

Strategic Energy Management Checklist

Engage Management

Management responsibility	<p>For both ISO 50001 and SEP: Top Management demonstrates its commitment by:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Defining the scope and boundaries of the EnMS, <input type="checkbox"/> Appointing a management representative (energy director) and energy team, <input type="checkbox"/> Providing leadership for determining organizational energy performance goals and metrics, <input type="checkbox"/> Ensuring adequate resources, <input type="checkbox"/> Communicating importance of energy management to whole organization. <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization has defined the scope of its EnMS as the facility, which includes the entire area occupied by the organization at a particular location¹ <input type="checkbox"/> My organization's top management has ensured that the energy management team has taken into account each energy source consumed within the defined facility boundaries and the SEP facility-wide energy performance indicator (SEnPI) reflects each energy source² <p>NOTE: SEP requirements were developed so that the organization manages each energy source within the facility and not just a subset of the energy sources. However, SEP does allow for a facility to exclude up to 5% of total energy consumption.</p> <p>¹A facility is defined by ANSI/MSE 50021-2013 (see section 4.1). EnMS scope for SEP Industries is defined as a facility. A facility may be the entire area occupied by an organization at a particular location, or may be a subset. If the participating facility is a subset of the organizational area, measured energy consumption for each energy source must be available for the energy consumed within the defined facility boundaries. ANSI/MSE 50021-2013 can be accessed from the ANSI standards store at: http://webstore.ansi.org/RecordDetail.aspx?sku=ANSI%2fMSE+50021-2012.</p> <p>² The SEnPI is the ratio of reporting-period energy consumption to baseline consumption where one or both of these values is adjusted so that the two consumption amounts correspond to consistent conditions. (for further information on SEnPI, see SEP M&V Protocol for Industry, section 3.1.2 and 3.4) SEP M&V Protocol for Industry can be accessed at: http://www.superiorenergyperformance.net/pdfs/SEP_MV_Protocol.pdf.</p>
Energy policy	<p>Contains three required commitments:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1. Achieving continual improvement in energy performance; <input type="checkbox"/> 2. Ensuring availability of information and resources needed to achieve objectives and targets; <input type="checkbox"/> 3. Compliance with legal requirements and other energy requirements subscribed to by the organization <p><input type="checkbox"/> Supports energy efficient procurement and design</p>

Conduct Energy Review

<p>Legal and other requirements</p>	<p>For both ISO 50001 and SEP: My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> identifies and manages its energy-related legal requirements <input type="checkbox"/> identifies and manages other energy-related requirements to which it subscribes <input type="checkbox"/> has processes to evaluate compliance with legal and other energy-related requirements to which it subscribes <p>SEP Additional: My organization subscribes to the additional requirements of the SEP program which go beyond ISO 50001 and regularly evaluates compliance to those requirements as prescribed by ISO 50001, section 4.6.2. "Evaluation of compliance with legal requirements and other requirements". The SEP program constitutes an "other requirement" within ISO 50001. [For further information on how to handle other, non-legal requirements like SEP within ISO 50001, see sections 4.4.2 and 4.6.2 in ISO 50001].</p>
<p>Energy review analyzing energy consumption</p>	<p>For both ISO 50001 and SEP: My organization has a documented process for energy planning including,</p> <ul style="list-style-type: none"> <input type="checkbox"/> Analysis of past and current energy consumption, <input type="checkbox"/> Identifying the significant energy uses (SEUs), <input type="checkbox"/> Prioritizing opportunities for improvement, <input type="checkbox"/> Selecting EnPIs, <input type="checkbox"/> Establishing energy baselines, <input type="checkbox"/> Setting objectives and targets <input type="checkbox"/> Developing energy action plans <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization collects energy data on each energy source that crosses the facility boundaries defined by the scope of the EnMS. <input type="checkbox"/> My organization measures energy consumption at the facility's physical boundaries and accounts for at least 95% of the total energy consumption crossing the boundary of the EnMS³ <p>³For further information on boundary energy sources and consumption see the SEP M&V Protocol, sections 3.3.1, 3.3.2 and 3.3.3.</p>
<p>Energy review and determining significant energy use</p>	<p>For both ISO 50001 and SEP: My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Has a clearly defined and documented process for determining its SEUs based on consumption and/or opportunity for improvement; <input type="checkbox"/> Analyzes current performance of its SEUs; <input type="checkbox"/> Estimates future energy use and energy consumption for its SEUs. <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization keeps up to date its list of facilities, equipment, systems and processes that account for the majority of energy consumption⁴ <p>⁴See ANSI MSE 50021-2013, section 4.4.3 on energy review and list of energy uses.</p>
<p>Energy review and identifying opportunities for improvement</p>	<p>My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> prioritizes its energy improvement opportunities <input type="checkbox"/> has a process to update its prioritized energy improvement opportunities

