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## **RECOGNISED ENERGY MANAGEMENT BEST PRACTICES AND AWARD PROGRAMS FOR BEST PRACTICES**

**Report on the 8<sup>th</sup> Annual Energy Management Action Network held on Friday, 3 February 2017, Double Tree hotel, Jakarta, Indonesia**

**Prepared by Energy Conservation Center, Japan  
In cooperation with ASEAN Centre for Energy**

## Table of Contents

EXECUTIVE SUMMARY .....	2
1. Introduction .....	5
2. Session Summaries .....	9
3. Workshop Survey Insights .....	18
4. Summary of recommendations .....	23
5. Conclusion .....	25
ANNEX 1 - Workshop Agenda	
ANNEX 2 - Participants list	
ANNEX 3 - Questionnaire sheet	

### List of Acronyms

ACE	ASEAN Centre for Energy
AMS	ASEAN MEMBER STATES
APAEC	ASEAN Plan of Action for Energy Cooperation
BAT	Best Available Technology
BP	Best Practice
DGNREEC	Directorate-General of New Renewable Energy and Energy Conservation
ECCJ	Energy Conservation Center, Japan
EE&C	Energy Efficiency and Conservation
EMAK	Energy Management Action Network
EnMS	Energy Management System
EPC	Energy Performance Contract
IPEEC	International Partnership for Energy Efficiency Cooperation
MEMR	Ministry of Energy and Mineral Resources of Indonesia
METI	Ministry of Economy, Trade and Industry of Japan
PEEN	Indonesian National Energy Efficiency Award
RIKEN	National Energy Conservation Master Plan (RIKEN) of Indonesia

## EXECUTIVE SUMMARY

The 8<sup>th</sup> Energy Management Action Network (EMAK) Workshop was held on 3 February 2017, in Jakarta Indonesia. The workshop was jointly organised by the Energy Conservation Center, Japan (ECCJ) and the ASEAN Centre for Energy (ACE) sponsored by the Japanese Ministry of Economy, Trade and Industry (METI) and was supported by the Directorate General of New Renewable Energy and Energy Conservation (DGNREEC) under the Ministry of Energy and Mineral Resources (MEMR) of Indonesia.

The workshop provided rich information sharing opportunities on global experiences and trends on energy management best practices in the building and industry sectors. It also explored the challenges and opportunities of progressing energy efficiency in Indonesia. In addition, the workshop covered the technical merits, potential effectiveness, environmental, economic and social implications and contribution of energy efficiency and conservation (EE&C) to the ASEAN regional target of reducing energy intensity by 20% until 2020.

Under the theme, 'Recognised Energy Management Best Practices and Award Programs for Best Practices', the workshop placed greater emphasis on optimising the practical approaches on energy management, investment mechanism in EE&C measures and best practices to realise energy efficiency project implementation.

The workshop was attended by 90 participants. They represented government ministries and agencies, building and industry practitioners, academe, and associations and international organisations. 97% of post-workshop survey respondents rated the workshop as good, very good and excellent. The results also showed that the workshop was very useful in enhancing the information and knowledge of participants in energy management best practices and award programs.

EMAK was established in 2009 to promote the improvement of EE&C in the industry and commercial sectors under the International Partnership for Energy Efficiency Cooperation (IPEEC). The primary objective of EMAK is to contribute to the accelerated uptake of energy management practices and systems in the industry and commercial sectors through platforms to share proven and innovative practices and through capacity building activities. This includes creating a network of policymakers and industry practitioners, as well as establishing platforms to share best practices on policy frameworks, human resource development, and state-of-the-art management systems.

The workshop contributed to international knowledge sharing and capacity building on energy management best practices. The major themes highlighted in the workshop were:

- **The role and significance of Energy Management Systems (EnMS) as the foundation for energy efficiency improvement in industry.** This was demonstrated through international examples and the commitment of the Indonesian government to encourage the uptake of EnMS to the ISO 50001 standard. Energy management is a key to improving efficiency, reducing energy use and abating greenhouse gas emissions. The reduction in recurrent energy demand, through the greater

involvement of public sector in embracing energy management, is a good approach to realising greater energy savings.

- **The important link between the introduction of EnMS and award programs.** The workshop shared proven efforts and best practices in energy efficiency improvement. Through workshop presentations, policy makers and practitioners were provided with inclusive examples of policy, technology, and practical approaches and award programs.
- **The benefits and opportunities of international knowledge sharing on the energy management efficiency award programs.** The workshop brought together selected case studies on ASEAN Energy Awards, National Energy Awards of Indonesia and Japan's Energy Conservation Grand Prize Award, Energy Management Leadership Award and TOP TENs as platforms to provide public recognition for excellent work in the energy efficiency sector. Award programs are helping in encouraging the promotion and dissemination of best practices within building and industry sectors to achieve energy savings, reduce CO2 emissions and improve economic competitiveness through the establishment and implementation of EnMS, keeping autonomous small group activities or concerted efforts by some of the collaborating organisations and implementing advanced technology and /or excellent know-how.

The Indonesian government has made significant progress in energy efficiency improvement in industries and buildings, thanks to the mandate of Government Regulation No. 70 (2009), which stipulated that energy end-users who consume more than 6,000-ton oil equivalent (TOE) of primary energy supply per year should appoint an energy manager, conduct an energy audit, and implement energy conservation best practices in industries and buildings. For less than 6,000 TOE users, voluntary measures include appointing an energy manager, conducting energy audits and implementing energy conservation. The workshop provided opportunities to learn from the experiences of other countries and to broaden the network of energy management practitioners. However, there is potential to optimize energy efficiency implementation. Key recommendations to the Indonesian government are as follows:

1. **The Indonesian government should continue to encourage the building and industry sectors to implement EnMS through the adoption of best practices and award programs.** This will provide an important foundation for progressing energy efficiency policy and targets by enabling and encouraging the sectors to implement energy management concepts in their energy facilities through awareness-raising and capacity-building, best practice-sharing and award programs. Sharing best practices, particularly on various approaches towards policy making and success stories, can help countries accelerate energy efficiency improvement and learn from international experiences in these areas.
2. **There should be continued focus on the multiple benefits of energy efficiency to motivate the building and industrial sectors to take actions and maximize business outcomes and growth.** The introduction of practical approaches and technologies are proven ways to improve energy efficiency in the building and industrial sectors. However, they require a greater involvement and partnership among stakeholders to achieve successful policies and programs. The EMAK workshop is an effective platform in

bridging the gap among stakeholders through exchange of ideas and views to find solutions and steps forward for energy efficiency development.

3. **Recognition through award programs needs to be continuously promoted and updated to encourage the implementation of energy management in buildings and industry.** National, regional and international award programs are powerful platforms to encourage greater private sector participation (including small and medium enterprises [SMEs] and large industries) to implement energy efficiency projects with efficient practices and technologies. Through awards, efforts on EE&C will be recognised by governments and the private sector at national, regional and international levels.
4. **There are some efforts that need to be undertaken to sustain award programs,** namely: i) **the value of the brand**, such as: global PR effect of the logo, opportunities to learn, publicity and further development; ii) **sustainable system for applicants and promoters**, such as: evaluation methodology, composition of the examination committee and evaluation process; iii) **application of best practices**, such as: how to support the dissemination of energy management best practices (e.g. Energy Management Systems, autonomous group activity, advanced technology and/or excellent know-how); iv) **promotion of award programs**, such as: how to raise motivation to participate in the competition, promotion of tools (e.g. award ceremony, trophy and unique logo), and capacity building effect of the process (e.g. presentation event); and v) **importance of realising the objectives related to BATs and BPs**, such as: optimising the evaluation criteria and selection procedure, promoting cooperation between private and public sectors, and promoting the application of the cases through seminar, workshops and other related events, etc.

The report and video recordings of the presentations, as well as the presentation materials, will be made available on the IEA's and IPEEC's EMAC websites, ECCJ's website and ACE's website to ensure that the workshop's outcomes are widely shared with policy makers and practitioners not only in Indonesia but also in the ASEAN Member States and around the world.

## 1. Introduction

The 8<sup>th</sup> Energy Management Action Network (EMAK) was held on 3 February 2017 in Jakarta, Indonesia, on the theme of ‘Recognised Energy Management Best Practices and Award Programs for Best Practices’. It consisted of three sessions, namely: Session 1 ‘Energy Management Best Practices (Commercial Sector); Session 2 ‘Energy Management Best Practices (Industrial Sectors); and Session 3 ‘Discussion on Knowledge to be shared amongst Energy Management Award Programs’ (see annex 1). This report provides a summary and analysis of the presentations, discussion and recommendations that resulted from the workshop. It also presents and analyses the feedback provided by participants in the post-workshop survey questionnaire.

EMAK was established in 2009 to promote the improvement of EE&C in the industry and commercial sectors under IPEEC. The primary objective of EMAK is to contribute to the accelerated uptake of energy management practices and systems in the industry and commercial sectors through platforms to share proven and innovative practices and through capacity-building activities. This includes creating a network of policy makers and industry practitioners, as well as establishing platforms to share best practices on policy frameworks, human resource development, and state-of-the-art management systems.

