

SE4ALL GLOBAL ENERGY EFFICIENCY FORUM on CITIES

29 – 30 October, 2015 Tokyo, JAPAN



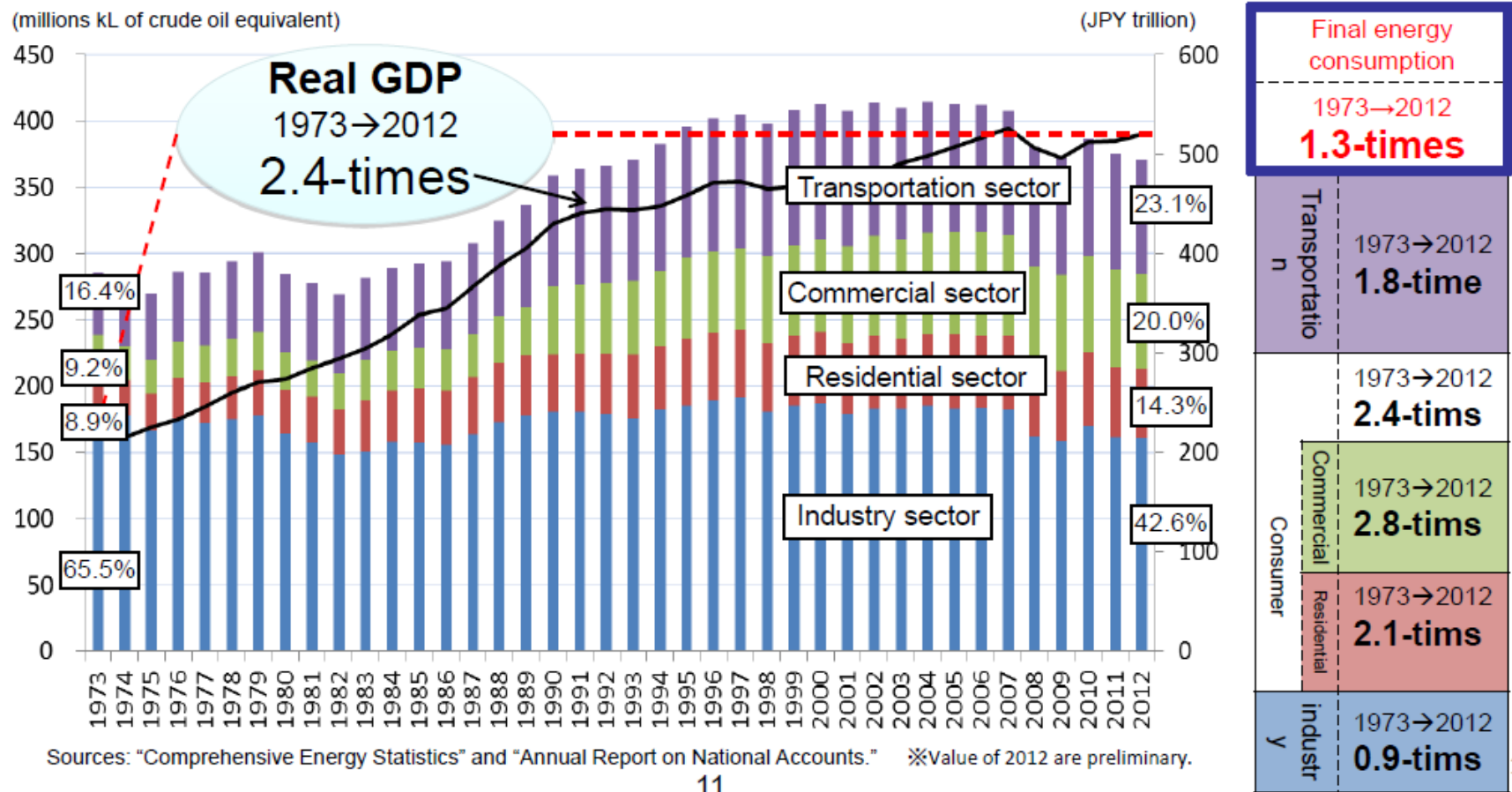
ECCJ 's International Cooperation as SE4ALL Energy Efficiency Facilitating Hub

