Optimise
Optimal Systems Engineering Sdn Bhd
Engineering Sustainability

16 Mandatory CDP Hours

2-Days Virtual Workshop on

CONCEPT AND PROCEDURE FOR THE ESTABLISHMENT OF AN

ENERGY MANAGEMENT SYSTEM (Based on ISO 50001)

18 - 19 January 2027
23 - 24 August 2027
13 - 14 December 2027

(Online via Microsoft Teams)
Time: 8:30 am - 5:00 pm
*Date subject to changes. For the latest date, please refer to website.

RM2,700 per pax

**Price excluding 8% SST charges*



Register Now!
https://shorturl.at/pCe2z

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www.optimalsystems.my

WORKSHOP OVERVIEW

Energy Management System (EnMS) standards such as **ISO 50001:2018** are internationally recognised as effective frameworks for the systematic, efficient and sustainable management of energy use in organisations. In response to the regulatory requirements introduced under the **Energy Efficiency and Conservation Act (EECA 2024)**, organisations are expected to adopt structured energy management practices that ensure compliance, accountability and continual improvement in energy performance. This training programme is designed to provide participants with a comprehensive understanding of the **ISO 50001:2018 Energy Management System** and its application as a practical **compliance and governance tool under EECA 2024**. The programme focuses on building the competencies required to establish, implement, monitor and maintain an EnMS that meets statutory obligations while delivering measurable energy efficiency outcomes, including reduced energy consumption, lower operating costs and minimised greenhouse gas (GHG) emissions. Through a structured and practice-oriented approach, the training equips participants with the knowledge, tools and methodologies to align organisational energy management practices with regulatory requirements, strengthen internal energy governance, and integrate EnMS implementation within broader Environmental, Social and Governance (ESG) frameworks.

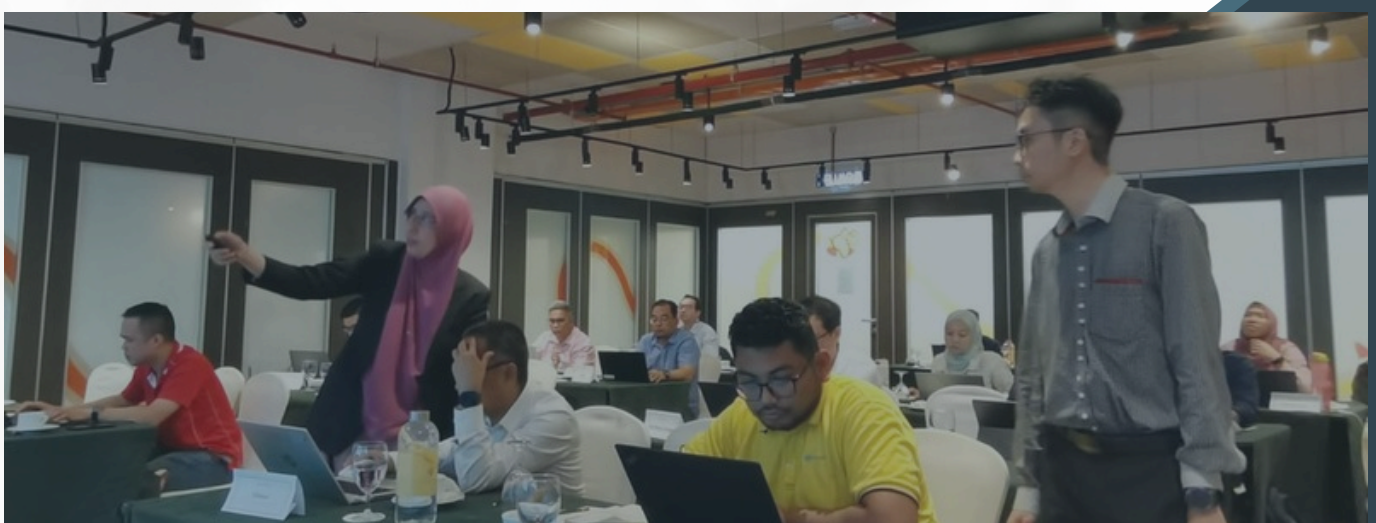
WORKSHOP LEARNING OUTCOMES

At the end of the workshop participants are expected to be able to

- Describe the importance and benefits of EnMS for an organization.
- Communicate real-life success stories, and make a strong case for EnMS establishment.
- Establish EnMS context, needs, scope and boundary as well as EnMS policy and team.
- Plan the EnMS actions, resources, activities, programs and set improvement targets. Implement operational control, design and procurement requirements.
- Perform energy monitoring and evaluate implementation performance.
- Conduct EnMS continual improvement program.