The series of EMAK Workshops have been held in the following locations:

- Paris, France –January 26-27, 2010
- Washington, USA - May 10, 2010
- Guilin, China –November 15, 2011
- Tokyo, Japan –January 1, 2013
- Sydney, Australia –February 27, 2014
- New Delhi, India, -25 February, 2015
- Moscow, Russia – 19 November 2015

The 8<sup>th</sup> EMAK Workshop is first to be held in the ASEAN region, specifically in Indonesia. It was jointly organised by ECCJ and ACE, sponsored by METI and supported by MEMR.

The aims of the workshop were to:

- learn and share experiences in designing and implementing energy management systems and award programs in Indonesia, Japan, ASEAN and other countries.
- contribute towards national and international dialogue for awareness-raising and capacity-building on energy efficiency and energy management.
- bridge the gap between EE&C policy measures and investment framework through proven private sector financial capacity to implement energy efficiency projects for growth and expansion of business.
- share and exchange knowledge and experience on award practices and how EE&C initiatives are evaluated in those awards.
- as a concomitant effect, support the EE&C strategy goals under the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2020 to promote EE&C through information-sharing (raising awareness) and capacity-building.

The workshop was attended by 90 participants. They came from various organisations and institutions, namely: government ministries and agencies, financial institutions, technology and services, international organisations, associations, academe and research institutions. The list of participants is attached as Annex 1.

The speakers and presenters, with their presentation topics, are summarized in Table 1.

Table 1: Speakers and Presenters

	Title	Speakers/Presenters
1	Opening remarks	Mr. Jiro Sogawa, Managing Director, The Energy Conservation Center, Japan
2	Welcome speech	Mr. Christopher G. Zamora, Manager, APAEC Department, ASEAN Centre for Energy, Indonesia
3	Welcome speech & keynote speech	Ms. Gita Lestari, Deputy Director, Energy Conservation, Directorate General of New Renewable Energy and Energy Conservation, Ministry of Energy and Mineral Resources Republic of Indonesia
4	Welcome speech (VTR Message)	Dr. Brian Motherway, Head of Energy Efficiency Division, International Energy Agency
5	Welcome speech (VTR Message)	Mr. Benoit Lebot, Executive Director, IPEEC Secretariat, International Partnership for Energy Efficiency Cooperation
6	Presentation: "Challenge 50" Energy-Saving Initiative in Panasonic Tokyo Shiodome Building"	Mr. Takamitsu Yasukouchi, General Manager, Intelligence & Liaison Department Panasonic Corporation
7	Presentation: "Realisation of Sustainable Energy by Smart Campus"	Prof. Masaaki Bannai, Professor Emeritus, Mie University
8	Presentation: "Implementation of Energy Management in Residential Building"	Dr. Budi Utomo, Residences Manager, Apartemen Scientia Residences Serpong
9	Presentation: "From Japan to the World! Energy Management Evolution by Utilizing Group Common EnMS"	Ms. Keiko Kurosawa, Coordinator, Quality Assurance Department, F-TECH INC..
10	Presentation: "Best Practice from Energy Management Leadership Award of PT IKPP Tangerang Mill"	Mr. Kholisul Fatikhin, Director, PT. Indah Kiat Pulp & Paper Tbk
11	Presentation: "Best Practice Energy Management PT. Petrokimia Gresik"	Ms. Anis Ernani, General Manager of Technology, PT. Petrokimia Gresik
12	Panelist from ASEAN Energy Award	Mr. Rio Jon Piter Silitonga, Technical Officer, APAEC Program, ASEAN Centre for Energy, Indonesia
13	Panelist from Indonesian Energy Award	Ms. Gita Lestari, Deputy Director,

		Technical Guidance and Cooperation, Ministry of Energy and Mineral Resources Republic of Indonesia
14	Panelist from Energy Conservation Grand Prize Award and Energy Management Leadership Award	Mr. Akira Ishihara, Special Adviser, The Energy Conservation Center, Japan
15	Panelist from TOP TENS	Mr. Yasushi Tanaka, Senior General Manager, International Collaboration Center International Research & Communication Department, The Energy Conservation Center, Japan
16	Closing Remark	Ms. Sayaka Shishido, Assistant Director, International Affairs Office Energy Efficiency and Renewable Energy Department, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry, Japan

The key concepts shared in the workshop are highlighted in this report. The first of these is **energy management systems**. Energy management systems include energy management activities, practices and processes that may be implemented according to standards (e.g. ISO 50001). The objective of energy management systems is to achieve energy savings that boost economic competitiveness by realising economic and sustainability benefits.

Another concept is **award programs for energy management** - best practices in industries and buildings. Such initiatives promote the use of innovative energy-efficient methods and technologies to achieve energy savings and reduce CO<sub>2</sub> emissions. Recognition through award programs needs to be continuously promoted, improved and disseminated to encourage the implementation of energy management in buildings and industries. The ASEAN Energy Awards, National Energy Efficiency Award of Indonesia, Japan's Energy Conservation Grand Prize Award and other international energy awards are powerful platforms to encourage more private sector participation (including SMEs and large industries) to implement energy efficiency projects with efficient practices and technologies. Through these award programs, their efforts on EE&C will be recognised broadly by government and the private sector, both national and international.

Overall, common objectives of award programs are:

- to encourage the utilization of resources efficiently
- to increase awareness in the building and industry sectors of best available technology and energy-efficient solutions for process equipment and utility systems
- to raise awareness on the analysis of core process energy demand that can lead to energy savings
- to increase awareness on new methods and 'ways of working' that can be applied to identify and implement energy savings
- to promote successful demonstration projects within the building and industry sectors
- to reduce energy-related CO<sub>2</sub> emissions by implementing significant energy savings
- to encourage public-private sector participation and involvement in EE&C



## 2. Session Summaries

### Opening remarks

#### **Mr. Jiro Sogawa –Energy Conservation Centre, Japan**

Mr. Jiro Sogawa, Managing Director of the Energy Conservation Center, Japan welcomed all the participants to the 8<sup>th</sup> EMAK Workshop in Jakarta, Indonesia. He introduced briefly that ECCJ is the core organisation responsible for promoting energy efficiency and conservation, and has been contributing greatly to the improvement of EE&C in Japan, ASEAN Member States (AMS) and other countries for many years. This year, ECCJ is in charge of organising the EMAK Workshop sponsored by the Ministry of Economy, Trade and Industry (METI), Japan. He mentioned that the establishment of the EMAK since 2009 is helping promote EE&C under IPEEC with the objective to contribute to the dissemination of energy management best practices and establishment of the EE&C network. This year, the 8<sup>th</sup> EMAK Workshop focused on energy management best practices from Indonesia and Japan. In closing, he conveyed his sincerest appreciation of MEMR of Indonesia, ACE, METI for their kind cooperation and of all the participants for their contribution to the workshop. He wished the participants a successful workshop.

#### **Mr. Christopher Zamora-ASEAN Centre for Energy**

Mr. Christopher G. Zamora, Manager of ACE welcomed all the participants in the 8<sup>th</sup> EMAK Workshop in Jakarta. He expressed his sincerest thanks and appreciation of MEMR, Indonesia for hosting the workshop, especially of DGNREEC under MEMR for the excellent arrangement made for the workshop. He also expressed his sincerest thanks to METI and ECCJ for their kind support for the workshop. He briefly introduced ACE, an inter-governmental organisation established in 1999 by AMS, which plays a key role in advancing the goals of the ASEAN energy cooperation through the implementation of the ASEAN Plan of Action for Energy Cooperation (APAEC). The APAEC serves as a blueprint for better energy cooperation in ASEAN. He mentioned that EE&C is one of the key prioritized programs under the APAEC 2016-2025. The objective of the EE&C program in AMS is to reduce energy intensity by 20% in 2020 based on 2005 level. Finally, he expressed his sincerest thanks and appreciation to METI for its generous support to EMAK and ECCJ for the implementation arrangement and MEMR of Indonesia for their interest and strong commitment to achieve the goals of APAEC, and wished all a fruitful and productive discussion in the workshop.

### Keynote speech

#### **Ms. Gita Lestari-Directorate General of New Renewable Energy & Energy Conservation**

Ms. Gita Lestari, MEMR, warmly welcomed all the participants in the 8<sup>th</sup> EMAK Workshop. She expressed her gratitude to ECCJ for supporting EMAK, and also to ACE for its cooperation in arranging the workshop. She mentioned that Indonesia's energy needs have an average growth of 6.3% per year, driven by population growth and economic development. The needs have been mostly fulfilled by fossil fuels, which are wasting valuable energy resources. MEMR conducted a survey and assessed the potential for energy savings, which is estimated to be around 10-30% in demand sectors. The savings can be achieved by adopting ISO 50001 Energy Management

System and through the award activities in energy efficiency. She emphasised that the National Energy Efficiency Award (PEEN), which was established in 2002, has been providing steady and good-quality entries to the ASEAN Energy Awards. In this EMAK Workshop, she hoped to share their experiences of conducting the award programs and to gain more information to further refine the PEEN Award. Finally, she expressed her appreciation to the organisers for their support and assistance in making the workshop possible in Indonesia and wished everyone a fruitful discussion and a successful workshop.