SESSION 4

The Energy Conservation Center, Japan

Trend of Energy Consumption by Sector in Japan

Reviewing the long duration from 1973 to 2012, the GDP continued increasing to 2.4 times, while the energy consumption for individual sector was **2.4 times, 1.8 times and 0.9 times increase** for Consumer Sector, Transportation Sector and Industrial Sector respectively.



Key Success Steps for EE&C in Japan

- ★ Energy such as electricity, fuel oil ,fuel gas, etc. is consumed anywhere.
- ★ Energy is consumed by anybody.
- ★ Therefore, **participation by all** is a key success step for the EE&C.

Japanese way of Promotion for EE&C in Industrial Sector

1. Legal measures by Government
(EC law and regulations, such as the act concerning rational use of energy)
2. Financial supporting system by Government
(tax incentives, low interest loan and subsidies)
3. Voluntary efforts toward cost reduction by both public and private industrial sectors to overcome international competition
(company-wide activities such as ZD, TQC,TPM, SGA and facility investment, technology innovations, etc.)

Back-up

Implementation & dissemination of the policies by the dedicated organizations such as ECCJ and other nodal organizations concerned

ECCJ's international cooperation

Outline of the Cooperation

ECCJ's international cooperation has supported for the developing countries to develop an EE&C policy and to promote energy management and EE&C technologies at factories and commercial buildings. The supports have been implemented by means of accepting people for training in Japan (since 1981) , expert dispatching (since 1980) and information provision under the support of METI, JICA, etc. as a sponsor. The specific activities are

❑ Capacity-building for promotion of EE&C by Training courses in Japan and Expert dispatching

- Advice for making and implementing the EE&C policy and regulatory framework
- Transfer of energy audit techniques and EE&C technologies for factories and buildings by On the Job Training and seminars and workshops
- Supports for the establishment of the National Energy Conservation Center

<The activities are very practical>

❑ Asia Energy Efficiency & Conservation Cooperation Center

- One stop consulting services for inquiries on EE&C
- Information services to Asian countries on EE&C activities

