



ENERGY AUDIT





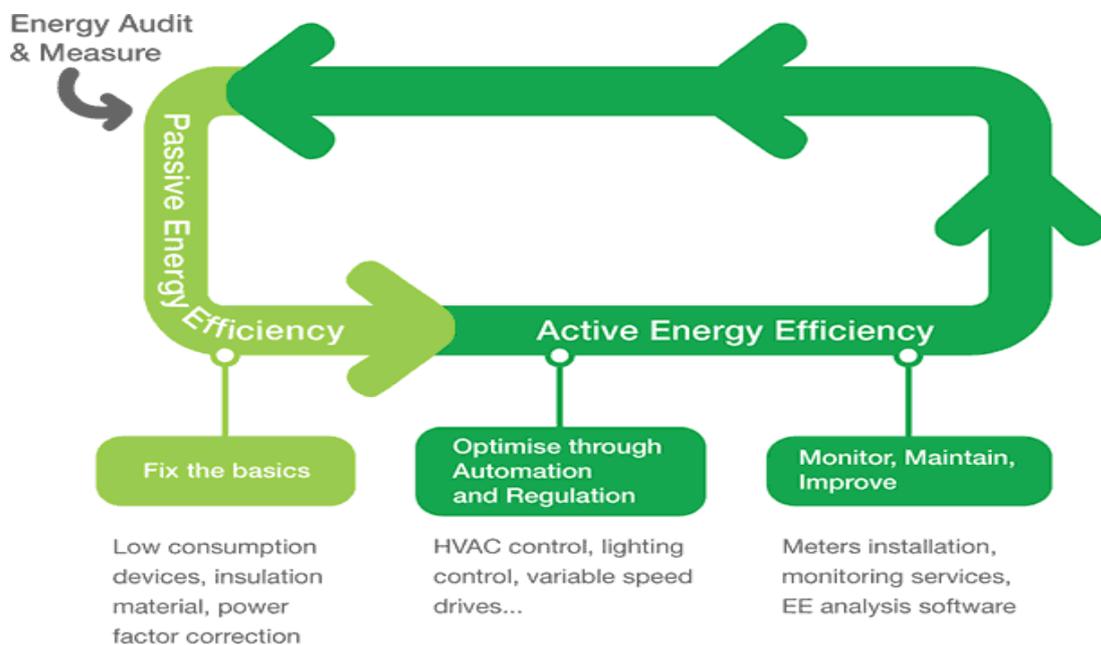
The Aim of Energy Management System Standard ISO 50001

1. Introduction

The complexity and far reaching consequences of climate change, coupled with today's volatile business landscape, has created a shift in thinking in both the public and business sectors. There is a growing business case to take energy issues seriously, especially as organisations are finding themselves in a risky climate with regards to volatile fuel prices and the impetus towards a low carbon economy. The economic crisis has forced organisations to take a critical look at their costs and try to optimise their processes and usage patterns. Historically energy prices have been relatively low, but recent successive price hikes have pushed energy costs up to the point where for many it becomes commercially important to pay attention to controlling these costs.

Energy Management

Energy management is key to helping organisations improve energy efficiency, reduce greenhouse gas (GHG) emissions and drive down energy costs. Energy management is defined as the techniques, processes and activity which drive more efficient energy use. Energy management allows for a reduction in costs, carbon emissions and risk, ensuring the efficient use of energy consumption.





Energy Performance Strategy

Foster a corporate culture of continuous improvement in energy efficiency

- Use **ISO 50001** standard as foundational tool for energy management.
- Establish a **tiered program** that provides an entry point for companies at all levels of experience with energy management.
- Create a verified **record** of energy intensity/efficiency improvement.
- Potentially **create value** for corporate energy savings and carbon reductions in utility, state, regional, national, and international trading markets.

Energy use must be managed-But what are we to do?

Users alone cannot control prices, politics, or the global economy, but.....

- they can manage how energy is used
- One of the needs: A management process to proactively assess, manage, and measure energy usage
- An approach-an Energy Management System modeled after the Plan-Do-Check-Act framework.

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

Business Benefits

Implementation of an energy management system assists an organization to:

- Develop a baseline of energy use
- Actively managing energy use and costs
- Reduce emissions without negative effect on operations
- Continue to improve energy use/output over time
- Document savings for internal and external use (e.g. emission credits)





and industry has to be where we start.....

- Represents more than one-third of both global primary energy and energy related carbon-dioxide emissions¹
- For developing countries, this is often in excess of 50% of the total and can produce supply problems
- Developing economies lead growth in both industrial energy use and carbon-related emissions
- It is much more cost-effective to build in energy efficiency the first time than retrofit it later
- In industry, a missed opportunity for energy efficiency may not reoccur-for decades or at all until the original installation fails or becomes obsolete

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**.
- UN Industrial Development Organization is promoting systems energy efficiency and energy management standards for both developed and developing nations.
- Through the Asia Pacific Partnership, the U.S., Australia, Korea, Japan, China, and India are promoting greater industrial energy efficiency.

But why an ISO standard?????

