

Deep-dive workshop proposed for Asis Clean Energy Forum

Tuesday 7 June 2016 Manila, Philippines



Best practices and policy support activities at the national level

SESSION 2

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The Energy Conservation Center, Japan

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- **Introduction of ECCJ**
- **Systematic Development Roadmap for EE&C**
 - Vertical axis development of key systems
 - Horizontal axis development of implementation body
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 - **Introduction of Demonstrative Projects**
 - AJEEP Scheme 2
 - **Labeling Program**
 - AJ-EMTIPS
 - **Raising Awareness of Persons in Public**
 - Energy Conservation Grand Prize Award
 - Asean Energy Award
 - Top Tens Task Group under IPEEC
- **Way Forward**

1 . Introduction of ECCJ overview

ECCJ is the core organization responsible for promotion of energy conservation in Japan.
Its activities **WERE** authorized by the Diet when the Energy Conservation Law was enacted.

Legal status :	General Incorporated Foundation
Establishment :	1978
Office location :	Tokyo Head office & 8 branches
Supporting member :	Approx. 2,500 companies (as of April 2014)
Staff :	122 persons (as of April 2014)
Business scale :	2.504 billion yen in 2013 FY (25 million U\$)

Fields of Main Activities

Industrial Sector	<ul style="list-style-type: none">① Energy conservation Audit services for factories & buildings② Education & training on energy conservation③ State examination for energy managers
Commercial / Residential Sector	<ul style="list-style-type: none">① Energy conservation Audit services for buildings② Dissemination of Top Runner Program and Labeling③ Promotion of Eco-driving
Cross Sector	<ul style="list-style-type: none">① Information & data base, Publicity and publishing② International Cooperation including AEEC's activities③ Registration of auditors for ISO50001 Energy Management System

1 . Introduction of ECCJ international 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



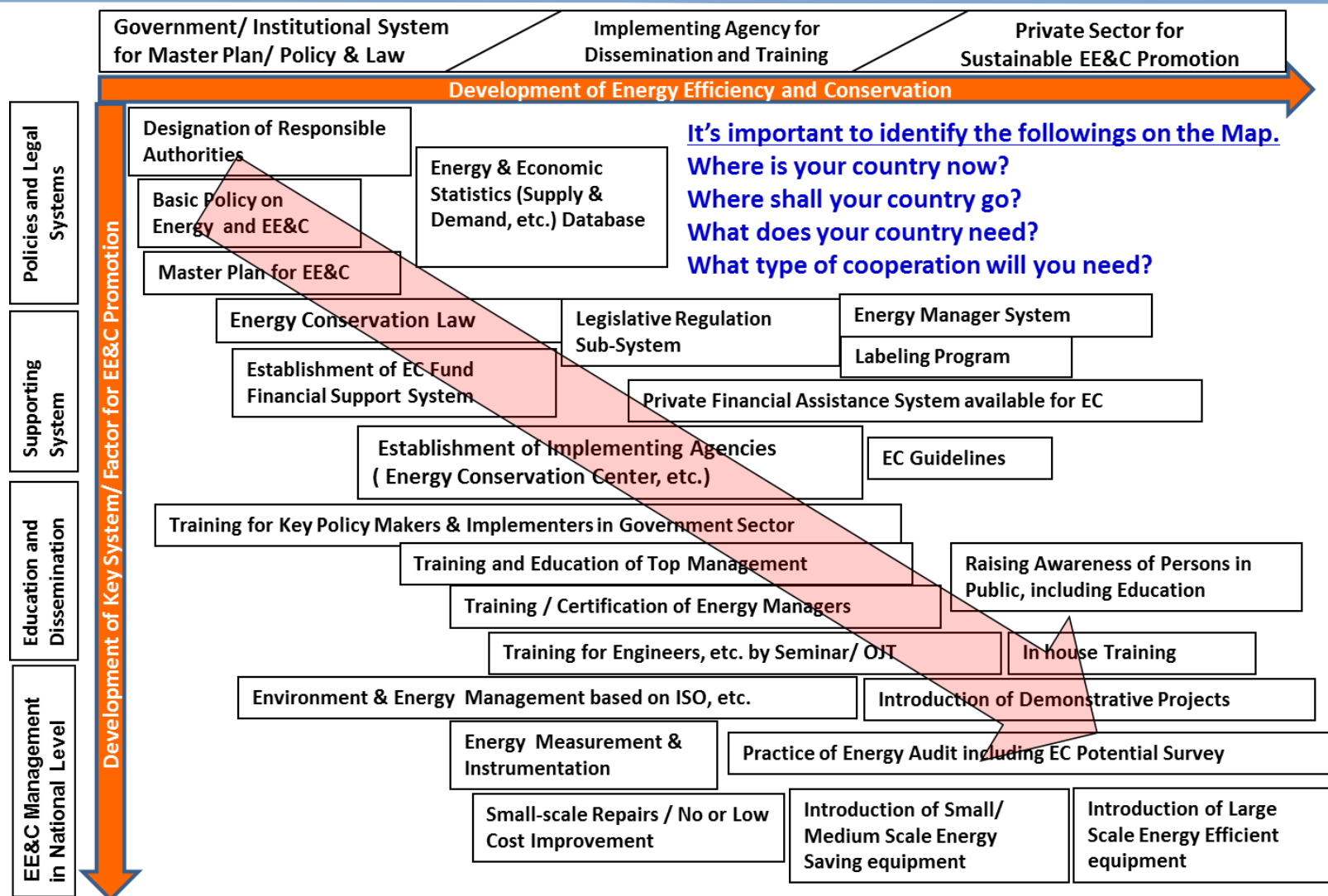
Training in Japan



OJT of Energy Audit

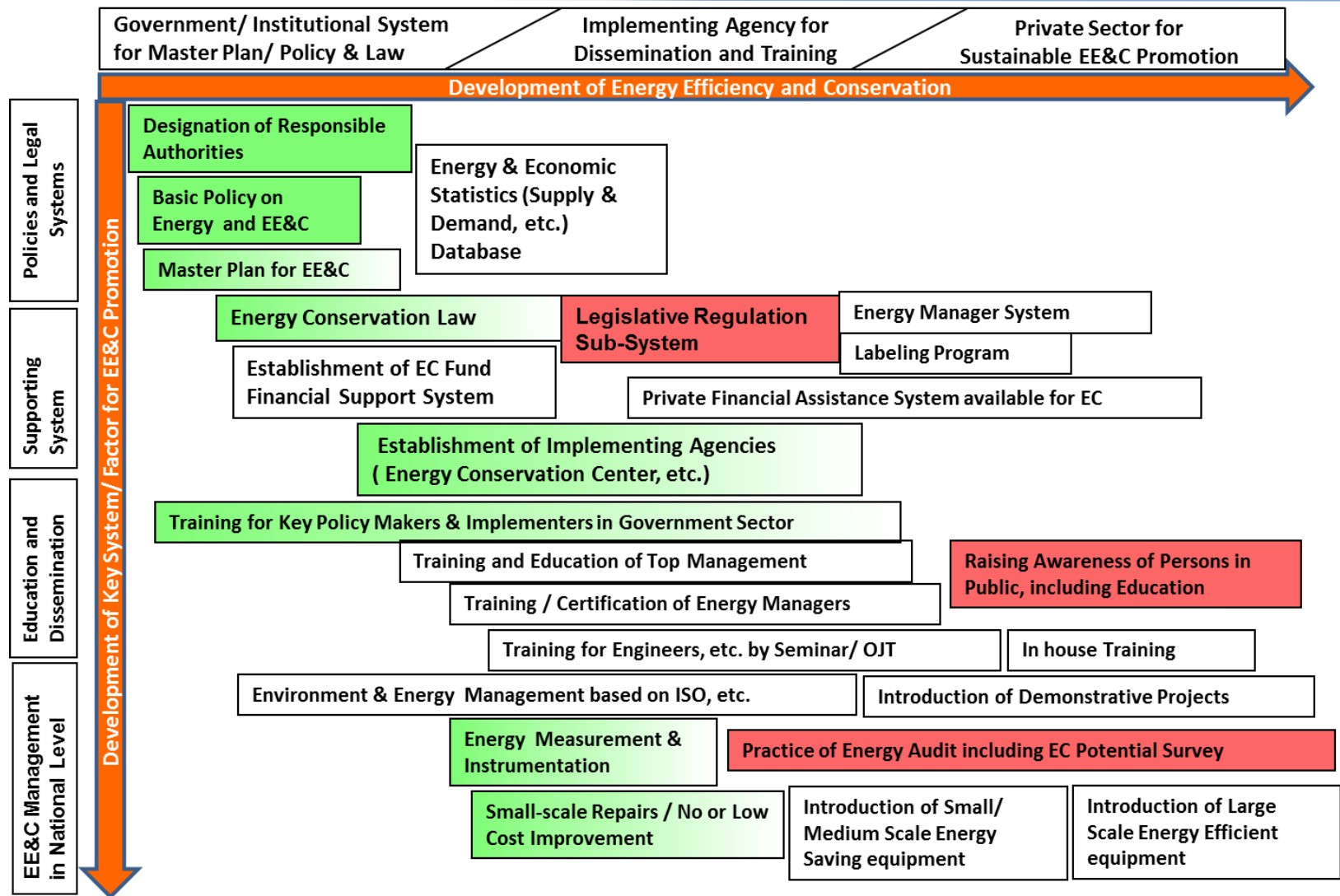
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2. Systematic Development Roadmap for EE&C



