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

Liam McLaughlin

UNIDO International Energy Efficiency Expert

Moldova
June 2011





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** ..

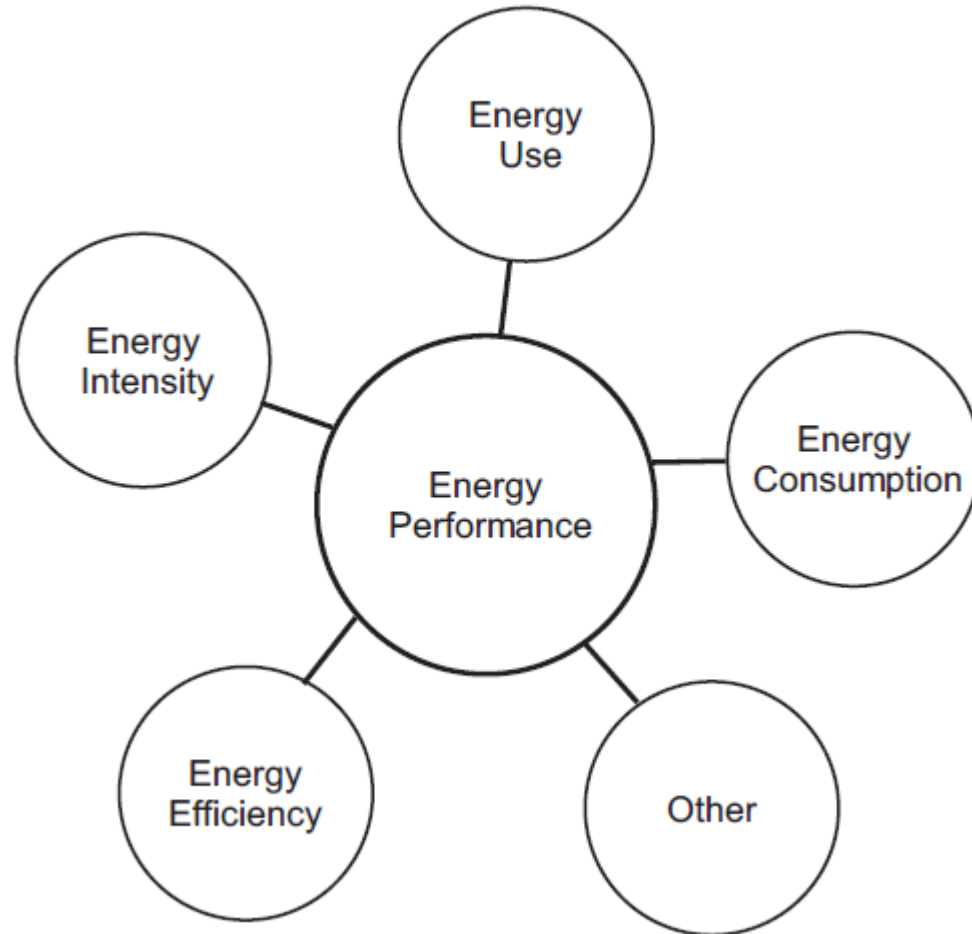
Scope of ISO 50001

- “.. 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.”

