

# MS ISO 50001 Class EnMS Workshop in Malaysia

25<sup>th</sup> – 27<sup>th</sup> September

at Grand Dorsett Subang Hotel

## Post Session Report

This is to provide a report of the outcome of the subject 3-day workshop which was held in Kuala Lumpur, Malaysia. The workshop this time was aiming at industrial energy user, in particular EnMS champion (Top management representative to direct EnMS operation).

### **Description of the session:**

The 3-day workshop session was designed to make the participants after the completion to be able to lead their organisations to run ISO 50001 Class EnMS operation. In order to achieve the task, the organiser expertise offered to form a partnership through the session to make participants competency as well as to provide ready to use EnMS key management documents including EnMS Charter. Additionally, MediaWiki based EnMS operating System, wiki50001 was introduced for smooth and efficient execution of EnMS operation. 8 credits for Energy Master Class Professional Scheme is awarded to each participant by Suruhanjaya Tenaga (Energy Commission) of Malaysia.

The targeted participants were the top management representative (EnMS Champion) currently or in the near future to direct the organisation's EnMS operation.



At the beginning of the session and at the end of the session



### **Objective of the workshop:**

[Direct]

- Provide knowhow and experience in running ISO 50001 EnMS operation.
- Build up confidence level for participants that after the workshop, ISO 50001 Class EnMS operation in the represented organisation is within reach.

- Provide key EnMS management readymade documents, and after the workshop documents can be adopted to ISO 50001 Class EnMS operation.
- Introduce wiki50001(enms-doc-demo.wiki50001) version to demonstrate with the paperless EnMS operating system for its flexibility and effectiveness to run efficient EnMS operation.
- To form a "league of ISO 50001 Self-Declaration" with business energy users to make Malaysia leading nation to adopt ISO 50001 Class EnMS operation.

[Indirect]

- Promote EeSolution Engineering / EnMS-Doc Associate partner capability to engage in on-site support to energy users to become ISO 50001 Class EnMS operation organisation.
- Promote TEAM's wiki50001 adaptability in workshop participant organisation.

**Organisers:**

Workshop planning and implementation partner: EeSolution Engineering

Workshop programme partner: EnMS-Doc Association

Workshop logistic and marketing: Hallmark Access, Malaysia

**Workshop Facilitator:**

Facilitator (1): Lam Sing Yew - EeSolution Engineering

Facilitator (2): Nobby Yamanouchi - EnMS-Doc Association

**Workshop participants:**

- Chew, Hock San - KJM Aluminium Can Sdn. Bhd.  
(Aluminum Can and Plastic Bottle Mfg.)
- Chew, Tat Sen - TenCate Geosynthetics Asia Sdn. Bhd.  
(Chemical processes production of functional materials)
- Albert, Francis - Kian Joo Packaging Sdn. Bhd.  
(Agriculture, Food, Soft Drink Manufacturer)
- Lai, Tuck Lock - Tasek Corporation Berhad  
(Cement Plant)
- Chong, Yee How - Tasek Corporation Berhad  
(Cement Plant)
- Chan, Yen Siang - Cargill Palm Products Sdn. Bhd.  
(Palm oil refining and production of value added products)

**3-day Agenda:**

**Day-1 am**

Am/ pm	Session	Title	Description
am	1-01	Welcome	<ul style="list-style-type: none"> <li>- Welcome and make audience relax</li> <li>- Know each other</li> <li>- Explain overall objectives and flow of 3-day workshop</li> </ul>
	1-02	Introduction: Energy management is business	<ul style="list-style-type: none"> <li>- Understand the strength of EnMS</li> <li>- Understand the EnMS impact to the business</li> <li>- Understand the importance of energy in our life</li> </ul>
	1-03	Practical Guide to ISO 50001 Energy Management System	<ul style="list-style-type: none"> <li>- Learn about ISO</li> <li>- Learn about Management System</li> <li>- Learn about ISO 50001 role and purpose</li> </ul>
	1-04	Top Management Involvement: Key #1	<ul style="list-style-type: none"> <li>- Why Top Management involvement is necessary</li> <li>- What does top management involvement mean                             <ul style="list-style-type: none"> <li>* Energy Policy, organisation, etc.</li> <li>* Check through ISO 50001 top mgmt. section</li> <li>* EnMS audit</li> <li>* Management Review</li> </ul> </li> </ul>
	1-05	EnMS Charter and 12 Key EnMS management documents	<ul style="list-style-type: none"> <li>- Understand the importance of documentation: ISO 50001 Class EnMS operation cannot be achieved unless there is proper documentation in place.</li> <li>- EnMS Charter, the constitution of EnMS to manage the operation in order</li> </ul>
	1-05	Energy performance verification: standardisation in "y=ax+b" EnPI for baseline and targets	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="color: blue; text-align: center;">Specific Energy Consumption (SEC) Regression Analysis</p> </div> <ul style="list-style-type: none"> <li>- What is "y=ax+b" EnPI from regression analysis</li> <li>- Using an actual set of data to define the year 2009 as the baseline to perform cusum analysis to verify if you are saving or losing today.</li> <li>- Using an actual set of data to define the 2011 as the baseline to analyse what should be the target EnPI for 2012 and determine what would be the potential saving %.</li> </ul>