## **Welcome Speeches**

### **Dr. Brian Motherway-International Energy Agency**

Dr. Brian Motherway, Head of Energy Efficiency Division, International Energy Agency (IEA), greeted all the participants in the 8<sup>th</sup> EMAK Workshop through a taped VTR message. He introduced the Energy Efficiency Division of the IEA, which was established over a year ago, in recognition of increasing focus and importance of EE&C. He mentioned the increasing EE&C activities done by governments as a way to contribute to economic energy growth. He emphasised that EE&C has more potential and must be part of energy policy in every country. He stated that energy management has a very important role in the industry and commercial sectors which implement ISO-50001 as well as improvement in new technologies and dissemination of best practices. This workshop is important to share the stories of energy management as well as sharing knowledge and experience in the deployment of energy management measures. It is a good opportunity for AMS to learn from each other, he stated. Finally, he mentioned that IEA is willing to support the EE&C improvement in the AMS and wished everyone a successful workshop.

### **Mr. Benoit Lebot-International Partnership for Energy Efficiency Cooperation**

Mr. Benoit Lebot, Executive Director, IPEEC Secretariat, International Partnership for Energy Efficiency Cooperation, welcomed all the participants to the 8<sup>th</sup> EMAK Workshop through a taped VTR message. He mentioned that EMAK is one of the oldest task groups under IPEEC. He highlighted the importance, achievement and potentials of promoting energy management best practices in the industry and commercial sectors. Finally, he wished everyone a productive workshop with a focus on exchange of information between Japan and Indonesia.

## **Session 1: Energy Management Best Practices (Commercial Sector)**

### **Panasonic- Best practice from Energy Conservation Grand Prize Award**

Mr. Takamitsu Yasukouchi, General Manager, Intelligence & Liaison Department Panasonic Corporation presented the topic on “Challenge 50” Energy-Saving Initiative in Panasonic Tokyo Shiodome Building.

The presentation highlighted the following items:

- Panasonic was established in 1918 by Konosuke Matsushita;

- Panasonic has four (4) companies, namely: i) Eco Solutions Company, ii) Appliances Company, iii) AVC Networks Company, and iv) Automotive & Industrial Systems Company;
- Eco Solutions Company focused on energy related products like solar, battery, BEMS/HEMS, lighting, housing system;
- Panasonic Tokyo Shiodome Building implemented advanced energy saving technologies in electricity, heat and water;
- Building Energy Management System (BEMS) was applied for monitoring and control every system for continuing saving every year;
- Energy-saving Special Committee will conduct once/month to follow up; and
- Panasonic Tokyo Shiodome Building Awarded Tokyo Metropolitan Semi Top level in 2010 & 15 and Awarded the METI Minister Award from ECCJ in 2016 and target energy-saving 50% toward 2018.

#### **Mie University- Best practice from Energy Conservation Grand Prize Award**

Prof. Masaaki Bannai, Professor Emeritus at Mie University presented “Realisation of Sustainable Energy by Smart Campus”.

The presentation highlighted the following items:

- Objective of Smart Campus: Be Proud of Environmentally Advanced University to the World;
- Proposal of Smart Community: i) utilization of sustainable energy (solar and/or wind power), and high efficient co-generation, ii) CO<sub>2</sub> reduction emitted from Institute/University, iii) stable energy supply under normal condition and independent power supply in case of a natural disaster; and
- Individual Measures and Effectiveness, such as: i) decision of various measures, ii) seasonal electricity demand, iii) electricity demand forecast, and iv) demand comparison (measured and forecasted).

#### **Apartment Scientia Residence Serpong - Best practice from ASEAN Energy Award**

Dr. Budi Utomo, Residences Manager, Apartment Scientia Residences Serpong presented “Implementation of Energy Management in Residential Building”.

The presentation highlighted the following items:

- Apartement Scientia Residences won the ASEAN Best Practices Awards for Energy Management in Buildings and Industries in Small and Medium Building Category;
- The benefit of energy efficiency such as: i) lower operational cost, ii) lower service charge, iii) reduce CO<sub>2</sub> emission, iv) increase customer satisfaction index, v) increase investment, and vi) enhance brand image;
- The building management used ISO 50001 as their basic standard to implement energy management system with its notable principle: Plan-Do-Check-Action;
- The energy management campaign implemented by: i) using parking stairs instead of elevator, ii) lighting retrofit, iii) AC refrigerant retrofit, and iv) recycled water; and
- Energy Management Committee Meeting Session to follow up the result.

Under this session, there were active discussions on many interesting topics related to best practices, including the fine tuning methodologies, measures to promote and invest in

energy efficiency and conservation measures and how to get the support of networks of people and organisations to promote EE&C. Participants inquired about the effects of EE&C measures after they were implemented and adopted in the building and industry sectors. Another interesting feature of the session was discussion on specific technologies such as air conditioners, lighting, BEMS, control systems, etc., including their investment and performance as well as their corresponding impact on energy consumption, energy savings and employees' productivity.

## **Session 2: Energy Management Best Practices (Industrial Sectors)**

### **F-TECH INC. - Best practice from Energy Management Leadership Award**

Ms. Keiko Kurosawa, Coordinator, Quality Assurance Department of F-TECH INC.. presented "From Japan to the World! Energy Management Evolution by Utilizing Group Common EnMS".

The presentation highlighted the following items:

- F-TECH INC.. was established on July 1, 1947 with business content: development, production and sales of automobile parts, and tooling and equipment associated with them;
- F-TECH INC.. is a company of Honda Group;
- The energy conservation activities were started in 2008 with the concept of environment global deployment and the road map toward 2020 to be environment frontrunner;
- F-TECH INC.. published Global F-tech Energy Management System, a common document for energy management system for F-tech group consisting of manuals, standards, guidelines and formats, etc.;
- The key of the achievement of ISO50001 is energy review or energy saving diagnosis consisting of 7 steps as follows: i) identification of energy source, ii) energy diagnosis plans, iii) start-up meeting, data collection, iv) plan to measure energy, v) site audit, vi) Analysis Energy diagnosis report, and vii) completion Meeting; and
- In 2016, F-TECH INC.. won Clean Energy Ministerial (CEM) Energy Management Leadership Awards. CEM is global forum that consists of 23 major countries and region of the world. This forum is aim at promotion of clean energy.

### **PT Indah Kiat Pulp & Paper - Best practice from Energy Management Leadership Award**

Mr. Kholisul Fatikhin, Director, PT. Indah Kiat Pulp & Paper Tbk, presented "Best Practice from Energy Management Leadership Award of PT IKPP Tangerang Mill".

The presentation highlighted the following items:

- PT IKPP Tangerang was founded 1976 and began to produce color paper in 1996 and successful produce 100% colour paper in 2006 with 3 main products: i) color paper, ii) fancy color paper and iii) stationery paper;
- PT IKPP started to implement ISO 50001 in 2012 and was certificated in November 2013;
- The energy management in PT IKPP started with management commitment of: i) Continual improvement in energy performance, ii) Ensuring the availability of

- information and of necessary resources to achieve objectives and targets, iii) Complying with applicable legal requirements and other requirements, iv) Supports for the purchase of energy efficient products and services and design for energy performance improvement, v) Providing the framework for setting and reviewing energy objectives and targets, and vi) Conducting energy review periodically;
- The energy management systems were applied in following areas: i) daily operation control, ii) Steam System Optimization, iii) auto stop motor trim blower, vi) replace V-belt with timing belt, v) upgrade line shaft to sectional drive, vi) energy monitoring system, and vii) employee involvement; and
- As the result, PT IKPP was able to reduce energy intensity by 15.2% in 2015 based on 2011.

**PT Petrokimia Gresik - Best practice from ASEAN Energy Award**

Ms. Anis Ernani, General Manager of Technology, PT. Petrokimia Gresik, presented Best Practice Energy Management PT. Petrokimia Gresik.

The presentation highlighted the following items:

- PKG is a State-Owned Enterprises (SOEs) under the Pupuk Indonesia Holding Company (PIHC);
- PKG is a complete fertilizer plants in Indonesia who work in the field of production of fertilizers, chemicals, and services; and
- The major annual energy sources at PKG come from natural gas at 84.41% and coal at 14.7%.

The energy management system started when top level management made a commitment to energy policy and appointed an energy manager for the organisation structure in 2010.