❑ Development of international EE&C business



Training in Japan



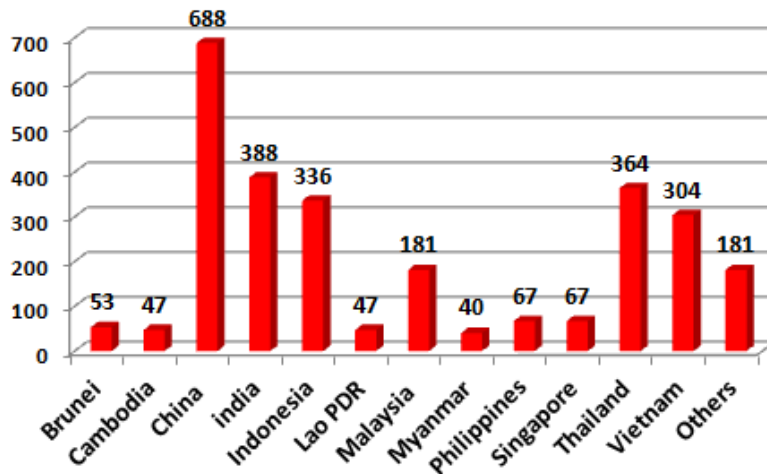
OJT of Energy Audit

ECCJ's Achievements under METI

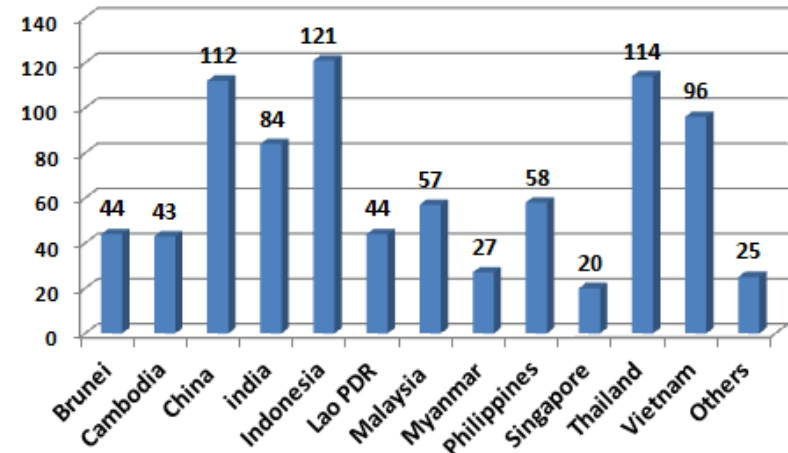
Many trainees invited and many experts dispatched

ECCJ have implemented the international capacity building programs on energy efficiency & conservation (EE&C) by the bi-lateral and multi-lateral country framework under the Ministry of Economy, Trade and Industry (METI). This program has invited **many people for training** in Japan and **dispatched many experts** mainly to Asian Countries. In addition, **all the programs are very practical and useful** to promote and disseminate EE&C in those countries.

Number of Trainees invited to Japan
2,763 Trainees in 2005 - 2014



Number of Experts dispatched
845 experts in 2005 - 2014



ECCJ's Achievements under METI (Training in Japan)

The Workshops in Japan for ASEAN Countries in FY2014

The ASEAN Japan Energy Efficiency Partnership Program (AJEEP Program), one of the main capacity building programs of ECCJ, ECCJ provided with the three workshops (ECAP5, ECAP6 and ECAP7) in Japan for government people and related organization in FY2014 .

Year Scheme		Items	ASEAN Member Countries									
			Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
2014-15	ECAP5	Execution Period	29 Octobe - 5 November, 2014									
		Objective	Drafting the detail plan of action on provision of EE&C legal system									
		Participant	2	3	1	3		3	1	1	1	1
		Participant from ACE	2								Total	18
	ECAP6	Execution Period	20 - 28 November, 2014									
		Objective	Overcome difficulties in developing, improving and implementing EE S&L program for appliances and possible plans of actions to proceed with harmonization in the field of the EE S&L program									
		Participant	-	2	2	2	1	2	2	1	2	2
		Participant from ACE	2								Total	18
	ECAP7	Execution Period	15-18 December, 2014									
		Objective	Improvement of the evaluation standard and procedures for ASEAN Energy Award for best practices in Energy Management and EE&C and Green Buildings									
		Participant	-	2	2	2	2	1	2	2	2	2
		Participant from ACE	2								Total	19

Energy Awards (EE&C buildings)

Standard & Labeling for appliances

Policy & legal system (EC law)



ECCJ's Achievements under METI (Expert dispatching)

Advice for making and implementing EE&C policy & regulations in FY2014

In AJEEP Program, ECCJ dispatched experts to advise to the government people on how to make and implement the EE&C policies and regulatory framework through the seminar/workshop and energy management practice training.

Supported Group	Activities implemented	Supporting Group	Duration
Cambodia Ministry of Mines and Energy (MIME)	<ul style="list-style-type: none"> • Policy Making Workshop • OJT of Energy Management including Energy Audit at a resort hotel. 	 Singapore Thailand (Malaysia was expected to join)	01-05 Dec 2014
Lao PDR Ministry of Energy and Mines (MEM)	<ul style="list-style-type: none"> • Policy Making Workshop EC regulation incl. S&L of AC • Simple Energy Audit/Training for the iron & steel factory 	 Thailand (Philippines and Vietnam were expected to join)	12 -16 Jan 2015
Myanmar Ministry of Industry (MOI)	<ul style="list-style-type: none"> • Policy Making Workshop • Energy Management Training • Simple Energy Audit/Training at a supermarket. 	 Indonesia Thailand Vietnam	19-23 Jan 2015

ECCJ's Achievements under METI (Expert Dispatching)

Technology transfer for ASEAN countries in FY2014

In AJEEP Program, ECCJ has transferred the energy audit techniques and EE&C technologies for factories and buildings by On the Job Training and seminars and workshops.

