

Overview of Energy Conservation Center, Japan (ECCJ) Organization and Function to Promote EE&C

June, 2018

**International Cooperation Division
The Energy Conservation Center, Japan**

Overview of ECCJ

Core organization responsible for promotion of energy efficiency & conservation (EE&C) mainly in Japan. Its activities were authorized by the Diet when the EE&C Law was enacted.

Legal status :	General Incorporated Foundation
Establishment :	1978
Office location :	Tokyo Head office & 8 branches
Supporting member :	2,200 companies
Staff :	90 persons (as of May 2018)
Business size :	20 million US\$ in 2016 FY (2.066 billion yen)

● Main Activities

EE&C Promotion (Factories, Building, etc.)	① Audit services/Factory Investigation ② Provision of information on EC case examples ③ Support for countermeasures for CO2 reduction
Provision of EE&C Information	① Dissemination of EE&C practices/activities in local communities ② Provision of Information on energy efficient equipment/energy saving label ③ Provision of information on EE&C through publications
Capacity Building, EE&C Solution	① Educational seminars and qualification system ② Energy Grand Prize Award ③ EE&C technical support tool
International Cooperation	① Experts dispatch and training program in Japan ② Collaboration with JASE-World (Japanese Business Alliance for Smart Energy Worldwide) ③ International collaboration activities
Qualification of Energy Manager	① Implementation of National Examination and training for energy managers

METI-ECCJ Collaboration Framework

Ministry of Economy, Trade and Industry (METI)

Agency for Natural
Resources & Energy

Energy Efficiency and Renewable Energy Dep.

Regional Bureaus of Economy, Trade
and Industry
(9Regions)

International
Affairs Office

Energy Conservation
Section

Collaboration

Collaboration

International
Cooperation
Division

Technology
Division

Promotion &
Training
Division

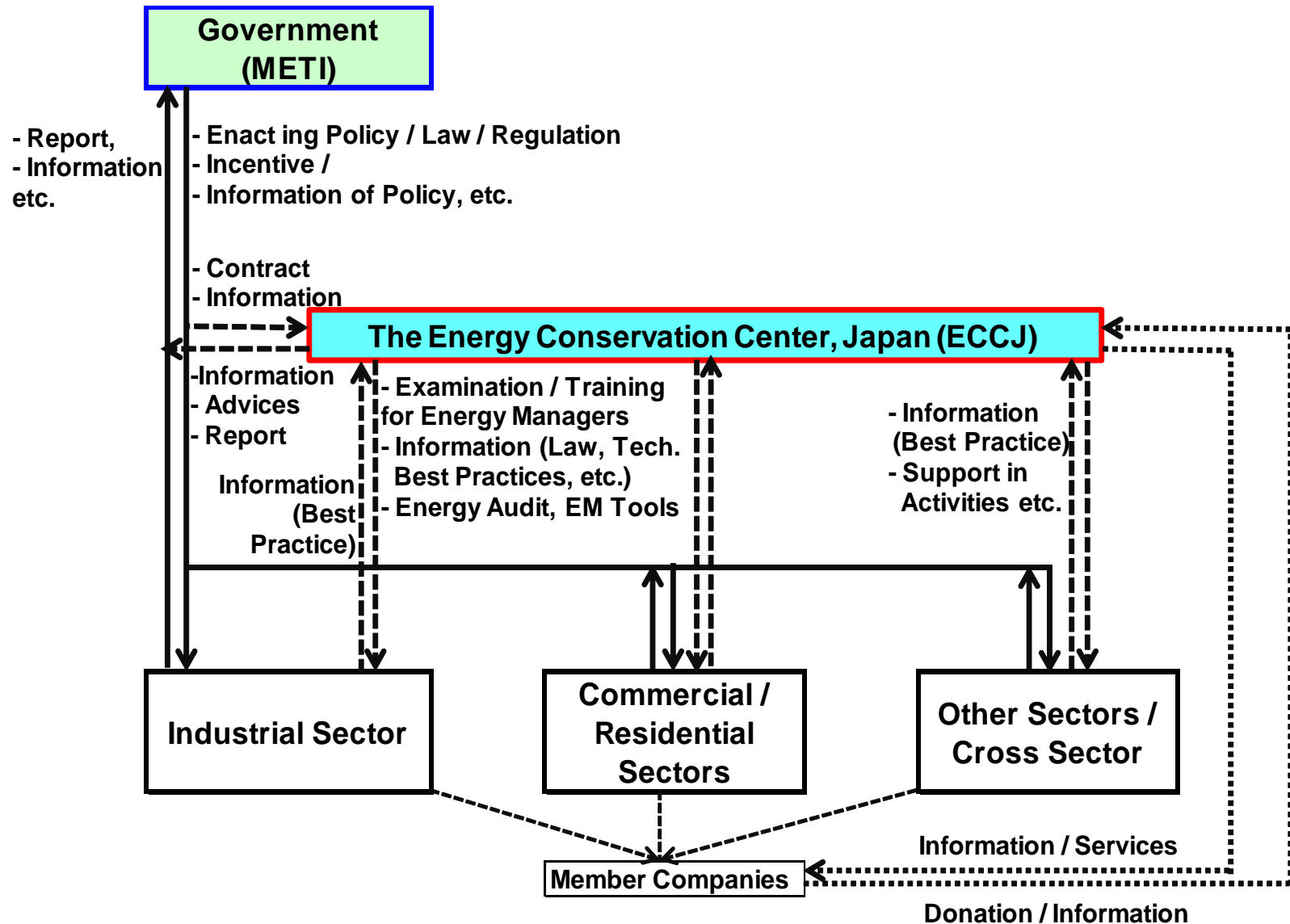
ECCJ Branches
(8 Branches)