- Energy Conservation in PKG include: Energy Conservations in Plant, Buildings and Offices
- For Energy Conservations in Plant two conservation areas are as follows: a) Using alternative fuels (Coal, Renewable Energy, etc.) and b) Optimization of Process and Equipment Efficiencies, and reduce Energy Loss
- For Energy Conservation in Buildings and Offices by: a) replacing TL lamp type with LED/TSL type which gained energy saving up to 10%, b) conducting energy saving campaign.

In Session 2, discussions were more focused on specific technologies that provided greater energy savings and reduction in energy consumption. There were also elaborations on ISO 50001 – its requirements and effectiveness in industries. The Indonesian representatives elaborated on the Government’s plans and targets for energy emission reduction from the perspective of the energy sector. Suggestions on the improvement of energy management systems were noted in the discussion.

## **Session 3: Discussion on Knowledge to be shared amongst Energy Management Award Programs**

### **ASEAN Energy Award**

Mr. Rio Jon Piter Silitonga, Technical Officer for ASEAN Plan of Action for Energy Cooperation presented the recognition award on energy management system in the building and industrial sectors under the category of ASEAN Energy Award.

The presentation highlighted the following items:

- The background of the Award as Southeast Asia's highest reward for excellence in the field of energy efficiency;
- The Award aims to promote awareness on EE&C in buildings and to greater participation in EE&C best practices in the field of the private sector;
- The Guidelines for each categories were developed by the ASEAN Board of Judges and ACE; and
- The numbers of entries and awardees have been constantly increasing over the past 17 years. As of 2016, there were 542 applicants in the competition in which 301 were awarded.

The ASEAN Energy Award has started since 2000. The first area was Best Practices in Energy Efficient Buildings (EEB) since buildings were the most energy intensive area of urban development. The competition initially included two (2) categories, namely: a) new and existing buildings and b) retrofitted buildings. Then, in 2002, the tropical building and special submission categories were added. In this program, entries of building and industry sectors from 10 AMS are applied through ACE channel, and selection of winners were made by the Board of Judges consisting of government officials and expert representatives to culminate with awarding ceremonies during the Gala and Official Dinner of the ASEAN Ministers of Energy Meeting (AMEM).

### **Indonesia National Energy Award**

Ms. Gita Lestari, Deputy Director, Ministry of Energy and Mineral Resources (MEMR), presented National Energy Award (PEEN)

The presentation highlighted the following items:

- The objectives of the Award, namely: i) to promote best practice in implementing energy efficiency and conservation; ii) to promote energy saving by energy user in building, industry, and public sector; and iii) to increase the number of applied cases to ASEAN Energy Award;
- Categories of PEEN are Energy Efficient Buildings, Energy Management in Industry and Building sectors and Energy and Water Saving in Government Institution;
- PEEN selection criteria for each category and assessment process are in accordance with the criteria and assessment process of ASEAN Energy Award in the case of Category A and B, however criteria and assessment of PEEN Category C is in accordance with the Presidential Instruction No. 13 / 2011 on Saving Energy and Water; and
- Lessons learned are: i) Engagement with association is important to increase the number of participants and to disseminate PEEN and energy efficiency; and ii) Using

media socialization (newspaper, website, video, brochure, leaflet, banner, twitter, face book, etc.) to disseminate PEEN is effective to increase the number of participants.

### **Energy Conservation Grand Prize Award – Japan**

Mr. Akira Ishihara, International Cooperation Division, The Energy Conservation Center, Japan presented the Energy Conservation Grand Prize Award –Japan.

The presentation highlighted the following items:

- Overview of Japanese Energy Conservation Grand Prize Award;
- Significance of Japanese Energy Conservation Grand Prize Award (Simultaneous realisation of capacity building and raising awareness);
- Raising awareness - Practices are “rich in valuable information” (according to the level of “awareness” of the user);
- Capacity building - Educational effect of data and know-how accumulated;
- Key to Success of Energy Conservation Grand Prize Award, such as: brand value (PR effect of logo, place for study, name recognition, applicability in the world) and trustworthiness fostered through elaborate examination (composition of committee, selection process);

In his summary, he highlighted the following points:

- Source of trustworthiness, such as: fair evaluation process, sufficient evaluation for technical values, public nature due to the public body’s involvement and PR effect of information;
- Features of significance established on trustworthiness of Energy Conservation Grand Prize Award, such as: brand values, informational values, promotion of energy conservation activities & dissemination of the cases and contribution to energy conservation capacity building; and
- Ultimate effect of trustworthiness and achievements in the past, such as: contribution to form and develop the domains for energy conservation activities and energy conservation technologies and contribution to promote international EE&C activities.

### **Energy Management Leadership Award**

Mr. Akira Ishihara, International Cooperation Division, the Energy Conservation Center, Japan presented the Energy Management Leadership Award.

The presentation highlighted the following items:

- Background of the Clean Energy Ministerial (CEM) as a high-level global government forum focused on accelerating the transition to a global clean energy economy;
- The CEM is focused on three global climate and energy policy objectives: Increase energy efficiency worldwide, Expand clean energy supply, Enhance clean energy access;
- Energy Management Working Group (EMWG) Fora to leverage the extensive expertise of its member governments to accelerate the adoption and use of energy management systems such as ISO 50001 in industry and in commercial buildings worldwide; and

- The Award categories consist of 3 categories, namely: CEM Award of Excellence in Energy Management, National Energy Management Awards and Energy Management insights Award. He also shared the participants how to apply the award, selection process and related committee.

### **TOP TENS Program**

Mr. Yasushi Tanaka presented The Top Ten Energy Efficiency Best Practices and Best Available Technologies Task Group (TOP TENS).

The presentation highlighted the following items:

- Overview of the award, the best available energy efficiency technologies and practices in use by businesses today in participating countries;
- Task group members do so by developing two types of lists: Top Ten Best Available Technologies (BAT) and Top Ten Best Practices (BP);
- Objectives of the BATs and BPs lists are to show to businesses and policy makers the practical and scalable energy savings solutions currently available and to support the accelerated uptake of innovative energy saving solutions;
- The TOP TENS contents: The BAT and BP lists feature leading energy savings approaches and include information and case studies on the technology or practice, and where and how they are used. Examples of technological solutions highlighted in the inaugural lists include co-generation, use of heat pumps and recovery of industrial waste heat. Practices include 'just-in-time' and zero energy office building activities amongst others;
- Content of activity, methodology and way forward to cover other sectors, such as transport and public services. Members will select the sector or sectors they would like to apply and will collaborate on updating the methodologies for each new sector. The Task Group will also look at developing new International BAT and BP lists. TOP TENS welcomes new public-private partnerships to enable joint research on optimizing methodologies, facilitating the dissemination of the TOP TENS lists, and improving market uptake of BATs and BPs; and
- Lastly, he shared the membership of the program and mentioned that task group secretariat noted ACE's intention to become a member of the Award system if allowed.

### **Q&A and Discussion**

This session had productive exchanges of information on award programs for energy management among national (Indonesian and Japan), regional (ASEAN) and international (IPEEC and CEM) levels. They shared the secret of success of the Awards, such as: a) the value of brand; b) sustainable system for applicants; c) application of best practices; d) promotion of Award programs.

For ASEAN Energy Awards, the new category of Green Building was launched in 2014 with the following objectives: i) to increase the public's level of awareness of green buildings; ii) to encourage the efficient utilization of resources; iii) to contribute to global efforts to reduce CO<sub>2</sub> emissions and to promote measures to address climate change resiliency; iv) to enhance eco-friendly supply chain and create a market for green building technologies, materials and products; v) to build competency of building and real estate professionals and

other stakeholders in the building industry in evaluating and interpreting in the design, construction and maintenance of green buildings; and vi) to adopt, develop and apply the green building principles in the design of the built environment.

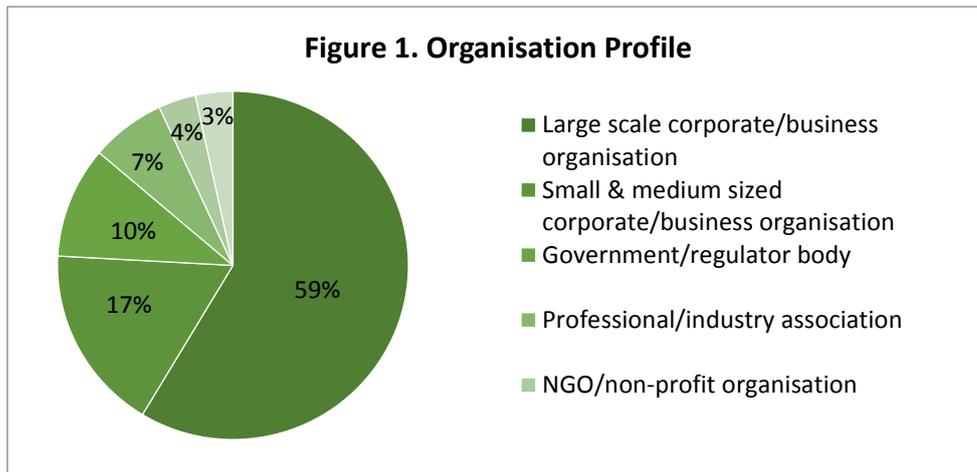
The National Energy Efficiency Award (PEEN) of Indonesia provides recognition to companies that have demonstrated excellence in energy management, corporate teams whose implementation of energy efficiency projects have led to substantial improvements in energy performance, and outstanding energy managers who have demonstrated strong leadership in driving energy efficiency improvements within their organisation. There are three categories for the PEEN Awards, namely: A) Excellence in Energy Management; B) Best Practices; and C) Outstanding Energy Manager of the Year. Ms. Gita emphasized that participation of building and industry sectors as the key success factor of the Award. In that, she encouraged the building and industry people to participate in the Award and the Application for the PEEN Awards is open exclusively for sectors, both SMEs and non-SMEs may apply for the different award categories. She added that category C was added at the later stage for the purpose of introducing the same movement to the public organisations. It was noted that even in Japan since there was no coverage of the public organisation in a separated manner it was quite noteworthy for the future development of Japan's award system.