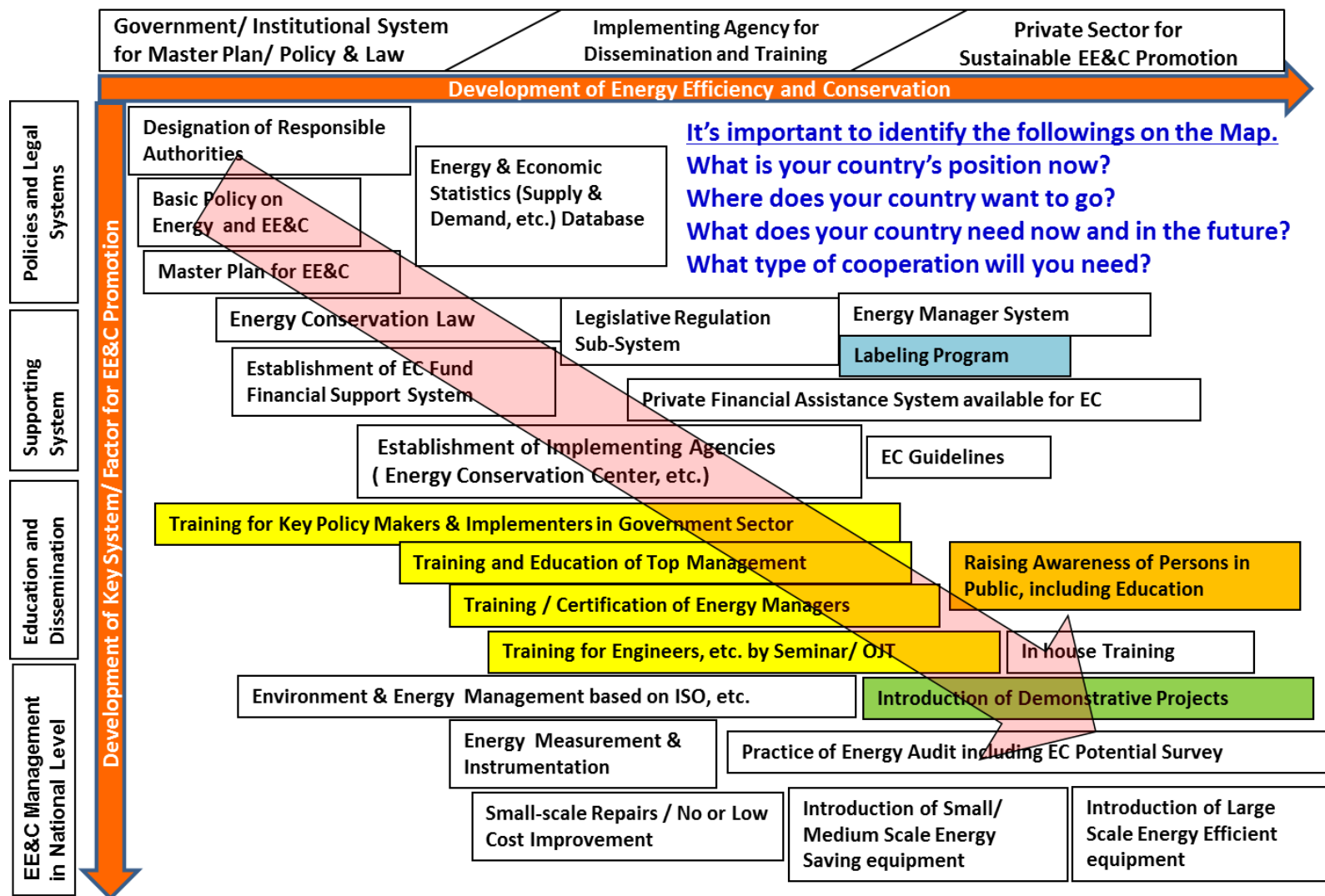
Source: The Energy Conservation Center, Japan

2-2 Case Example for Country “A”



Source: The Energy Conservation Center, Japan

2-3 Today's Discussion Areas

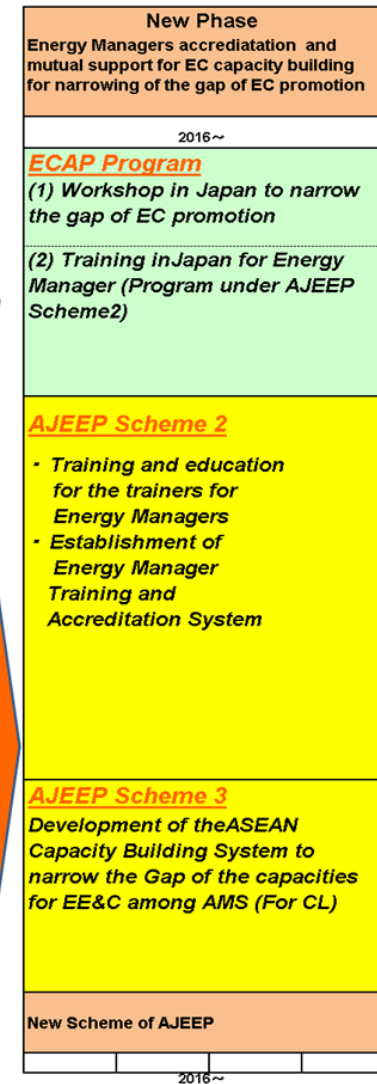
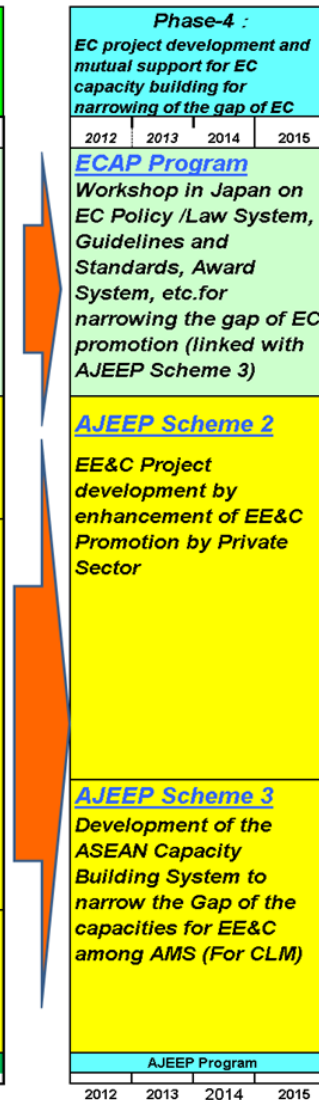
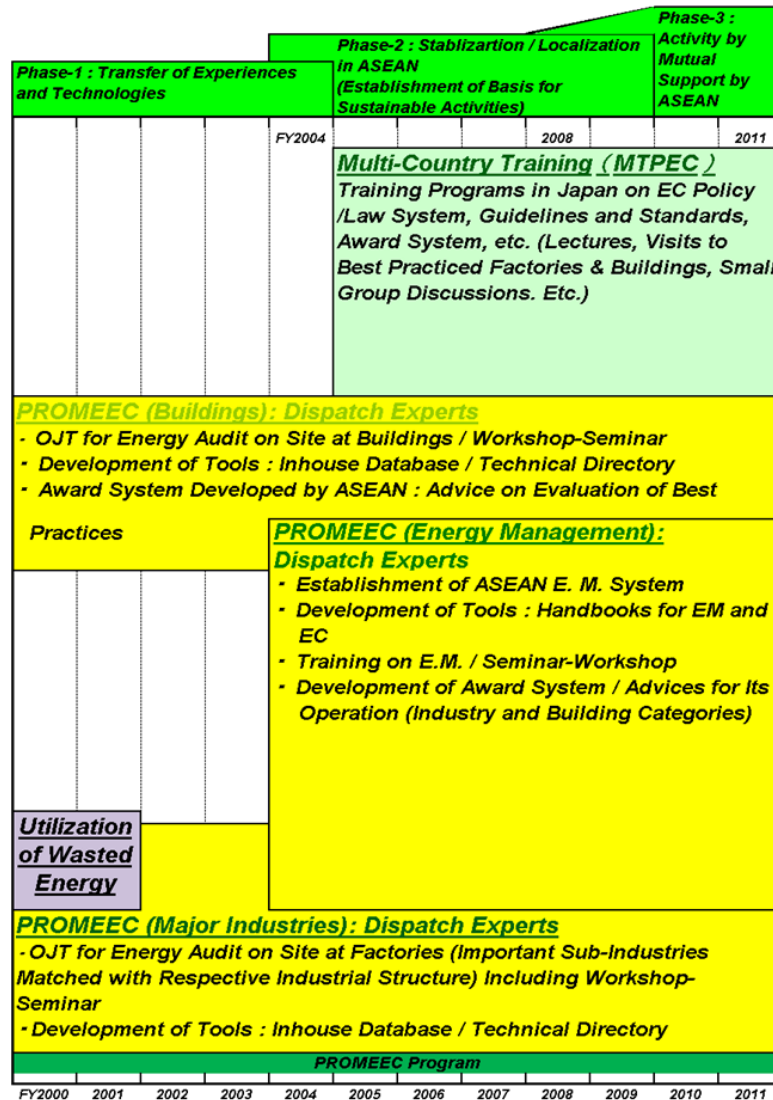