Energy Management
Examination & Training
Center

ECCJ

METI
⇕
ECCJ

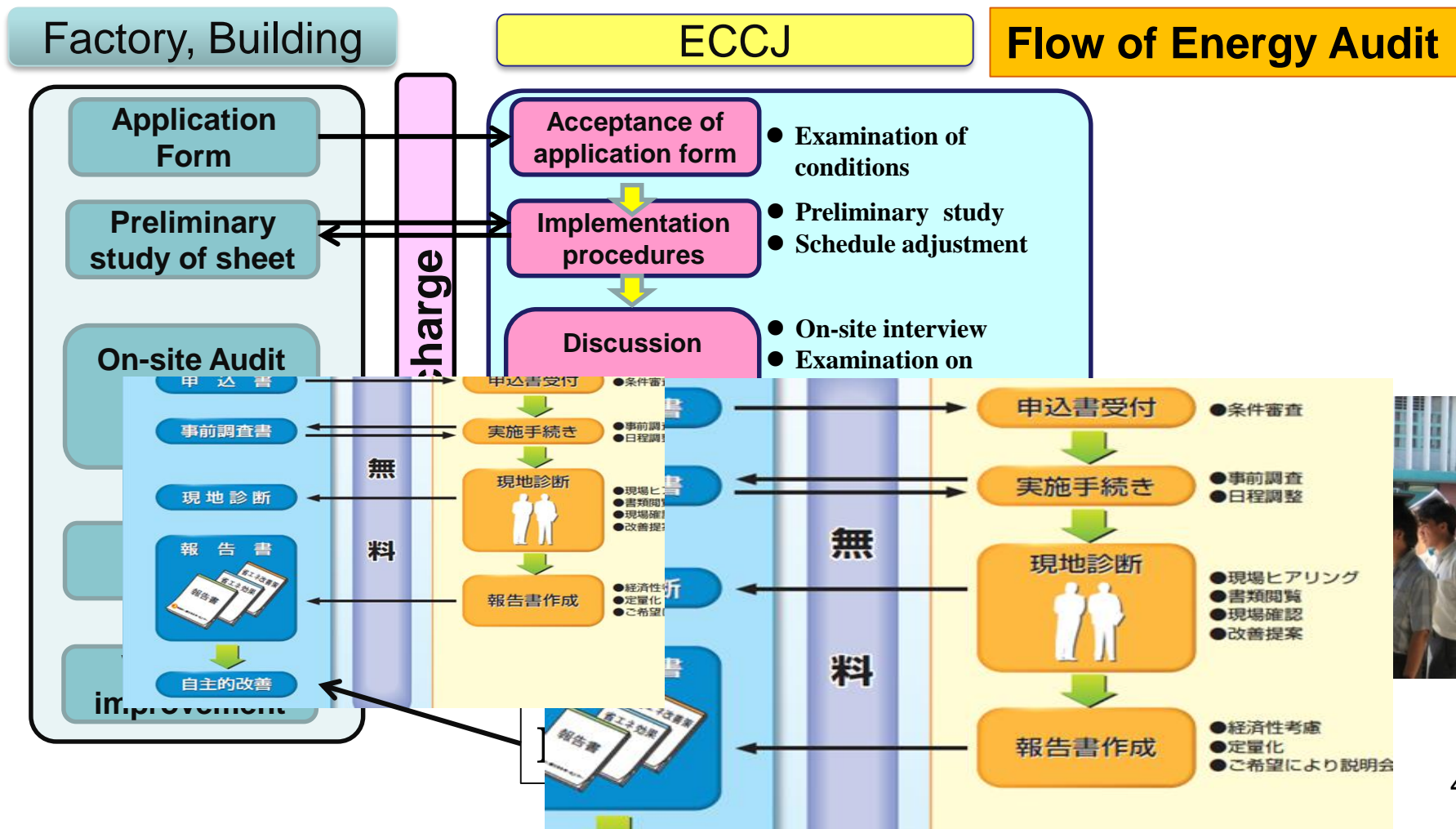
ECCJ's Role : Bridge Between Government and Private Sectors