- Can be made compatible with other ISO management system standards (i.e., 9000/1400)
- Also applicable to commercial, institutional, and transportation sectors





So ISO Gets Involved

- International Organization for Standardization (ISO) is initiating a broad portfolio of initiatives to promote energy efficiency, including ISO 50001, on the basis of their potential contribution to energy savings and reduction of greenhouse gas (GHG) (the ISO CSC /Strategic Task Force on Energy Efficiency & Renewable Energy Sources)

Energy management standards could:

- be applied to help all types of organizations to take a systematic approach to the continual improvement of energy performance-encourage more efficient and more sustainable use of energy, irrespective of the type of energy and facilitate reporting and validation-address energy supply, procurement practices for energy using equipment and systems, energy use, and any use-related disposal issues

ISO 50001

Standardization in the field of energy management, including:

- energy supply,
- procurement practices for energy using equipment and systems,
- energy use, and
- any use-related disposal issues.

The standard will also address measurement of current energy usage, and implementation of a measurement system to document, report, and validate continuous improvement in the area of energy management.

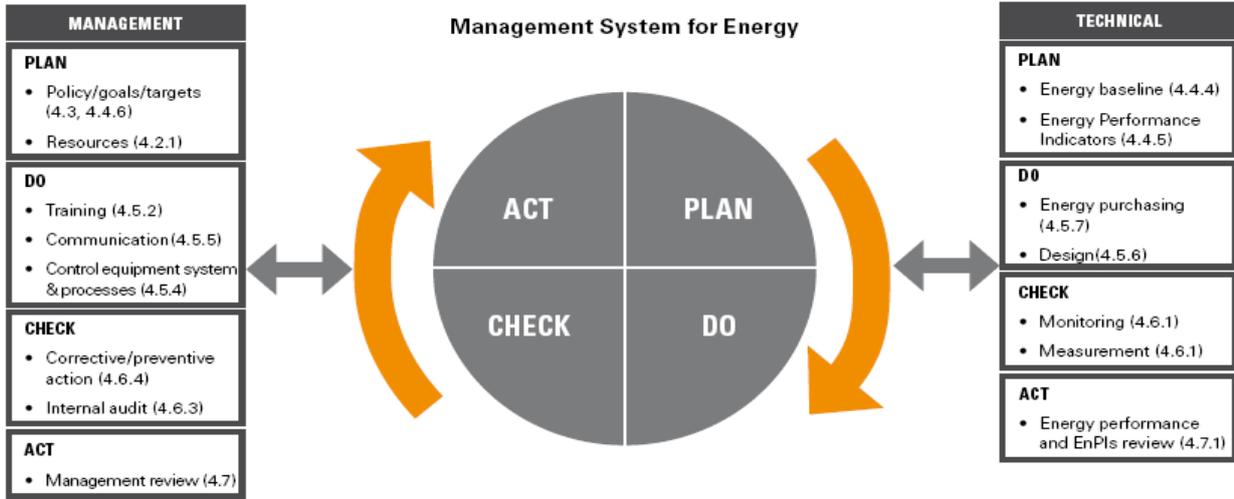
Components of an Energy Management Standard (EnMS)

- A plan
- A cross-divisional management team
- Policies and procedures
- Projects
- Identification of key performance indicators, and
- Periodic reporting

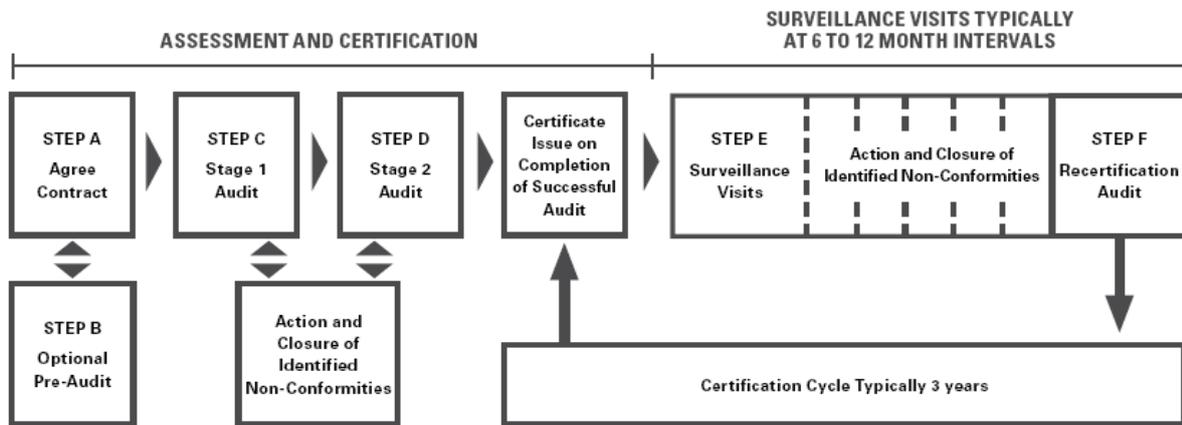




ISO/DIS 50001 ENERGY MANAGEMENT SYSTEMS



HOW DOES THE GCAS CERTIFICATION PROCESS WORK?



Contact for more details about certification program



GCAS Quality Certifications

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