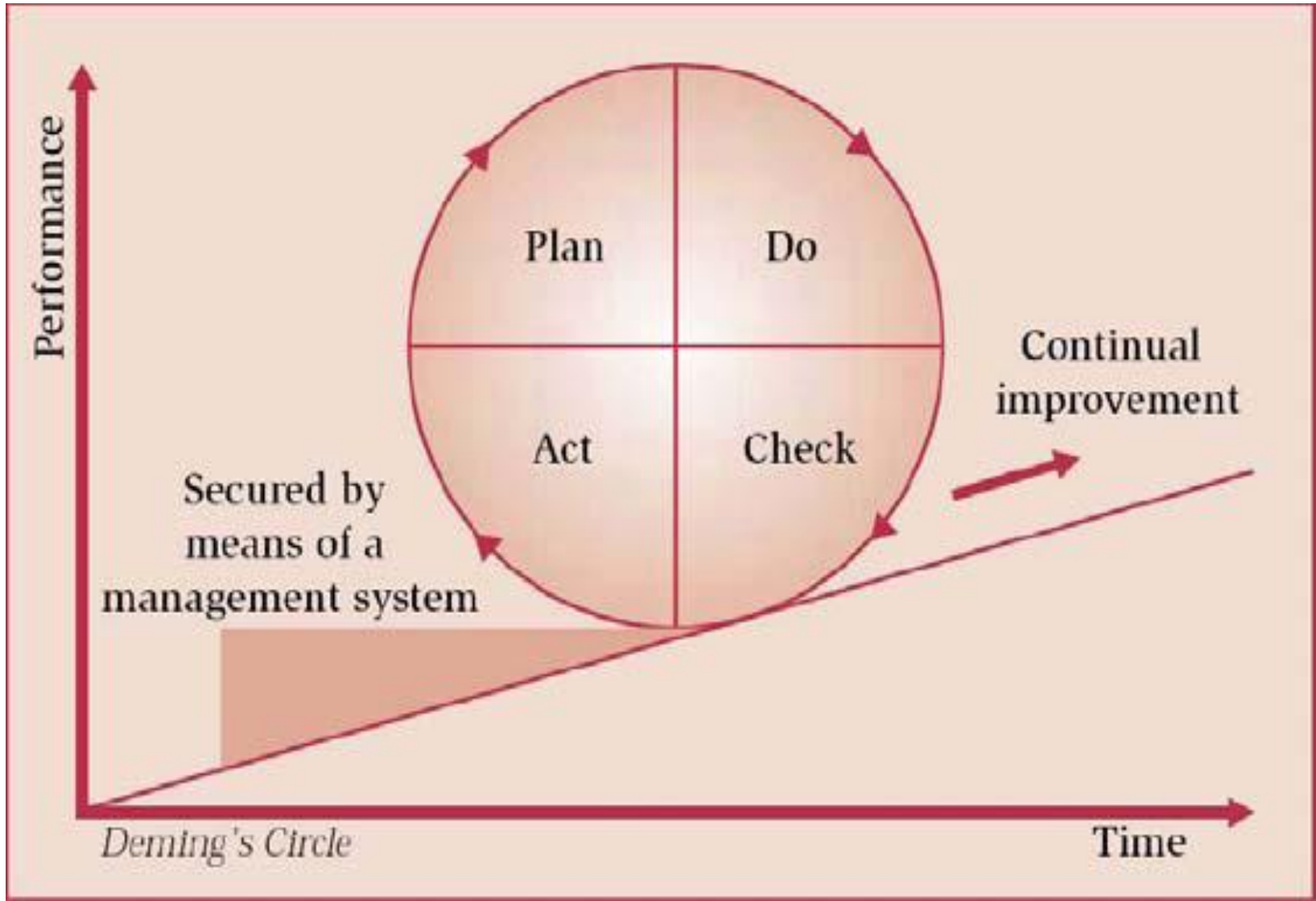
ISO 50001 does NOT prescribe specific performance criteria with respect to energy.