## Day-1 pm

Am/ pm	Session	Title	Description
pm	1-06	<i>[Workshop Exercise]</i> Using actual data to perform SEC regression analysis	<ul style="list-style-type: none"> <li>- Using an actual set of data, and define a baseline year to analyse what would be the baseline EnPI and target EnPI.</li> <li>- Provide analytic comments from the SEC regression analysis</li> <li>- Present and persuade the audience what is the organisation target and how much savings expected.</li> </ul>
	1-07	Practical Energy Review	<ul style="list-style-type: none"> <li>- Understand the importance of the energy review               <ul style="list-style-type: none"> <li>• Energy review defines elements for action</li> </ul> </li> <li>- Understand what to be covered in the energy review               <ul style="list-style-type: none"> <li>• Energy audit for identifying operational aspect Energy Conservation Opportunities (ECO)</li> <li>• Energy audit for identifying technical aspect ECOs</li> <li>• RENKEI Control opportunities</li> <li>• Identify the first phase energy monitoring system best suited for the organisation's EnMS operation</li> </ul> </li> <li>- Gain capability to implement energy review after going back to organisation</li> </ul>
	1-08	Monitoring & Action	<ul style="list-style-type: none"> <li>- Learn a word "Miyeru-ka" (Seeing Energy)               <ul style="list-style-type: none"> <li>• Seeing energy movement</li> <li>• Obtaining results</li> <li>• Seeing the results</li> <li>• Reporting the result</li> <li>• Sustaining and improving further</li> </ul> </li> <li>- Understand the benefit of M&amp;T</li> <li>- Understand the EnMS key element that Energy performance improvement quantitative verification cannot be done without M&amp;T</li> </ul>
	1-09	Day 1 wrap up and conclusion	<ul style="list-style-type: none"> <li>- Briefly review what happen in the Day 1</li> <li>- Validate the Contents learned</li> <li><b>Presentation of:</b>  <b>"Mastering the language and practice of ISO50001 Energy Management System"</b>  <b>by Kit Oung (Energy Management Expert at BSI and Projective Ltd)</b></li> <li>- Questions and answers</li> </ul>

## Day-2 am

Am/pm	Session		Description
am	2-01	wiki50001 Introduction	<ul style="list-style-type: none"> <li>- Understand the feature, function and benefit of wiki50001</li> <li>- Demonstrate the enms-doc-demo.wiki50001 version through the screen</li> <li>- Understand the superiority of the operating system to enhance the actual EnMS operation               <ul style="list-style-type: none"> <li>• Complete with key 12 management documents yet paperless environment</li> <li>• Closing the top management to work force</li> <li>• Obtain the right EnMS information at the right place at the right time.</li> <li>• Excellent and efficient tool for communication, training and EnMS audit that would save a significant amount of time and cost.</li> </ul> </li> </ul>
	2-02	ISO 50001 Management Elements related to "implementation & operation"	<ul style="list-style-type: none"> <li>- Go over "implementation &amp; operation" ISO 50001 requirement with wiki50001 and see the EnMS impact to the business</li> <li>- Using wiki50001 to understand EnMS is about organisation's business management.</li> </ul>
	2-03	ISO 50001 Management Elements related to "checking performance"	<ul style="list-style-type: none"> <li>- Using wiki50001 in interfacing M &amp; T Procedure and EnPI performance improvement</li> <li>- Using wiki50001 in Continual Improvement procedure</li> <li>- Review Energy performance improvement verification</li> </ul>
	2-04	<i>[Workshop Exercise]</i> Energy Review Practice	<ul style="list-style-type: none"> <li>- Establish a business unit in order to perform energy review</li> <li>- Data analysis to identify significant energy use items and EnPIs</li> <li>- Identify energy conservation opportunities (ECO)               <ul style="list-style-type: none"> <li>* Operational aspects</li> <li>* Technical aspects</li> </ul> </li> <li>- Identify the first phase M&amp;T system suitable for organisation</li> <li>- Prepare to present the results and provide recommendation to the management review to win their approval</li> </ul>