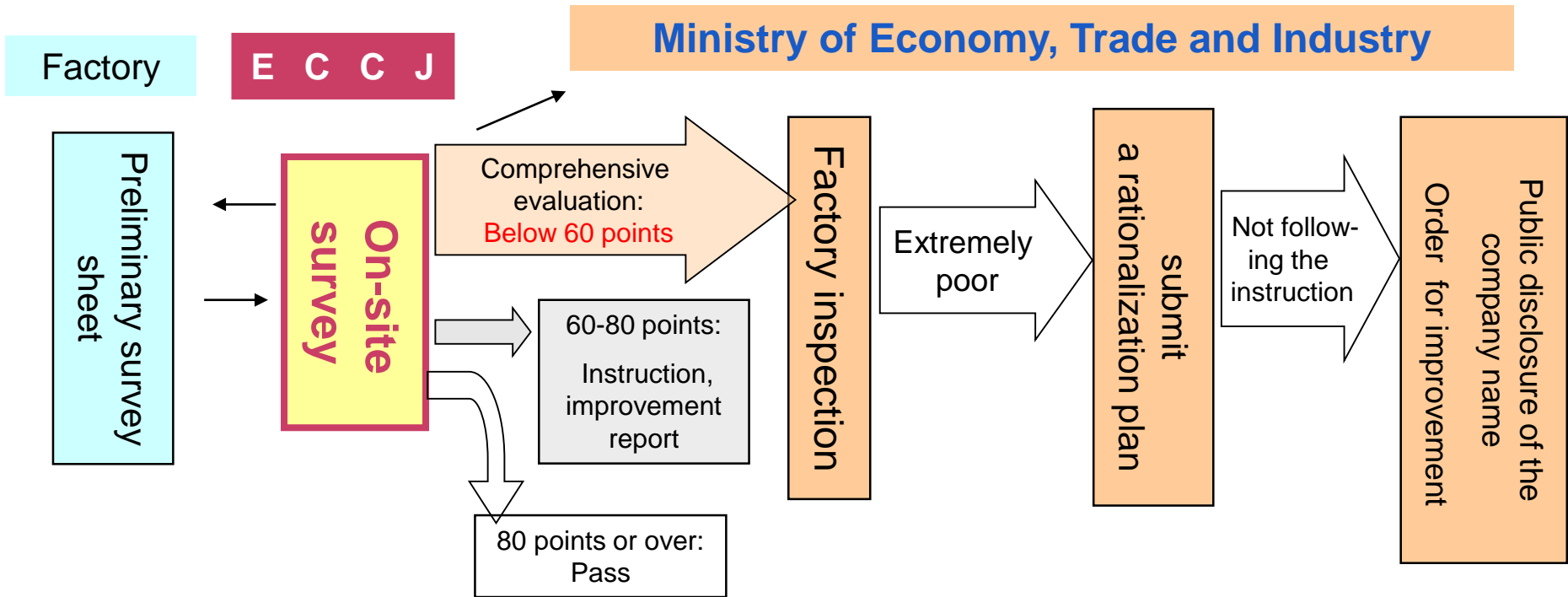
Energy Audit for Factory / Building (for Free)

