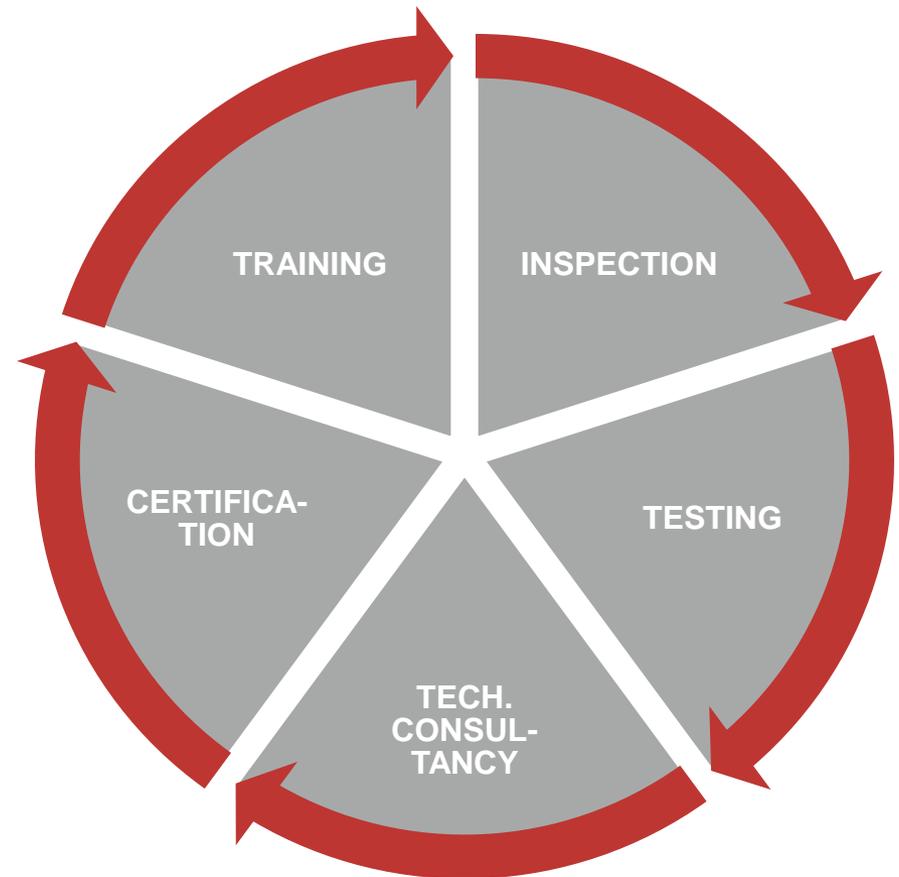


▶ Energy management standard ISO 50001 in practice



▶ **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
Mölnadal,
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