WHO SHOULD ATTEND?

This workshop is intended for Registered Energy Managers (REM), Certified Energy Managers (CEM), facility managers, Energy Management Committee and management team involved in overseeing compliance; sustainability or ESG practitioners; ESCOs and energy consultants.



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TRAINERS' PROFILES



TRAINER 1

PROF IR TS DR ZAINUDDIN ABDUL MANAN

Prof Ir Ts Dr Zainuddin Abdul Manan is a professor of chemical and energy engineering, the founding director of UTM Process Systems Engineering Centre (PROSPECT), founding Dean of UTM Faculty of Chemical and Energy Engineering, the former UTM Vice President (Academic and International) and the CEO and founder of the UTM spin-off, OPTIMISE.

He began his career as an engineer with Petronas and Hume Industries, before embarking on a distinguished 30-year journey as an academic leader, researcher, consultant, and professional coach. Over the years, he has led and completed more than 100 research and consultancy projects for both local and multinational organisations. He holds numerous patents and has authored over 500 refereed journal papers and books on energy and resource conservation. He was listed as a Global Top 2% Scientists by Stanford University, and recently as a Global Top 1% Engineering and Technology Scientists by Research.com. He is a co-author of the globally referred Book on Process Integration and Intensification – Saving Energy, Water and Resources.

Prof Zain is a Fellow IChemE, Fellow Academy of Sciences Malaysia, a professional engineer, a chartered engineer, a professional technologist, a certified energy manager, a Registered Energy Manager (REM-Type 1& Type 2), a Registered Energy Auditor (REA) and a certified coach for ASEAN energy managers. He has trained professionals from over 700 organisations and delivered over 400 invited talks in professional courses, conferences and seminars worldwide.

He was the National Project Director for the Building Energy Benchmarking Project 2024 that resulted in the Energy Efficiency and Conservation Act (EECA) BEI Labelling Guideline. Prof Zain also chaired the EECA 2024 Thermal Energy drafting committee under the Malaysian Ministry of Energy Transition and Water Transformation (PETRA). He founded the UTM Sustainable Energy Management initiative that led UTM to bethe first 3-Star AEMAS-Certified organisation in ASEAN, to win the ASEAN and National Energy Awards, and to be ranked 1st globally by the Times Higher Education on SDG7 – Affordable and Clean Energy.



TRAINER 2

PROF IR TS DR SHARIFAH RAFIDAH WAN ALWI

Prof Ir Ts Dr Sharifah Rafidah Wan Alwi, PEng, MIEM, CEng, MIChemE, is a Professor in the Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia. She previously helmed as the Director of Process Systems Engineering Centre for ten years (2011 to 2021). Prof Sharifah is also the co-founder and Director of Optimal Systems Engineering Sdn Bhd, a UTM Spin-off company.

She is an expert resource minimisation consultant for multiple industries and is among the leading researchers in resource integration technique development. She has been extensively involved in 80 research projects, 17 industrial based projects for various companies and government agencies and has trained engineers from more than 300 companies in the field of sustainable engineering design and management. Together with her team, they have developed 7 resource minimisation software.

Sharifah has won various international and national awards such as Green Talents 2009 (Germany), IChemE Highly Commended Sir Frederick Warner Prize 2011 (UK), ASEAN Young Scientist and Technologist Award 2014, National Young Scientist Award 2015, ASEAN-US Science Prize for Women 2016 in Energy Sustainability, Malaysia Research Star Award 2016, 2018, 2019, Top Research Scientists Malaysia 2018 and Sarawak State - International Women Award 2021. She was listed as 'Asian Scientist 100' in 2017 and 'Asia's Rising Scientists' in 2020, and '8 Women Scientists from Asia You Should Know' in 2021 by AsianScientist.com.

Sharifah is also the Associate Editor for Journal of Cleaner Production and UTM Sustainable Energy Management System advisor. She has also served as the Chair for the Science Leadership Working Group under Young Scientist Network, Academy of Sciences Malaysia (YSN-ASM) and Chair for Malaysia IChemE Young Engineer Group (YEG). Sharifah is a professional engineer, a professional technologist, a UK/EU chartered engineer, a certified energy manager, a Registered Energy Manager (REM-Type 1 & Type 2), a Registered Energy Auditor (REA) and a certified coach for ASEAN energy managers and a certified trainer for ASEAN energy managers.