Source: The Energy Conservation Center, Japan

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6.AJEEP Scheme 2

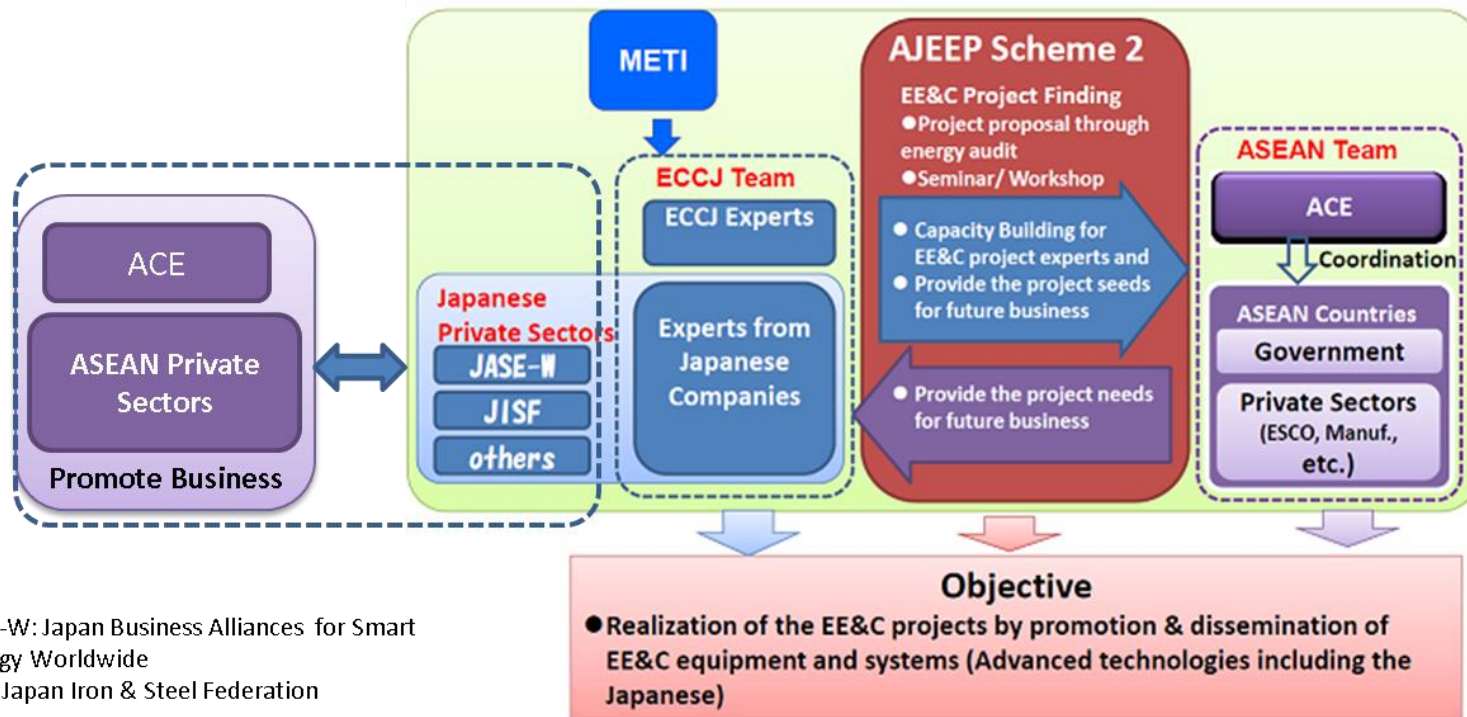
History of PROMEEC and AJEEP



6.AJEEP SCHEME 2

Objective : “Enhancement of EE&C Promotion by Private Sector”

This scheme forms a capacity building platform / system for EE&C business development by which more private companies could find business opportunities to accelerate improvement in EE&C through applying effective / advanced technologies and products under a well-established EC policy / legal framework and energy management system. Japan (METI-ECCJ) provide ASEAN with information on the advanced technologies and products so as to create more opportunities for private sectors to promote EE&C through business.



JASE-W: Japan Business Alliances for Smart Energy Worldwide
JISF: Japan Iron & Steel Federation

6.AJEEP SCHEME 2

Basic Process of Implementation of the AJEEP Scheme2

Step 1:

The ACE shall collect and submit to ECCJ the project proposals from each ASEAN Member States (AMS), and each proposal should have been preliminarily feasibility-studied and includes a clarification of theme of EE&C Technologies & Products and the outline of the project.

Step 2:

ECCJ review and assess the project proposal and select the suitable themes. After selecting the theme, ECCJ organize the ECCJ Expert Team.

Step 3:

Regarding the selected themes, the ECCJ Expert Team will implement on-site survey together with the ASEAN EE&C project experts, and the last day of the activity the Intensive–Meeting will be held to report of the proposals based on the results of the survey with sharing the information of the latest and advanced technologies and products.

Step 4:

The projects will be further studied and implemented by the ASEAN countries including the companies which participate this program.

Step 5:

This program establishes the system to register these consultants (Experts) who experienced the activities from Step 1 to 4 above.

6.AJEEP Scheme 2

Activities implemented in Philippines

(1) Revisit to Building of Mall audited 2013 for Follow-up

○ Participants:

- 5 engineers and staff of “M” Mall, 1 DOE*1, 1 ACE and 4 ECCJ

○ Outcomes:

- The EE & C measures recommended in 2013 (cooling tower renovation, outdoor air intake control, etc.) and their own measures were implemented to get the successful results.