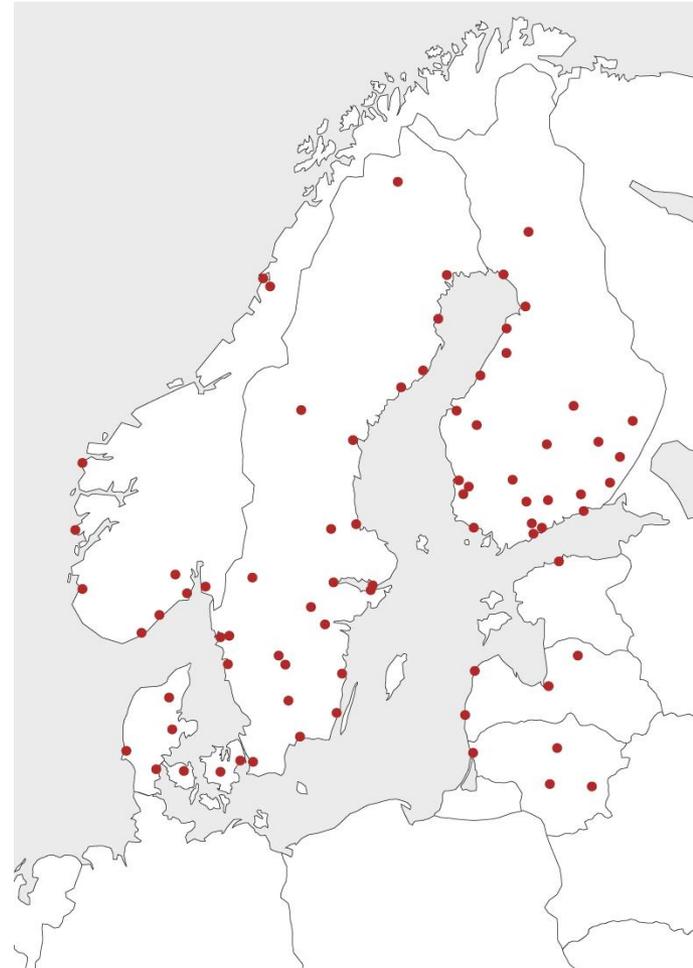
Jõhvi
Pärnu
Tallinn
Tartu

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

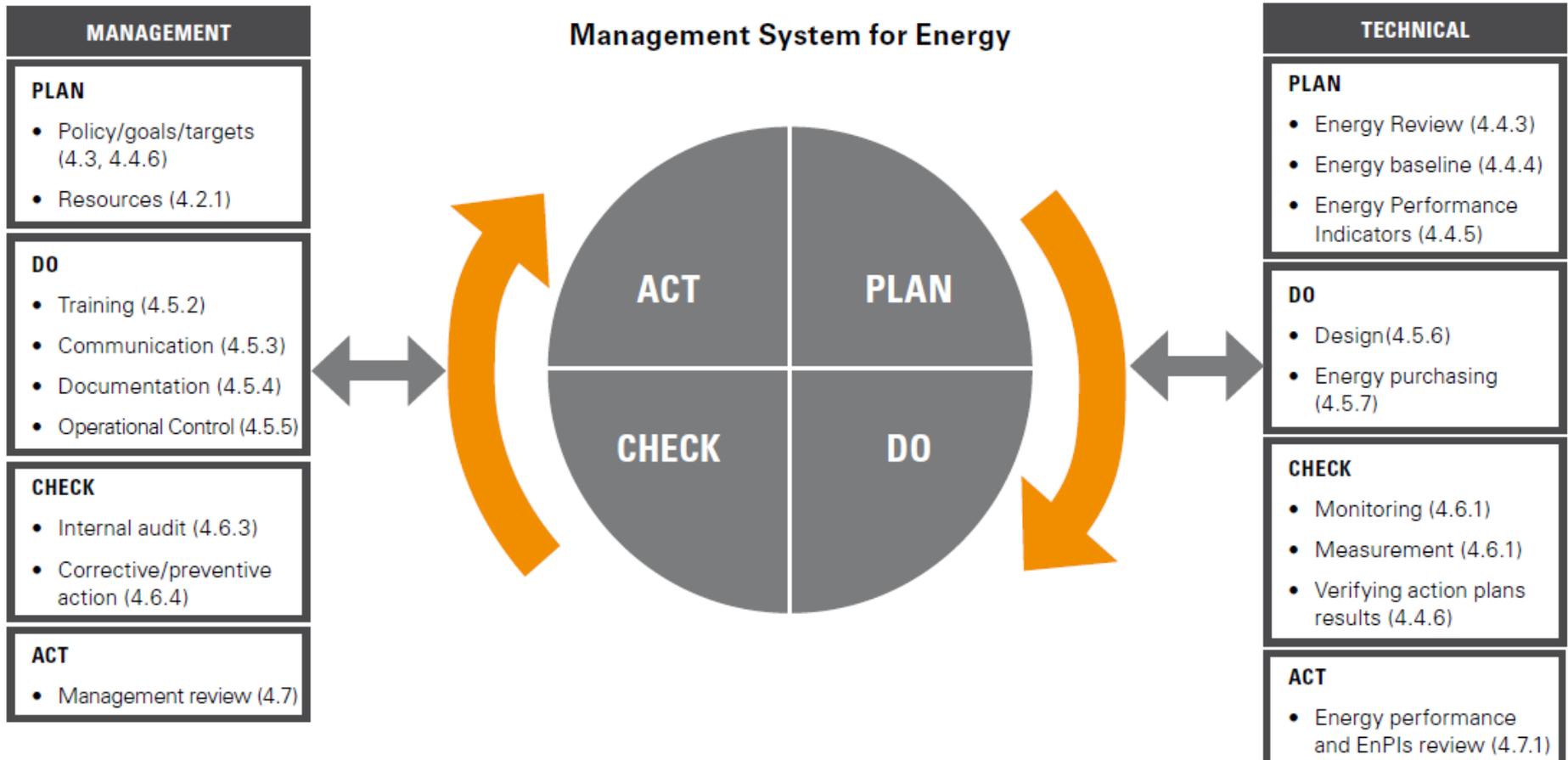
▶ ISO 50001

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 :