Energy Conservation Technology Division

- Free energy audit for small energy consumers SMEs (Subsidized by METI)
- ECCJ dispatch 2 experts (thermal / electrical) to the factories and buildings



Factory Investigation on Behalf of METI



- ECCJ investigates Factory under Assignment by the government (METI) and reports result to METI

Dissemination Outcome of Energy Conservation Audits

- For manager, energy management responsible persons, “good effective examples that is triggered by energy audit”, “recent energy efficient technologies” and viewpoints of EE&C promotion are presented.

Aiming at the small- and medium-sized businesses across Japan, we provide information as to the viewpoints of energy conservation promotion and specific implementation methods, such as the successful energy conservation cases, taking the energy conservation audit as a starting point, and up-to-date energy conservation technologies.

The presentation meeting was held in 10 places in FY2014 and 15 places in FY2015 nationwide, giving the following lectures.

- ① Presentation of effective energy conservation cases at the factories, business establishments, etc. by a business operator or examiner.
- ② Outline of the energy conservation audit and support measures
- ③ Presentation of support measures, etc. for energy conservation investment



Support of EE&C Promotion for Municipalities & SME's

Objectives and outline

- Offer considerate support for promoting energy conservation in small and medium enterprises, etc. such as by conducting energy conservation audits and creating regional platforms for consultation on energy conservation. ECCJ is responsible for (1) and (2), while SII for (3) and (4).

(1) Energy conservation audit

Conducts audits free of charge for small and medium enterprises, etc. on a potential of energy conservation.



(Examples of Energy Conservation Audit)

- Improving operations of air conditioners in offices
- Promoting efficient use of waste heat from factories



(2) Actual support for EE&C promotion at municipalities etc.

Sends instructors for seminars on energy conservation at local public organizations, etc. free of charge. Provides information by supplying a collection of cases for energy conservation audits and booklets on energy conservation techniques.

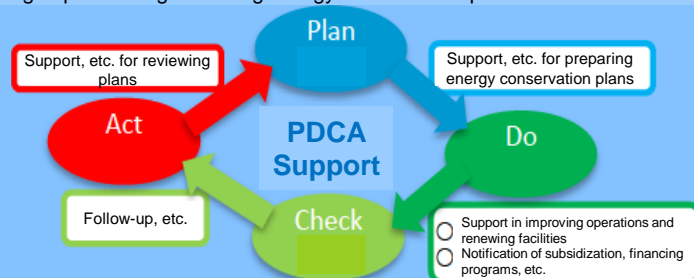


(Booklets)

(3) Regional platform for EE&C consultation on

Deploys consultation bases on energy conservation collaborating with regional experts across the country to provide considerate support toward energy conservation activities by small and medium enterprises, etc.

- “Collaborating Entity for Energy Conservation Support” established by energy conservation support providers through cooperation with regional experts (such as chambers of commerce, autonomous bodies, consultants, and financial institutions)
- Provides consistent and considerate support for activities by small and medium enterprises ranging from grasping current energy usage to preparing/implementing/reviewing energy conservation plans.



(4) On-line support for EE&C promotion

Sends instructors for seminars on energy conservation at local public organizations, etc. free of charge. Provides information by supplying a collection of cases for energy conservation audits and booklets on energy conservation techniques


- Registers regional platforms for consultation on energy conservation, autonomous bodies, financial institutions, etc. as contacts for providing energy conservation support.
- Publishes information on energy conservation.



