fix targets and objectives to meet policy
 - ▶ Use data to better understand and make decisions concerning energy use and consumption
 - ▶ Review the effectiveness of the policy
 - ▶ Continually improve energy management
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Energy Management System Model from ISO 50001

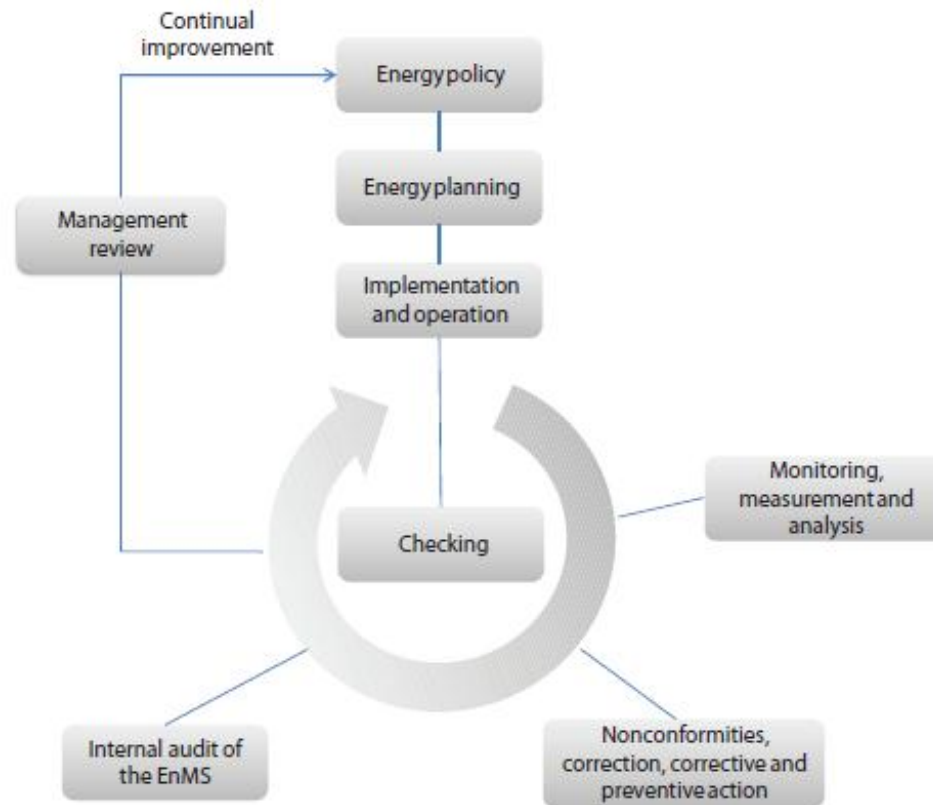


Figure 1 — Energy management system model for this International Standard

Reference: ISO 50001:2011

Comparison to ISO 9001 & ISO 14001

ISO 50001:2011		ISO 9001:2008		ISO 14001:2004	
Clause	Criteria	Clause	Criteria	Clause	Criteria
—	Foreword	—	Foreword	—	Foreword
—	Introduction	—	Introduction	—	Introduction
1	Scope	1	Scope	1	Scope
2	Normative references	2	Normative references	2	Normative references
3	Terms and definitions	3	Terms and definitions	3	Terms and definitions
4	Energy management system requirements	4	Quality management system	4	Environmental management system requirements
4.1	General requirements	4.1	General requirements	4.1	General requirements
4.2	Management responsibility	5	Management responsibility	—	—
4.2.1	Top management	5.1	Management commitment	4.4.1	Resources, roles, responsibility and authority
4.2.2	Management representative	5.5.1	Responsibility and authority	4.4.1	Resources, roles, responsibility and authority
		5.5.2	Management representative		
4.3	Energy policy	5.3	Quality policy	4.2	Environmental policy

Reference: ISO 50001:2011

Comparison to ISO 9001 & ISO 14001

4.4	Energy planning	5.4	Planning	4.3	Planning
4.4.1	General	5.4.1 7.2.1	Quality objectives Determination of requirements related to the product	4.3	Planning
4.4.2	Legal requirements and other requirements	7.2.1 7.3.2	Determination of requirements related to the product Design and development inputs	4.3.2	Legal and other requirements
4.4.3	Energy review	5.4.1 7.2.1	Quality objectives Determination of requirements related to the product	4.3.1	Environmental aspects
4.4.4	Energy baseline	—	—	—	—
4.4.5	Energy performance indicators	—	—	—	—
4.4.6	Energy objectives, energy targets and energy management action plans	5.4.1 7.1	Quality objectives Planning of product realization	4.3.3	Objectives, targets and programme(s)

