



Twinning Project IL/11

Implementation and Strengthening the Environmental Framework for
IPPC, Resource Efficiency and Eco-Management in Israel



Energy Management Hotel Sector

Horizontal Energy Management Guidance (‘mini’ EnMS)

Workshop Manufacturer Association Israel
Tel Aviv, March 15, 2017





Agenda

10:00 Welcome – Address

10.05 Horizontal Energy Management Guidance ('mini' EnMS)

10:30 EnMS- Implementation Tool

**11:00 EnMS)– Self Assessment Tool as internal Audit
(Save costs and external administrative efforts)**

11:30 Break

12:00 Vertical Guidance on the Hotel Sector (Practical Example)

12:45 Interactive Application on Hotels and Discussion

13:15 Final Discussion and Conclusions

13:45 Conclusion

14:15 End of the Workshop





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Table of Contents

- **ISO Standard 50001 Energy Management Systems**
- **Stepwise Energy Management System**
- **„Mini‘ Energy Management System**





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ISO Standard 50001 Energy Management Systems





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Standard ISO 50001 Energy Management

Principles:

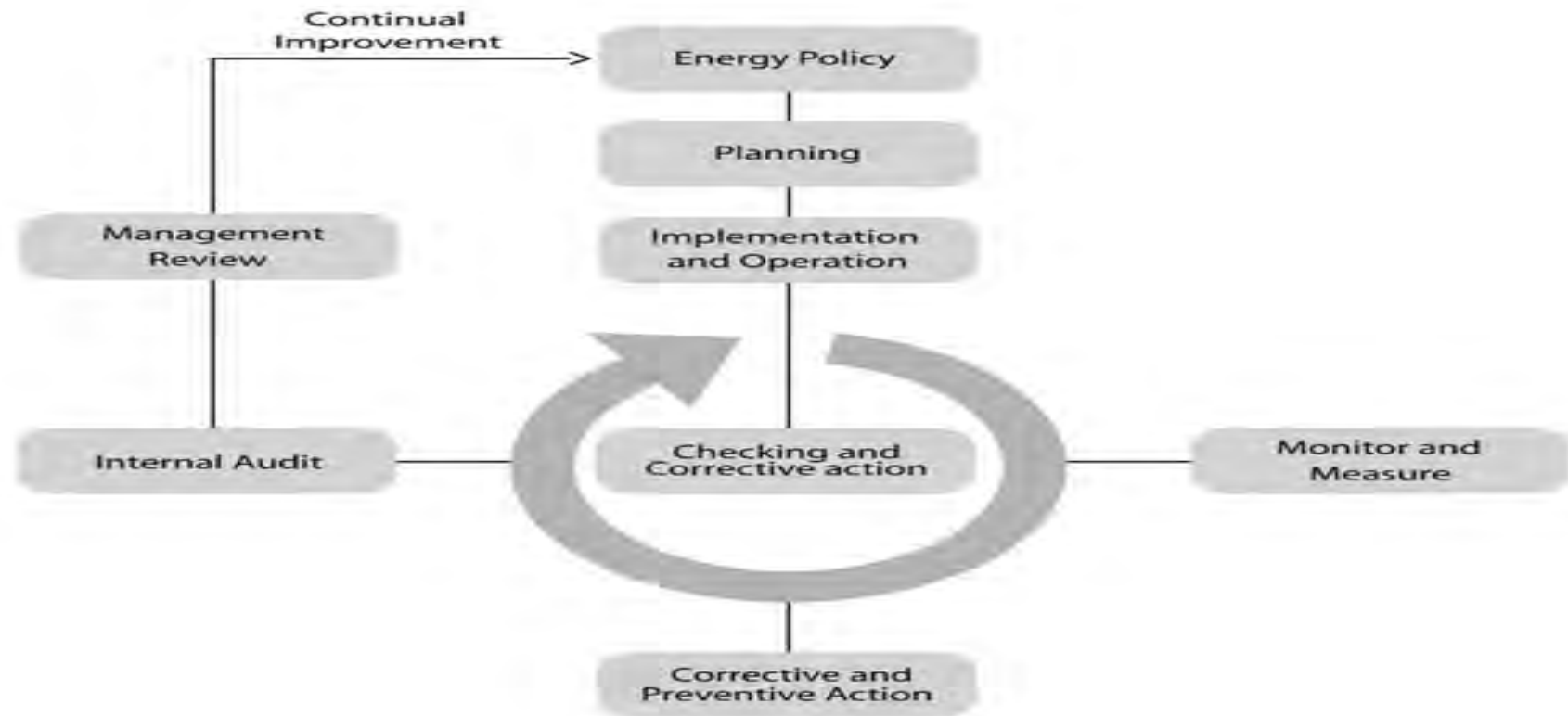
Plan, Do, Check, Act - PDCA- Cycle

- **Strategic Goals on Energy Policy within the Organization**
- **Responsibility from Top Management and Mandating the Energy Manager or Energy Management Team**
- **Checklist, Measures, Organization, Involvement of Personnel, Documentation**
- **Check of Impact, Measurement and Verification**
- **Monitoring and Improved Performance**
- **Continual Improvement**