(Portal Site)

Dissemination of EE&C to Household Residence sector

ECCJ is supporting promotion toward “**Smart Life**” for consumers

		Target and measures	Tools
Consumers	Education programs	A) for students (elementary schools) ; energy conservation activities B) Model schools C) for teachers ; to teach energy saving activities to students	<input type="checkbox"/> distribution of guidelines ,text books <input type="checkbox"/> seminars
	Competition Award	D) for students ; contest of poster and essay	
	Publicity	E) Summer/Winter campaigns F) “Energy Conservation Navigator” = Visualization G) Public acknowledgements through commercial medias H) Exhibitions I) Disclosure of information on internet	<input type="checkbox"/> Posters <input type="checkbox"/> Pamphlets <input type="checkbox"/> TVCM, Radio <input type="checkbox"/> Web site <input type="checkbox"/> Promotion goods
	Capacity building	J) training of promoters K) “Home Energy Conservation Experts”	<input type="checkbox"/> textbooks <input type="checkbox"/> seminars
Manufacturers and Retailers	Publicity	L) Top Runner Program, Labeling Program ; promotion of EE equipment	<input type="checkbox"/> Pamphlets (Ranking Catalog) <input type="checkbox"/> Web site (Database)
	Award	M) for manufacturer ; EC Grand Prize N) for retailer ; Retailer Assessment Program	<input type="checkbox"/> Web site



Dissemination of Energy Efficient Equipment and Appliances - Advisory Board of "Top Runner Program" -

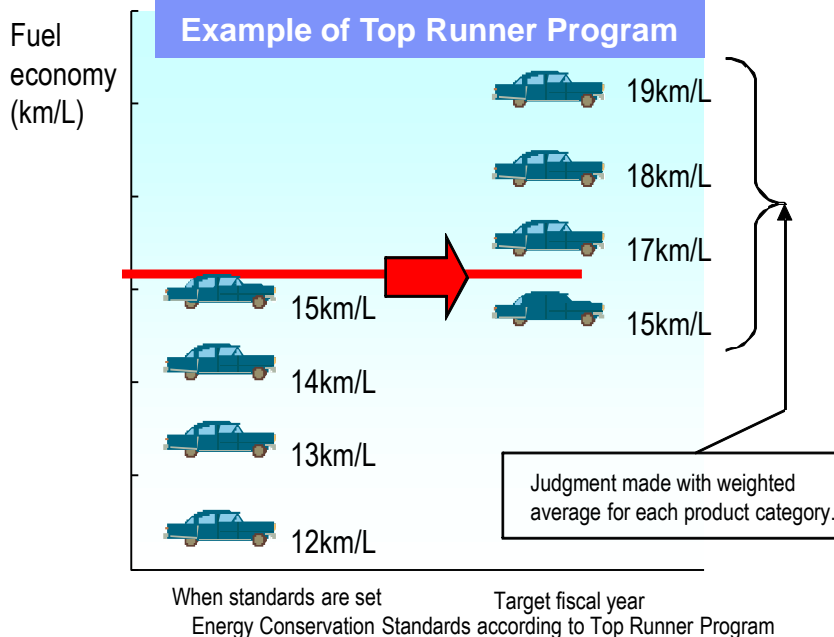
- Under the Energy Conservation Law, energy efficiency target for household appliances and vehicles are determined by **Top Runner Method** (not MEPS), and manufacturers as well as importers are obligated to meet the standards.

<Equipment subject to Top Runner Program according to Energy Conservation law>

(1) Promotion for further improvement on energy consumption efficiency of machinery and equipment is conducted, by stipulating performance of currently commercialized products with most superior energy consumption efficiencies (Top Runner products) with considerations for future prospects of their performances and technical developments, as fuel economy standards for automobiles and judgment standards (hereinafter referred to as Energy Conservation Standards) of manufacturers for improving performance of specific equipment such as electrical equipment (household electrical appliances and OA equipment).