(2) Courtesy Call to the Department of Energy

- A Courtesy call to DOE to meet the Secretary of DOE.
- The AJEEP activities in Philippines were reported to the Secretary



Participants of Mall revisit



Participants of Mall revisit



Courtesy Call to DOE

6.AJEEP Scheme 2

Activities implemented in Philippines

(3) Energy Audit of Sugar manufacturer in Food Industry

○ Participants:

- More than 10 engineers of Sugar manufacturing company, 1 DOE expert, 1 ACE staff and ECCJ experts.

○ Outline of the activity:

- Audit was concentrated to the bagasse boilers of Sugar Refined Process. Air ratio control to the boiler and Inverter introduction to the pump were recommended.
- Audit result and recommendation were presented to Factory Director and Vice President.

(4) Intensive Seminar-Meeting

○ Participants

- 70 participants coming from food industry including the sugar industry, ESCO companies, DOE, ACE and ECCJ.

○ Outline of the activity

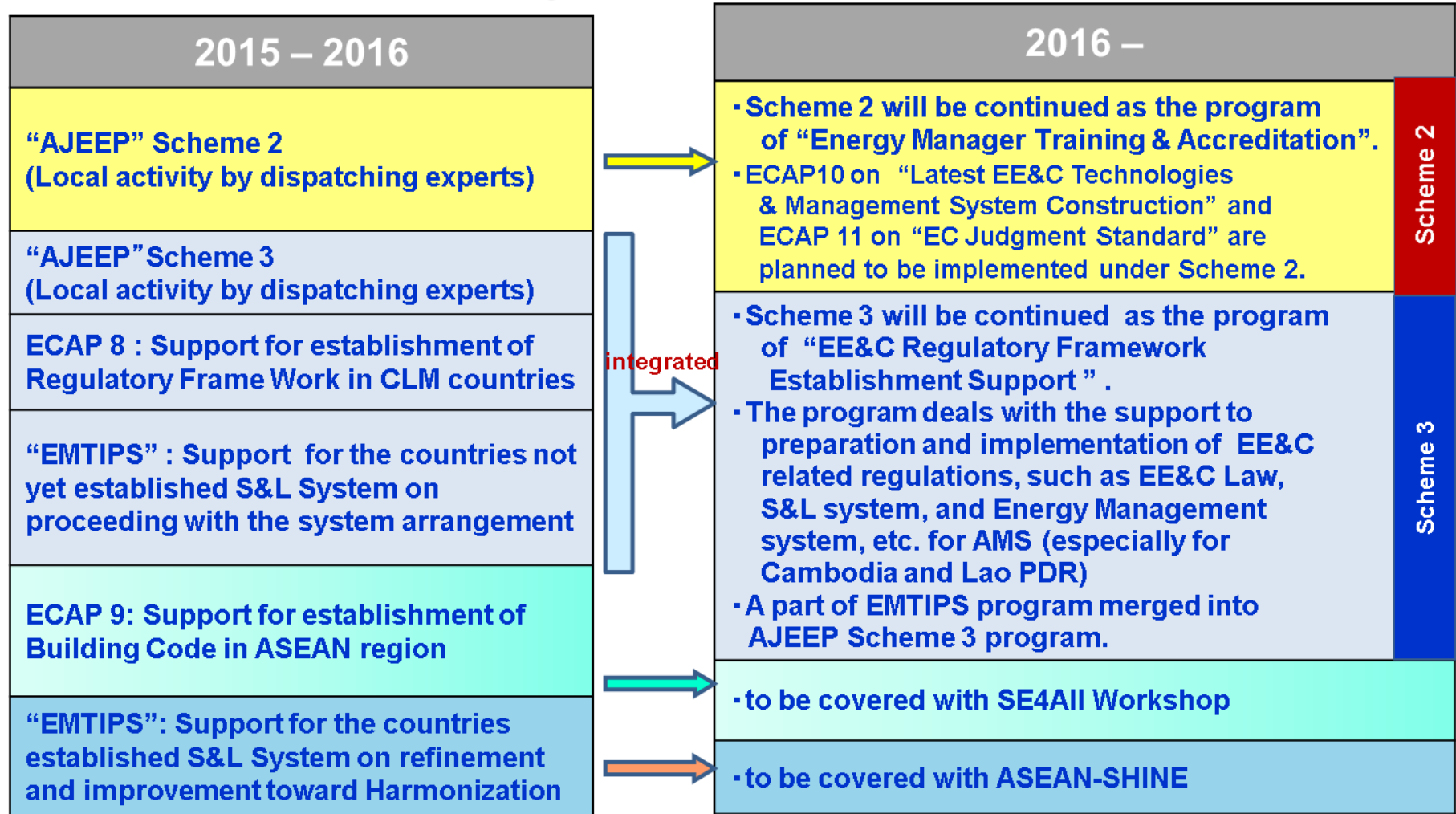
- This activity provided to the participants with information on the best practices and advance technologies on EE&C in the food industry.



7.AJ-EMTIPS

Future Direction of AJEEP & EMTIPS Activity

Transition Policy of AJEEP & EMTIPS in Future



6. AJEEP Scheme 2

Energy Manager Training & Accreditation Program

Objectives of the Program

- **To improve the quality of trainers for Energy Management Training**
 - 120 persons' capacity building in 4 years
- **To build up or refine the Energy Manager Accreditation System in each AMS**
 - Construction and Improvement of Energy Manager Accreditation System by the certificated trainers who have completed the AJEEP Scheme 2 Program
- **To satisfy the required number of the energy managers with sufficient quality in accordance with the Road Map developed by each AMS respectively**
 - Road Map Preparation
 - Check of the situation of the system operation and the quality of Energy Managers
- **To enhance Incentive for keeping sustainability of Energy Manager capacity building in each AMS**
 - The award/certification to the person who have completed the Program from ACE and ECCJ on behalf of METI
 - Publishing of the names of the certificated trainers on the ACE Web Site
 - Authorization of certified Energy Manager in Energy Conservation Law or Legislation

6. AJEEP Scheme 2

Concept of Energy Manager Training & Accreditation Program

Inception Meeting

1. Schedule Confirmation
2. Textbook Check, Teacher Check, Curriculum Check
3. Order each country Road Map : Participants, Organization, Number

Lecture Course : Basic Technology, System Construction (to be implemented as ECAP10)

1. Basic Education : Thermal & Electrical , Regal Framework
2. Latest Technology : Inverter, Heat Pump, Regenerative Burner
3. Management System Construction : Accreditation System
EC Judgment Standard

Practical Training Course

1. Practical Training at Training Center in Thailand / Vietnam
2. Actual Training at Real Factory in each country
3. Data Analysis, Make report

Wrap-up Meeting

1. Presentation of Actual Training Result
2. Certification of Energy Manager
3. Next Year Activity Confirmation : Road Map Check,

