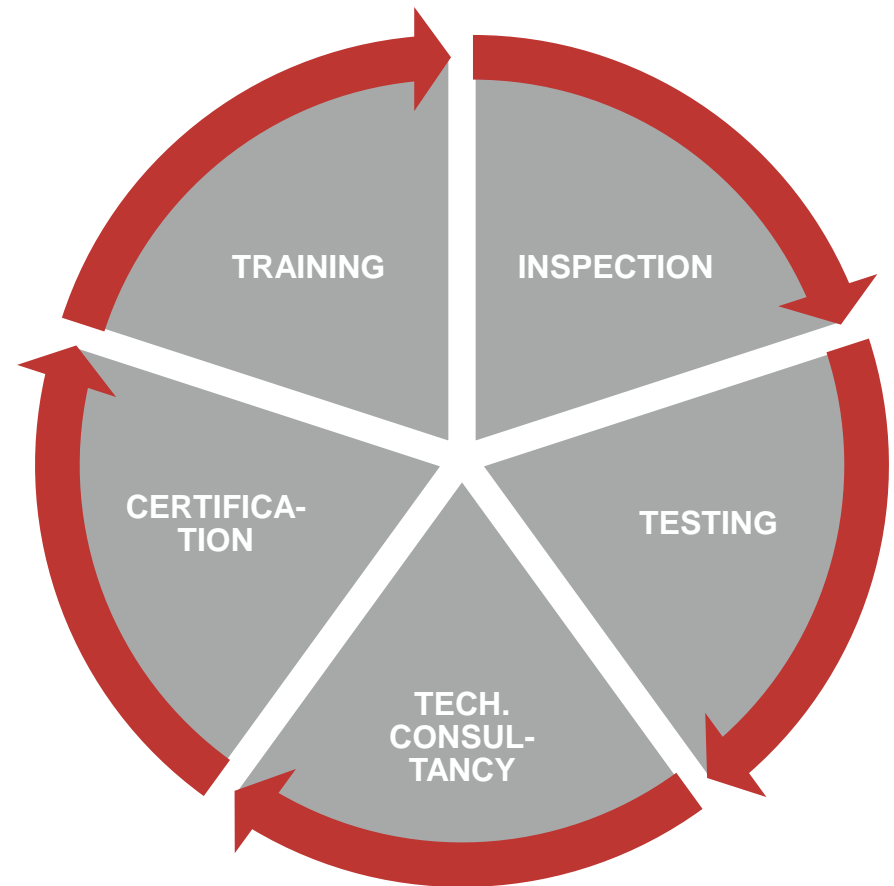


# ▶ Energy management standard ISO 50001 in practice



## ▶ **Inspecta** One partner, many services

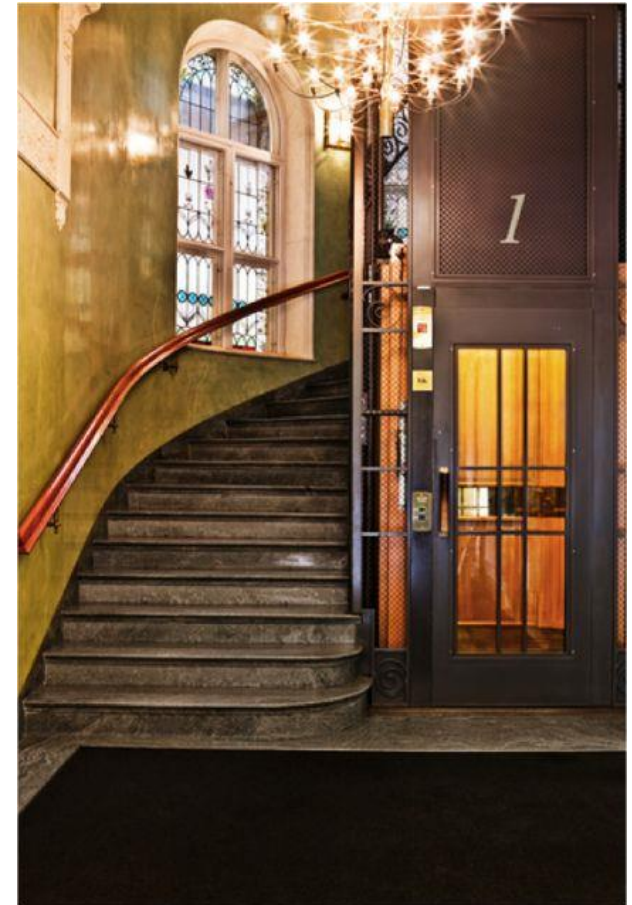
- Our wide service offering is based on
  - Inspection
  - Testing
  - Technical Consultancy
  - Certification
  - Training
- All services can of course be performed individually, but they often have many beneficial synergies – making your operations safer, easier and more profitable.