(2) Furthermore, specific equipment that are subject to stipulations of the Top Runner Program are to be machinery and equipment that consume energy and satisfy three of following requirements (Article 78 of Energy Conservation law):

- ① Machinery and equipment that are used in large quantities in Japan.
- ② Machinery and equipment that consume significant amount of energy when used.
- ③ Machinery and equipment for which improvement of energy consumption efficiency is particularly important (those that have room for improving efficiency).



Specified equipment (32 equipment and materials)

- | | | |
|--|----------------------------|----------------------------------|
| 1. Passenger vehicles | 13. Gas cooking appliances | 25. Printers |
| 2. Air conditioners | 14. Gas water heaters | 26. Heat pump water heaters |
| 3. Fluorescent lighting fixtures and bulb-type fluorescent lamps | 15. Oil water heaters | 27. Three-phase induction motors |
| 4. TV sets | 16. Electric toilet seats | 28. Bulb-type LED lamps |
| 5. Copying machines | 17. Vending machines | 29. Showcases |
| 6. Computers | 18. Transformers | 30. Insulation materials |
| 7. Magnetic disk units | 19. Electric rice cookers | 31. Sashes |
| 8. Freight vehicles | 20. Microwave ovens | 32. Multi-paned glazing |
| 9. VCRs | 21. DVD recorders | |
| 10. Electric refrigerators | 22. Routers | |
| 11. Electric freezers | 23. Switching units | |
| 12. Space heaters | 24. Multifunction devices | |

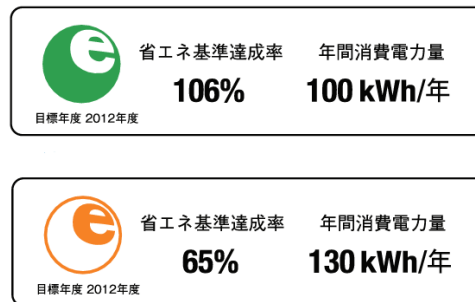
Enforced in 1999

Mandatory display by manufacturers / importers



Started in 2000

Energy Saving Labeling Program



Started in 2006

Retailers' Labeling Program



➤ In order to support consumers to select and purchase energy efficient products, ways of providing information have been improved and revised to convey energy efficiency performance more comprehensibly.

PR activities of EE&C measures

➤ Publicity

省エネ広報の実施

メディア広報の実施

テレビ・ラジオ・ポスターCM、新聞・雑誌・インターネット掲載等による省エネ普及啓発・情報提供



省エネ情報提供

Ranking Catalog

・EC standard achievement rate (percentage)
・Energy Consumption (Heating, Cooling, Annual Performance specification)
・展示会の開催
・省エネ展示会
・講習会の開催による省エネの取り組み、機器導入の普及啓発・省エネに係る情報提供。