Countries	Proposed Activities (2014–2015)	Schedule
Thailand (Ministry of Energy DEDE)	1. Energy Audit for EE&C business development <ul style="list-style-type: none"> The factory nominated for this activity: Kasemsakdi Co. Ltd (Iron and Steel) Theme of Technologies: EE&C technologies for Reheating furnace and electric arc furnace 2. Intensive Seminar/Workshop	5days (10 th -14 th November 2014)
Indonesia (Ministry of Energy and Mineral Resources(M EMR))	1. Energy Audit for EE&C business development <ul style="list-style-type: none"> The nominated factory for this activity: PTSmart, Belawan factory (Food) in Medan Theme of Technologies: Co-generation/waste heat recovery 2. Intensive Seminar/Workshop	5 days (8 th – 12 th Dec. 2014)
Indonesia (MEMR)	Conference on Energy Efficient Technologies <ul style="list-style-type: none"> Business Sourcing and Matching Opportunities Site visits 	3 days (20 th - 22 nd October 2014)



ECCJ's Achievements under METI (Expert Dispatching and Training in Japan) Award System for Enhancement of Awareness

ECCJ has been supporting ASEAN to establish the Award System of the best practices of Energy Management (EM) and EE&C buildings for enhancement of awareness of EE&C. These award systems have become very popular in ASEAN countries as ASEAN Energy Award.

The Awarded best practices of EM in 2014

I . Small and Medium Building (annual power consumption < 2000MWh)

Winner	Kantang Hospital (Hospital) , Thailand
Winner	Malacca Merlimau Polytechnic (大学) , Malaysia

II . Large Building (annual power consumption ≥ 2000MWh)

Winner	Future Park Shopping Center: Let's Turn Off Power to Turn On Energy Saving (Commercial) , Thailand
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III . Industry (Small and Medium : Annual Energy Consumption < 30 million MJ)

Winner	Khao C.P. Company Limited (Wangdaeng Factory) (Rice Mill) , Thailand
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IV . Industry (Large : Annual Energy Consumption ≥ 30million MJ)

Winner	Sahaviriya Steel Industries Public Company Limited (Steel Factory) ,Thailand
Winner	Management Energy at PT Toyota Motor MFG (Automobile Manufacturer) , Indonesia

V . Special Submission Category

Winner	EC by Using Exhaust Gas Through Waste Heat Recovery Power Generation (WHPRG) Technology in PT. Semen Padang (Cement Factory) Indonesia
Winner	Energy Management System within Heveaboard Berhad (Building Material Manufacturer) , Malaysia
Winner	Thai Smart Dry Cutting Thai-German Ceramic Industry Public Company Limited, Thailand

Year	Number of Entries						No. of Countries
	I	II	III	IV	V	合計	
2007		5		1 1		16	6
2008		7		8		15	7
2009		9		8		17	8
2010	2	5	0	8	3	15	7
2011	6	6	0	8	4	24	7
2012	2	6	2	4	5	19	5
2013	2	3	2	7	7	21	5
2014	5	7	3	9	6	30	6
Total	1 7	4 8	7	6 3	2 5	160	



Kao P.C.



PT Toyota



Future Park Shop.

ECCJ's Achievements under JICA

Many year continuation proves the courses to be good in quality

JICA /ECCJ Worldwide Group Training program on the EE&C (ODA) has been implemented once a year since 1986.

