



COPE-BEST WORKSHOPS

Race to Net Zero

OCT 11, 2024 (9AM TO 5PM)

CB WORKSHOP 4: Energy & Emissions Management (E2M) Toward Net Zero

Mode: Physical | **Fee:** RM1300/pax; USD 450 (for overseas participants)





OVERVIEW

Almost eighty percent of greenhouse gas (GHG) emissions is contributed by fossil fuel energy use for power generation, industry, transport and buildings sectors*. Solutions to mitigate and reduce GHG to pave the way toward Net Zero Emissions (NZE) must therefore address sustainable energy generation, utilisation and management as the top priorities, apart from management of waste, Agriculture, Forestry and Land Use (AFOLU).

This Community of Practice on Energy Sustainability (COPE-BEST 2024) Workshop on Integrated Energy and Emission Management (E2M) aims to mobilise the energy sustainability community of practice to collaboratively address the grand challenges of climate change through the synergy best practices and innovations in energy sustainability and GHG emission management.

*Global Greenhouse Gas Overview, USEPA, 2024.

<https://www.epa.gov/ghgemissions/global-greenhouse-gas-overview>

WORKSHOP OUTCOMES

At the end of this workshop, participants are expected to be able to:

- Communicate
 - The cause and impacts of climate change
 - the imperatives of taking actions toward Net Zero Emissions (NZE)
 - the critical need for, and the contribution of energy on net zero emissions
- Explore Science-Based-Target Initiative (SBTI) to establish corporate targets to achieve Net Zero Emissions (NZE).
- Establish organisational scope and boundaries for Energy and Emissions Management (E2M).
- Implement a sustainable, integrated E2M framework to achieve Net Zero Emissions.
- Identify and implement specific measures and best practices for energy and emissions reductions.

TARGET PARTICIPANT

Energy, ESG and sustainability managers, engineers, professionals and consultants as well as anyone interested in implementing sustainability practices.



WORKSHOP SCHEDULE

OCT 11, 2024 (FRIDAY)

8.30 am - 9.00 am	Participants arrival and Breakfast	
9.00 am - 10.45 am	Imperatives for Energy & Emission Management (E2M) Overall E2M Approach & NZE Essentials <ul style="list-style-type: none">• Carbon Neutrality & Net Zero• GHG Emissions Scope• GHG Inventory vs PCF GHG Emissions Targeting	Prof Ir Ts Dr Zainuddin Abd Manan
10.45 am - 11.00 am	Break	
11.00 am - 1.00 pm	Techno-Economic Assessment GHG Emission Mitigation – Part 1	Prof Ir Ts Dr Zainuddin Abd Manan
1.00 pm - 2.15 pm	Lunch	
2.15 pm - 3.00 pm	GHG Emission Mitigation – Part 2	Associate Prof Ir Dr Lim Jeng Shiun
3.00 pm - 4.00 pm	GHG Emission Mitigation – Part 3	Associate Prof Ir Dr Lim Jeng Shiun
4.00 pm - 4.15pm	Break	
4.15 pm - 5.00 pm	GHG inventory reporting based on ISO 14064 standard	Associate Prof Ir Dr Lim Jeng Shiun



SPEAKERS' PROFILE



SPEAKER 1

PROF IR TS DR ZAINUDDIN ABDUL MANAN

FASc, FIChemE, PEng, Professional Technologists, CEng, CEM, REEM, Certified CEM Trainer, Certified HRD Trainer

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, founder of UTM Sustainable Energy Management Program and the CEO and founder of the UTM spin-off company OPTIMISE Sdn Bhd. He began his career as an engineer in PETRONAS and Hume Industries and has been an academic leader, educator, researcher, consultant and professional coach for over 25 years.

He completed over 100 R&D & consultancy projects serving local and multinational companies, has numerous patents and over 450 publications that include 20 books/ chapters, 230 refereed journals and 250 conference proceedings on energy and resource conservation using process integration techniques. He is a co-author of the globally referred Book on Process Integration and Intensification – Saving Energy, Water and Resources. Zain is a UK/EU chartered engineer, a Fellow IChemE (UK), Fellow of Academy of Sciences Malaysia, a professional engineer, a professional technologist, a certified energy manager, a registered electrical energy manager and a certified trainer for ASEAN energy managers.

He has coached professionals from over 500 organisations and delivered over 400 invited talks in professional courses, conferences and seminars worldwide. Dr. Zain is the Chair of Academy of Sciences Malaysia Energy Committee and the MyNet Zero Task Force, and the Chair of Malaysia's Energy Efficiency and Conservation Act (Thermal Energy) Drafting Committee. He founded and spearheaded the UTM Sustainable Energy Management initiative that led UTM to achieve over USD 7 million energy savings between 2011 and 2023, to win the ASEAN Energy Awards in 2012, the National Energy Award 2022, the first AEMAS 3-Star ASEAN Certified Energy-Efficient organisation, and UTM to be ranked 1st globally by Times Higher Education on SDG7 –Affordable and Clean Energy.



SPEAKERS' PROFILE



SPEAKER 2

PROF IR TS DR SHARIFAH RAFIDAH WAN ALWI
P.B.S, PEng, CEng, MChemE, MIEM, REEM, CEM

Prof Ir Ts Dr Sharifah Rafidah Wan Alwi is a Professor in the School 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). She is an expert resource minimisation consultant for multiple industries and is among the leading researchers in resource integration technique development. Prof Sharifah is also the co-founder and Director of Optimal Systems Engineering Sdn Bhd, a UTM Spin-off company. 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 also a professional engineer, a professional technologist, a UK/EU chartered engineer, a certified energy manager, a registered electrical energy manager and a certified trainer for ASEAN energy managers.



SPEAKERS' PROFILE



SPEAKER 3

ASSOCIATE PROF IR DR LIM JENG SHIUN **PEng, CEng, MlChemE, CEM, REEM, CEA, AEMVP**

Associate Professor Ir Dr Lim Jeng Shiun is the Director of Products and Service, Optimal Systems Engineering Sdn Bhd, a UTM spin-off company specialising in providing solutions related to energy conservation and GHG emissions reduction. He is also the Deputy Director of Process Systems Engineering Centre (PROSPECT), Universiti Teknologi Malaysia. His core expertise is in the area of innovative development and application of process systems engineering techniques for resource conservation, and energy and carbon planning.

He is also a professionally Certified Energy Manager, Certified Energy Auditor, Accredited Energy Measurement & Verification Professional and a Registered Electrical Energy Manager certified by the Energy Commission of Malaysia. He is the trainer of the Energy Management Trainer Course conducted by MGTC to certify the Energy Manager. He is also the instructor for MSc Energy Management in UTM, sharing knowledge related to energy efficiency and energy management.

As an engineer in practice, he has applied the output of his research work to consultancy projects for the industrial community. He has been extensively involved in more than 35 industrial-based projects for various companies and government agencies. The key clients include local industries and multinational companies such as BERNAS, FABER MEDISERVE, SHELL, OLEON in Malaysia and PERTAMINA in Indonesia. He has assisted those companies to identify energy-saving opportunities worth millions of dollars and GHG reduction opportunities through the use of process integration and process systems engineering approaches in the energy audit and GHG emissions accounting projects. He has shared his project experience in his co-authored book titled Pinch Analysis for Energy and Carbon Footprint Reduction, published by the Institution of Chemical Engineers (IChemE). He has been invited to share his experience on Net Zero carbon for industry and facilities, including on Net Zero Carbon for Palm Oil Industry organised by IChemE.