## ► This is Inspecta

Our position

- Over 30 years of experience
- Market leader in the Nordic countries
- Widest service offering in northern Europe
- Strong local presence
- Good knowledge in customers' needs
- Partnerships all over the world



## ► Why Inspecta? Safer, easier and more profitable



Inspecta's services help you to succeed and improve your business

- Take all safety aspects into account and protect your assets
- Avoid unnecessary costs, mistakes or administrative complications
- Stay up to speed on legislation and standards
- Save time and effort with more efficient projects
- Have the skills and equipment you need
- Broad overview helps you to run your business more productively

## ► These are our customers

### Customer segments

- Oil, Gas & Chemicals
- Metals & Mining
- Forest Industry
- Energy & Power
- Manufacturing & Engineering
- Life Sciences
- Food & Beverage
- Infrastructure & Construction
- Logistics & Transportation
- Retail & Whole sales
- Waste & Recycling
- Financial, HR and IT services
- Real Estate
- Sports & Leisure
- Governments, Municipalities & Institutions





## More about us

### Locations

#### Finland

Espoo  
Helsinki  
Harjavalta  
Hämeenlinna  
Joensuu  
Jyväskylä  
Kemi  
Kotka  
Kouvola  
Kuopio  
Lahti  
Lappeenranta  
Oulu  
Pietarsaari  
Pori  
Raahe  
Rauma  
Rovaniemi  
Savonlinna  
Seinäjoki  
Tampere  
Turku  
Vaasa  
Vantaa  
Varkaus  
Ylivieska

#### Sweden

Falun  
Gävle  
Mölnådal,  
Göteborg  
Jönköping  
Karlstad  
Kiruna  
Luleå  
Malmö  
Mörrum  
Norrköping  
Oskarshamn  
Skellefteå  
Skövde  
Stockholm  
Sundsvall  
Täby  
Uddevalla  
Umeå  
Vänersborg  
Västerås  
Växjö  
Örebro  
Örnsköldsvik  
Östersund

#### Denmark

Ålborg  
Hadsten  
København  
Kolding  
N. Nebel  
Odense  
Ringsted

#### Norge

Arendal  
Bergen  
Kongsberg  
Kristiansand  
Mosjøen  
Sandnessjøen  
Sarpsborg  
Stokke  
Ålesund