Plan for Energy Management

<p>Energy metrics and establishing baselines and energy performance indicators (EnPIs)</p>	<p>For both ISO 50001 and SEP: My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> has determined conditions for adjusting energy baselines <input type="checkbox"/> has defined methods for determining and updating energy performance indicators (EnPIs) also known as energy performance metrics <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization uses 12 months of data to develop the SEnPI to ensure that operating patterns over all seasons of the year are taken into account⁵ <input type="checkbox"/> My organization takes into account relevant variables that affect energy consumption and develops normalized models to establish the SEnPI and baseline. The baseline and SEnPI meet the statistical requirements as specified in the SEP M&V Protocol for Industry⁶ <p>NOTE: The U.S. DOE developed the EnPI tool for end-users which utilizes linear regression analysis to assess normalized energy performance improvement and is compliant with the SEP M&V Protocol for Industry</p> <p>⁵For further information on data periods, see SEP M&V Protocol for Industry, section 3.4.2.</p> <p>⁶The SEnPI is the ratio of reporting-period energy consumption to baseline consumption where one or both of these values is adjusted so that the two consumption amounts correspond to consistent conditions. (for further information on SEnPI, see SEP M&V Protocol for Industry, section 3.1.2 and 3.4). SEP M&V Protocol for Industry can be accessed at: http://www.superiorenergyperformance.net/pdfs/SEP_MV_Protocol.pdf.</p>
<p>Objectives and targets</p>	<ul style="list-style-type: none"> <input type="checkbox"/> When setting and reviewing objectives and targets (goals), my organization takes into account its Significant Energy Uses (SEUs) and legal requirements <input type="checkbox"/> My organization has a process for considering the views of interested parties when setting and reviewing objectives and targets
<p>Energy action plans</p>	<p>For both ISO 50001 and SEP: My organization develops action plans for energy projects and they:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Are designed to achieve the objectives and targets; <input type="checkbox"/> State how energy performance improvements will be verified <p>SEP Additional: For each action plan, my organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Estimates expected energy savings, <input type="checkbox"/> Implements action plans that achieve our SEP energy performance improvement threshold⁷ <input type="checkbox"/> Verifies the actual energy savings achieved, and <input type="checkbox"/> Tracks the energy performance improvements in our action plans to check the energy performance improvement calculated by the SEnPI.⁸ This bottom-up sanity check confirms the energy performance improvement could reasonably have resulted from the action plans. <p>⁷For information on energy performance levels see ANSI/MSE 50021-2013 Annex A.3).</p> <p>⁸For further information, see SEP M&V Protocol for Industry, section 3.6.8 Bottom-Up Sanity Check.</p>

Facility Name: _____
 Prepared By: _____
 Date: _____

Implement Energy Management

Competence, training and awareness	<p>For both ISO 50001 and SEP: My organization has processes in place to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assess competencies for personnel working with SEUs and address gaps; <input type="checkbox"/> Identify training needs related to energy management and to address those needs through training or other actions; <input type="checkbox"/> Ensure that personnel and on-site contractors are aware of the energy impacts of their work activities and the consequences not following energy management procedures <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> For personnel working with SEUs, my organization keeps records of their training needs and when the actual training was delivered
Communication	<p>For both ISO 50001 and SEP: My organization has:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A suggestion process in place for employees and on-site contractors; <input type="checkbox"/> Made a decision about external communications related to our energy performance <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization communicates with the SEP Administrator as required and has established an external communication procedure for doing so⁹ <p>For external communication, see section 4.5.3 of ISO 50001 and section 4.5.3 of ANSI/MSE 50021-2013 which says, "The organization shall establish and implement a method for communicating with the SEP Administrator as part of its external communication process". For further information on the SEP Administrator, see SEP Certification Protocol, December 7, 2012, sections 3.4, 4.1, 4.2, 4.5 and 6.0. The SEP Certification Protocol can be accessed at: http://www.superiorenergyperformance.net/pdfs/SEP_Cert_Protocol.pdf</p>
Documentation	<p>For both ISO 50001 and SEP: My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> has processes in place to control documents such as procedures, work instructions or specifications, blank forms, etc <input type="checkbox"/> has documentation controls to ensure that documents are approved, reviewed and updated as needed, and removed from points of use when obsolete <input type="checkbox"/> maintains and controls records to demonstrate the results of its energy management and energy performance improvement efforts <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization has a documented procedure for the control of records
Operational control	<p>My Organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> has operation and maintenance controls in place for all identified SEUs <input type="checkbox"/> has processes in place to communicate relevant operational and maintenance controls to on-site contractors
Design	<ul style="list-style-type: none"> <input type="checkbox"/> My organization considers energy performance improvement in its design processes for new, modified and renovated facilities, equipment, systems and processes
Procurement	<ul style="list-style-type: none"> <input type="checkbox"/> When purchasing items related to its SEUs, my organization informs suppliers of energy performance evaluation factors <input type="checkbox"/> My organization has established criteria for assessing energy performance over the lifetime of purchased items that can significantly impact energy performance <input type="checkbox"/> My organization has documented its specifications for the purchase of energy