It's all about improving performance

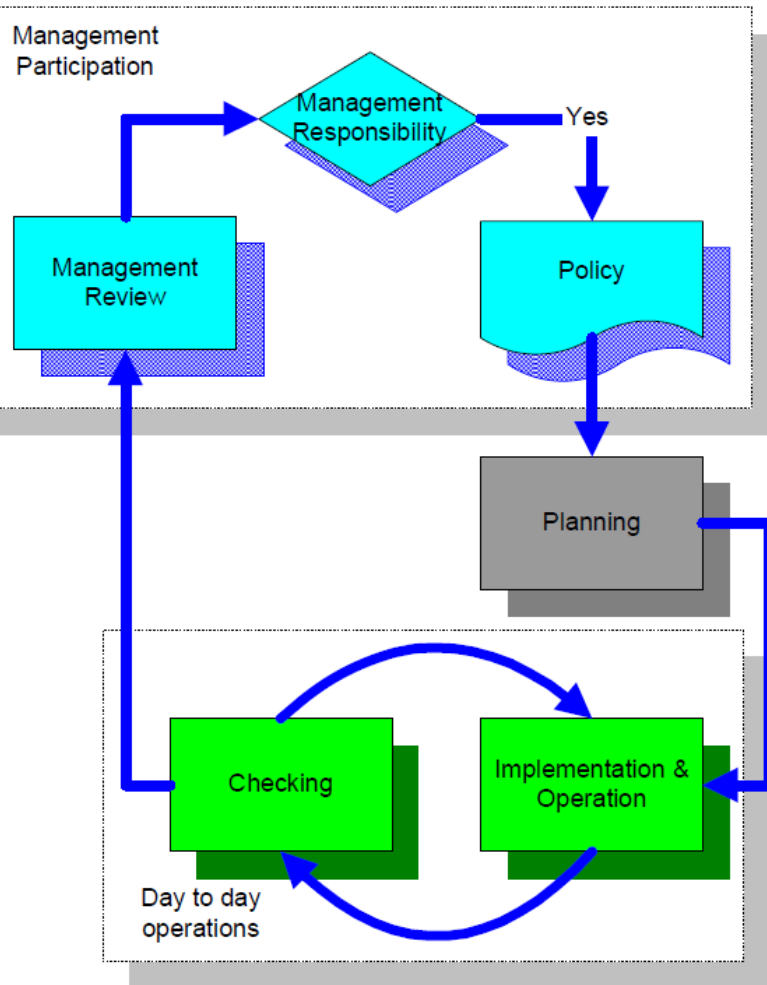


Source: ISO 50001





ISO 50001 Energy Management Standard



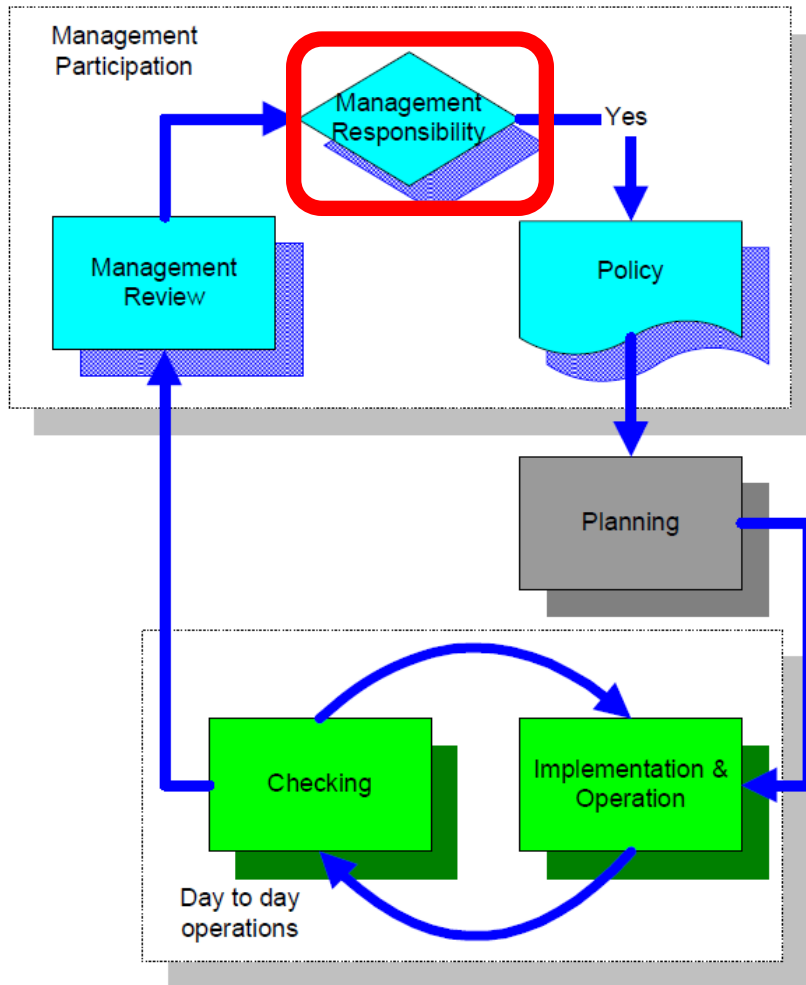
Based on the concept of:

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



Management Responsibility

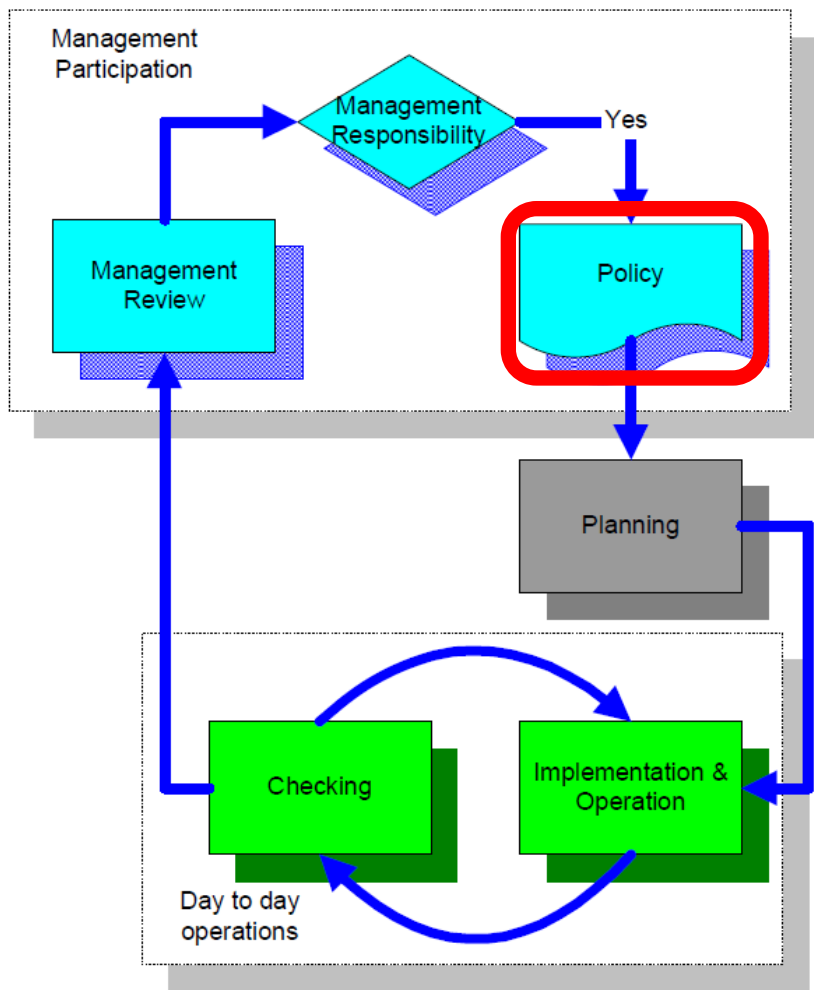
- Is the top management really comitted?
- Will you support the system?
- This is a decision point!
- If not, we can all go for more coffee now!
- Will you make the necessary resources available (technical, financial and human)
- We assume you will if you believe there is an adaquate return on your effort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





