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# **EnMS and ISO 50001 – Making energy efficiency part of your culture & operations**

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# Overview

## Context

- Issues
- Opportunities

## Industrial Energy Management

- Energy Management Systems (EnMS)
- ISO 50001
- Culture and Operations
- System Optimisation
- Benefits and costs

## Supports

- Regulation & Resources
- UNIDO



# Industry and Energy Efficiency

***Problem:*** *Energy efficiency is not integrated into daily management practices*

***Solution:*** *Top management needs to be engaged in the management of energy on an ongoing basis.*



# Some definitions

- **Energy Management System (EnMS)**
  - A logical, methodical, organized way of managing your energy use
  - It is a management system and not a technical system
- **Energy Management System Standard**
  - A published structure or framework which you may decide to use to develop your EnMS.
  - You may decide to have your EnMS certified to a standard.
  - ISO 50001 is the first international energy management system standard
- **System Optimisation (SO)**
  - Methodical approach to engineering review of energy using systems with a view to optimising its energy use



# ISO 50001 Energy Management Standard

## Purpose of ISO 50001

➤ “..to enable organizations to establish the systems and processes necessary **to improve energy performance** ..

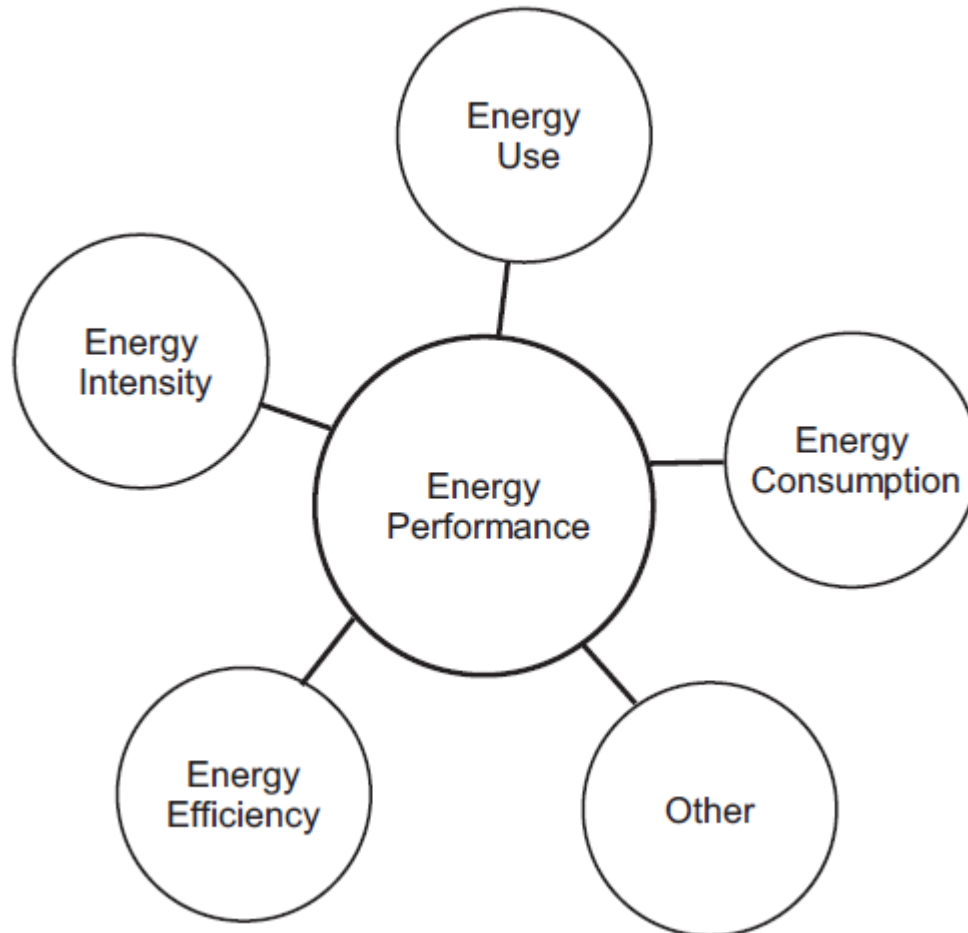
## Scope of ISO 50001

- “.. specifies requirements applicable to energy supply and energy uses and consumption, including
  - measurement
  - documentation and reporting
  - operation
  - design and procurement practices
- “.. is applicable to all organizations.”