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Measure Projects & Check Results

Monitoring & measurement	<p>For both ISO 50001 and SEP: My organization:</p> <ul style="list-style-type: none"> <input type="checkbox"/> monitors the energy performance of its SEUs <input type="checkbox"/> has defined and implemented an energy measurement plan for its performance metrics <input type="checkbox"/> calibrates its monitoring and measurement equipment, and keeps records of calibration. <input type="checkbox"/> defines significant deviations in energy performance and investigates them <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization monitors and measures its SEEnPI to track its overall energy performance improvement
Internal audits	<p>For both ISO 50001 and SEP: My organization conducts internal management system audits to determine whether:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Energy management system processes are properly implemented and maintained, and <input type="checkbox"/> Energy performance is improving <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization's internal audits cover the SEEnPI and energy performance improvement to ensure that we are meeting the requirements in the SEP M&V Protocol¹⁰ <input type="checkbox"/> My organization is pursuing the SEP Mature Energy pathway, and therefore, our internal audits cover the additional requirements in the SEP Best Practice Scorecard for Industry <p>Note: The SEP Best Practice Scorecard for Industry is required for the Mature Energy Pathway¹¹ ¹⁰For further information on SEP internal audit requirements, see ANSI MSE 50021-2013, section 4.6.3 ¹¹ The SEP Best Practice Scorecard for Industry can be accessed at: http://www.superiorenergyperformance.net/pdfs/SEP_Industrial_BP_Scorecard.pdf.</p>
Corrective and preventive action	<p>For both ISO 50001 and SEP: My organization has processes in place to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Correct problems related to energy management and energy performance; <input type="checkbox"/> Prevent problems related to energy management and energy performance <input type="checkbox"/> These processes involve reviewing the actions taken to ensure they were effective <p>SEP Additional:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization has a documented procedure for corrective action <p>Note: ISO 50001 does not require a documented corrective action procedure but SEP does.</p>

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Review for Continual Improvement / Recognition

Management Review	<p>For both ISO 50001 and SEP: Top management within my organization reviews energy performance results and:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ensures that objectives and targets are being met; <input type="checkbox"/> Regularly reviews the results of internal audits and corrective actions to ensure that the EnMS is effective; <input type="checkbox"/> Makes changes to continually improve energy performance and the EnMS based on the management review <p>SEP Additional: Review of energy performance by top management within my organization also includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Review of the SEP performance pathway (energy performance or mature energy), the SEP performance level (silver, gold, platinum) and SEnPI <input type="checkbox"/> Making decisions concerning changes to the SEP performance pathway and SEP performance certification level
Recognition	<p>For both ISO 50001 and SEP:</p> <ul style="list-style-type: none"> <input type="checkbox"/> My organization is certified to ISO 50001 having been audited by an accredited certification body (CB) See list of ANAB accredited ISO 50001 certification bodies at http://anabdirectory.remoteauditor.com/ <p>SEP Additional: My organization is certified to ISO 50001 and the SEP Program and has achieved the SEP recognition level - Silver, Gold or Platinum - for either the Energy Performance or Mature Energy pathway.¹² An ANSI-ANAB accredited verification body (VB) has certified both the EnMS and the SEP program requirements.¹³</p> <p>¹² SEP requires achievement of energy performance improvement of at least 5% (SEnPI) over 3 years for the Energy Performance Pathway or 15% over 5 to 10 years for the Mature Energy pathway. See Qualifying for SEP at: http://www.superiorenergyperformance.net/qualify.html.</p> <p>¹³ See list of ANSI-ANAB accredited SEP verification bodies: https://www.ansica.org/wwwversion2/outside/SEPdirectory.asp?menuID=218</p>