TRAINERS' PROFILES



TRAINER 3

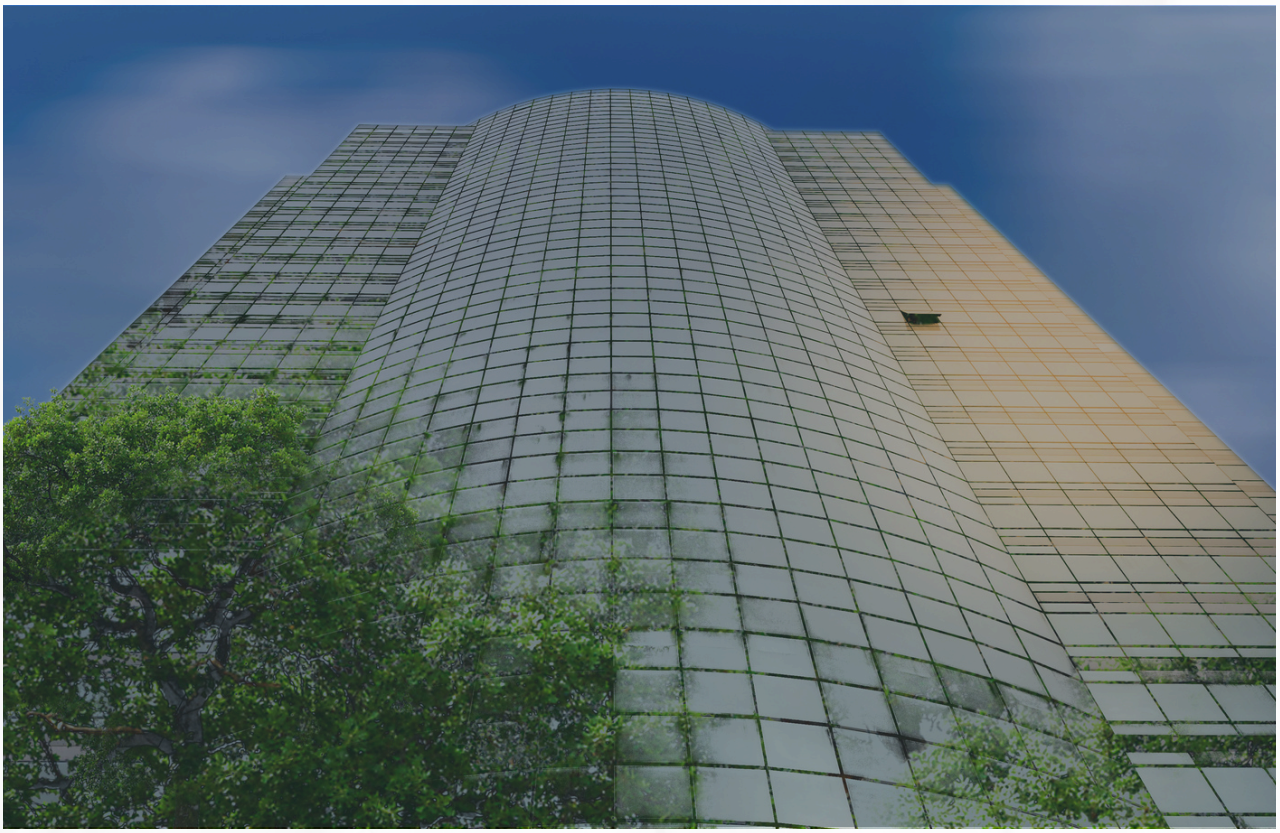
ASSOCIATE PROF IR DR LIM JENG SHIUN

Assoc Prof Ir Dr Lim Jeng Shiun is currently the research follow of Process Systems Engineering Centre(PROSPECT), Univesiti Teknologi Malaysia. His core expertise is in the innovative development and application of process systems engineering techniques for resource conservation, energy and carbon planning. Stanford University recognised him as one of the World's Top 2% Scientists.

Dr Lim has published more than 136 indexed articles to date. His Scopus h-index is currently 32 with 4247 citations. He is appointed as the International Editorial Board Member of JCLEPRO (IF: 11.072). He is also appointed as the guest editor for Special Issue of JCLEPRO and Chemical Engineering Transactions (Scopus indexed), besides serving as the technical secretariat for international conferences.