Workshop Manufacturerer Association Israel Tel Aviv, March 14, 2017

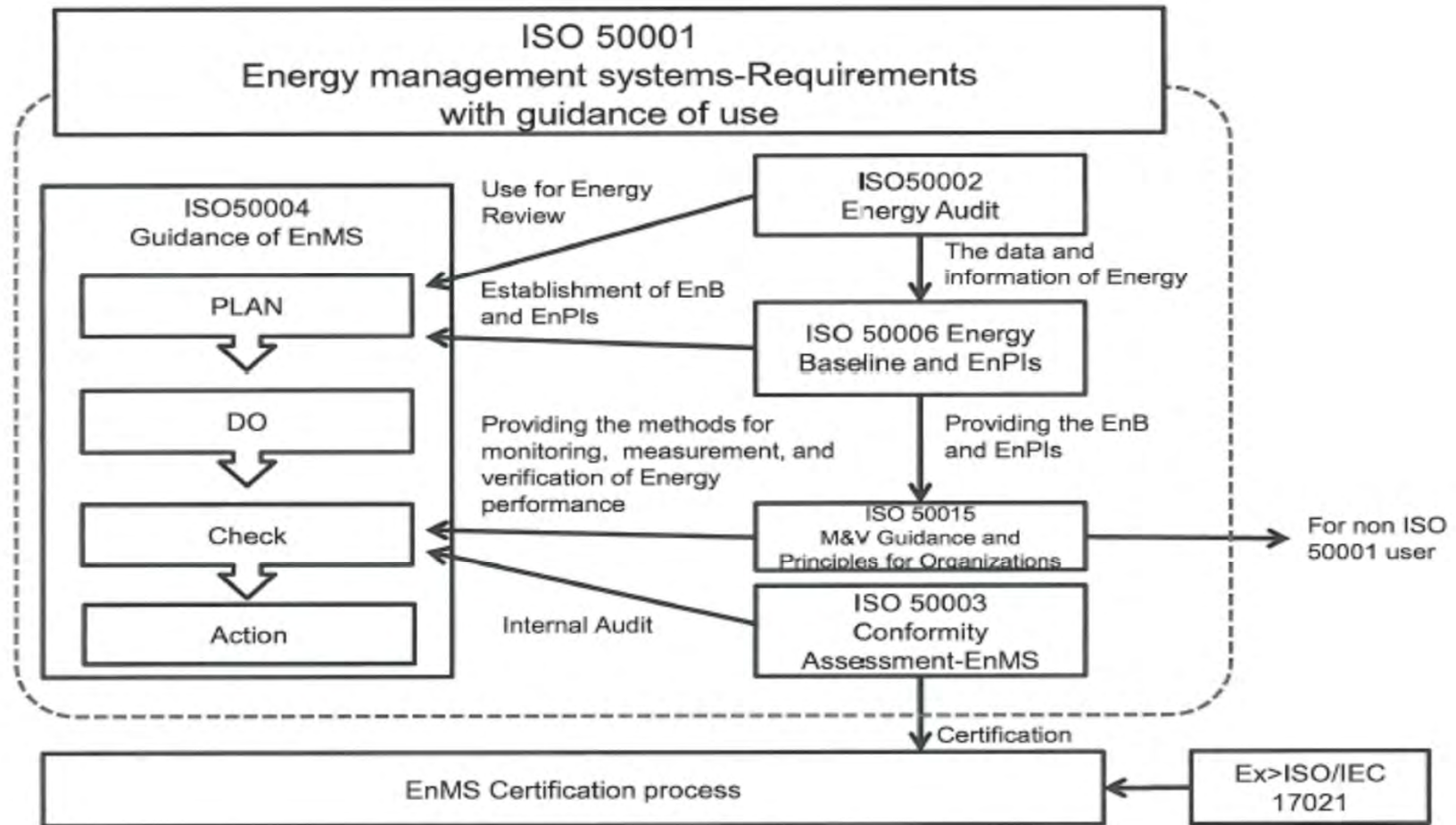


ISO Standard 50001 Energy Management System Model (Source: ISO Standard 50001 - 2011)