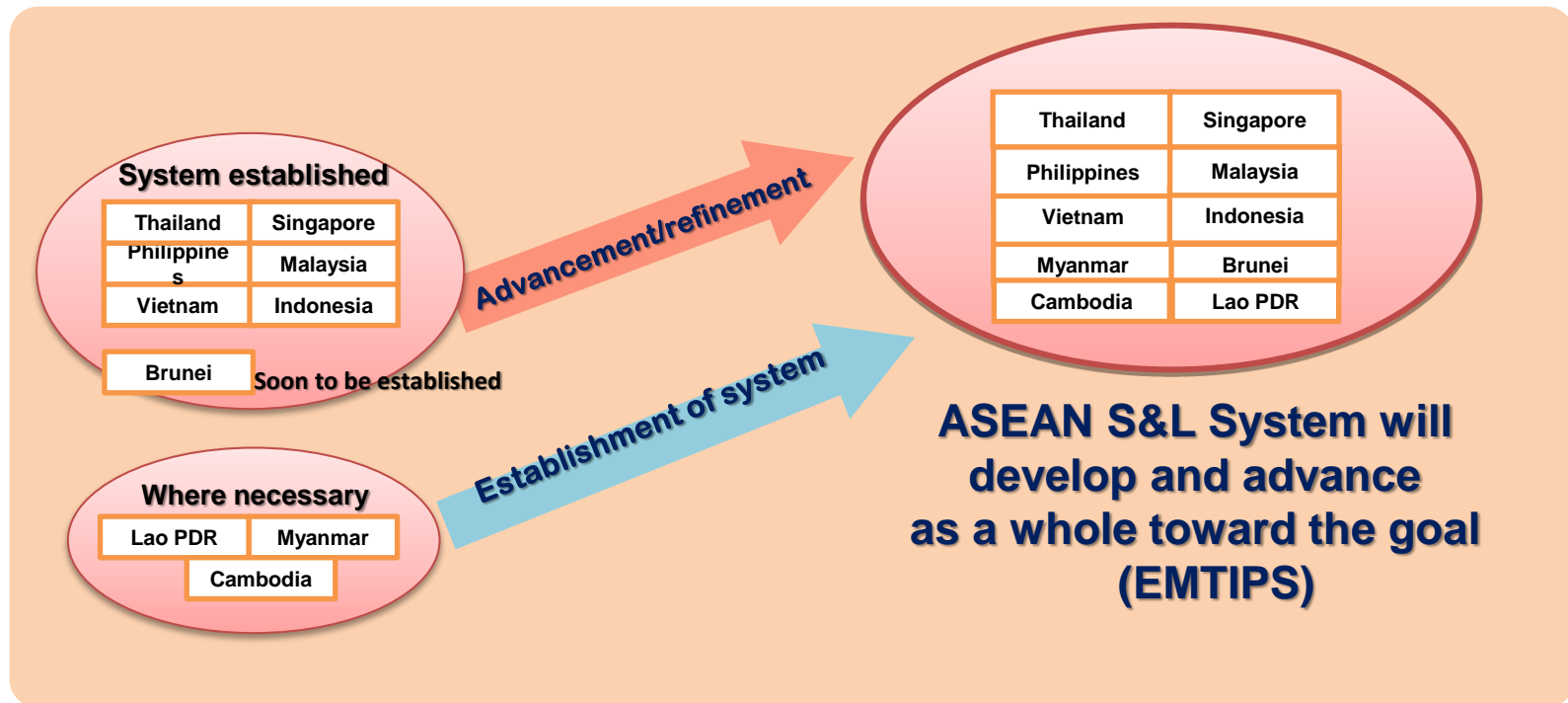
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7.AJ-EMTIPS

Background and Purpose of AJ-EMTIPS-2

➤ Concept of the activities

- Advancement or refinement of S&L systems in the developed countries
- Establishment of S&L systems in countries in need