メディア広報の実施

テレビ・ラジオ・ポスターCM、新聞・雑誌・インターネット掲載等による省エネ普及啓発・情報提供



エアコン 省エネ性能一覧

一覧表のAPF、消費電力、目安電気料金はJIS C 9612:2005に基づく数値となっています。

エアコン 冷房能力2.2kW (6～9畳) 寸法規定

メーカー または ブランド		製品名称	標準品 電圧 電流 100V	お設 計 品	省エネのついでに省電 (kWh)			省電 率 (%)	冷房		暖房		省 電 率 (%)	省 電 率 (%)	
					省エ ネ 率 マ ーク	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	省エ ネ 率 マ ーク (省 電 率 (%))	
★★★★ (多段階評価)															
パナソニック	エコナビ搭載エアコン	CS-DK22AC		★★★★	省 電 率 マ ーク	124	7.2	13,500	380	155	2.5	420	457	4.5	61
パナソニック	エコナビ搭載エアコン	CS-K22AC		★★★★	省 電 率 マ ーク	124	7.2	13,500	380	155	2.5	420	457	4.5	61
★★★★ (多段階評価)															
シャープ	プラズマクラスターエアコン	AY-D22R		★★★★	省 電 率 マ ーク	120	7.0	13,900	430	158	2.5	435	472	4.2	63
ダイキン工業	Aシリーズ	AN22R4S		★★★★	省 電 率 マ ーク	115	6.7	14,500	450	167	2.5	450	491	4.4	65
ダイキン工業	うるまのり	AN22R4S		★★★★	省 電 率 マ ーク	115	6.7	14,500	450	167	2.5	450	491	4.4	65
東芝	大速冷	RAS-221GR		★★★★	省 電 率 マ ーク	117	6.8	14,300	450	167	2.5	450	491	4.4	64
日立	スタンレス・クリーン 白くまの	RAS-Z220		★★★★	省 電 率 マ ーク	117	6.8	14,300	405	153	2.5	435	495	4.5	64
富士通ゼネラル	ノクリアZシリーズ	AS-Z220-W		★★★★	省 電 率 マ ーク	120	7.0	13,900	385	149	2.5	445	481	4.2	63
富士通ゼネラル	Nシリーズ	AS-W220-W		★★★★	省 電 率 マ ーク	117	6.8	14,300	425	162	2.5	460	486	3.7	64
富士通ゼネラル	MEシリーズ	AS-Z24ME2		★★★★	省 電 率 マ ーク	115	6.7	14,500	400	164	2.5	445	558	4.4	65
富士通ゼネラル	ノクリアMシリーズ	AS-M220-W		★★★★	省 電 率 マ ーク	115	6.7	14,500	440	164	2.5	470	494	3.8	65
富士通ゼネラル	Vシリーズ	AS-V220W		★★★★	省 電 率 マ ーク	115	6.7	14,500	450	169	2.2	375	489	3.6	65
三菱重工	ビーバーエアコン	BRK225RW		★★★★	省 電 率 マ ーク	117	6.8	14,300	420	147	2.5	445	501	4.1	64
三菱電機	壁かけ	MSZ-ZW224		★★★★	省 電 率 マ ーク	118	6.9	14,100	440	156	2.5	465	483	4.1	63

★★★★ (多段階評価)

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★★★★ (多段階評価)

ECCJ's qualification programs

-Professional Auditor, Energy Conservation Expert (Building & Home)

- These programs were established several years ago to promote capacity building for energy-saving for various sectors.

ECCJ certifies people who **have total knowledge of “energy conservation for homes”**

- Knowledge about energy, home electric appliances, structure and equipment of homes, life style for EE,
- Expected to utilize the knowledge for activities in local communities or companies.

<Target>

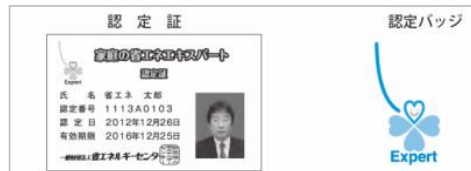
Citizens, Students, employees or staff members of municipal bodies, organizations, companies, etc.

<The effective period of the pass>

5 years

<Expansion of the exam>

Advanced exam. for instructors



Certificate for 'Home Energy Conservation Experts'