## Day-2 pm

Am/pm	Session		Description
pm	2-04	<i>[Workshop Exercise]</i> Management Review Practice	<ul style="list-style-type: none"> <li>- Consolidate what was found in energy review and set up strategy what is needed by the top management.</li> <li>- Identify what action is necessary for following year and mid-long term</li> <li>- Obtain management commitment for EnMS Action from the management review session</li> </ul>
	2-05	Establishing EnMS Action Plan	<ul style="list-style-type: none"> <li>- Based on what was agreed in the management review, understand the process of how the energy review results are reflected in the action plan</li> <li>- Understand ways to establishing EnMS Action Plan for implementation of EnMS operation</li> <li>- Using wiki50001 in reviewing how the EnMS Action Plan is integrated in the system so that the organisation can manage the progress.</li> </ul>
	2-06	Day-2 wrap-up	<ul style="list-style-type: none"> <li>- Briefly review what happen in the Day 2</li> <li>- Questions and answers</li> </ul>



Chew, Hock San, representing Group A presenting their result from the Energy Review exercise.

Lai, Tuck Lock, representing Group B presenting their result from the Energy Review exercise on operational aspect.



## Day-3 am

Am/pm	Session	Title	Description
am	3-01	<i>[Workshop Exercise]</i> Hands on operation of <a href="#">wiki50001</a> <a href="#">Enms-doc-demo.wiki50001</a> version prepared by TEAM	<ul style="list-style-type: none"> <li>- Editing of "Energy Policy" on <a href="#">Enms-doc-demo.wiki50001</a>.</li> <li>- Present the outcome of the "Energy Policy"</li> <li>- Experience the continual improvement procedure thru <a href="#">Enms-doc-demo.wiki50001</a> to fully appreciate the superiority of EnMS (PDCA)               <ul style="list-style-type: none"> <li>• EnMS Monitoring and Targeting Go over improvement procedure using "exception management" page of <a href="#">Enms-doc-demo.wiki50001</a></li> <li>• Continual Improvement Procedure Go over improvement procedure using "exception management" page of <a href="#">Enms-doc-demo.wiki50001</a></li> </ul> </li> </ul>
	3-02	EnMS Audit Fundamental	<ul style="list-style-type: none"> <li>- Understand the basics of EnMS Audit               <ul style="list-style-type: none"> <li>• Go over EnMS Guideline using "auditors" page of <a href="#">Enms-doc-demo.wiki50001</a></li> </ul> </li> </ul>
	3-03	EnMS Audit Scorecard Introduction	<ul style="list-style-type: none"> <li>- Understand the scoring procedure               <ul style="list-style-type: none"> <li>• Go over the scoring procedure to make the scoring procedure clarified</li> </ul> </li> <li>- Understand the superiority of using scoring procedure               <ul style="list-style-type: none"> <li>• Appreciate the efficiency and transparency of the audit using scorecard</li> </ul> </li> </ul>

Chan, Yen Siang, Chew, Hock San and Lai, Tuck Lock editing [wiki50001](#) for Group B



Chong, Yee How, Albert, Francis and Chew, Tat Sen editing [wiki50001](#) for Group A