*ISO 50001 does NOT prescribe specific performance criteria with respect to energy.*

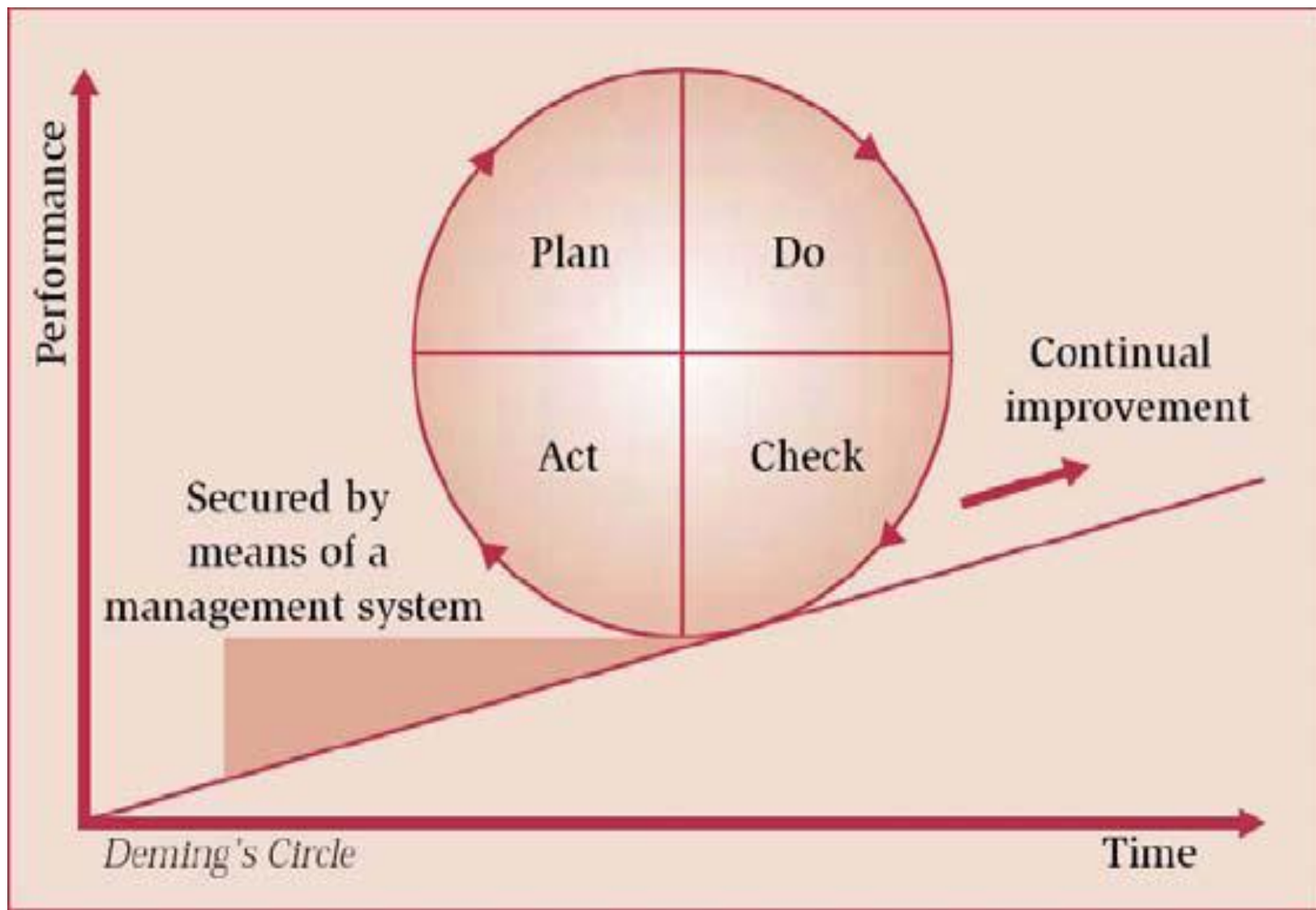


# It's all about improving performance