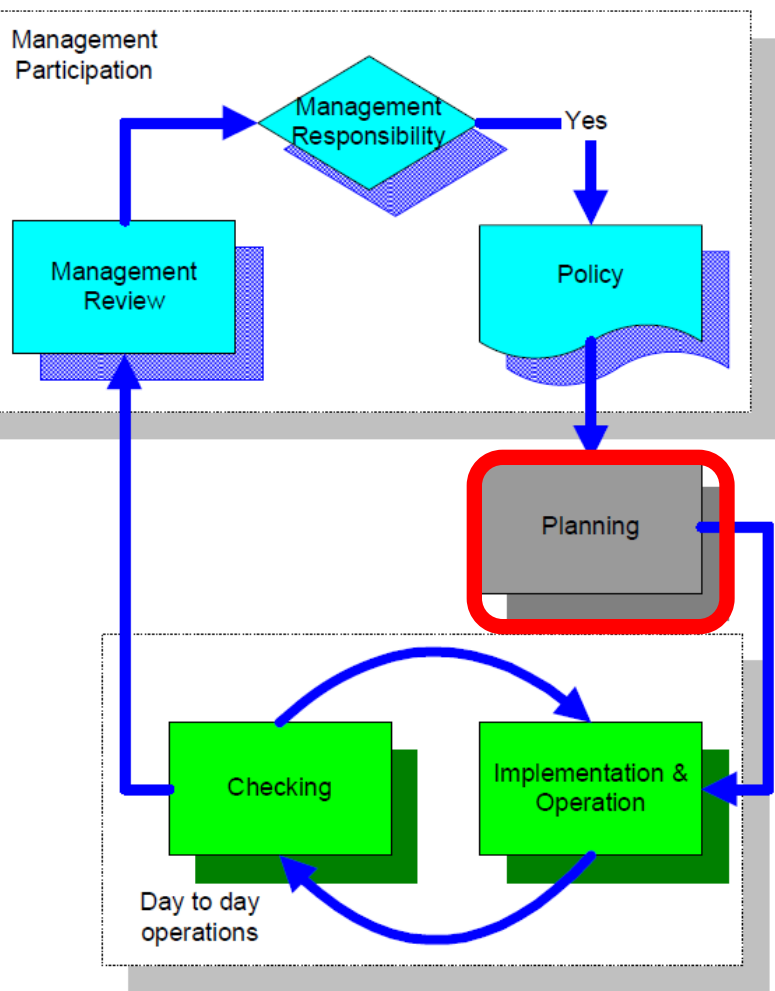
Policy

- **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

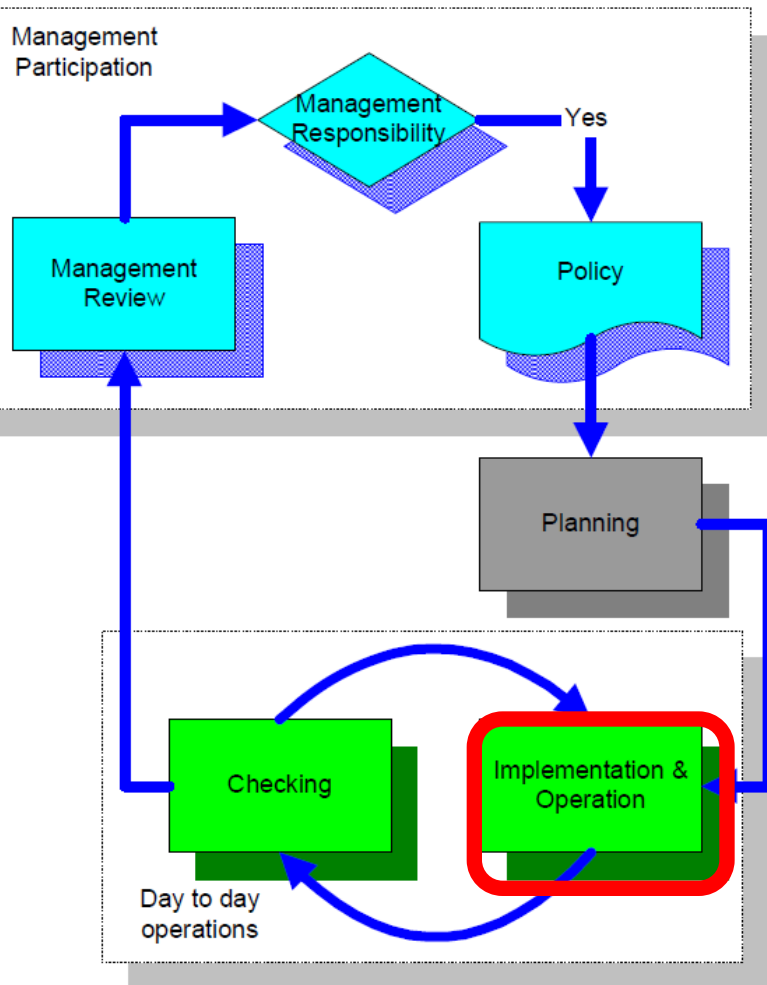


- How much energy are you using?
- Where are you using it?
 - Which are the biggest users?
- What is driving this use?
- What is your baseload?
- Who is influencing its use?
- Is an energy audit required – focus it?
- **System Optimization**
- Renewable energy options
- Develop baseline & indicators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