Dr Lim is a certified country expert of "Steam System Optimisation" and "Thermal Energy Efficiency andSolar Thermal Energy Integration" under UNIDO. He is also a professional Chartered Engineer, CertifiedEnergy Manager (AEMAS), Certified Energy Auditor (MAESCO) and Registered Energy Manager (REM-Type 1& Type 2) and Registered Energy Auditor (REA) certified by Energy Commissions of Malaysia, and a certified trainer for ASEAN energy managers.

As an engineer in practice, he has applied the output of his research work in consultancy projects for the industrial community. He has been extensively involved in 35 research and industrial-based projects (RM5,321,080) for various companies and government agencies. The key clients include local industries and multinational companies such as SHELL, ANSELL, FABER MEDISERVE, OLEON, KELOGG, Mölnlycke in Malaysia and PERTAMINA in Indonesia. He has assisted those companies in identifying the GHG reduction potential and energy-saving opportunities worth millions of dollars through process integration and process systems engineering approach.



WORKSHOP SCHEDULE

Day 1	
9:00 am - 9:30 am	Introduction to ISO 50001:2018
9:30 am - 11:00 am	Clause 4: Context of EnMS
11:00 am - 11:15 am	Break
11:15 am - 12:45 pm	Clause 5: Leadership
12:45 pm - 14:00 pm	Lunch Break
14:00 pm - 17:00 pm	Clause 6: Planning

Day 2	
9:00 am - 10:00 am	Clause 7: Support
10:00 am - 10:15 am	Break
10:15 am - 12:45 pm	Clause 8: Operation
12:45 pm - 14:00 pm	Lunch Break
14:00 pm - 15:30 pm	Clause 9: Evaluation
15:30 pm - 17:00 pm	Clause 10: Non-Conformity and Continual Improvement



WHAT OUR TRAINEES SAID

TS MOHD MAWARDI BIN HUSSAIN

VOCATIONAL TRAINING OFFICER KKTM SRI GADING

Concept and Procedure for the Establishment of an Energy Management System participants



This course is **tremendously helpful** for me to implement the **energy management system** in my organisation. The syllabus is **well explained** and full of examples to follow.

MOHD UZAINI MOHD ARIFF

SUSTAINABLE DEVELOPMENT MANAGER PETRONAS

Concept and Procedure for the Establishment of an Energy Management System participants



The training is **useful** with “real life examples”.

WONG TIEN YI

TECHNICAL SALES EXECUTIVE

ASTRONERGY NEW ENERGY TECHNOLOGY (SINGAPORE) PTE LTD

Concept and Procedure for the Establishment of an Energy Management System participants



This training provided **up-to-date information** and know-how; It is a fruitful sharing delivered by a team of **high-level professionals**. I shall continue participating with this organisation to gain more in the lovely field.

OPTIMISE Energy Audit, GHG Accounting and EnMS Track Records

- Led UTM to be globally ranked 1st on SDG 7 - Affordable and Clean Energy
- Co-developer of ASEAN EMGS Energy Management System Standards with MGTC.
- Led UTM to win the ASEAN Energy Award and EnMS 3 Star EMGS Gold Standard.
- Involved in certification of energy managers and energy end users for 15 years.
- Developer of award-winning energy audit and energy monitoring software.
- Led UTM to achieve over RM 30 million energy savings between 2011-2023.
- Over 20 years experience in energy audit and optimisation consultancy, R&D and professional training for over 500 national/multinational companies.
- Certified trainer, auditors & centre for training & certification of energy managers.

Selected References

- Shell, Middle Distillate Synthesis
- BP – Amoco
- MLNG
- Felda Proctor and Gamble
- MIMOS Semiconductor
- Riau Pulp and Paper Mill
- Qatar LNG
- Pertamina Engineering Group
- PT Titan Petrokimia Interindo
- Pan Century, IOI Oleochemicals
- BASF – Petronas
- MTBE – Petronas
- Huntsman Tioxide
- Ansell Malaysia
- Hershey Malaysia
- Malaysia Newsprint Industries
- Malaysia Palm Oil Board
- Malaysia Energy Commission
- Technip (M) Sdn Bhd
- PT Chandra Asri
- Petronas Penapisan (M) Sdn Bhd
- Petronas Gas Sdn Bhd
- Kaneka Malaysia
- UKM, UPM, USM, UM, UNIKL

20+

Years Experience in Energy Audit and Optimisation

#1

Global Rank in R&D on 'Heat Exchanger. Retrofitting and Design' Elsevier Scival 2014

700+

National & Multinational Companies Benefitted from our Energy Trainings and Consultancy Services

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