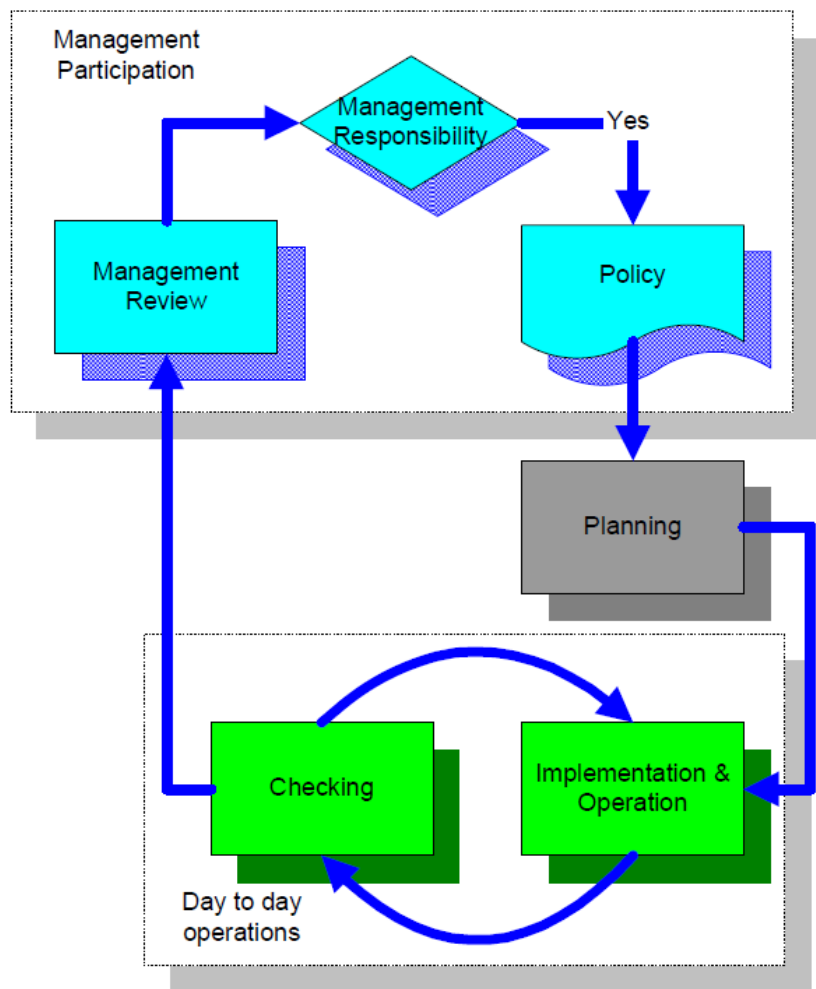
Source: ISO 50001







# ISO 50001 Energy Management Standard



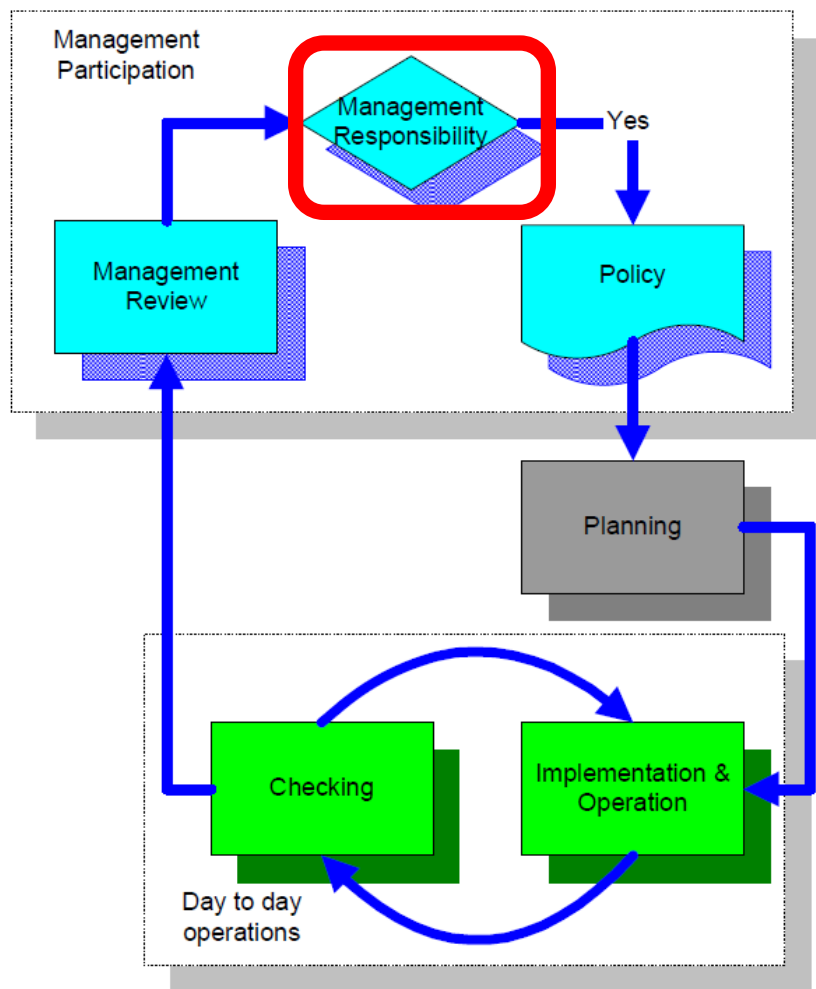
Based on the concept of:

- **Plan**
- **Do**
- **Check**
- **Act**





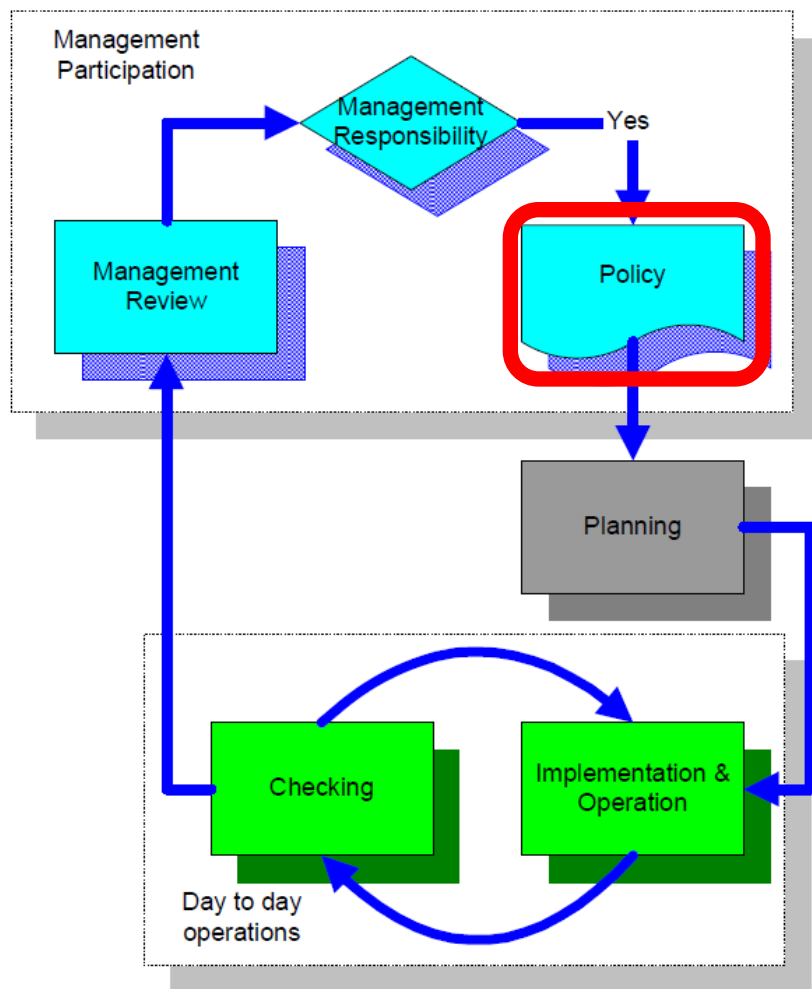
# Management Responsibility



- Is the top management really comitted?
- Will you support the system?
- This is a decision point!
- If not, we can all go for more coffee now!
- Will you make the necessary resources available (technical, financial and human)
- We assume you will if you believe there is an adaaquate return on your effort or investment



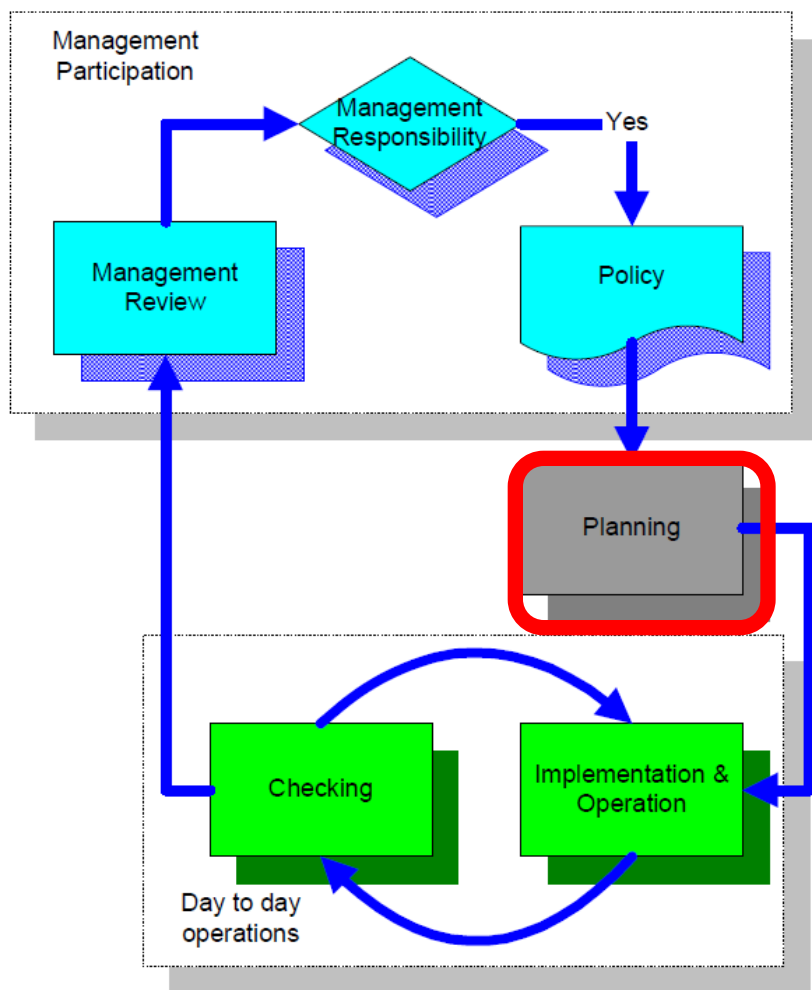
# Policy



- **Management commitment**
- Not just a signature!
- Define scope of EnMS
- Appropriate to scale
- **Commitment to continual improvement**
- Make resources available
- Framework for target setting and review organizations



