

Frequently Asked Questions on the Energy Management System (EnMS) Requirements under the Energy Conservation Act (ECA)

ISO 50001 certification

1. Is it mandatory to attain ISO 50001 certification?

Companies are encouraged to attain ISO 50001 certification, but it is not a mandatory requirement. A registered corporation, for each relevant business activity, may either attain an accredited ISO 50001 certification or comply with the prescribed EnMS requirements under the ECA.

2. If my company attains an accredited ISO 50001 certification, will my company be exempted from other EnMS requirements? Will my company still be audited by NEA?

Your company will only have to submit a valid and accredited ISO 50001 certification, along with the necessary supporting documents. Once NEA has ascertained the validity of the certification, no further compliance checks will be conducted.

3. Will NEA accept both the 2011 and 2018 versions of ISO 50001?

NEA accepts any valid and accredited ISO 50001 certification.

4. My company is currently ISO 50001-certified under a group certification, including the facility covered under the EnMS requirements. What should my company do if the group certification fails to be re-certified?

An alternative is for your company to comply with the prescribed EnMS requirements under the ECA. Your company can inform NEA early to ensure that the submission deadline can be met.

Objectives and energy targets

1. Energy performance will deteriorate as equipment age. Is it a requirement that the energy target has to be an absolute reduction in energy consumption? Is it also a requirement to set energy targets better than the energy baseline (EnB) for each identified energy performance indicator (EnPI)?

There is no prescribed requirement for setting energy targets. Objectives and energy targets should be set using the data analysis and other information outputs from the energy review.

Setting objectives and energy targets provide the means for transforming the energy policy into action plans. They also provide the direction for improvement actions related to both energy management and energy performance, including the allocation of resources needed to achieve those improvements.

In addition, objectives and energy targets should also consider the company's environmental strategy, e.g. greenhouse gas emission reduction, and how the EnMS can help the company implement its strategy.

2. Are there criteria to set an energy target? For example, is it acceptable to set an energy target based on the number of projects to be implemented instead of a reduction rate in energy consumption?

Generally, energy targets should be specific, measurable, achievable, relevant, and time-based (SMART). Setting objectives and energy targets provide the means for transforming the energy policy into action plans. They also provide the direction for improvement actions related to both energy management and energy performance, including the allocation of resources needed to achieve those improvements. Thus, setting an energy target based on number of projects to be implemented may not fully achieve this intent.

3. Is it a requirement to identify energy efficiency opportunities for each significant energy use (SEU)?

Potential opportunities to improve energy performance must be explored, but it is not a requirement to identify energy efficiency opportunities for each SEU.

Energy management team

1. What is the purpose of forming an energy management team?

The energy management team is responsible for establishing and implementing the EnMS, including the action plans. The team is also expected to provide regular updates to the top management of the status and performance of the EnMS.

2. Are all members of the energy management team required to attain Singapore Certified Energy Manager (SCEM) certifications?

It is not a requirement for all members of the energy management team to be registered SCEMs. The current requirement is for at least one of the appointed energy managers to hold the SCEM (Professional Level) certification. Generally, the energy manager should be part of the energy management team.

SEU, EnB and EnPI

1. Can the reporting of EnPIs be based on engineering estimates (e.g. equipment specifications) instead of measured data?

Monitoring of EnPIs based on accurate and reliable data is critical to monitor energy performance and/or demonstrate energy performance improvement. Measurement of energy consumption and energy-related variables should be considered during the design process to provide optimal monitoring of energy performance during the life of the operations. Typically, the cost of retrofitting to install instrumentation is significantly more than the cost of incorporating it at the design stage.

The requirement for reporting EnPIs based on measured data applies to system-level EnPIs for new systems installed from 2022 onwards, and plant-level EnPIs from 2028 onwards. In some cases, engineering estimates based on modelling or derived from measured data are also accepted.

For existing SEUs without instrumentation to track energy consumption and energy-related variables, companies are encouraged to consider installing instrumentation to obtain reliable and robust data for the monitoring of energy performances.

2. For the first EnMS report to be submitted by 31 December 2021 for Tier 1 (i.e. $\geq 500\text{TJ}/\text{year}$) relevant business activities, does the monthly EnPI data have to cover the period from June to December 2021?