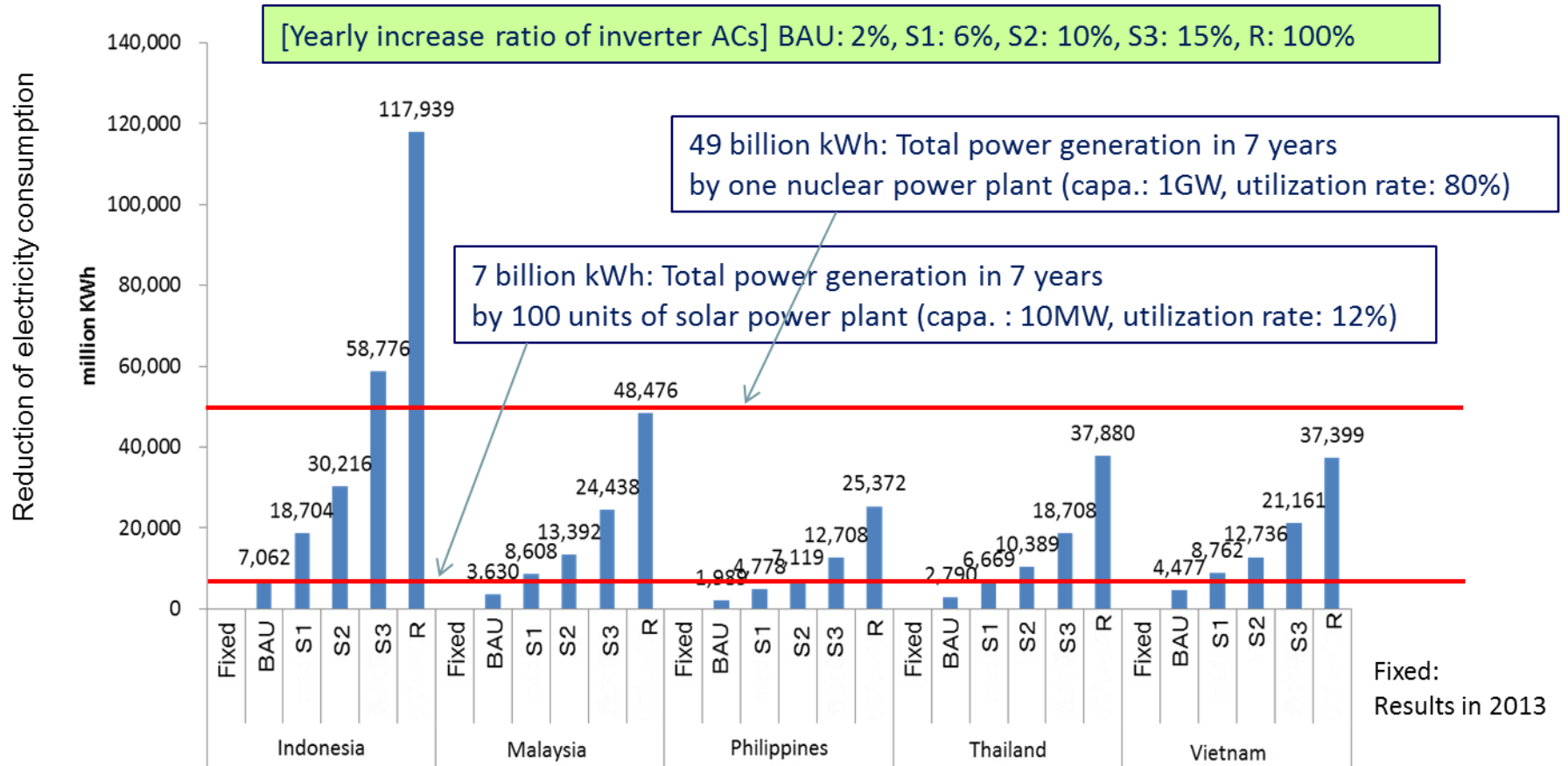


7.AJ-EMTIPS

Background and Purpose of AJ-EMTIPS-3

Expected Result of EE AC Dissemination

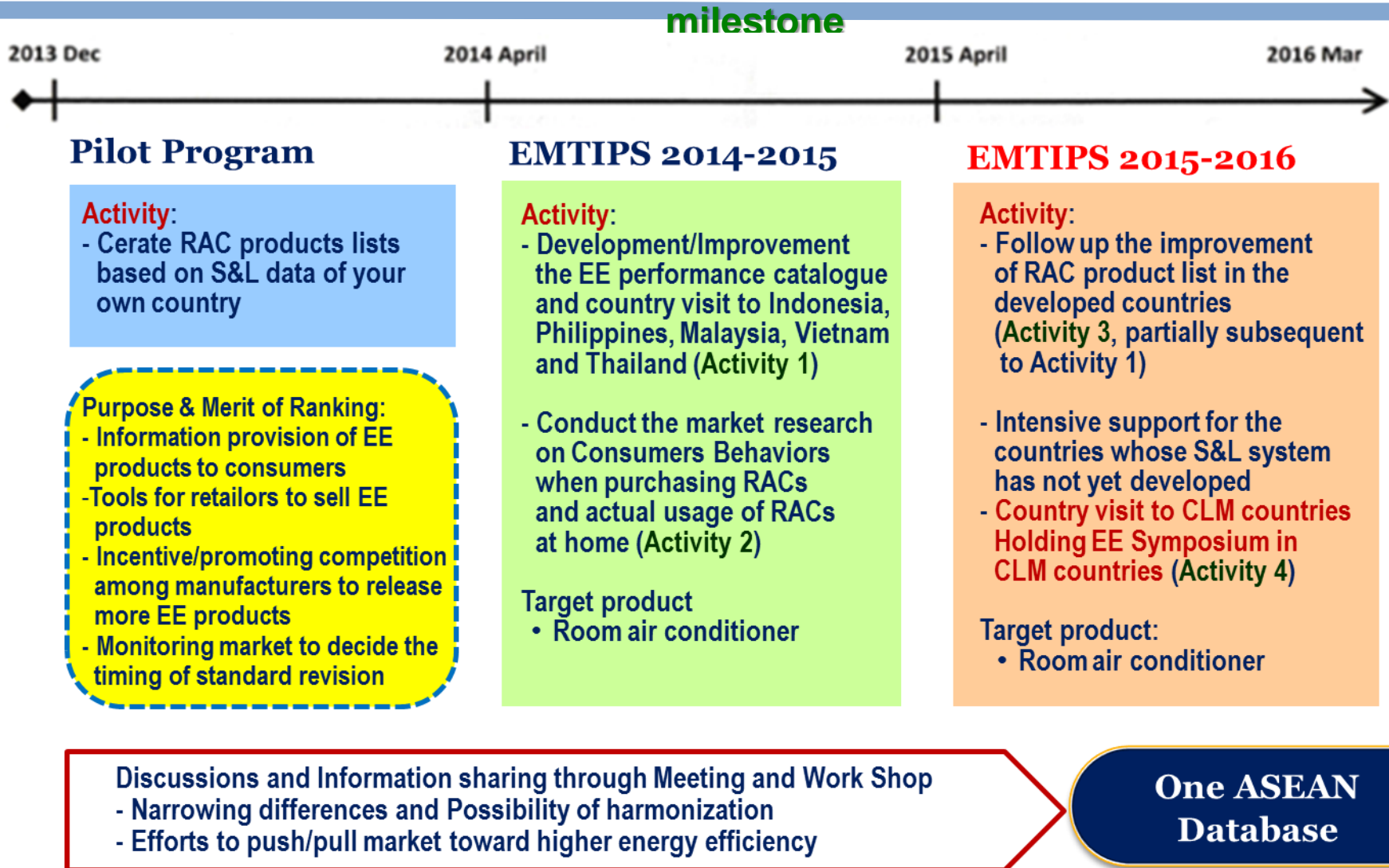
- Replacing fixed ACs with inverter type contributes largely to saving electricity consumption as show below(reduction of electricity consumption during 2014 to 2020)



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7.AJ-EMTIPS

Activities of AJ-EMTIPS from 2013 to 2016



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8.Raising Awareness

ENERGY CONSERVATION GRAND PRIZE AWARD



Purpose

- Disseminate Energy Conservation Awareness
- Promote Energy Efficient Products
- Develop Energy Conservation related Industry
- Construct Energy Conservation Oriented Society

History

- ECCJ started in 1975 as a government funded award program
- From 2011 restarted as ECCJ's independent award program

Category

- BP-Energy Conservation Practice (at factories & buildings)
- BAT-Energy Efficient Products / Business Models

Evaluation

- Innovative?
- Energy efficient?
- Resource saving / Recyclable?
- Marketable?
- Environmentally friendly / Safe?

Schedule

From May to July

Application

In October

Public Presentation
Competition

In next year January

Award Ceremony

1st Evaluation:
Document
Reviews

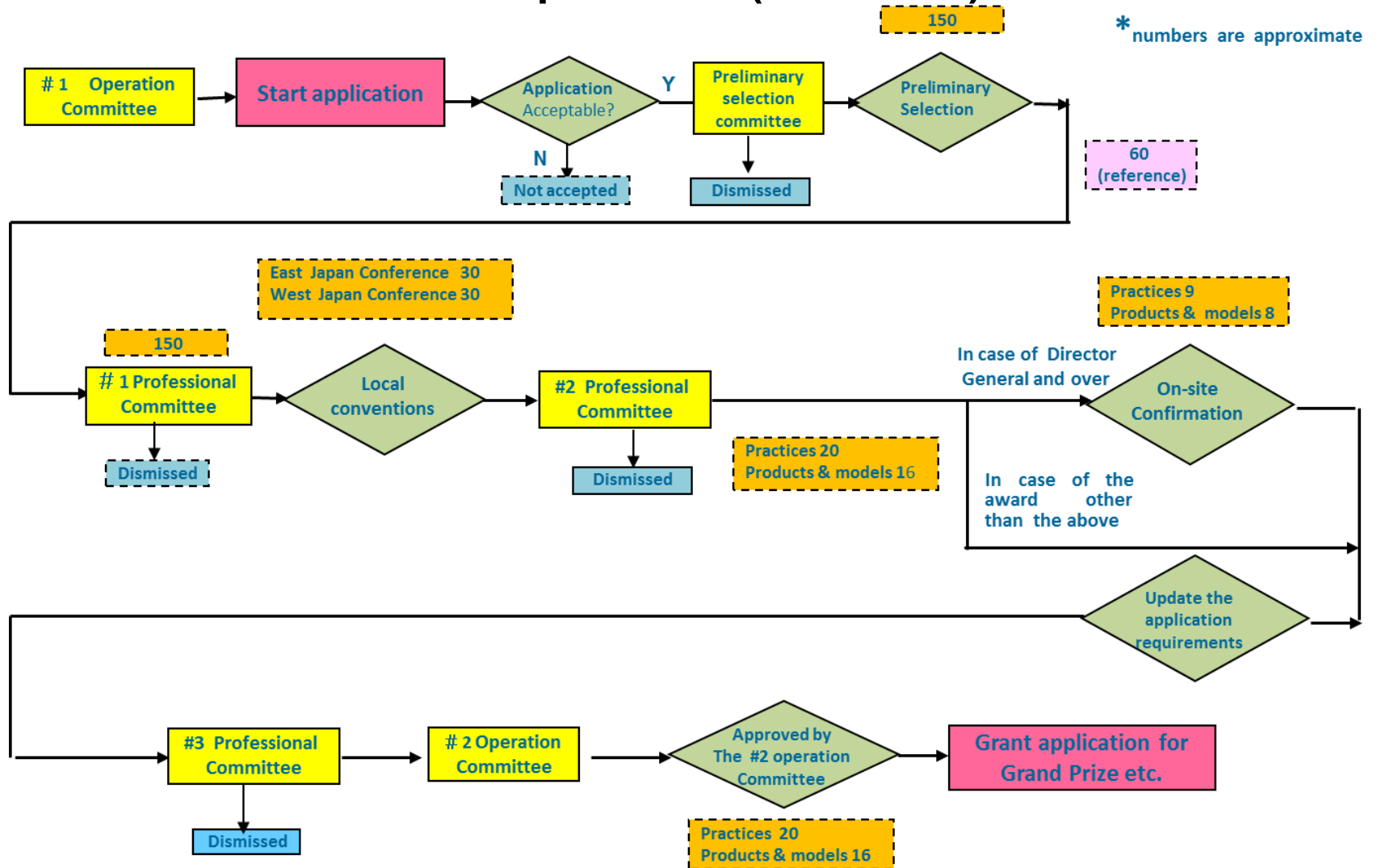
2nd Evaluation:
Questions from
Judging Committee

Optional Evaluation:
Site visit by Judging
Committee

8.Raising Awareness

ENERGY CONSERVATION GRAND PRIZE AWARD

Selection procedure(flow-chart)



8.Raising Awareness

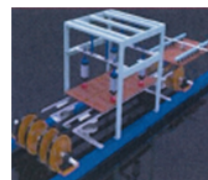
Assistance for the establishment of Asean Energy Award

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
III . Industry (Small and Medium: Annual Energy Consumption < 30 million MJ)	
Winner	Khao C.P. Company Limited (Wangdaeng Factory) (Rice Mill) , Thailand
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>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	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.