## Day-3 pm

Am/ pm	Session	Title	Description
pm	3-04	<i>[Workshop Exercise]</i> EnMS Audit Implementation using Scorecard  Used file: <i>EnMS-Audit.SCR-R04E_Path01-02(Mgmt)_Sample.xlsx</i>	<ul style="list-style-type: none"> <li>- Explain the procedure of EnMS Audit to be conducted by each group.</li> <li>- Reach audit expertise by hands on experience in EnMS audit activities from both auditor and auditee perspectives.</li> <li>- Draw competitive posture by workshop teams with audit evaluated with scorecard system</li> <li>- Consolidation of audit findings and scorecard points.</li> <li>- Present the audit finding overview and scorecard result at closing session.</li> </ul>
	3-05	<i>[Discussion]</i> ISO 50001 compatibility gap analysis	<ul style="list-style-type: none"> <li>- To go over with participants what they consider the gap.</li> <li>- Identify what might be the gap in the participant's organisation in order to self-declare ISO 50001.</li> <li>- Identify action items to fill up the gap in respective organisations.</li> </ul>
	3-06	Ending Message and session certification presentation	<ul style="list-style-type: none"> <li>- Talk about what is the next step: 2 min speech by participants.</li> <li>- Discuss items what participants expressed, and agree on next action.</li> <li>- Provide confidence level that their organisations are very close to ISO 50001 Class with the participants gaining know-how and receiving documents during the workshop.</li> <li>- Present workshop completion certificate.</li> <li>- Initiate Malaysia League of "ISO 50001 Self-Declaration Energy User Union" by the workshop participants taking lead in the global scene.</li> </ul>





Lam, Sing Yew,      Chong, Yee How      Lai, Tuck Lock      Chan, Yen Siang  
 Chew, Tat Sen      Albert, Francis      Chew, Hock San      Yamanouchi, Nobby

**Workshop Completion Certification Presentation:**



Lai, Tuck Lock



Chew, Tat Sen



Chan, Yen Siang



Albert, Francis



Chew, Hock San



Chong, Yee How

### **Gap Identified:**

Only gap but important one we encountered from the workshop was there is a gap exist between participants' understanding level and their top management understanding level. We heard many occasion participants expressed need to convince their top managements. This was our message: "It is not for participants to convince their top management that ISO 50001 Class EnMS is good for the company business. Rather it is their top management to convince participants that ISO 50001 Class EnMS is very important to sustain business."

Additionally we learned that some management feel energy management practice is extra job for their staff that will over burden them. Certainly there is a need to let those management know energy is a core of their business and has to be integrated with the daily business. If the staff is not aware of this the company can easily lose global competitiveness. This is why ISO 50001 is very important and the reason we want to promote the idea for Malaysia to take energy management leadership so that business operators in Malaysia can take good position in the global scene in order to gain the competitive edge where sustainability is becoming the core of business.

### **Items delivered in the workshop and overall assessment:**

- (1) Documentation was ready so immediately ISO 50001 Class becomes visible
- (2) Standardised in " $y = ax + b$ " EnPI so participants was clear about baseline and target which is the potentially energy improvement range.
- (3) Energy review was exercised in one of the workshop sessions using model plants for participant to practice real term activities such as:
  - identify significant energy use.
  - define baseline and target EnPI.
  - identify low-no cost operationally feasible energy conservation opportunities (ECO).
  - identify technically feasible ECO.
  - RENKEI Control, the optimum control concept harmonising two or more control elements for optimising energy efficiency on existing facility was introduced.
  - come up with most practical and economical first phase monitoring system for the represented organisation.
- (4) Introduced wiki50001 Energy Management Operation System with hands on demonstration to appreciate how simple the system to operate and edit for improvement.

Participants all understood following strength in the system to accelerate the organisation's EnMS operation.

- Top management is no longer unreachable person.



- Effective communication tool entire workforce is access to EnMS information.
- The system contains the 12 key management documents and the system is based on the 12.
- The system provides key information of what is needed for the activity of the time so need not to read the whole documents.
- Going through the system, the visitor automatically enjoys the world of EnMS thus is effective OJT tool.
- The system equips with an Auditors procedure page so that EnMS site audit can be exercised swiftly to save a lot of auditor's time as well as the auditees.

- (5) EnMS audit was conducted by splitting up in two groups using EnMS-Doc developed audit scorecard system. With the scorecard system, participants were able to go through flow of the assessment process with key questions and answer with scoring responsibility to quantify the organisation's conformity level.