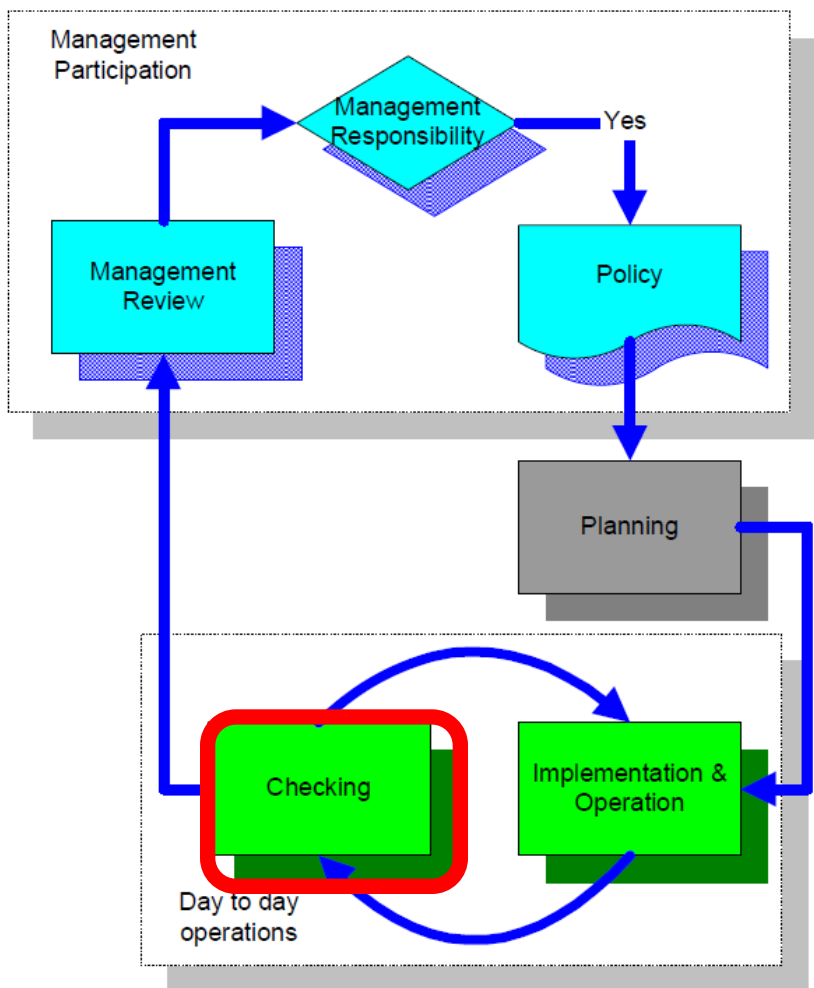
Implementation & Operation

- 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

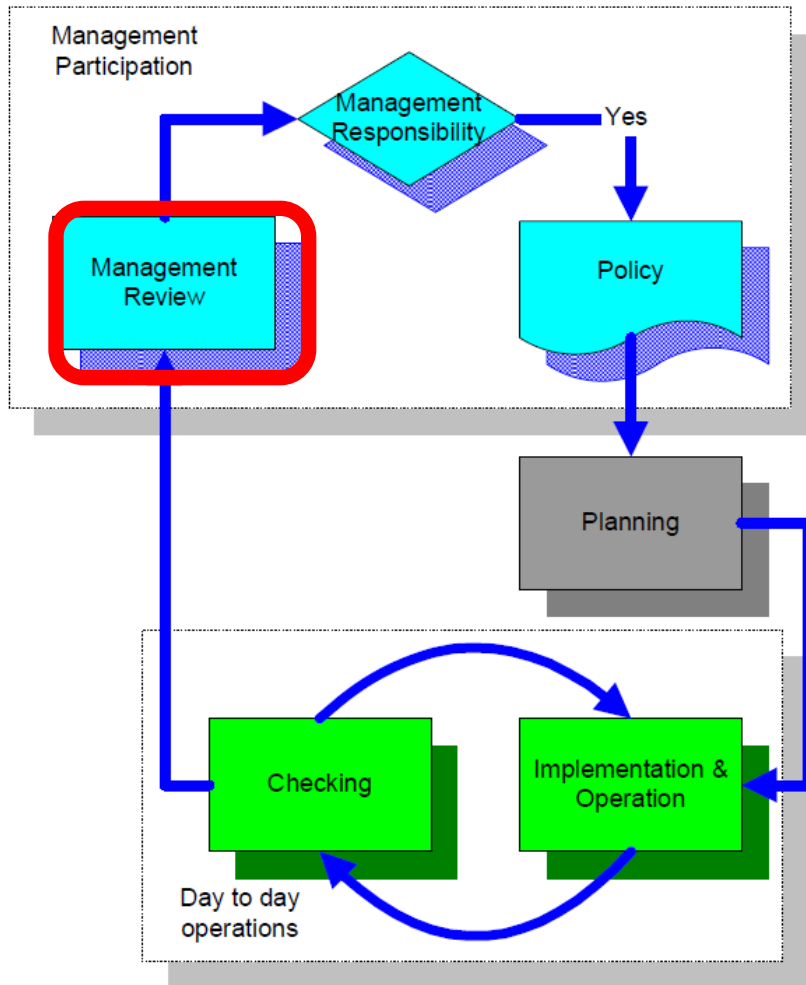


- Technical checking
 - Monitoring and targeting (software may be justifiable?)
 - Equipment checking
- System checking
 - Is everyone doing what is required?
 - Corrective and preventive action
 - Non-conformities
- Performance checking
 - Check Energy Performance Indicators (EnPIs)