To ensure the adoption of the BATs and BPs, following items were suggested: i) Optimizing the evaluation criteria & selection procedure; ii) Promoting cooperation between private and public; iii) Promoting the application of the cases by seminars, etc.; and iv) Introduction of the award programs into many countries.

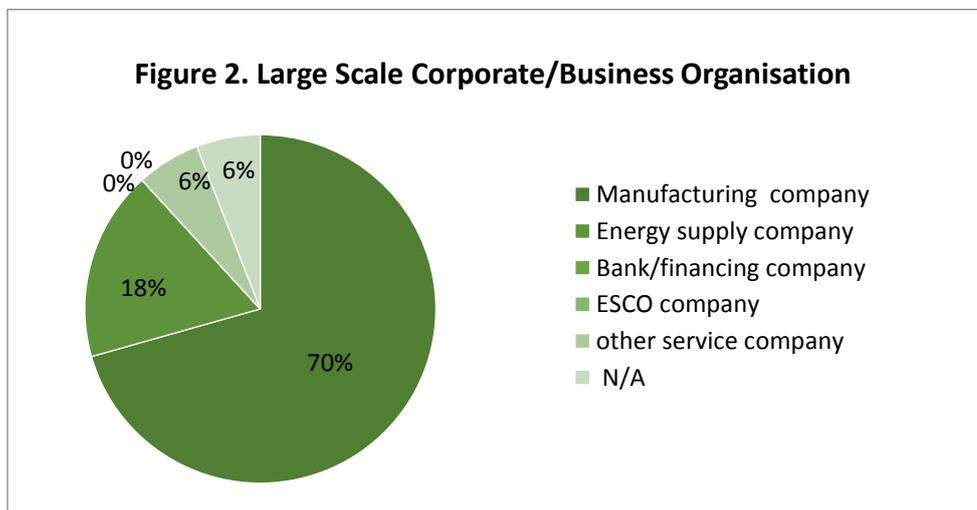
### 3. Workshop Survey Insights

Questions are divided into 4 (four) categories, and each category has 2 (two) questions. The questionnaire sheet is attached as annex to this report.

A total of 29 (twenty-nine) questionnaire/survey sheets were filled in by participants anonymously. Participants' profiles are shown in Figure 1 below.

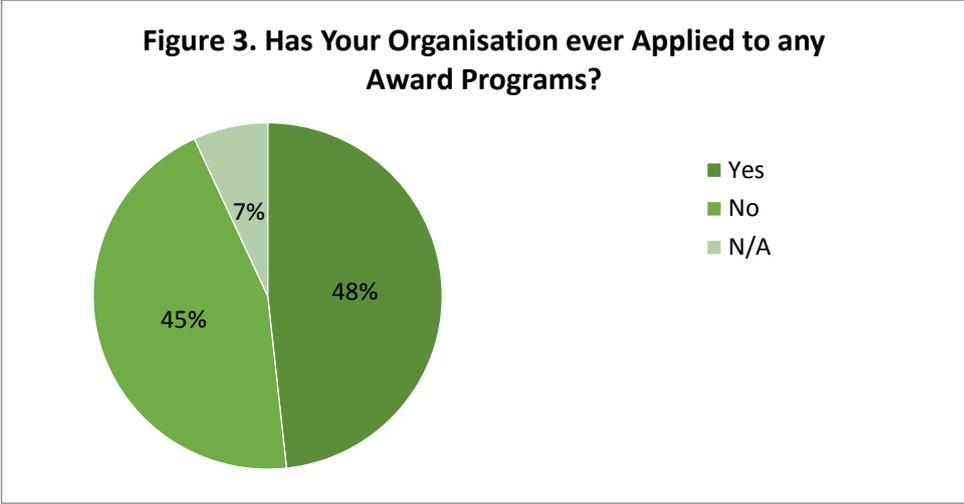


Those who identify themselves as Large Scale Corporate/Business Organisation are classified as:

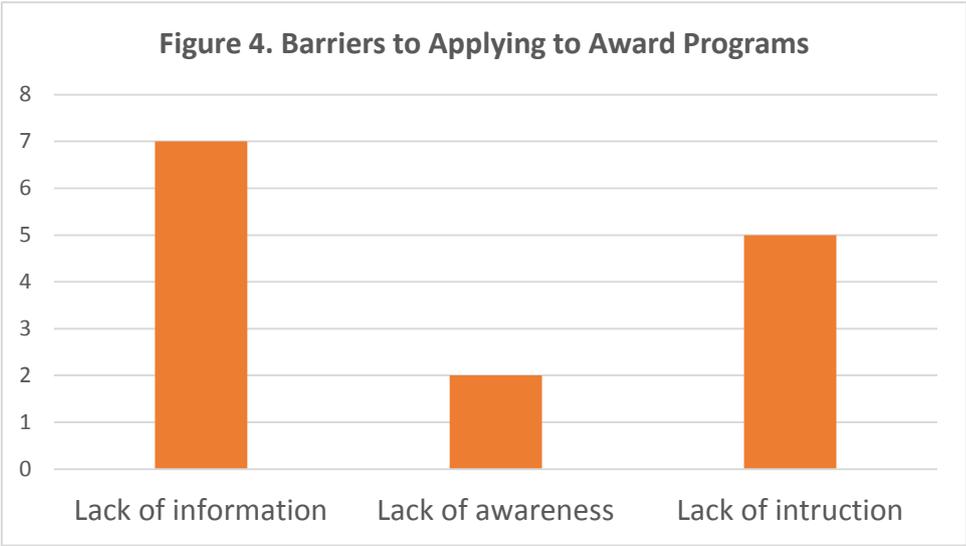


#### **1. Barriers to promoting the application of award programs**

Respondents were asked whether they have ever applied to award programs, and if not, what keeps their businesses from applying to award programs. Out of 29 (twenty-nine) answers, 2 (two) did not respond whether they have applied for an award program or not.



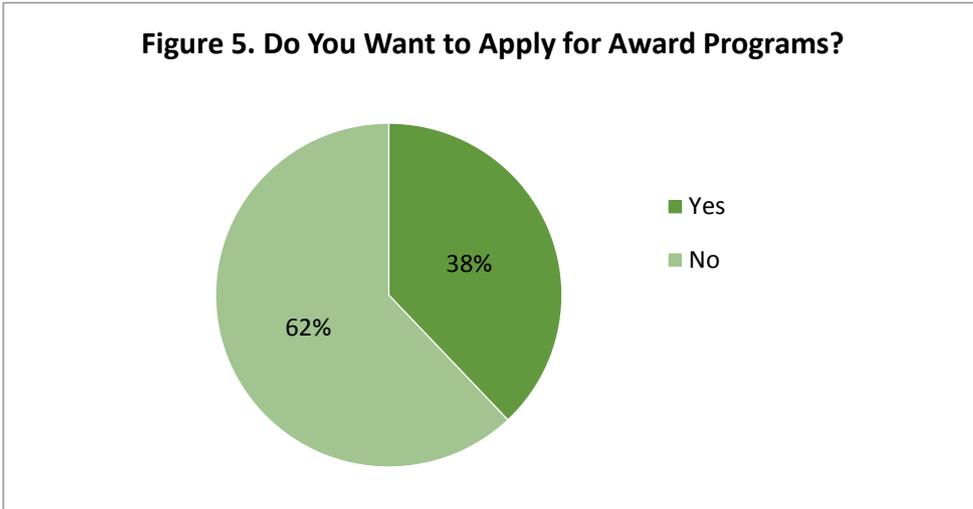
Out of the 13 (thirteen) that answered NO, 10 (ten) answered the follow-up question (2-1 'What are reasons for NOT'). Question [2-1] allowed multiple answers: a) lack of information on any award system; b) lack of awareness of any award system; c) lack of instruction by the management. The multiple answers result in a total of 14 answers as shown in the chart below.