# Planning

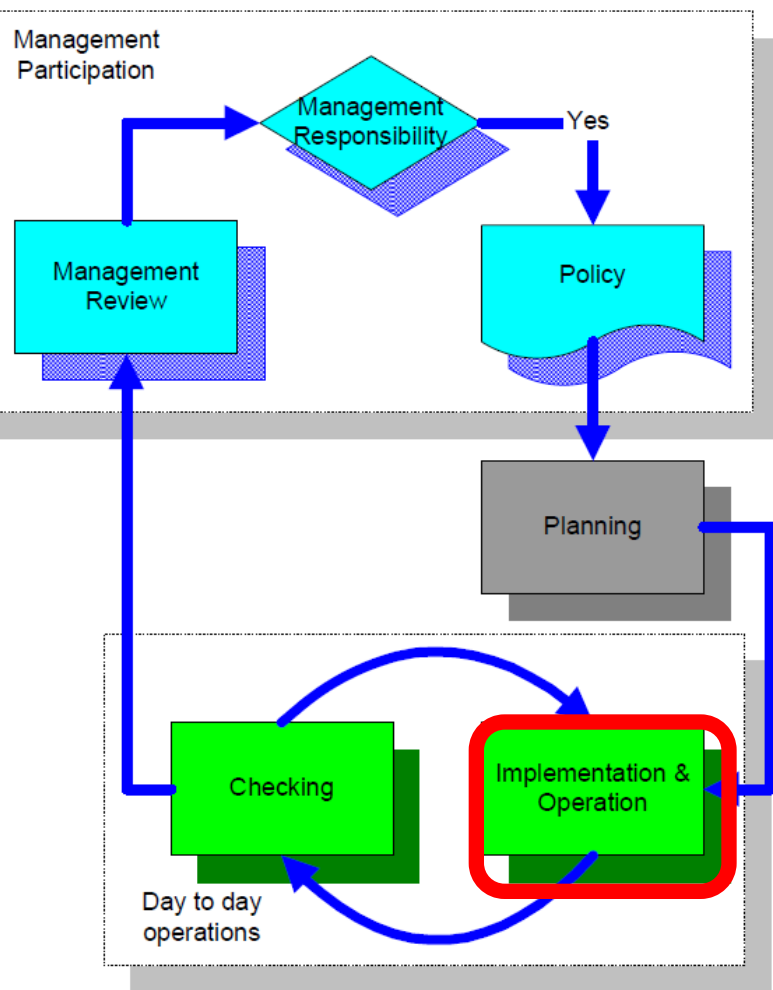


- How much energy are you using?
- Where are you using it?  
**Which are the biggest users?**
- What is driving this use?
- What is your baseload?
- Who is influencing its use?
- Is an energy audit required – focus it?
- **System Optimization**
- Renewable energy options
- Develop baseline & indicators
- Set objectives and targets
- **Action Plan**



