



## Pre-AGM Talk on

# “Beyond Air and Liquid: Designing Resilient, Energy Strategy and Sustainable Hybrid Cooling for AI Data Centers”

**BEM APPROVED CPD: Applying REF NO: Applying**

**Date : 02 Aug 2025 (Saturday)**

**Time : 09.00 am - 11.00 pm**

**Platform : Auditorium tan Sri Prof Chin Fung Kee,  
Wisma IEM,**

**Speaker : Mr. Pua Ching Tian  
: Mr. Pang Khai Siang**

### Registration Fees:

- Student Member : FOC
- IEM Member : RM 15.00
- Non-Member : RM 70.00

## Synopsis

The exponential growth of Artificial Intelligence (AI) workloads is fundamentally reshaping the landscape of data center design, with thermal management emerging as a paramount concern. Traditional air-cooling methods, while prevalent, are increasingly struggling to cope with the ultra-high power densities and localized heat generated by modern AI processors (GPUs). This talk will explore the critical need for hybrid cooling systems in next-generation AI data centers, particularly within the context of a tropical climate like Kuala Lumpur, Malaysia.

The discussion will outline the unique thermal challenges posed by AI, including liquid and air cooling thermal strategies for high density server in the extreme weather, fundamental principles of liquid cooling, energy measurement by specialized energy valves and energy efficiency, metrics like PUE and WUE. The limitations of solely air-cooled or solely liquid-cooled approaches will be highlighted, making a compelling case for the synergistic benefits of hybrid solutions.

The core of the discussion will focus on the design principles and practical implementations of hybrid cooling systems.

This seminar is ideal for HVAC engineers, facility managers, system integrators, energy consultants, and anyone involved in designing, installing, or maintaining thermal management systems seeking to enhance efficiency. The attendees will gain a comprehensive understanding of how hybrid cooling systems offer a resilient, scalable, and environmentally responsible solution for the demanding thermal requirements of AI data centers, paving the way for sustainable digital infrastructure in Malaysia and beyond.

## Speaker 1 : Mr. Pang Khai Siang



Phang Khai Siang, Sales Director of BELIMO for Malaysia and Brunei.

Having 14 years of HVAC related experience, ever had licenses as Green Building Index Facilitator and Energy Manager from Suruhan Jaya Tenaga. Being an engineering degree holder from Monash Malaysia, started the career with Daikin R&D Centre developing latest Direct Expansion Cassett Units. Progresses into Building Automation business with Johnson Controls which includes Chiller Plant Auditing and Optimization. Currently working for BELIMO responsible for Malaysia and Brunei region.

## Speaker 2 : Mr. Pua Ching Tian

30++ years of mechanical and electrical engineering contracting and consultancy in design and build contract in healthcare, pharmaceutical, BSL laboratory, airport, warehouse and data center with energy efficiency.

In addition, he is also embarked in dynamic hourly ACMV system design simulation and digitisation of ACMV control strategies for energy efficiency compliance for GBI, GreenMark and LEEDs green rating compliance projects. He has carried out many studies on the energy efficiency of centralised airside and waterside plant system particularly in healthcare institution and other projects in compliance with ASHRAE 55, 170, 62.1 and 90.1 standards.

Currently he is supporting the designated build for the high performance buildings in both Malaysia and Singapore.

He can be contacted via

<http://linkedin.com/in/pua-ching-tian-063522283>