All participants clearly were impressed that the workshop built confidence level to lead their organisation to ISO 50001 Class EnMS operation not only from the knowledge gained but also by the actual experience gained through the practical workshop. Additionally participants were provided with ready-made ISO 50001 Class documents which can be adopted immediately to their organisation after fine tuning the contents for the particulars. Furthermore they were given an opportunity to develop flexible and swift EnMS operation with wiki50001 positioning the system as a practical solution to the EnMS operation.

Finally the ISO 50001 Class Workshop provided can be described as "This was not a workshop about what is ISO 50001 standard, but was a workshop to practice how to improve energy performance using ISO 50001."

**Participants Overall comments about the workshop:**

We can summarise that participants valued the session in the following elements to promote EnMS operation within your organisation:

- 1) The workshop concept provided clues to encourage behavioral change in your organisation
- 2) Importance of the top management leadership and the representative (EnMS Champion) appreciated
- 3) Competent documentation is invaluable to sustain the ISO 50001 class operation

- 4) enms-doc.wiki50001, the paperless EnMS operating system demonstrated was an economical and efficient operation tool highlighting operational control, improvement, communication and education.
- 5) "y = ax + b" EnPI for baseline and targets are clear-cut effective indicators to verify energy performance improvement implementation.
- 6) Effective data handling and monitoring system reflecting the ongoing EnMS operation enable quantitative energy management evaluation and energy performance improvement verification.
- 7) From energy assessment in energy review can identify no-low investment operational improvement for energy performance improvement.

**Follow-up Mail to Participants requesting their comments about workshop after returning to their work position:**

Sub: Request for your comments in launching the Malaysia ISO 50001 Leadership Webpage

Hello participants of MS ISO 50001class EnMS Workshop,

Together with Lammie, this is to express our utmost gratitude to you and your organisation in taking part in the recent 3-Day MS ISO 50001 Class EnMS Workshop held at Grand Dorsett Subang, 25-27 September.

We were very much impressed with the way you have demonstrated leadership role to implement MS ISO 50001 Class EnMS operation for your organisation.

As we agreed that after acknowledging the superiority of the energy management system concept that we have worked out together through the three-day workshop session, it is important for you to introduce some the concept to your organisation in order for the organisation to demonstrate energy performance improvement through the EnMS operation under your leadership.

We hope after the workshop we have established a strong tie as partnership, and continue to work together to make your organisation Superior Energy Performance (SEP) EnMS operation conforming to the MS ISO 50001. This means your organisation will take the EnMS leadership role in Malaysia. We even think you can do one step more. As the rising corporate responsibility in taking up the global sustainability drive, the group set of Cargill Palm Products Sdn. Bhd., Tencate Geosynthetics Asia Sdn. Bhd., Tasek Corporation Bhd., KJM Aluminum Can Sdn. Bhd., Kian Joo Packaging Sdn. Bhd., together with EeSolution Engineering and EnMS-Doc Associates to take advantage of our EnMS superiority to make Malaysia leading nation in EnMS. By doing so, your company will take the position of competitive advantage role by gaining recognition globally. Suruhanjaya Tenaga (Energy Commission, Malaysia) is most likely to endorse this idea.

As explained in our workshop, we are planning to launch a Malaysia EnMS website front page as the first step to generate the public awareness. The webpage first edition will highlight the outcome of the workshop participated by you. In order to make the lively page we would like to have comments from you on the following aspects:

- [1] What was your impression or evaluation regarding "y=ax+b" EnPI and how you plan to apply the EnPI for your organisation?

- [2] How are you going to utilise the ISO 50001 Class 12 management documents received in the workshop?
- [3] What was your impression or evaluation regarding enms-doc.wiki50001 after operating the system?
- [4] What is your idea for the practical energy monitoring and procedure for the current EnMS operation?
- [5] How would you communicate the outcome of the workshop to your top management?

Any other comments are also welcome.

Once again thank you so much for your cooperation and we look forward to seeing you not so distant future.

Kind regards,

### **Response from participants:**

Within a week we received two responses, one from Chew, Tat Sen - TenCate Geosynthetics Asia Sdn Bhd. and the other from Chew, Hock San - KJM Aluminium Can Sdn. Bhd., and would like to include them to this report as the finale.

#### **✦ Chew, Tat Sen - TenCate Geosynthetics Asia Sdn Bhd.**

Hi Mr. Nobby,

Thank you very much for your professional training conducted in Malaysia recently.