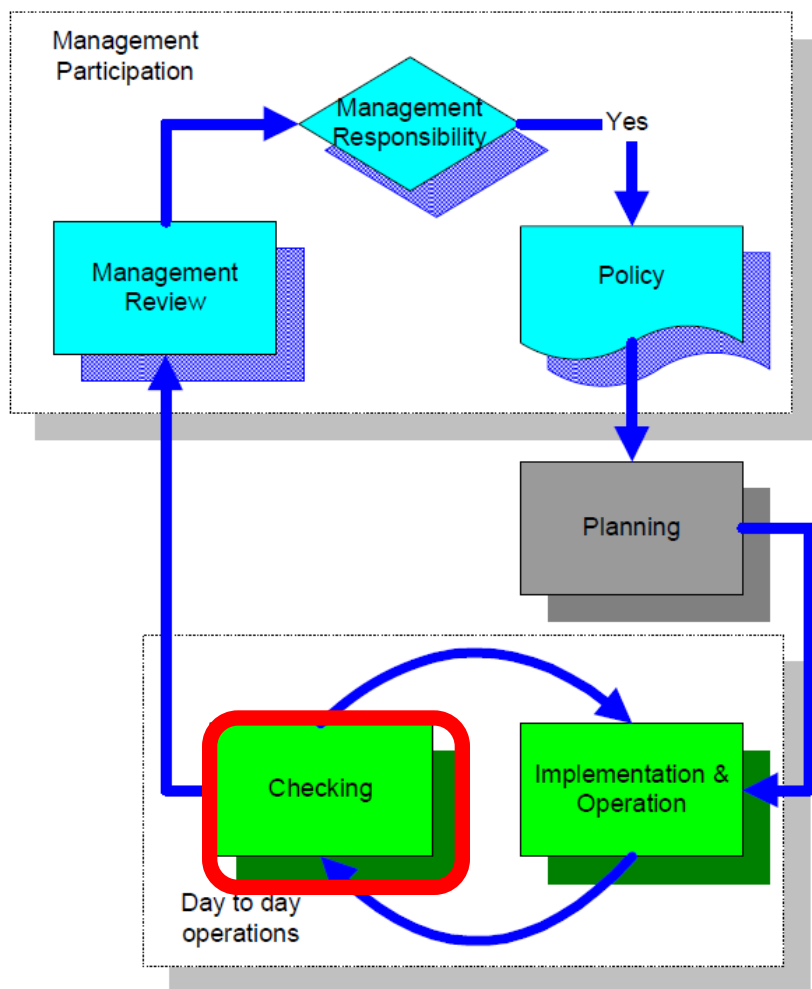
# Implementation & Operation

- Competence, training and awareness
- Documentation
- Operational control
  - KEY AREA
  - Operation & Maintenance
  - Service contractors
  - Training
  - Implement your action plan
- Communication
- Design
  - Energy Efficient Design (EED)
- Purchasing energy, services, goods





# Checking



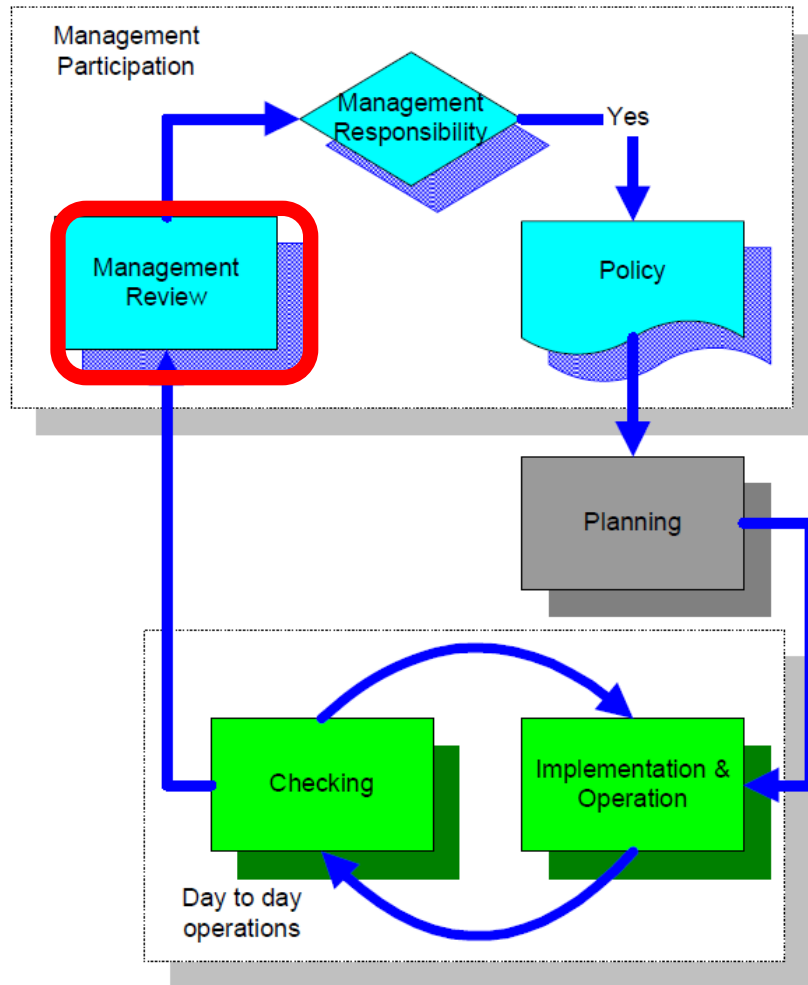
- Technical checking
  - Monitoring and targeting (software may be justifiable?)
  - Equipment checking
- System checking
  - Is everyone doing what is required?
  - Corrective and preventive action
  - Non-conformities
- Performance checking
  - Check Energy Performance Indicators (EnPIs)