Energy Performance

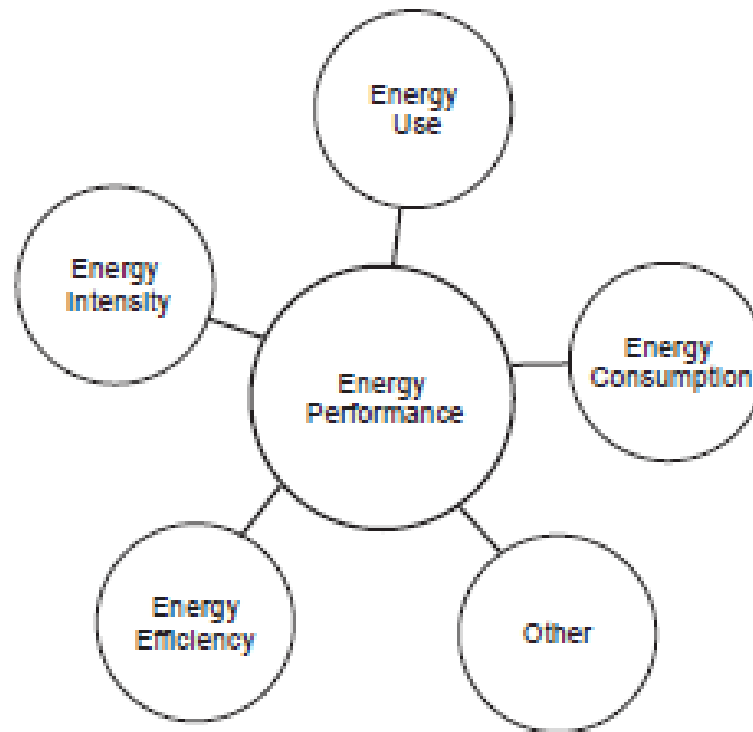


Figure A.1 — Conceptual representation of energy performance

Reference: ISO 50001:2011

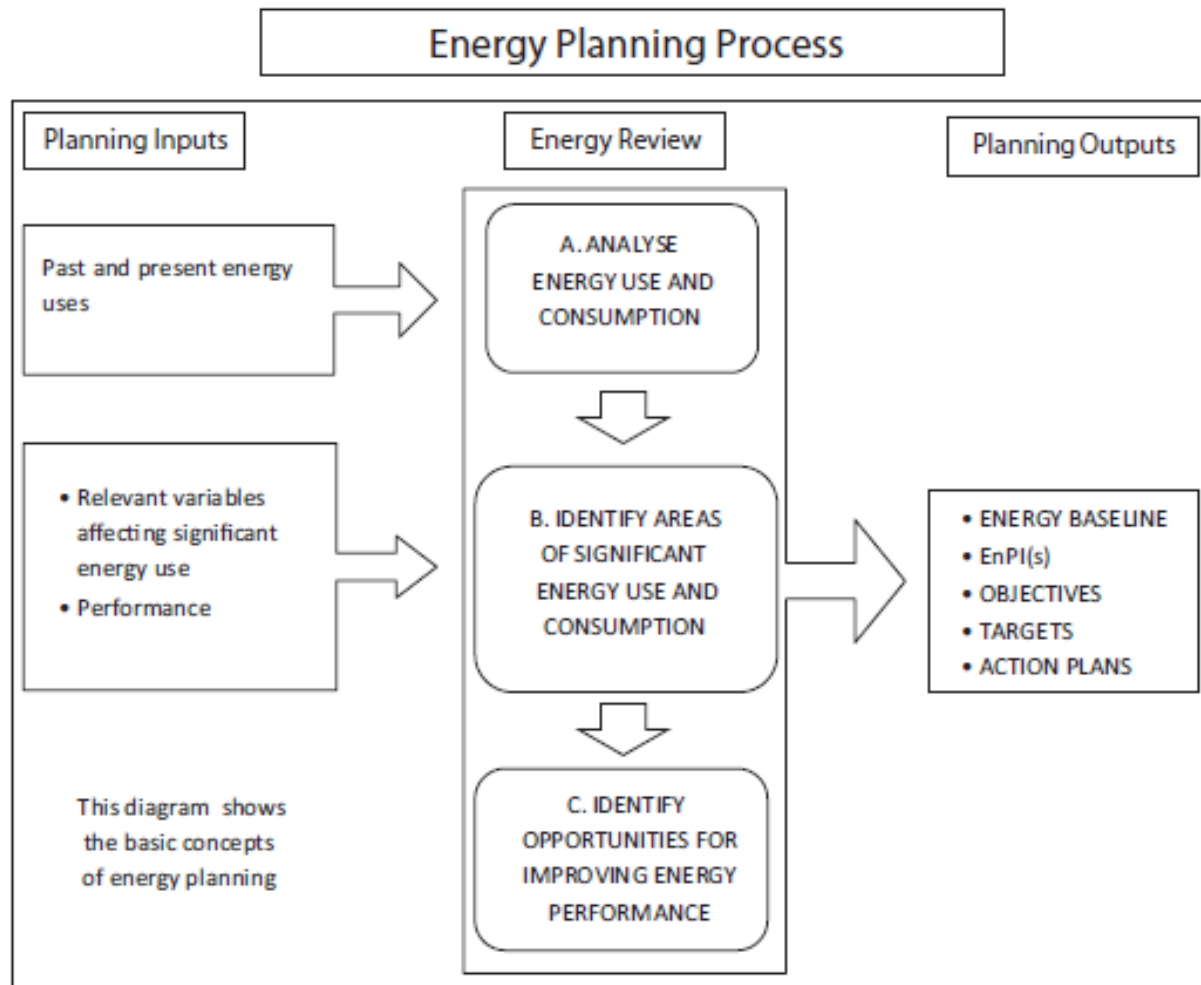


Figure A.2 — Energy planning process concept diagram

Comparison to ISO 9001 & ISO 14001

ISO 50001:2011		ISO 9001:2008		ISO 14001:2004	
Clause	Criteria	Clause	Criteria	Clause	Criteria
4.5	Implementation and operation	7	Product realization	4.4	Implementation and operation
4.5.1	General	7.5.1	Control of production and service provision	4.4.6	Operational control
4.5.2	Competence, training and awareness	6.2.2	Competence, training and awareness	4.4.2	Competence, training and awareness
4.5.3	Communication	5.5.3	Internal communication	4.4.3	Communication
4.5.4	Documentation	4.2	Documentation requirements	—	—
4.5.4.1	Documentation requirements	4.2.1	General	4.4.4	Documentation
4.5.4.2	Control of documents	4.2.3	Control of documents	4.4.5	Control of documents

Comparison to ISO 9001 & ISO 14001

4.5.5	Operational control	7.5.1	Control of production and service provision	4.4.6	Operational control
4.5.6	Design	7.3	Design and development	—	—
4.5.7	Procurement of energy services, products, equipment and energy	7.4	Purchasing	—	—
4.6	Checking	8	Measurement, analysis and improvement	4.5	Checking