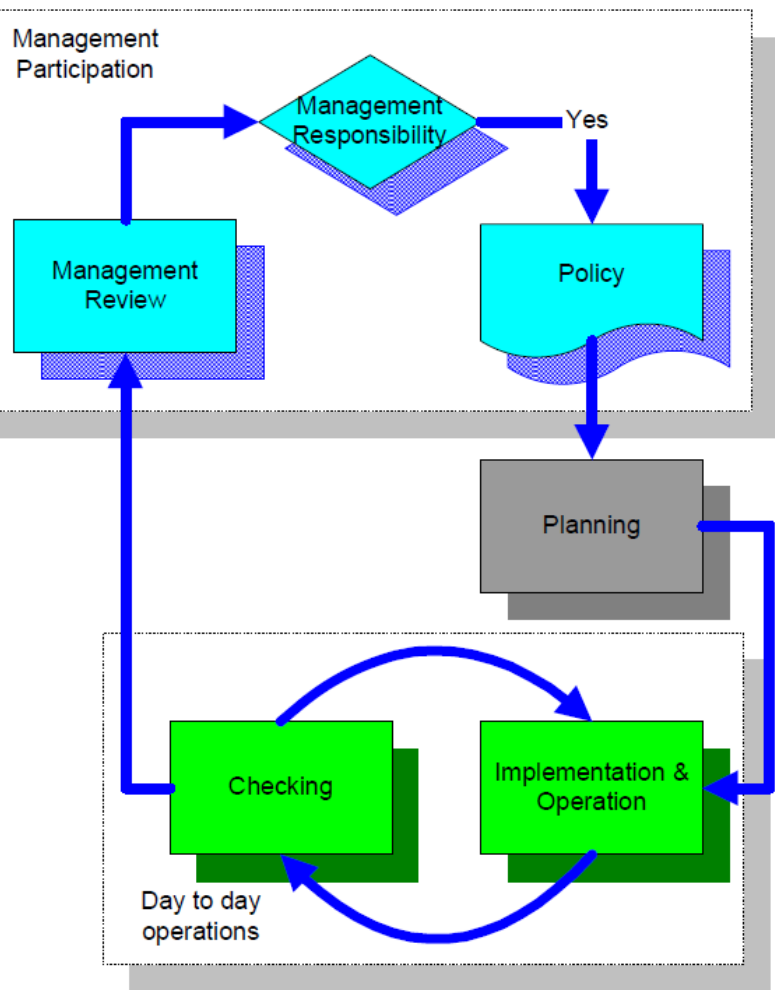
Management Review

- 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!!**

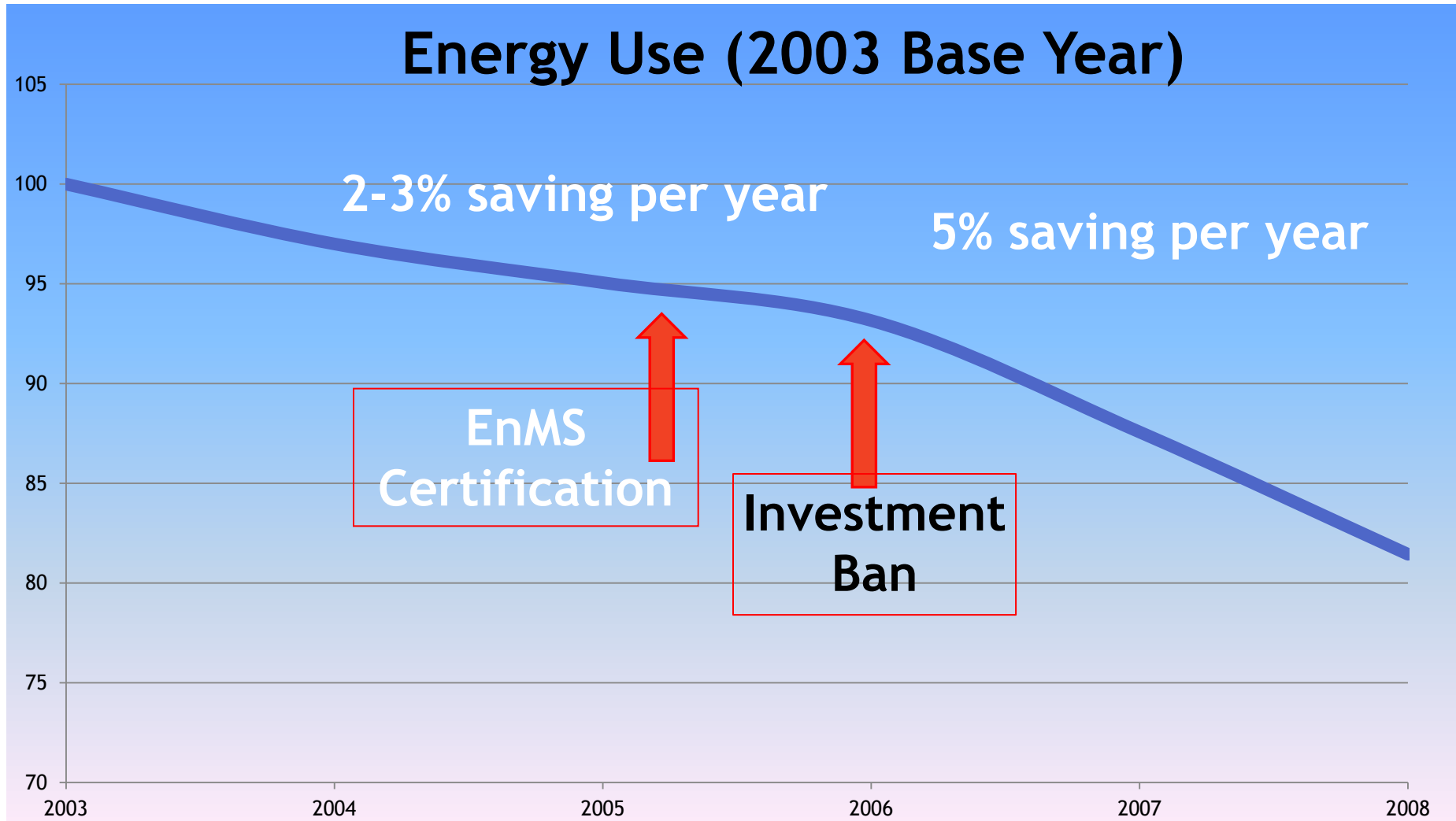


What does an EnMS achieve?