Frankly, I am very pleased to know and would like to support your proposal for Malaysia ISO 50001 Leadership Webpage. Hopefully, other Malaysian energy experts will be joining the group to enhance and broaden EnMS initiatives.

To answer your questions below (under TenCate scenario):

- 1)  $y=ax+b$  EnPI : is a general practical method and is also applicable to TenCate in Malaysia;
- 2) The ISO50001 Class 12 managements documents will be used a reference and training material for internal EnMS activities;
- 3) Enms-doc.wiki50001 is basically a good software package to guide a beginner like me to fulfil the requirements of ISO50001 in TenCate Malaysia. If our top management is agreeable to the adoption of this software package then it will definitely simplify and make effective the EnMS implementation in Tencate Malaysia;
- 4) For me, the practical energy monitoring will be a no cost or low cost investment to collect the energy data daily from existing energy meters and also to install a no. of strategically-installed energy meters c/w data logging software which are subjected to the constraints of budget allocation. To manage the current EnMS operations, we need EnMS committee members + SEP team to help to identify and implement energy conservation activities (minimize/eliminate energy wastage), by start checking at the energy efficiency of all big energy consuming equipments, promoting/increasing

human energy saving awareness up to optimising energy performance in all processes;

- 5) I had a short briefing about the EnMS workshop outcome to the top management of TenCate Malaysia recently and they wanted me firstly to manage well all existing maintenance activities and engineering projects which are core activities to TenCate manufacturing division. In principle, they like the ISO50001 EnMS but they do not wish to over burden any company staff involved. It must be simple and practical to be implemented. Also, they wish to see the results of energy conservation activities to reduce the company energy cost consistently by next 1 year before seriously going into formally ISO50001 implementation.

I hope the above inputs are useful to you.

Thank you and best wishes to all of you.

Regards,

✦ **Chew, Hock San – KJM Aluminium Can Sdn Bhd.**

Mr Nobby

It was a pleasure to know you and Ir Lam.

Before attending the training, I was preparing myself for a bored 3 days training.

As most of ISO training were always focusing on explaining each clauses of the standard, its requirements, and participant will then be required to prepare examples of SOP & etc.

But to my surprise, your approach is totally anew. Sample of documents were provided, and focus were more on data analysis.

My comments on the five statement: -

- 1) What was your impression or evaluation regarding " $y=ax+b$ " EnPI and how you plan to apply the EnPI for your organisation?

The equation is very simple, and could provide useful information previously not noted.

As in KJM operations, our output had been increasing, the electricity cost were within budget, so we accepted it is in order.

But after applying the equation, it opens to many question yet unanswered - are we controlling it ?

I believe the equation could provide actual picture on the effective energy management, and I will have it include as review items in monthly management meeting in the near future.

- 2) How are you going to utilise the ISO 50001 Class 12 management documents received in the workshop?

The documents could be easily adapted and adopted to reflect our operations.

As a start, I plan to use it for in-house training to my team and later company wide.

3) What was your impression or evaluation regarding enms-doc.wiki50001 after operating the system?

I could say it is a very comprehensive DIY guide, any parties interested to have a documented EnMS could just use it to adapt to their operations.

However, my personal thoughts is that you may see local management (Asian) feeling jittery to put their operations details under 3rd parties documentation controls.

It may be more receptive to the management only a system documentation if vital operation data are not published.

4) What is your idea for the practical energy monitoring and procedure for the current EnMS operation?

We had a committee to review energy usage previously, but died off naturally as not many were interested and related to higher consumption to production output & etc.

To kick start, a "no investment" approach which shows results will convince the need on monitoring.

Thus only after having EnPI analysed, I will try to buy in the team.

5) How would you communicate the outcome of the workshop to your top management?

I was hoping the EnPI will provide some hindsight of potential savings, and I will present it during coming management meeting which could then ne escalate to top management.

I believe the top management will be interested to prepare for impending energy cost increases:-

Natural Gas are very heavily subsidizes in Malaysia

Government had previously announced that Electricity tariff every 6 months for next 2 years or so; in line with Government Transformation Programme

Last but not least, thank you for your knowledge sharing and kind assistance.

Thank you & warmest regards.