#### Estonia

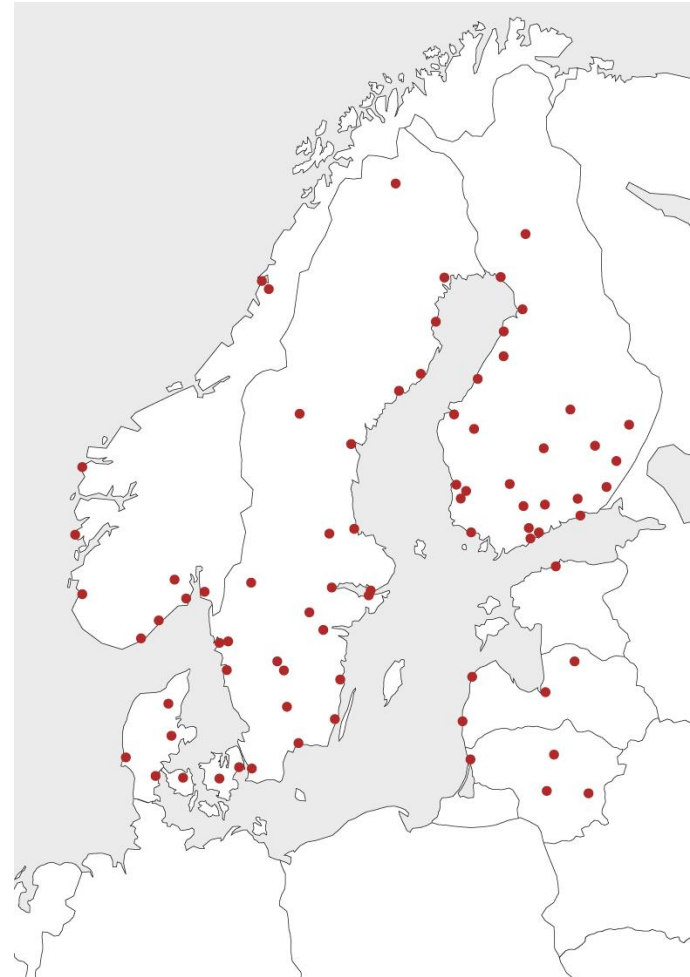
Jõhvi  
Pärnu  
Tallinn  
Tartu

#### Latvia

Liepāja  
Rīga  
Valmiera  
Ventspils

#### Lithuania

Kaunas  
Klaipėda  
Panevėžys  
Vilnius



## ▶ Energy management standard ISO 50001 in practice

- What is ISO 50001
- Implementing ISO 50001
- Benefits of ISO 50001

## ▶ ISO 50001

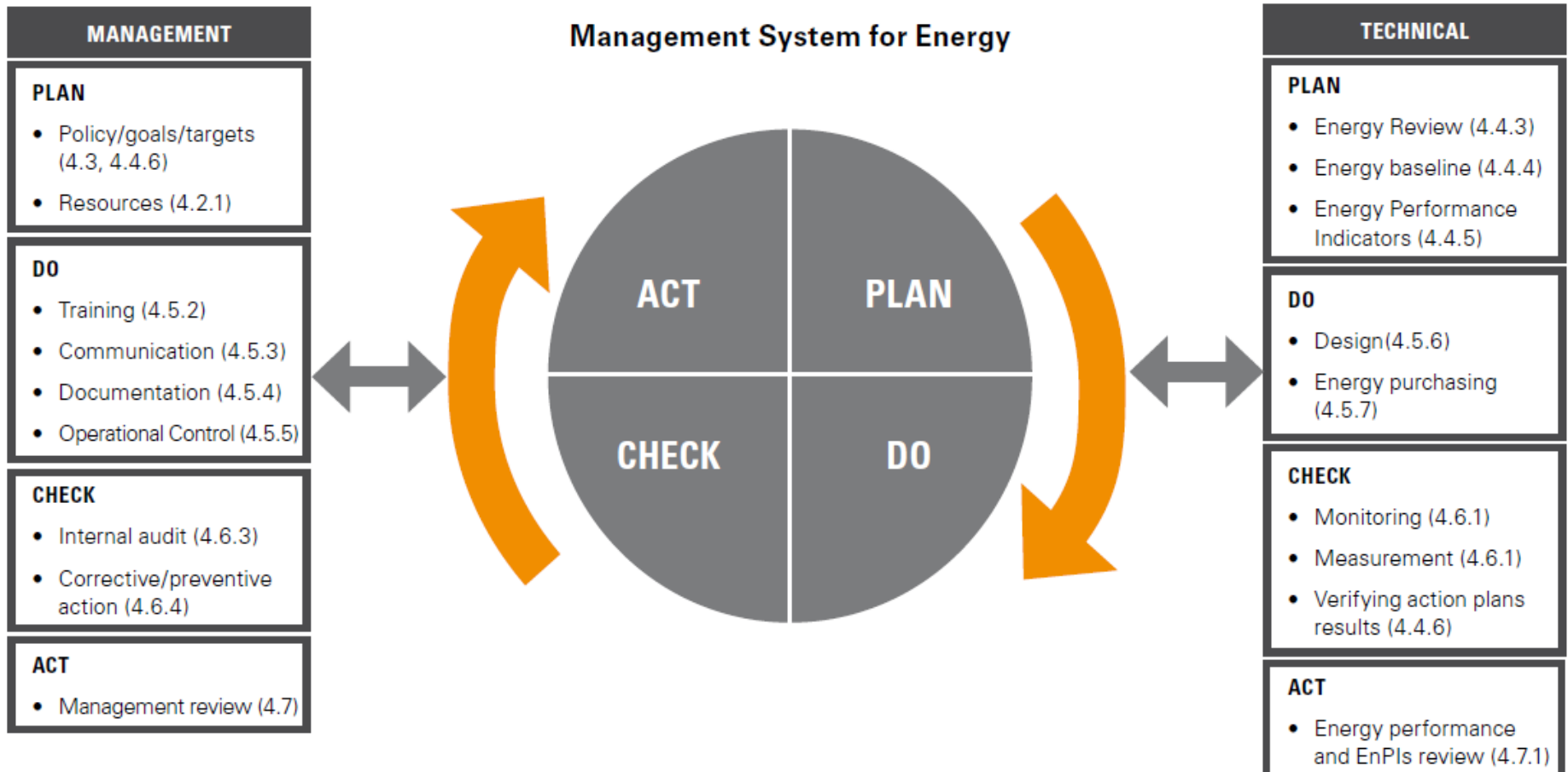
The standard is intended to accomplish the following :