8.Raising Awareness

Top Tens Task Group under IPEEC

IPEEC

International Partnership for
Energy Efficiency Cooperation

- An autonomous intergovernmental entity whose members include Australia, Brazil, Canada, China, the EU, France, Germany, India, Italy, Japan, Mexico, the Russian Federation, South Africa, South Korea, the UK, and the States.
- Works through dedicated Task Groups to design and implement technical work programs. They accelerate the adoption of energy efficiency policies and practices and are funded directly by participating members

<IPEEC Initiatives>

BEET	Building Energy Efficiency TG(task group-以下同じ)
EMAK	Energy Management Action Network for Industrial Efficiency
GSEP	Global Superior Energy Performance Partnership
IPEEI	Improving Policies Through Energy efficiency Indicators
SEAD	Super-Efficient Equipment and Appliance
Top Tens	Top Ten Energy Efficiency Best Practices and Best Available technology
WEACT	Worldwide Energy Efficiency Action through Capacity Building and Training
EEFTG	Energy Efficiency & Finance TG
TTG	Transport TG
NDTG	Networked Devices TG

<G20 EE Action Plan>

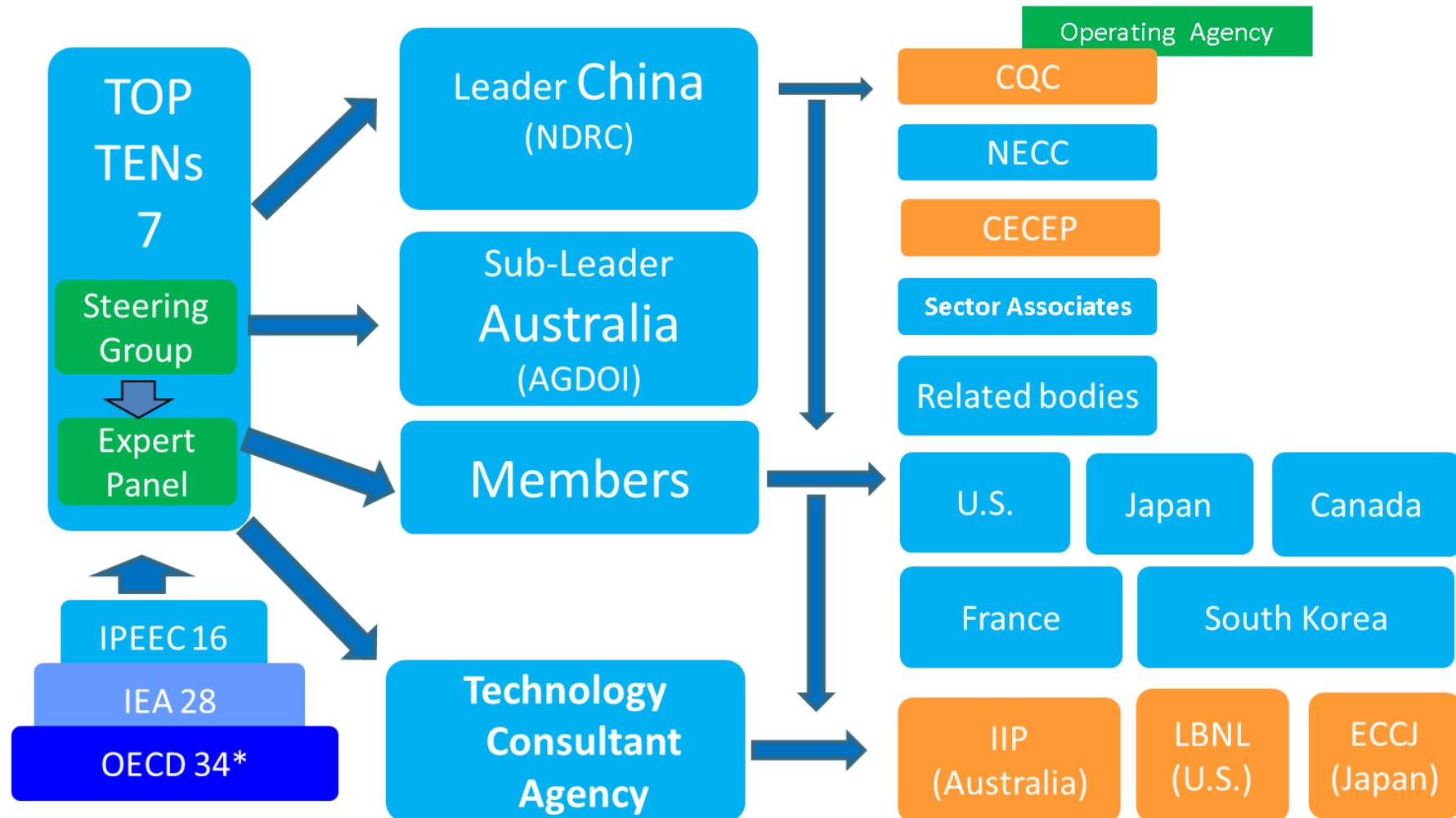
Existing work streams	Buildings
	Industry
	Generation
New work streams	Finance
	Networked devices
	Transport



- Through TOP TENS, members will share the available information on best practices and technologies and create a refined list from this information, which will have broad international relevance and will be applicable to end-users in developed and emerging economies.
- The goal of this work is to:
 - develop methods and approaches for the evaluation, dissemination and promotion of technologies and practices; and
 - develop and maintain the TOP TENS' lists on BPs and BATs.
- China (Chair), Australia (Co-Chair), France, Japan, South Korea, Canada and U.S. are member countries of TOP TENS Task Group, and all IPEEC members are invited to join the Task Group.