The fact that the majority chose 'Lack of information' shows that there is a need to promote award programs, and an opportunity to explore the methodologies of such promotion. The second largest element for this question was the lack of instruction by the management class. This implies that the involvement of management and their support is essential for an organisation's comprehensive energy management activities.

The following question explored the possibility and intention of participants' companies or organisations to apply for an awarding system.

**Figure 5. Do You Want to Apply for Award Programs?**

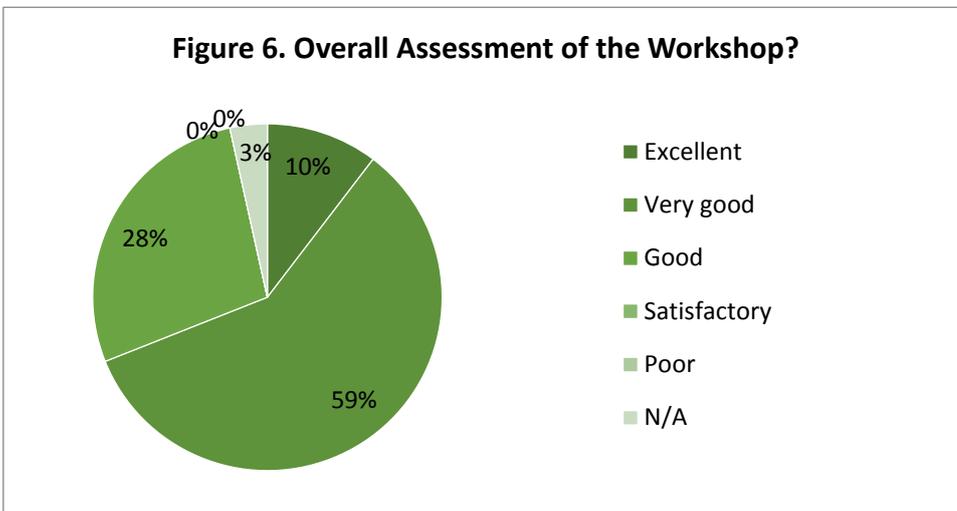


Out of 11 (eleven) who answered YES to the question ‘do you want to apply for an award?’, 2 (two) wanted to apply for the ASEAN Energy Awards.

## **2. General Assessment of the 8th EMAK Workshop**

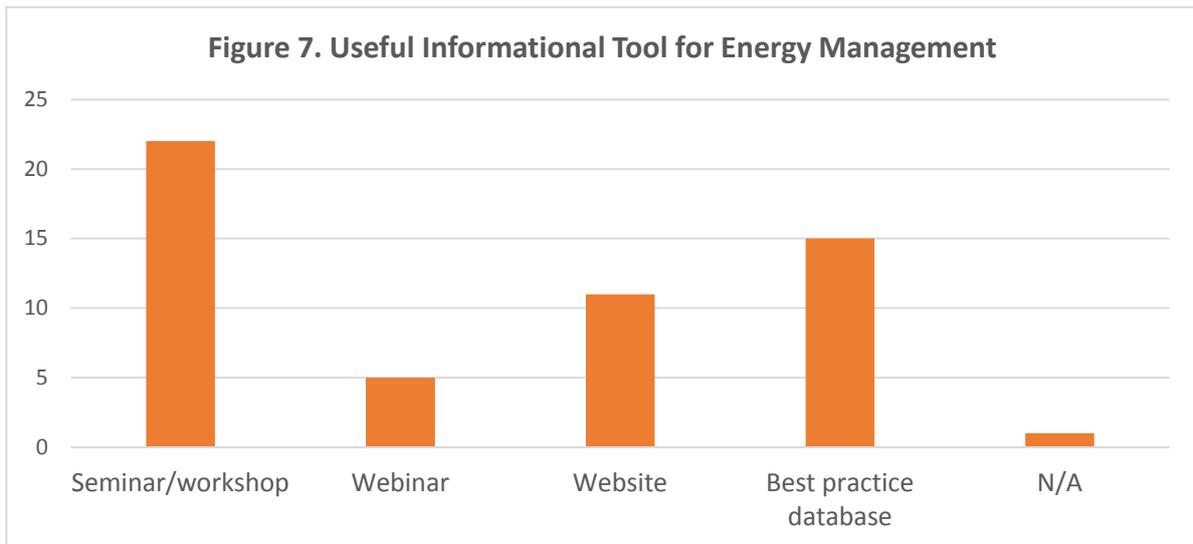
Seventeen out of 29 (twenty-nine) gave the ‘Very Good’ assessment, while only 1 (one) did not respond. This result suggests that the workshop was well valued by participants.

**Figure 6. Overall Assessment of the Workshop?**



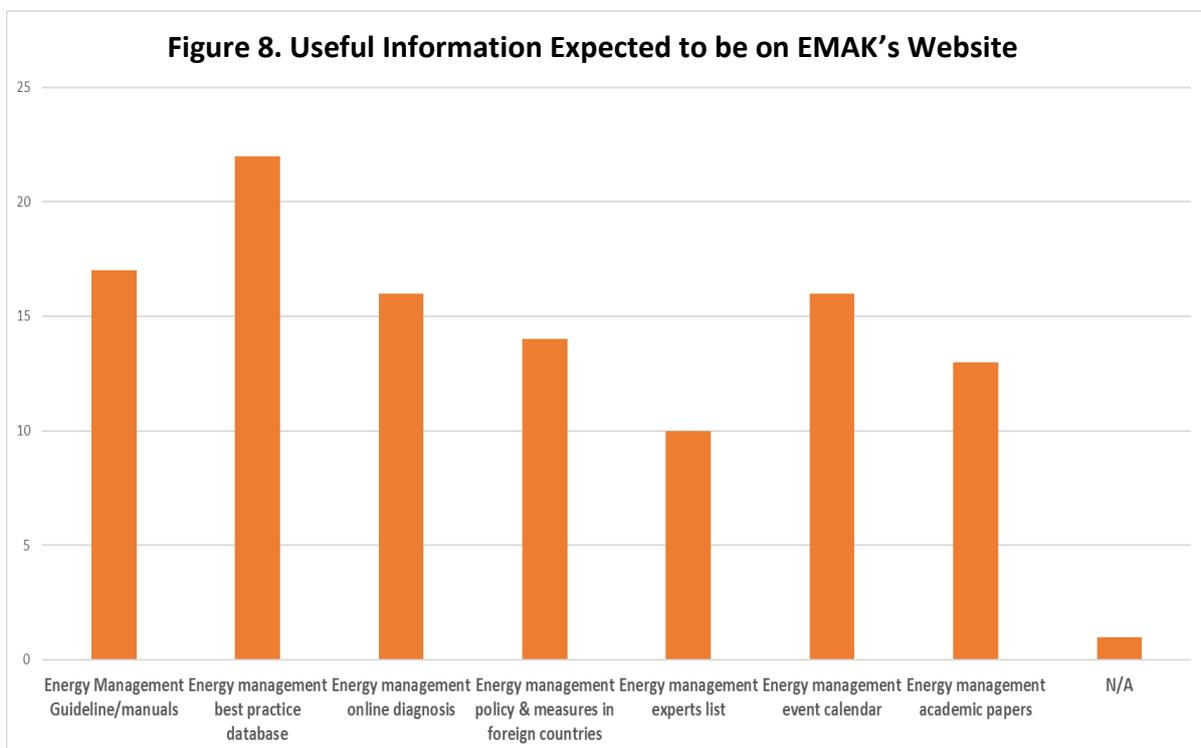
## **3. Future EMAK Initiatives**

Respondents were asked to provide suggestions of ‘useful schemes or tools to gain information for enhancing energy management in their companies or organisations’. Both questions in this category allowed multiple answers, so the total answers for each question surpassed 29.



This question received 54 (fifty-four) answers in total. The highest number was for Seminar/workshop (22), then Best practice database (15), and Website (11). Only 1 (one) person did not answer this question (N/A). This outcome suggests that direct interaction allowing for experience and knowledge-sharing is more favoured.

For the EMAK website itself, respondents were asked what they would like to see there.



As it is also a multiple answer question, the total number of answer for the question 'What kind of information would be useful on the EMAK's website?' was 109 (one hundred and nine). The highest number was for an Energy management best practice database (22). One respondent did not answer, and 5 (five) of them checked all the answers.

On top of the above results, there were ex post facto comments made by Japanese speakers, as follows:

F-Tech It was quite a nice chance for us to make a presentation in Indonesia, where our local factory is based. We would be very happy if our local factory could apply for the Indonesian Energy Award and or ASEAN Energy Award in the near future.

Panasonic It was very nice to let us have a chance to make a presentation this time. We were asked by our local staff to mention more about automated and collective energy management system based on BEMS.

Mie University It was quite a meaningful event for us to join the workshop. We are very much impressed that the audience seemed to have a big interest on the matter of investment and return on investment related to the energy efficiency oriented technology and equipment. Therefore we believed there should be much more mention about the cost of investment and return on investment next time.