This program has continued for 30 years, **the longest EE&C training program in ECCJ and sustainable EE&C capacity building program.**

- ❑ The duration : One month (two month course before 2007)
- ❑ Purpose of the program: to learn how to formulate policy proposal based on the situation in the participants' countries
- ❑ Contents of Training: lectures, site visits(factories and buildings), discussions(small group), workshop(policy making), practical training, etc.

→**Practical and Useful**

- ❑ Trainees : 10-15 participants per year from the government or related organization in charge of EE&C promotion in the developing countries. approx. 400 people from over 70 countries for 30 years

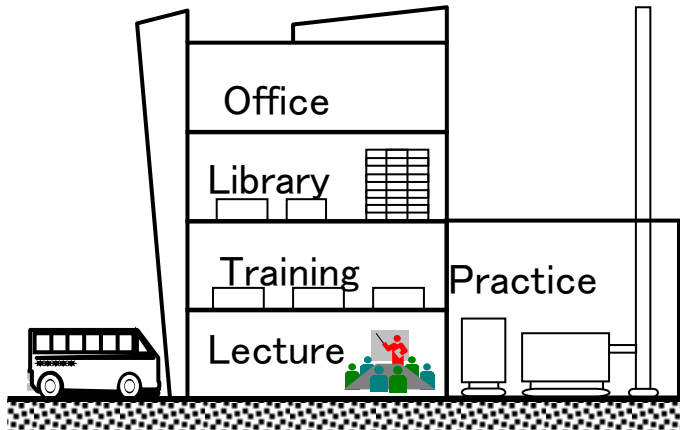
- ❑ **This program has educated and trained many government staff in charge of EE&C and promoted the spread of the Japanese EE&C best practices all over the world**



ECCJ's Achievements under JICA

Establishment of the Energy Conservation Center

Under JICA scheme, ECCJ has implemented the project for establishment of the Energy Conservation Center in the developing countries since 1992 which **is also long and practical project.**



Those Energy Conservation Centers have contributed to the implementation of Their countries' EE&C policies and law & regulations.

Energy Conservation Center

- ❑ CHINA : ECTC (1992.7~99.1)
- ❑ ARGENTINA : CIPURE (1995.7~00.6)
- ❑ BULGARIA : EEC (1995.11~00.10)
- ❑ TURKEY : NECC (2000.8~05.7)
- ❑ THAILAND : PEMTC (2002.4~05.4)
- ❑ IRAN : NTCEM (2003.4~07.3)
- ❑ POLAND : ECTC (2004.7~08.6)
- ❑ VIETNAM: EMTC (2013.7~16.4)

- ECC: The Energy Conservation Center
- ECTC: Dalian China Energy Conservation Training Center
- CIPURE: The Rational Use of Energy Center
- NECC: The National Energy Conservation Center
- PEMTC: The Practical Energy Management Training Center, Thailand
- NTCEM: The National Training Center for Energy Management
- EMTC: Energy Management Training Center

Conclusions

- 1. ECCJ has provided with the practical and useful supports on the EE&C promotion substantially both in volume and quality for the developing countries for many years utilizing its experiences and knowledge obtained through the domestic EE&C projects to support the government policies.**
- 2. ECCJ, taking advantage of the status of the SE4ALL Energy Efficiency Facilitating Hub, will continue to provide with more practical and useful programs to promote and facilitate EE&C projects.**
- 3. Furthermore, based on what we have learned from the presenters and the participants in this forum, ECCJ will support the EE&C promotion projects conducted by the local governments, cities and provinces, in addition to central governments, by strengthening inter-cities collaboration.**
- 4. ECCJ will enhance the cooperation with Japanese government (METI, MOFA, etc.), UN's SE4ALL initiatives and the related organizations (C2E2, WB, ADB , EBRD, etc.) , private sectors and academies for success of SE4ALL initiatives.**