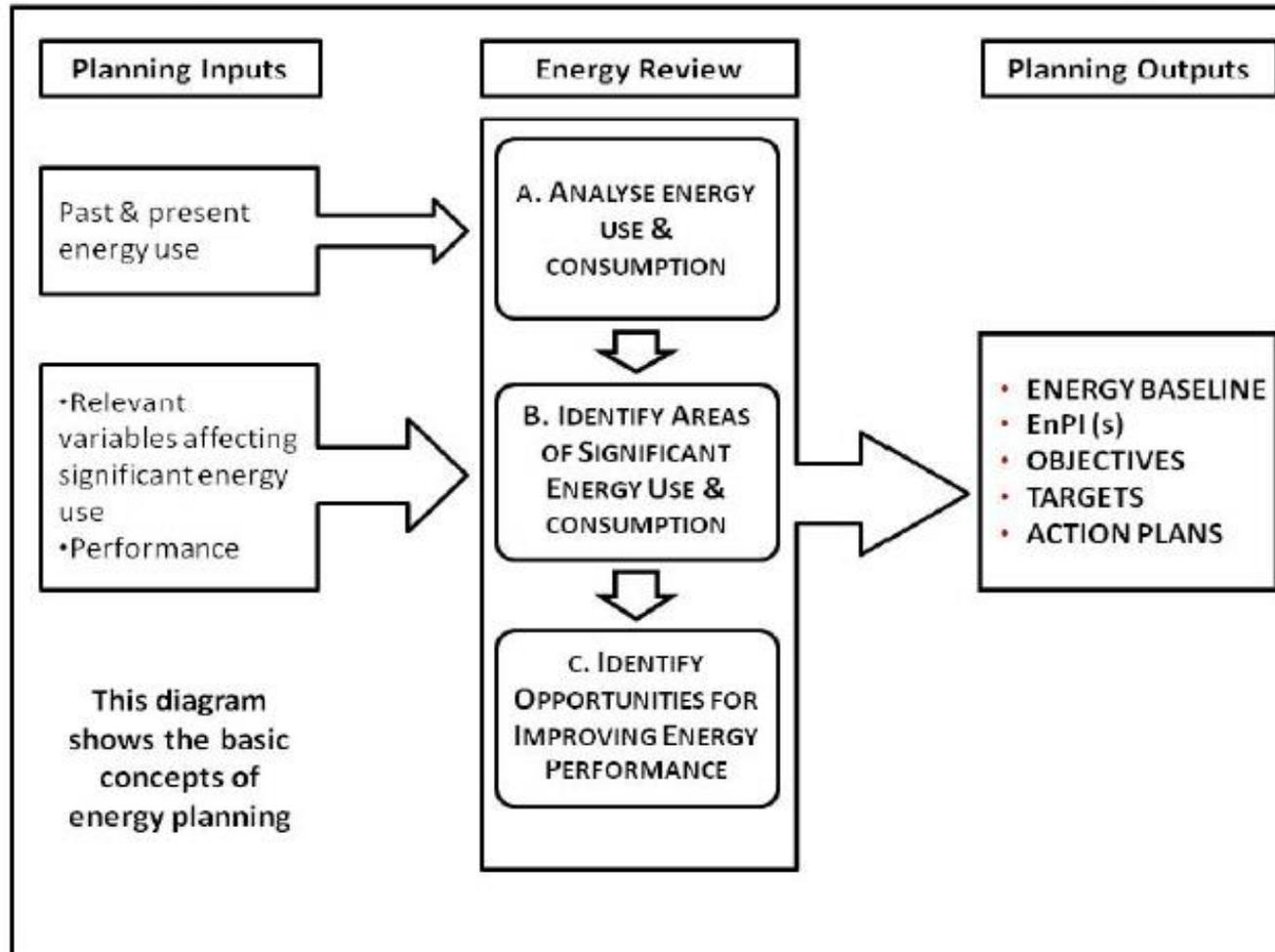
- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions concerning energy use and consumption
- Measure the results
- Review the effectiveness of the policy
- Continually improve energy management.
- ISO 50001 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
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- 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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Inspecta Certification

Finland

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