4.6.1	Monitoring, measurement and analysis	8.2.3	Monitoring and measurement of process	4.5.1	Monitoring and measurement
		8.2.4	Monitoring and measurement of product		
		8.4	Analysis of data		
4.6.2	Evaluation of compliance with legal requirements and other requirements	7.3.4	Design and develop review	4.5.2	Evaluation of compliance

Comparison to ISO 9001 & ISO 14001

4.6.3	Internal audit of the EnMS	8.2.2	Internal audit	4.5.5	Internal audit
4.6.4	Nonconformities, correction, corrective action and preventive action	8.3 8.5.2 8.5.3	Control of nonconforming product Corrective action Preventive action	4.5.3	Nonconformity, corrective action and preventive action
4.6.5	Control of records	4.2.4	Control of records	4.5.4	Control of records
4.7	Management review	5.6	Management review	4.6	Management review
4.7.1	General	5.6.1	General	4.6	Management review
4.7.2	Input to management review	5.6.2	Review input	4.6	Management review
4.7.3	Output from management review	5.6.3	Review output	4.6	Management review

Thank You!

- ▶ Your presenter:

Ivana Strgacic, P.Eng., M.Sc.

President,

Strategies for the Environment Inc.

Contact Us:

416-789-3713

www.strategies4enviro.com

ivana@strategies4enviro.com

Twitter: @Strat4Enviro

LinkedIn: Ivana Strgacic