- Assist organizations in making better use of their existing energy consuming assets
- Create transparency and facilitate communication on the management of energy resources
- Promote energy management best practices and reinforce good energy management behaviours
- Assist facilities in evaluating and prioritizing the implementation of new energy-efficient technologies
- Provide a framework for promoting energy efficiency throughout the supply chain
- Facilitate energy management improvements for greenhouse gas emission reduction projects
- Allow integration with other organizational management systems such as environmental, and health and safety.





## THE ISO 50001 ENERGY MANAGEMENT SYSTEM MODEL



## ► Implementing ISO 50001

ISO 50001 provides a framework of requirements enabling organizations to :

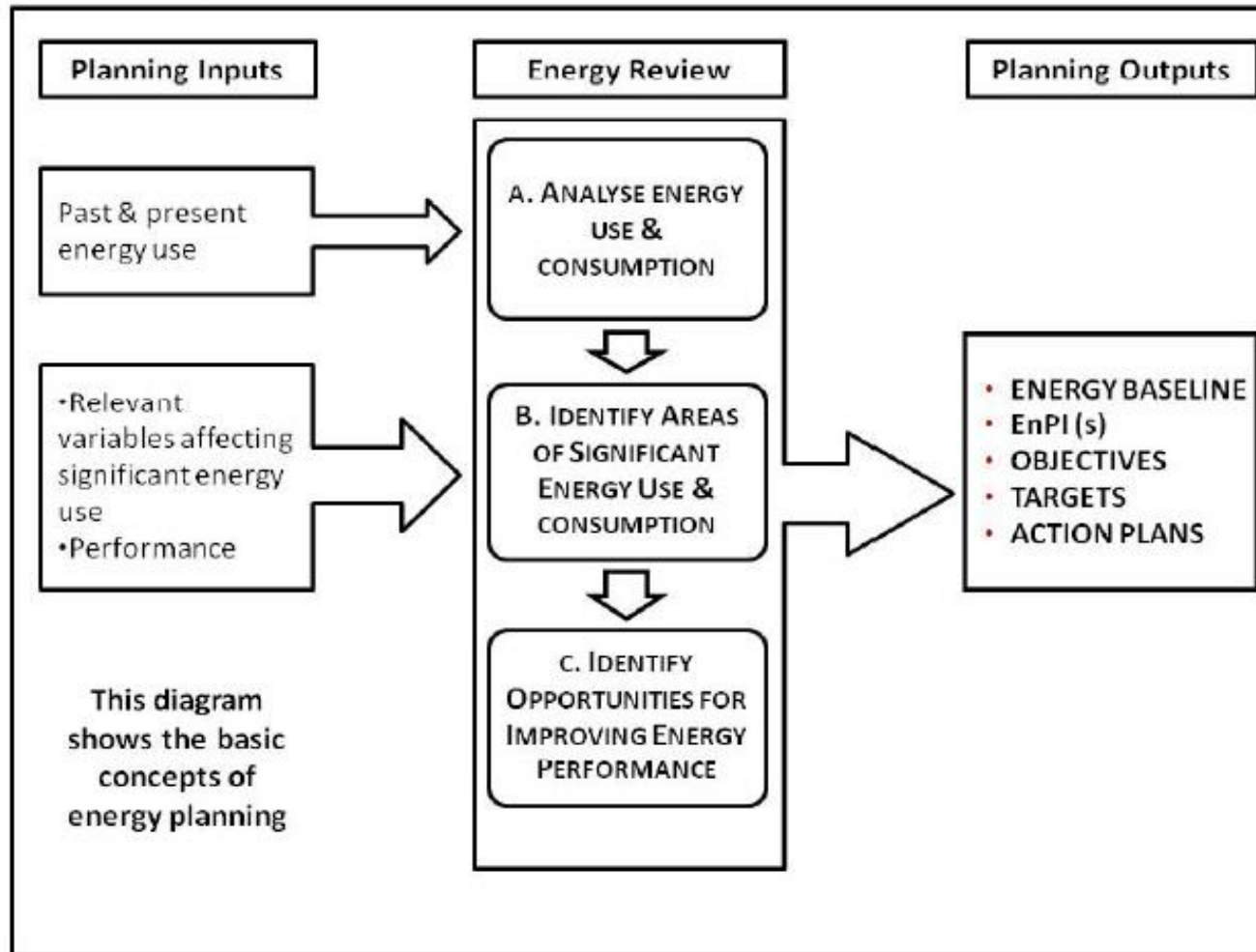
- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions concerning energy use and consumption
- Measure the results
- Review the effectiveness of the policy
- Continually improve energy management.
- ISO 50001 can be implemented individually or integrated with other management system standards.