8. Raising Awareness

Organization Chart of Top Tens TG



* number of membership countries

Technical Support

9.Way forward

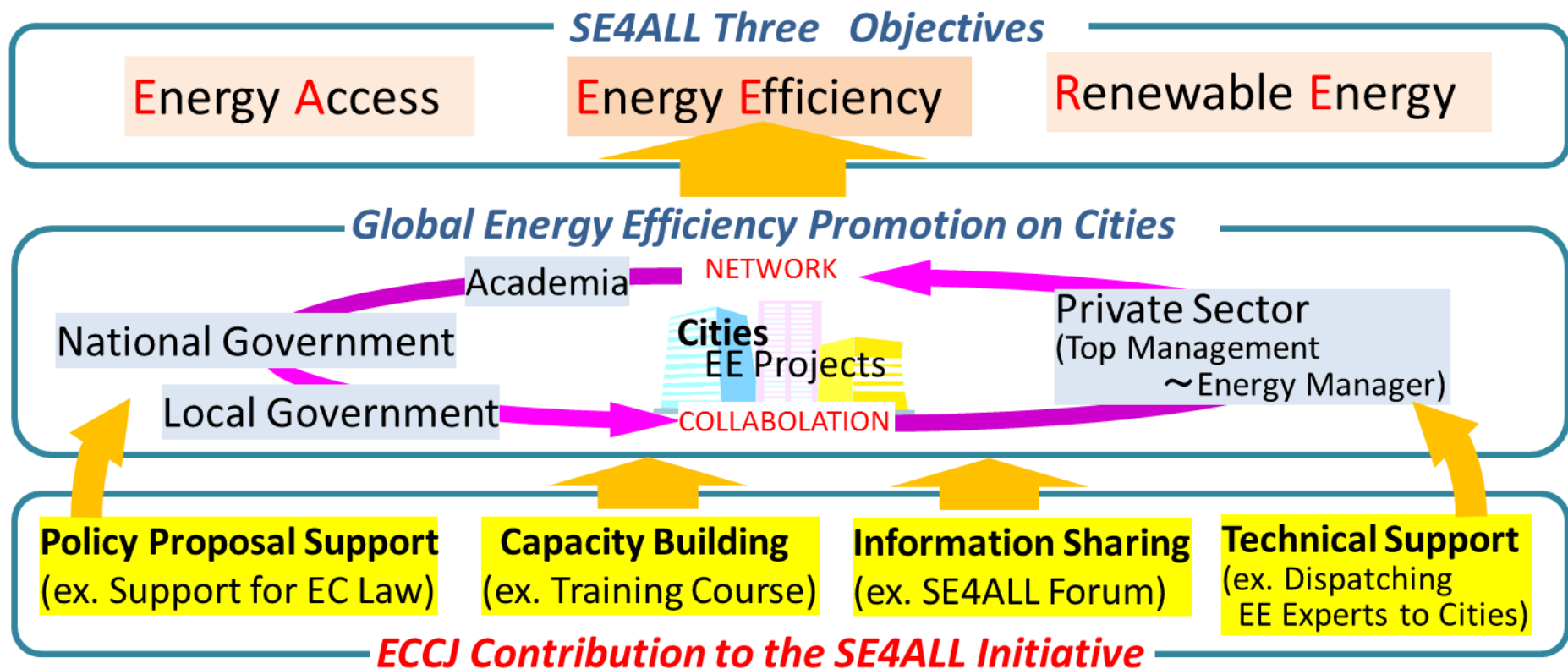
<Our view points >

- We at ECCJ as an Implementing agency of dissemination and training of energy efficiency is in itself destined to be a kind of bridge between government (public) and private sector, in line with a diagonal vector in the roadmap shown in P7.
- From now on, same as before we would like to continue hands-on efforts accordingly with 3G methodology in Japanese that is to say, making much of Genba(site), Genbutsu(reality), Genjitsu(fact).
- As we discussed, things to be done should be done in line with the natural order of things i.e. “Hoist your sail when the wind is fair.”
- On top of it, we would like to mention a little bit of our new activity which is SE4All working together with the UN, which you can see in the appendix.

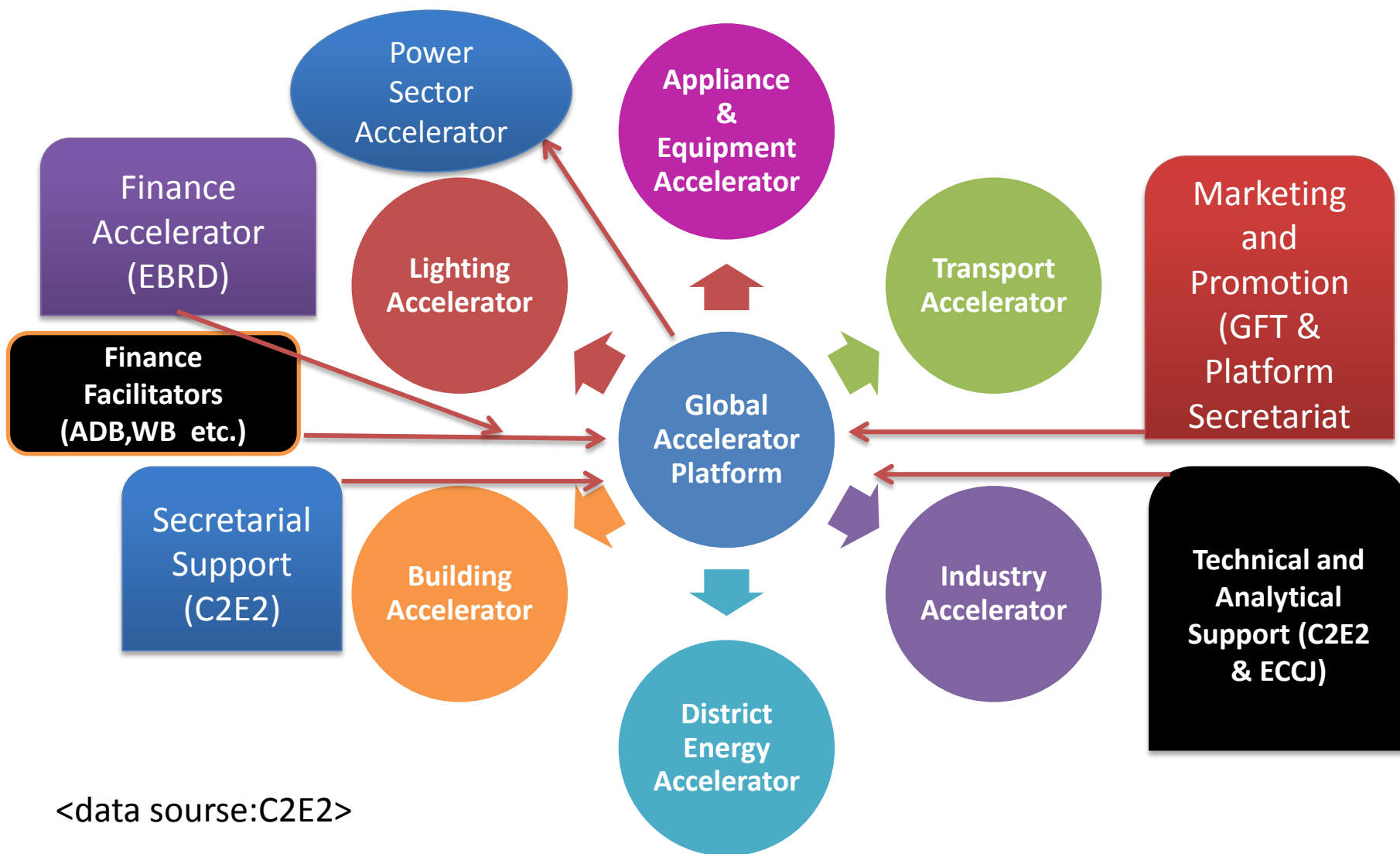
Appendix SE4All related activity

ECCJ Activities, as the SE4ALL Energy Efficiency Facilitating Hub

ECCJ contributes to the SE4ALL initiative by utilizing the experiences in the international cooperation on EE promotion.

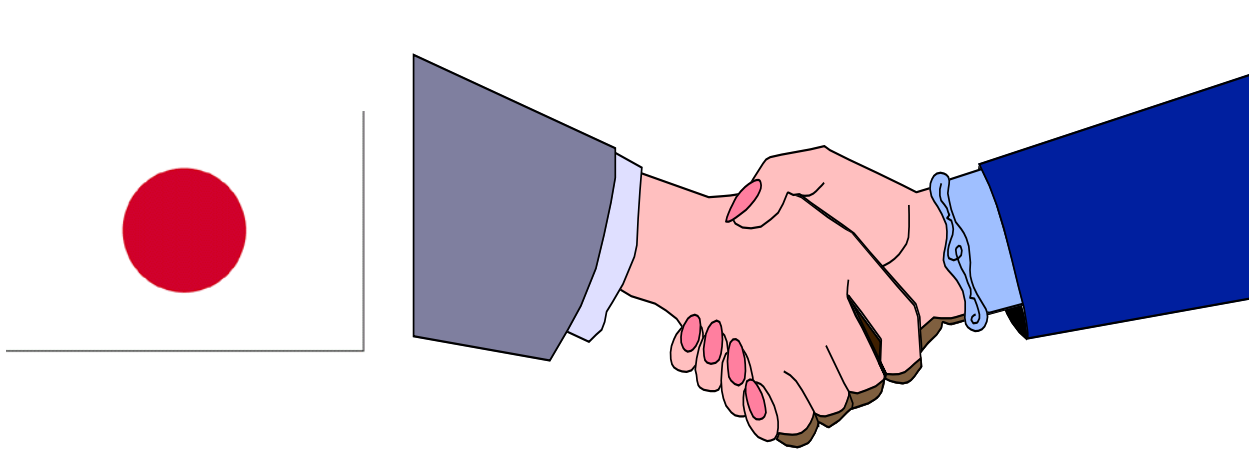


Appendix SE4All related activity



<data source:C2E2>

Thank You Very Much



For More Information;
The Energy Conservation Center, Japan
<http://www.eccj.or.jp> <from 1996>
Asia Energy Efficiency and Conservation Collaboration Center
(Established in April 2007)
<http://www.asiaeec-col.eccj.or.jp>
Japanese Business alliance for Smart Energy-Worldwide
(Established in October 2008)
<http://www.jase-w.eccj.or.jp>

The Energy Conservation Center, Japan
Since 1978

The Symbol of Energy Conservation
Since 2005
ECCJ has been spread the symbol mark with the visual image of a four-leaf clover which is thought to bring happiness named as “SMART CLOVER”, representing everyone’s energy conservation activities.