Overview, Structure and Relationship of Standards - ISO 50000 Series





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- **ISO 50001 Energy Management Systems**
- **ISO/CD 50002 Energy Audits**
- **ISO/CD 50003 Energy Management System Audits and Auditor Competency- Conformity Assessment**
- **ISO/CD 50004 Guidance for the Implementation, Maintenance and Improvement of an EnMS**
- **ISO/CD 50006 Energy Baseline and Energy Performance Indicators (EnPIs) - General Principles and Guidance**
- **ISO/CD 50015 Measurement and Verification of Organizational-- Energy Performance- M&V**





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Structure of Energy Management Systems - ISO 50001

- **Basic Component (1)**
 - Commitment of Top Management & Decision on Responsibilities
 - First Status Analysis, Assessment und Recommendations
 - Legal Compliance Check
 - Cost- /Benefit Analysis for Measures of Energy Savings
 - Draft Energy Policy and Objectives
 - Comparative Assessment of Management Options and Decision about Measures
 - Decision upon further implementation of ISO 50001, Targeted Application of Energy saving Measures, Further use of the Basic Component
- **Implementation and Operation (2)**
 - Competence & Training
 - Establish Communications, Documentation, Operational Control, Design, Procurement
 - Conformity Review of taken Measures, Organizational changes, Full Functionality
- **Checking and Management Review (3)**
 - Monitoring, Measurement and Verification
 - Evaluation of Legal & other Requirements
 - Internal Audit of EnMS
 - Nonconformities, Correction, Preventive Action and QA on Records
 - Assessment/Review of the Energy Management





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Stepwise Energy Management System





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Stepwise Energy Management System

- **Energy Use Checklist**
 - Identify typical and main Sources of Energy Consumption
 - Select Benchmarks for technical equipment, systems and processes
 - Compare Energy consumption figures with Benchmarks
- **'Mini' Energy Management System**
Basic Component (1) of ISO 50001 Energy Management is comprising:
 - **Energy Profile**
 - **Saving Potential**
 - **Cost/Benefit Analysis**
 - **Recommended Measures**
- **ISO 50001 Energy Management Systems**
 - Implementation and Operation (2)
 - Checking and Management Review (3)





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Operational Flow Scheme on a Stepwise System of Energy Management

Step 1: Apply Checklist of typical Energy Uses

**Results: Estimates about Energy Uses and Saving Potentials
Plausibility Check for Energy Management**



Step 2: 'Mini' Energy Management System

Results:

Decision Point for the Top Management

- **Use the results of the adapted Energy Management as such and / or possibly apply for grants or other incentives**
- **Continue to implement the full ISO 50001 Energy Management**



Step 3: Continue to Energy Management System ISO 50001

Step II Implementation and Operation

Step III Full Operation, Review and Control, Feedback to Top Management, Decisions, Continual Improvement





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„Mini‘ Energy Management System





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'Mini' Energy Management System

(Superimposable with: Step I ISO 50001 Energy Management Systems

- Written Commitment of Top Management to implement 'mini' Energy Management System
- Appointment of Energy Manager, sufficient decision capacity and resources
- Energetic Assessment
- Compilation and Analysis of Fuel
- Compilation and Analysis of Energy Use
- Data compilation in forms of Excel spreadsheets
- Inventory of Energy Users
- Measurement and/or Estimating
- Analysis and Assessment (Energy Baseline / Energy Performance Indicators)
- Check on Plausibility and Error Analysis
- Assessment on Energy Saving Potentials
- Economic Assessment of Measures to use Reduction potentials
- Use of energy saving potentials
- Documentation
- Feedback to the Top Management
- Top Management: Decision about possible measures and documentation about it
- Decision / Review on Energy Policy





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Step 3: Continue to Energy Management System ISO 50001

Energy Management System

continue: ISO 50001

Step II Implementation and Operation

- Objectives to improve Energy Efficiency
- Energy Policy of the Organization
- Determining policy and targets for the Management System
- Implementation of Measures
- Documentation of the Implementation (e.g. Manual, Procedures)
- Organizational Structure
- Documentation System , Rules for Feed In and administrative Procedures
- Rules and criteria for Calls of Tenders, Purchase conditions, Life Cycle Costing
- Planning of Infrastructure
- Training of Employees
- Setting principles for communication and assuring proper communication
- Gathering and structuring proposals for improving the Energy and Economic Performance of the Organization
- Yearly Planning for Energy supply, consumption and tendering
- Planning for Energy supply, Measurement- and Assessment instruments





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Continue:

Energy Management System

continue: ISO 50001

Step III Full Operation, Review and Control, Feed Back to Top Management and Continual Improvement

- Extensive and Full Operation of the Energy Management System (PDCA-Cycle) focused on continual improvement
- Updated plan for saving Energy (Plan)
- Records from the ongoing Energy Controlling (Do)
- Internal Energy Audit, Audit Plan and Report (Check)
- Analysis and Assessment of the Energy situation,
- Updating the Energy Goals and Documentation of Energy Reviews (Act)