The first EnMS report need not cover the period until December of year of submission deadline as it may not be practical to do so. However, it should cover a minimum period (e.g. six continuous months) to ensure that the data trendlines are meaningful. During the compliance check, companies may be asked to present the latest data which may not have been included in the EnMS report.

3. Do SEU that consume <2% of the plant's total annual energy consumption require monitoring?

Yes. However, companies can decide on the suitable frequency of evaluating the SEU's energy performance.

4. The energy use report (EUR) requires the energy-consuming systems reported to account for at least 80% of the relevant business activity's annual energy consumption. What is the relationship between this requirement and the reporting requirement for SEUs in the EnMS report? Also, if the energy-consuming systems reported in the EUR collectively account for 88% of the relevant business activity's annual energy consumption, must the company identify SEUs for the remaining 12%?

The SEUs identified should minimally include the energy-consuming systems reported in the EUR that collectively account for at least 80% of the relevant business activity's annual energy consumption.

5. What is the minimum retention period for the data used to prepare the EnMS report?

The minimum retention period for the data is 5 years.

6. Is there any requirement for individual SEUs, in terms of its coverage of the plant's energy consumption?

No, however, the coverage of the SEUs collectively shall minimally be 80% of the plant's annual energy consumption. This is similar to the reporting requirement for the energy-consuming systems in the EUR to collectively account for at least 80% of plant's annual energy consumption. This is to ensure a sufficient coverage of the plant's energy use in order to evaluate and uncover opportunities for improvement (e.g. energy savings).

7. Can EnB be set based on past audited data, e.g. in 2008?

There is no prescribed requirement. However, your company should ensure that the EnB is still relevant for comparative purposes against its corresponding EnPI to quantify the relevant business activity's energy performance during the specified time period.

Changes in operations can occur that warrant modifying or changing the baseline. This can happen when there are changes to the current EnPI or its corresponding boundary, or when the EnB is no longer appropriate and effective in determining energy performance improvement. Thus, it is necessary that the company modifies the EnB when it is no longer appropriate and/or effective in determining energy performance improvement.

8. My company's facility is very old and data collection process is manual. Can my company be exempted from the monthly reporting requirement?

In order to quantify energy performance and improvements in energy performance, data affecting energy performance will have to be systematically collected. Planning for data collection and implementing a system of reliable data acquisition at planned intervals are important tasks best undertaken during the initial implementation of an EnMS. If the current data collection process is too tedious, your company should consider an energy management information system (EMIS) to facilitate data collection. Grant support is currently available to companies for EMIS installation.

9. If my company's EnPI monitoring systems are down due to some issues, how can we address the missing period of reporting in the EnMS?

Your company will have to provide supporting evidence and demonstrate that measures were taken promptly to resolve the issues. Methodology used to estimate the data for the missing period should be provided.

10. Are there requirements for instrumentation accuracy and/or proof of calibration for the measurement of EnPIs?

There is no prescribed requirement on the instrumentation accuracy and frequency of calibration. However, your company will need to establish effective criteria for the operation and maintenance of SEUs. This would include how the data is being measured, such as accuracy and calibration. Energy efficiency is a data-driven activity and thus data accuracy is critical to support energy efficiency improvement.

Non-conformities

1. How is a non-conformity determined?

A non-conformity is a non-fulfilment of an EnMS requirement that may result in an ineffective implementation of an EnMS, e.g. failure to establish an energy management team.

2. How do my company address non-conformities?

Your company will have to submit, via EDMA, the corrective action plan, including the root cause of the non-conformities, corrective action taken to prevent recurrence, results of corrective action, and effectiveness of corrective action. You may refer to the "EnMS Document Templates and Guidelines" document for more information.

3. Can my company seek time extension if 3 months is not sufficient to implement corrective action for the non-conformity?

The 3-month period is to ensure that any gap identified in your company's EnMS are promptly followed up on and should not lapse into the next assessment cycle. If more time is required, your company can request for time extension to implement corrective action before the next assessment cycle. However, this is subject to NEA's assessment of the reasonableness of the request for any extension.

For further clarification on the EnMS requirements, please contact your NEA ECA account manager via email.

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