## 4. Summary of recommendations

Through this report the key recommendations provided by each speaker for ways in which the Indonesian Government can further enhance its energy management programs have been made.

The Indonesian government has made significant progress in energy efficiency improvement in industry and building mandated by Government Regulation No. 70 (2009), which stipulated that energy end-users who consume more than 6,000-ton oil equivalent (TOE) of primary energy supply per year should appoint an energy manager, conduct an energy audit, and implement energy conservation best practice in industries and buildings. For users of less than 6,000 TOE, it is voluntary to appoint an energy manager, conduct an audit and implement the energy conservation. The workshop provided opportunities to learn from the experiences of other countries and to broaden the network of energy management practitioners. However, there is still potential to optimize energy efficiency implementation. Key recommendations to the Indonesian government are as follows:

1. **To continue to encourage the building and industry sectors to implement EnMS through adoption of best practices and award programs.** This will provide an important foundation for progressing energy efficiency policy and targets by enabling and encouraging these sectors to implement energy management concepts in their energy facilities through awareness-raising and capacity-building, best practice-sharing and award programs. Sharing best practices, fine tuning methodologies and techniques and other various approaches can support policy making. Moreover, success stories can help countries accelerate energy efficiency improvement and learn from international experiences in these areas.
2. **There should be a continued focus on the multiple benefits of energy efficiency to motivate the building and industry sectors to take actions and to maximise business outcomes and growth.** The introduction of practical approaches and technologies are proven ways to improve building and industrial energy efficiency. It requires greater involvement and partnership among stakeholders to achieve successful policies and programs. The EMAK Workshop is an effective platform for bridging the gap among stakeholders through exchange of ideas and views to find solutions and steps forward for energy efficiency development.
3. **Recognition through award programs needs to be continuously promoted to encourage the implementation of energy management for buildings and industries.** The national, regional and international award programs are effective platforms to encourage more private sector participation (including SMEs and large industries) to implement energy efficiency projects with efficient practices and technologies. Through awards, their efforts on EE&C will be recognised by government and the private sector at the national, regional and international levels.
4. **Some efforts need to be undertaken to sustain the award programs,** namely: i) **value of the brand**, such as: global PR effect of the logo, existence of opportunities to learn, publicity and further development; ii) **sustainable system for applicants and promoters**, such as: evaluation methodology, composition of the examination committee and

evaluation process; iii) **application of best practices**, such as: how to support the dissemination of energy management best practices (e.g. Energy Management Systems, autonomous group activity, advanced technology and/or excellent know-how); iv) **promotion of award programs**, such as: how to raise motivation to participate in the competition, promotion tool (e.g. award ceremony, trophy and unique logo), capacity-building effect of the process (e.g. presentation event); and v) **importance of realising the objectives related to BATs and BPs**, such as: optimising the evaluation criteria and selection procedure, promoting cooperation between private and public sectors, and promoting the application of the cases through seminar, workshops and other related events, etc.



## Energy Management Action Network (EMAK)

### Workshop 8

3<sup>rd</sup> February 2017, 09:30~17:40

Jakarta, Indonesia

#### 1. Overview

The ENERGY MANAGEMENT ACTION NETWORK (EMAK) was established in 2009 to promote the improvement of energy efficiency and conservation in industry and commercial sectors under the International Partnership for Energy Efficiency Cooperation (IPEEC). The primary objective of EMAK is to contribute to accelerated uptake of energy management practices and systems in industry and commercial sectors through creating platforms for sharing proven and innovative practices and facilitating capacity building. This includes creating opportunities for networks between policy makers and industry practitioners and establishing platforms to share best practices on policy frameworks, human resource development and on state-of-art management systems and practices.

This time, we are to hold the 8<sup>th</sup> EMAK workshop 2017 in Jakarta, Indonesia 3<sup>rd</sup> of February focusing on the theme of recognised energy management best practices and national/international award programs for best practices. Especially, this time we would like to focus on how the effect of EE&C efforts and investment are maximized by showing the success cases. It will be a great opportunity for audience to learn about awarded practices as case studies and also how they are evaluated in respective award programs. Discussion session will be provided to facilitate exchanging ideas and opinions among audience and speakers for various issues relevant to the theme.

Organised by ECCJ Co-organised by ACE

Sponsored by METI

Supported by IPEEC, EE&C-SSN, DGNREEC-MEMR

#### 2. Agenda of the 8<sup>th</sup> EMAK Workshop

<b>Date</b>	<b>3<sup>rd</sup> February 2017</b>	
<b>Venue</b>	<b>Double Tree by Hilton Hotel Jakarta</b>	
<b>MC</b>	<b>ACE / Ms. Nanda Moenander</b>	
<b>Time</b>	<b>Activity</b>	
<b>Opening</b>		
<b>09:30-10:05</b>	09:30-09:35	Opening Remark & Welcome from ECCJ (Mr. Jiro Sogawa)
	09:35-09:40	Welcome from ACE (Mr. Christopher Zamora )
	09:40-09:55	Keynote speech by MEMR (Ms. Gita Lestari)
	09:55-10:05	VTR message (IEA, IPEEC)

<b>10:05-10:20</b>		<b>Coffee Break</b>
<b>Session 1: Energy Management Best Practices (Commercial Sector)</b>		
<b>10:20-12:00</b>  <b>Moderator ACE/Dr.Atit Tippichai</b>	10:20-10:50	Best practice from Energy Conservation Grand Prize Award (Panasonic / Mr. Takamitsu Yasukouchi)
	10:50-11:20	Best practice from Energy Conservation Grand Prize Award (Mie University / Prof. Masaaki Bannai)
	11:20-11:50	Best practice from ASEAN Energy Award (Apartemen Scientia Residence Serpong / Mr. Budi Utomo)
	11:50-12:00	Q&A
<b>12:00-14:00</b>		<b>Lunch Break</b>
<b>Session 2: Energy Management Best Practices (Industrial Sector)</b>		
<b>14:00-15:40</b>  <b>Moderator MEMR/ Ms.Andriah Feby</b>	14:00-14:30	Best practice from Energy Management Leadership Award (F-Tech / Ms. Keiko Kurosawa)
	14:30-15:00	Best practice from Energy Management Leadership Award (PT Indah Kiat Pulp & Paper / Mr. Kholisul Fatikhin)
	15:00-15:30	Best practice from ASEAN Energy Award (PT Petrokimia Gresik / Ms. Anis Ernani)
	15:30-15:40	Q&A
<b>15:40-16:00</b>		<b>Coffee Break</b>
<b>Session 3: Discussion: Knowledge to be shared amongst Energy Management Award Programs</b>		
<b>16:00-17:30</b>  <b>Moderator ECCJ/ Mr.Yasushi Tanaka</b>	16:00-16:40	Introduction of Award Programs - ASEAN Energy Award (ACE / Mr. Rio Jon Silitonga) - Indonesian Energy Award (MEMR / Ms. Gita Lestari) - Energy Conservation Grand Prize Award (ECCJ / Mr. Akira Ishihara) - Energy Management Leadership Award (ECCJ / Mr. Akira Ishihara) - TOP TENs (ECCJ / Mr. Yasushi Tanaka)
	16:40-17:30	Discussion by all speakers (1) Secret of success (2) Future Development
<b>Closing Session</b>		
<b>17:30-17:40</b>	Closing remark (METI / Ms. Sayaka Shishido)	
<b>18:00-19:30</b>	<b>Networking Buffet</b>	

## ANNEX 2

**Participants List**

<b>No.</b>	<b>Name</b>	<b>Organisation</b>	<b>Type of organisation</b>	<b>Country</b>
1	Gita Lestari	EBTKE-ESDM	Indonesian Ministry	Indonesia
2	Media Riski Fauziah	EBTKE-ESDM	Indonesian Ministry	Indonesia
3	Wahyu Widya	EBTKE-ESDM	Indonesian Ministry	Indonesia
4	Sayaka SHISHIDO	METI	Sponsor	Japan
5	Jiro SOGAWA	ECCJ	Co-organiser	Japan
6	Akira ISHIHARA	ECCJ	Co-organiser	Japan
7	Yasushi TANAKA	ECCJ	Co-organiser	Japan
8	Takashi SATO	ECCJ	Co-organiser	Japan
9	Naomi HONMA	ECCJ	Co-organiser	Japan
10	Takeshi KAWASHIMA	F-TEC Inc.	Private sector	Japan
11	Keiko KUROSAWA	F-TEC Inc.	Private sector	Japan
12	Masaaki BANNAI	Mie University	University	Japan
13	Kenichi OHTAKE	President, PT.F.TECH INDONESIA	Private sector	Indonesia
14	Ksao KAWAKAMI	General Manager, PT.F.TECH INDONESIA	Private sector	Indonesia
15	Budi Utomo	Apartemen Scientia Residence Serpong	Private sector	Indonesia
16	Kholisul Fatikhin	PT Indah Kiat Pulp & Paper	Private sector	Indonesia
17	Anis Ernani	PT Petrokimia Gresik	Private sector	Indonesia
18	Siti Ardiningsih Adiwoso	Green Building Council Indonesia (GBCI)	Private sector	Indonesia
19	Surendro	Green Building Council Indonesia (GBCI)	Private sector	Indonesia
20	Gema Khusnul Fitrika	Adaro Energy	Private sector	Indonesia
21	Tri Sani	PT Great Giant Pineapple	Private sector	Indonesia
22	I Ketut Harta Mahendra	PT Great Giant Pineapple	Private sector	Indonesia
23	Eva Pitterling	EuroCham	International organisation	Indonesia
24	Jean Baptiste Dreanic	EuroCham	International organisation	Indonesia
25	Eka Wahyuni	EuroCham	International organisation	Indonesia
26	Wioko Yudhantara	Astra Internasional Tbk	Private sector	Indonesia
27	Narendra Afian P.	Astra Internasional Tbk	Private sector	Indonesia
28	Aris	UNIDO	International organisation	Indonesia
29	Nico/Apri	UNIDO	International organisation	Indonesia
30	Maria-Jose Poddey	GIZ (AGEP)	International organisation	Indonesia