- 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!**

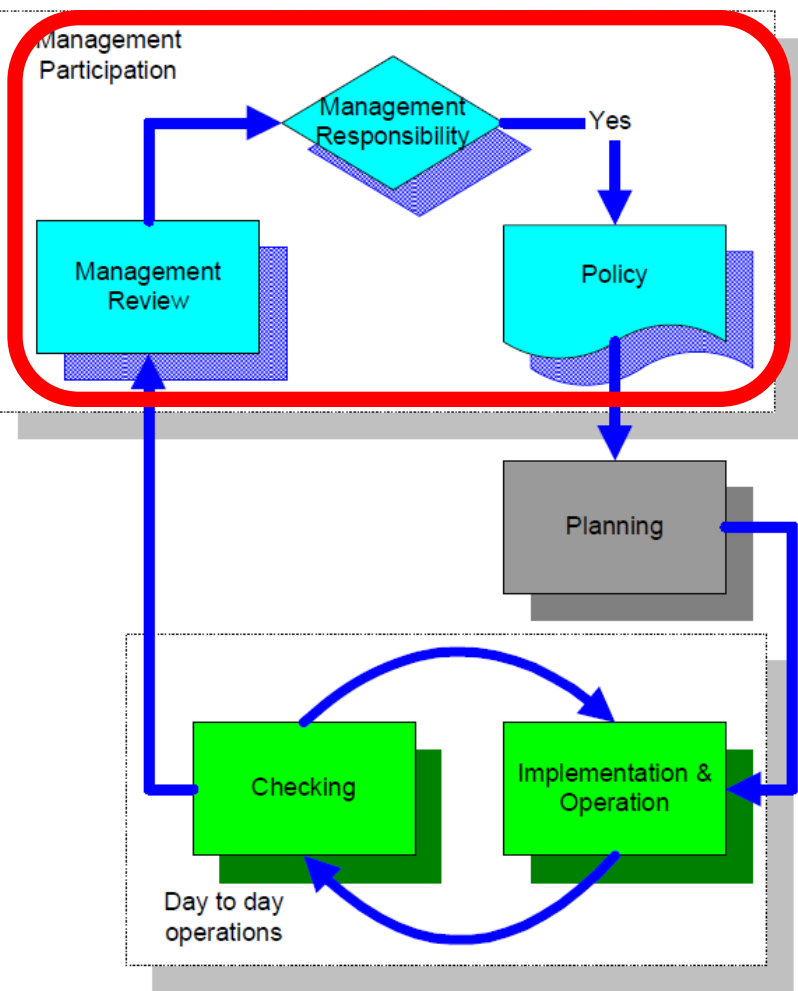


What does an EnMS achieve?





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

