



Asia Pacific Metrology Program Focus Group on Energy Efficiency

“APMP-FGEE Report to APLMF”

7th November 2019

Vietnam

APMP - Focus Group on Energy Efficiency

Objective:

- ◆ To know more on national needs and capabilities on Energy Efficiency
- ◆ To find the relevant situation of each NMIs
- ◆ To organize members & develop action roadmap

Chair and Co-Chair:

- ◆ Chair: Mrs. Ajchara Charoensook, NIMT
- ◆ Co-Chair: Dr. Anton Widarta, NMIJ/AIST
- ◆ Secretariat: Dr. Oijai Ongrai, NIMT

Member List:

NMIA, NIM, CMS/ITRI, NPLI, BSN, NMIJ, MASM, NMC, KRISS, CMS, NMIT

Energy Security

- **Electricity :**

measurement of

1. Electrical quality
2. High Voltage
3. Online / real time
4. Energy Storage

- **Oil and gas :** chemical composition, large scale pipeline flow meters

- **Solar cells:** efficiency

- **Wind Power:** wind speed, vibration

Key Focus Areas



Green Buildings

- **Insulation** material characterization
- **LED:** life span/ efficiency
- **Chiller efficiency**

Promoting Metrology Impact on Energy Efficiency

- Support Energy sector and high energy use Industries
- Accurate measurement for Energy efficiency



Activities (2018-2019)

1. APMP-FGEE Workshop 2018 : “Metrology for Energy, ” 24 November 2018, Singapore
2. Smart Energy Technology ASIA 2019 (SETA2019) , 10 – 12 October 2019, Bangkok, Thailand
3. *APMP-FGEE Workshop 2019, “Metrology for Clean Energy, ” 29 November 2019, Sydney, Australia*

APMP-FGEE Workshop 2018: “Metrology for Energy,”

24 November 2018, Singapore

41 participants from: NMIA, NIM China, CMS/ITRI, PTB, RCM-LIPI, CERI, MASM, SCL, NMIJ, MSL – IRL, KRISS, NIMT, NMC (Cam), NMC A*STAR, BCA (Local), MI (Can)

12 Topics of talk on “Metrology for Energy”

- A topic from the user of metrology: *Green building and measurement challenge*
- A topic from the manufacturer : *A Power and Energy System for the Calibration of Active/Reactive Power and Energy*
- Nine metrology for Energy topics from 6 NMIs:
Measurement for green buildings & materials , EV charging facilities, Flow metrology, Solar PV & LED, RF and microwave, Growth and impact of energy metrology in Indonesia, Australia and Thailand.
- Workshop Discussion: *APMP collaborations for Energy Efficiency*

Smart Energy Technology ASIA 2019 (SETA2019)

10 – 12 October 2019, Bangkok

Participating in the **key industry conferences/events**, not normally attended by APMP members (*SETA 2019, Thailand*) – *APMP booth/poster/presentation, EC submit for budget*



SETA 2019

SMART ENERGY
TECHNOLOGY
ASIA 2019

Why Exhibit ?

With alert in Energy around the world, in established and emerging markets, SETA show support to generate project investment of new business for exhibitors every year... But that's just the Beginning.

SETA deliver more Business Opportunities and more Value:

- Personal help the exhibitor to figure and choose the right customer and target audience.
- Value stand packages tailored to your needs and budget.
- Powerful online matchmaking tools to put you in direct touch with the right people before and after the event.
- Hosted Buyer Programmes and Appointment Setting Systems to secure meetings with key prospects.
- Export experts to advise you on exhibiting abroad.
- 365 community websites to extend business, networking and learning opportunities beyond the event floor.
- Exclusive sponsorship opportunities to widen your market exposure.
- Extensive networking and professional education opportunities to enhance your business and professional career.

Who Will Attend SETA 2019 ?

Attendees Profiles

Electric Utility Companies, Consulting Engineer or Constructor Firm, Original Equipment Manufacturer Specifier, Independent Power Producer (IPP), SPV VSP Industrial / Power Cogeneration, Oil & Gas Companies, Government Energy Department, Science & Technology Innovation Department, Renewable Energy Technology Companies: Nuclear / Hydro / Solar / Wind / Tide / Biomass / Biomass / Waste to Energy Technology Companies, Equipment Suppliers, Equipment Operation & Maintenance, Service/Supply, University / Research Centers, Energy & Technology Association, Energy Traders, Technology Institute, Science & Technology Association, Legal Consultants, Financing Institutions, Logistic Suppliers, Transportation Companies, Regulators, Smart Grid Technology, Smart Metering, IoT and Digital Integration System Companies, IT and Software Solution Companies, EV Manufacturing, EV Charging System and Infrastructure Companies, Battery Technology Companies, Energy Storage Companies, Energy Saving Technology Companies, Hydrogen Technology Companies, Etc.

Exhibition & Conference Theme

1. Smart Energy

- Smart IoT
- Smart Urbanisation
- Smart Factory

2. Novel Innovation & Technology in Energy Storage

- Battery Storage
 - Ion Lithium
 - Super Capacitor
- Hydrogen Technology Storage

3. Power Generation & Digital Technology

- Power Supply System Technology
 - Hydrogen
 - Fuel Cells
- Distributed Power Generation
 - Power System
 - Smart Grid

Highlight of SETA :



Meet energy gurus and policy makers here in CEO Energy Forum

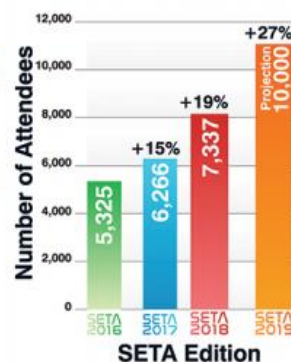
“ BREAK THROUGH
DECISION FOR
FUTURE ENERGY ”

Previous Exhibitors:

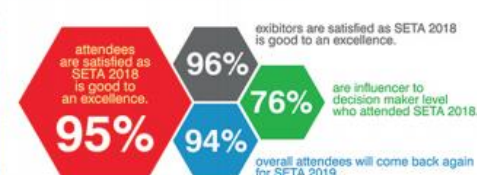


Statistic At-A-Glance

SETA Attendees



SETA Statistics



Trade Organizer



www.setaasia.com

SMART TECHNOLOGY FOR SUSTAINABLE FUTURE



APMP-FGEE Workshop 2019

Metrology for Clean Energy

29 November 2019, International Convention Center,
Sydney, Australia

On behalf of FGEE chair, we are
very pleased to invite you to join
APMP-FGEE Workshop 2019 to
see how metrology can support
energy sector in 2019.



Thank you
for **Energy**
Attention !

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(Thailand)

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Focus group/ Energy Efficiency