31	Intan Cinditiara	GIZ (AGEP)	International organisation	Indonesia
32	Anant Shukla	GIZ (AGEP)	International organisation	Indonesia
33	Hanna Yolanda	GIZ (AGEP)	International organisation	Indonesia
34	Nanang	PT Amerta Indah Otsuka	Private sector	Indonesia
35	Ikhsan	PT Amerta Indah Otsuka	Private sector	Indonesia
36	Amir	PT Amerta Indah Otsuka	Private sector	Indonesia
37	Asep Suwarna	USAID ICED	International organisation	Indonesia
38	Hanny J. Berchmans	USAID ICED	International organisation	Indonesia
39	Aldo	KMK Global Sport	Private sector	Indonesia
40	Rudi	KMK Global Sport	Private sector	Indonesia
41	Kai Berndt	GIZ (Green Chiller)	International organisation	Indonesia
42	Eva Wahyuningsih	GIZ (Green Chiller)	International organisation	Indonesia
43	Getruida H. Hardjowijono	GIZ (Green Chiller)	International organisation	Indonesia
44	Junianto	GIZ (Green Chiller)	International organisation	Indonesia
45	Christopher Zamora	ACE	Co-organiser	Indonesia
46	Badariah Yosiyana	ACE	Co-organiser	Indonesia
47	Rio Jon Piter Silitonga	ACE	Co-organiser	Indonesia
48	Atchariya Jangchay	ACE	Co-organiser	Indonesia
49	Mutia Asriyani	ACE	Co-organiser	Indonesia
50	Nanda Febriani Moenandar	ACE	Co-organiser	Indonesia
51	Adiskiya Rinintasari	ACE	Co-organiser	Indonesia
52	Randy Wynston Kaseger	ACE	Co-organiser	Indonesia
53	Aloysius Damar Pranadi	ACE	Co-organiser	Indonesia
54	Dr. Ing- Kusananto	ACE	Co-organiser	Indonesia
55	R. Anton Purwakusumah	Star Energy Geothermal	Private sector	Indonesia
56	Dedy Setiawan	Star Energy Geothermal	Private sector	Indonesia
57	Muslina Handayani	PERSI	Private sector	Indonesia
58	Anggara NSP	PT. Gajah Tunggal	Private sector	Indonesia
59	Sutriyono	PT. Gajah Tunggal	Private sector	Indonesia
60	Priyono B.S	PT. Gajah Tunggal	Private sector	Indonesia
61	Lucky Ginanjar	PT. Gajah Tunggal	Private sector	Indonesia
62	Mr. Kiyoshi Izawa	NEWJEC Inc. Jakarta Office	Private sector	Indonesia
63	Hery Susanto	PT. Chiang Luh Indonesia	Private sector	Indonesia
64	Prima Ardhi Susatya	PT. Unilever Indonesia, TBK	Private sector	Indonesia
65	Januar Gurning	Panasonic Indonesia	Private sector	Indonesia
66	Abdullah Afian	Panasonic Indonesia	Private sector	Indonesia
67	Muhammad Taufiq H	PT Pembangunan Jawa Bali	Private sector	Indonesia
68	Akhmad Unggul	Lintas EBTKE-ESDM	Indonesian Ministry	Indonesia
69	Dedi Suntoro	P3TK EBTKE-ESDM	Indonesian Ministry	Indonesia

70	Khalif Ahadi	P3TK EBTKE-ESDM	Indonesian Ministry	Indonesia
71	Santosa Adibwibawa	PT Phapros	Private sector	Indonesia
72	Anton Wahjusoedibjo	PT Pranata Energi Nusantara	Private sector	Indonesia
73	Filius Y	PT Pusri Palembang	Private sector	Indonesia
74	Yusman Arullah	PT Pusri Palembang	Private sector	Indonesia
75	Ridho Yasser	Coordinating Ministry for Maritime Affairs	Indonesian Ministry	Indonesia
76	Dani Supratman	Coordinating Ministry for Maritime Affairs	Indonesian Ministry	Indonesia
77	Luna Mutiara	Lintas EBTKE-ESDM	Indonesian Ministry	Indonesia
78	Nina K. S	P3TK EBTKE-ESDM	Indonesian Ministry	Indonesia
79	Mulyani	Communication Bureau, ESDM	Indonesian Ministry	Indonesia
80	Arientaldi	Communication Bureau, ESDM	Indonesian Ministry	Indonesia
81	Muhammad Ircham	Asosiasi Semen Indonesia	Private sector	Indonesia
82	Jon Respati	Indonesia Energy Conservation and Efficiency Society	Civil society organisation	Indonesia
83	Rana	Indonesia Energy Conservation and Efficiency Society	Civil society organisation	Indonesia
84	Agus Suyoto	Summarecon	Private sector	Indonesia
85	Catur Wahyu	ESDM	Indonesian Ministry	Indonesia
86	Agung Feinnudin	ESDM	Indonesian Ministry	Indonesia
87	Andriani	ESDM	Indonesian Ministry	Indonesia
88	Awal Royadi	ESDM	Indonesian Ministry	Indonesia
89	Krist Astuti	Consultant ADB	International organisation	Indonesia
90	Wioko Yudhantara	PT Astra International	Private sector	Indonesia

**THE 8<sup>TH</sup> WORKSHOP FOR ENERGY MANAGEMENT ACTION NETWORK EVALUATION FORM**

**EMAK 2017 (Jakarta, Indonesia) on 3rd February 2017**

Dear Participant,

Thank you very much for joining 8<sup>th</sup> EMak workshop. We would be most grateful if you could answer following questions. Please check the most appropriate box.

**EVALUATION FORM**

**I. YOUR ORGANISATION PROFILE**

**1. Your organisation is classified as a...**

- (a) Large scaled Corporate/business organisation
- (b) Small and medium sized Corporate/business organisation
- (c) Government/regulatory body
- (d) Professional/industry association
- (e) NGO/non-profit organisation
- (f) Educational/academic institution
- (g) Others

**2. If you are from a large scaled Corporate/business organisation, which sub-sector does your organisation belong to?**

- (a) Manufacturing company
- (b) Energy supply company
- (c) Bank/Financing company
- (d) ESCO company
- (e) Other Service company

**II. ENERGY MANAGEMENT STATUS IN YOUR ORGANISATION**

**1. Has your organisation ever applied to awarding system (Indonesian Energy Award, ASEAN Energy Award, USA Energy Management Leadership, and Top-Ten)?**

Yes	No	Do not know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. If you choose “No” or “Do not know” on above question,

2-1 What are reasons for NOT (multiple answers allowed)

Organisation is already energy efficient	Organisation has in-house energy management expert	Lack of money	Lack of information on energy efficiency	Lack of awareness of energy efficiency
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2-2 Do you want to apply Awarding system in Future?

Yes , Which Awarding system do you like to apply?

### III. GENERAL ASSESSMENT FOR THE EMAK WORKSHOP

1. What is your overall assessment of this event?

Excellent	Very Good	Good	Satisfactory	Poor
<input type="checkbox"/>				

2. Which presentations were of most interest to and/or relevant to your organisation? (multiple answers allowed)

USA	Australia	Japan	China	Indonesia	Panel Discussion
<input type="checkbox"/>					

### IV. EMAK FUTURE ACTION

1. What are useful schemes or tools to gain information for enhancing energy management in your organisation? (multiple answers allowed)

Seminar/Workshop	Web-seminar	Portal site(website)	Best Practice Data base
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. What kind of information would be useful on the EMAK website? (multiple answers allowed)

Energy Management guideline and manuals	Energy Management Best practice data base	Energy Management online diagnosis	Energy Management policy and measures in foreign countries	Energy Management experts' name list	Energy Management Event calendar	Energy Management Academic Papers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Thank you for taking the time to fill out this questionnaire.  
Please kindly return it before the end of the conference.*