## ► Implementing ISO 50001

- elaborate an energy policy, energy objectives and energy targets
- who is to take part in the energy management work
  - top management, management representative
  - competence, training and awareness
  - communication
- how much energy do we use and for what?
  - energy planning
  - energy review
  - energy baseline
  - energy performance indicators
  - monitoring, measurement and analysis



## Energy Planning Process



## ▶ Implementing ISO 50001

- where and how can we save energy?
  - energy review
  - energy objectives, energy targets and energy management action plans
  - documentation
  - design
  - procurement of energy services, products, equipment and energy
- what is the day-to-day approach to energy management?
  - implementation and operation
  - operation control
  - checking
  - monitoring, measurement and analysis
  - internal audit of the EnMS
  - nonconformities, correction, corrective action and preventive action
  - control of records
  - management review

## ► Benefits of ISO 50001

ISO 50001 provides a framework of requirements enabling organizations to :

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions concerning energy use and consumption
- Measure the results
- Review the effectiveness of the policy
- Continually improve energy management.
- ISO 50001 can be implemented individually or integrated with other management system standards.



## ► Major challenges with ISO 50001 implementation

- requires Management time and focus
- the energy reduction planning is difficult to plan
- lot of work
- problems with setting up the energy review
- the existing metering system is insufficient and sometimes of low quality
- technical difficulties on the reliability and reproducibility of the metering chain
- implementation of purchasing rules, driven by energy performance

## ► Benefits of ISO 50001

- A systematic approach (plan-do-check and act) leads to a continuously energy efficiency improvement
- Improved cost savings
- Helps to achieve energy efficiency & compliance
- Reduced environmental impact – carbon & GHG
- Builds energy management into business practices
- Provides a better understanding between predictable energy demand and supply
- Improves the ability to benchmark, measure and report energy intensity improvements
- Ensures the engagement (commitment and agreement) of the management and has a positive contribution towards the energy targets
- Creates awareness and a commitment about energy within the organization
- Helps in evaluating and prioritizing new energy-efficient technologies
- Framework for promoting energy efficiency throughout the supply chain

## ► Energy management standards

- ISO 50001:2011, *Energy management systems — Requirements with guidance for use*
- ISO 50003, *Conformity assessment — Requirements for bodies providing certification audits of energy management systems audits and audit competency*
- ISO 50004, *Energy management systems — Guidance for the implementation, maintenance and improvement of an energy management system*
- ISO 50006, *Measuring Energy Performance using Energy Baselines and Energy Performance Indicators — General Principles and Guidance*
- ISO 50015, *Monitoring, measurement, analysis and verification of organizational energy performance*
- EN 16247-1:2012, *Energy audits — Part 1: General requirements*

 **Thank you!**

**Helena Kunttu**

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**Finland**

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