# Management Review

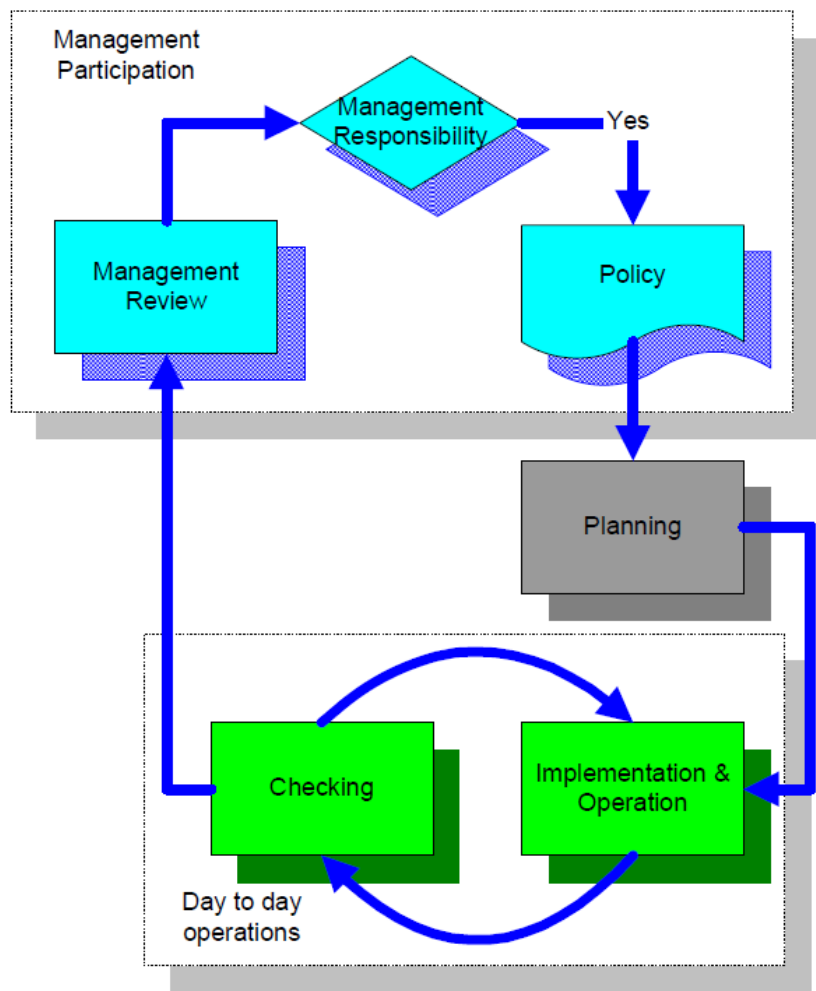
- Regular presentation
  - Frequency based on requirements
- How are we getting on?
  - Is performance improving as targeted?
  - Problems and barriers to overcome?
  - Achievements
- What is the plan for next year?
  - What do we need to achieve this plan?







# You're not finished – this is not a project!



**Then  
you  
start  
all  
over  
again!!**

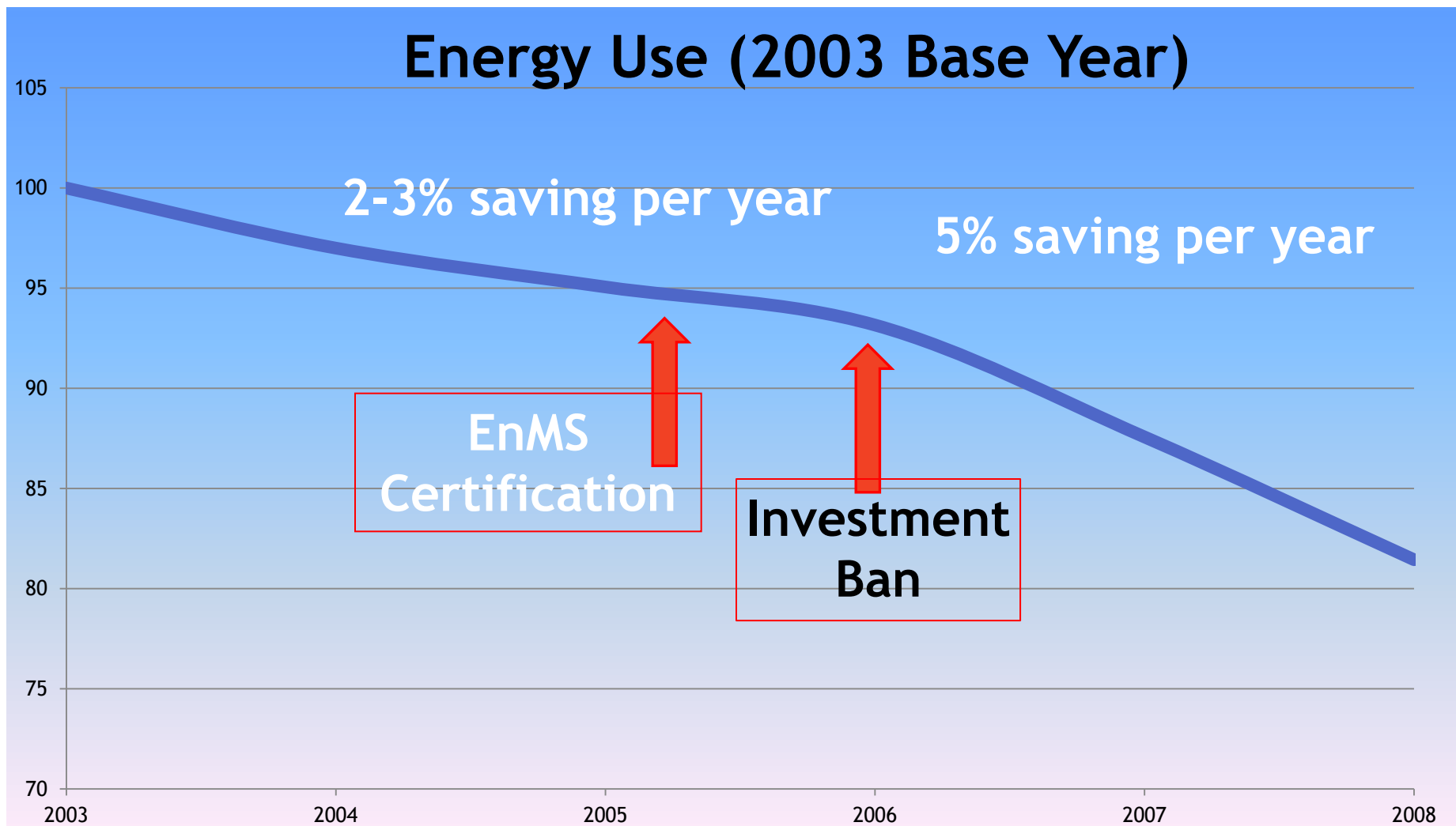


# What does an EnMS achieve?

- Management focus
- Systematic activity
- Identify and focus on biggest users
- Identify and focus on key people at all levels → **Training**
- Focus on data and numerical methods
- Integrated approach
  - ✓ People
  - ✓ Departments
  - ✓ Budgets
- Continuity through changes of personnel
- Continual improvement → **It is all about reducing energy costs!**

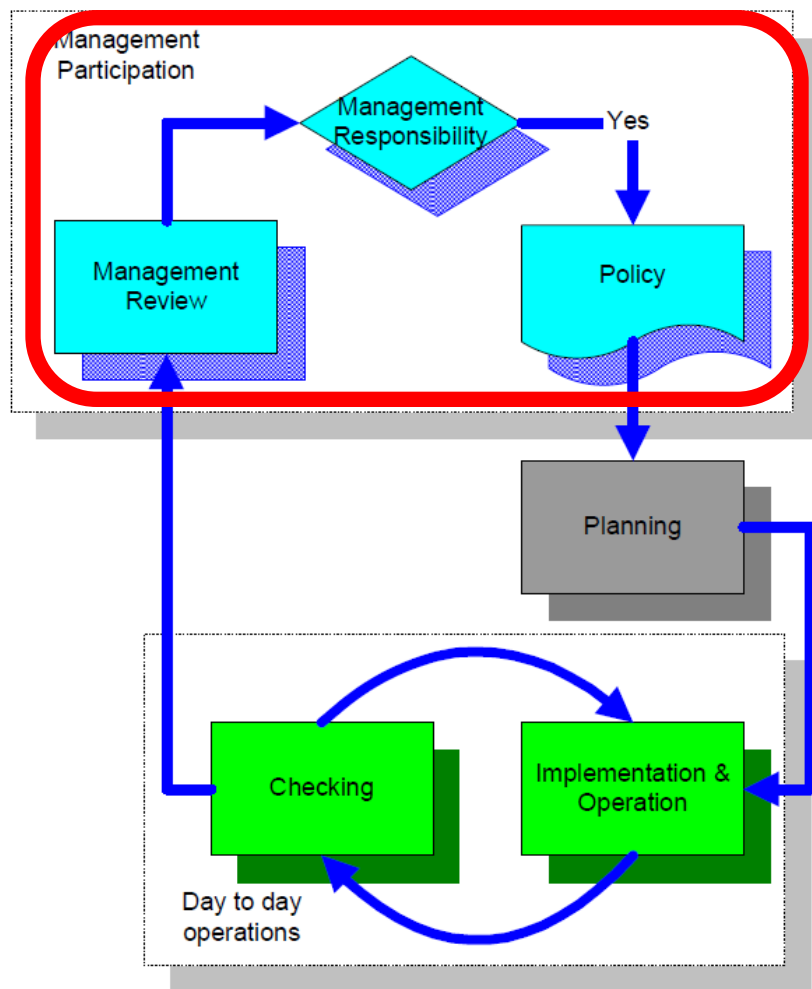


# What does an EnMS achieve?





# Management Role



- Give commitment
- Sign policy
- Allocate resources
- Assign responsibility
- Top management representative
- Give support
- Participate in annual review
- Make decisions



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**THANK YOU**