Text Book



Collection issues of past exam

Energy Conservation Grand Prize Award

➤ Overview of the Awarding system

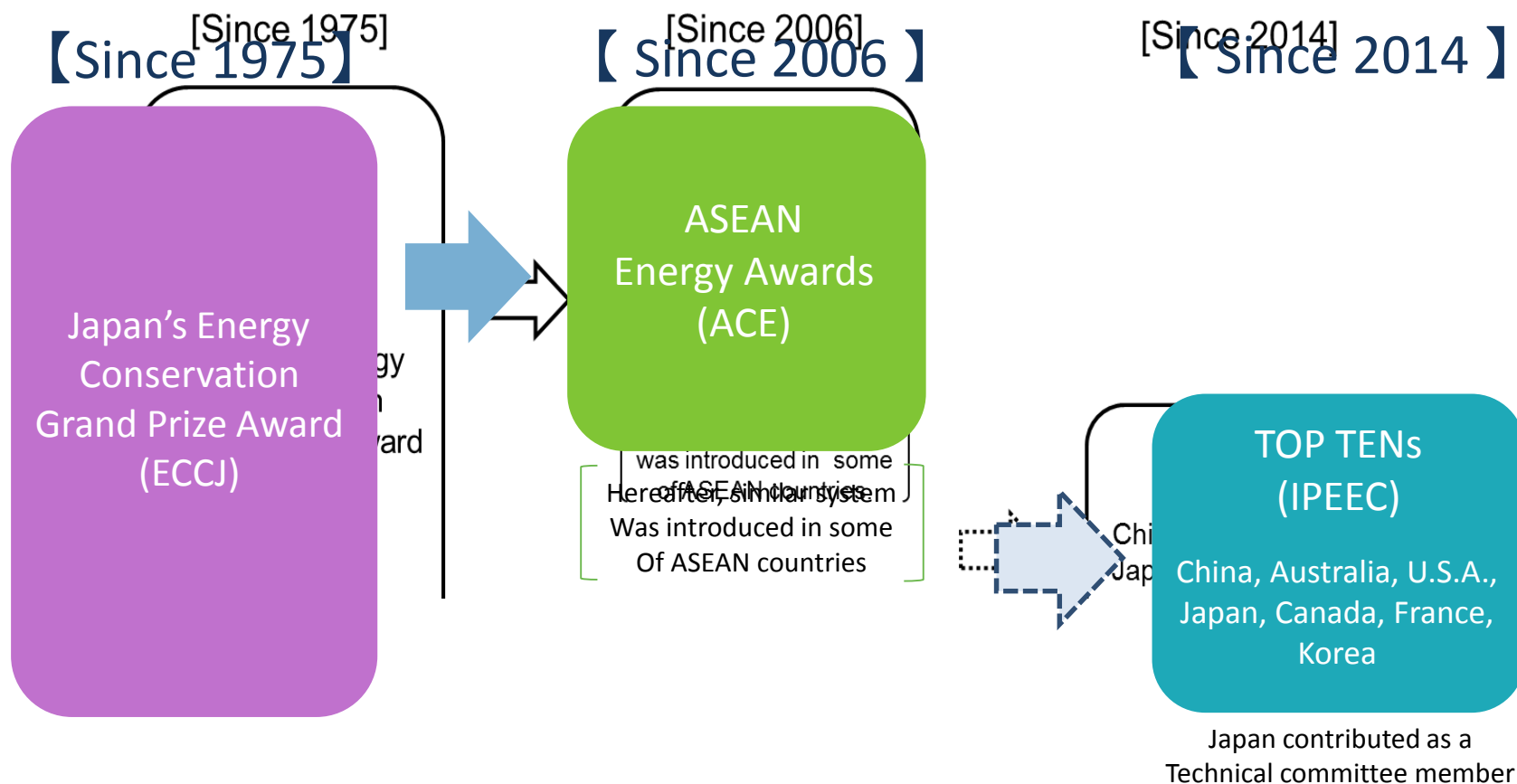
Purpose	<ul style="list-style-type: none">■ Raising Awareness & Capacity Building of EE&C■ Promote Energy Efficient Products■ Develop Energy Conservation related Industry■ Construct Energy Conservation Oriented Society	
History	<ul style="list-style-type: none">■ ECCJ started in 1975 as a government funded award program■ From 2011 restarted as ECCJ's independent award program	
Category	<ul style="list-style-type: none">■ Best Practice■ Products / Business Models	<ul style="list-style-type: none">~1975 (awarded case 1500 pcs)~1990(awarded case 500 pcs)
Evaluation	<ul style="list-style-type: none">■ Innovative?■ Energy efficient?■ Resource saving / Recyclable?	<ul style="list-style-type: none">■ Marketable?■ Environmentally friendly / Safe?
Schedule		



(continued) Expansion of the Award Program to the world

With the support of Japan, the award system (especially, examination committee system) similar to the Energy Conservation Grand Prize (best practices category) was established in ASEAN.

Japan also contributed to countries other than ASEAN (one of technical committee members of TOP TENS as shown below.)



EE&C Technical Tool

- ECCJ provide several kinds of energy-saving tool, to be downloaded from ECCJ's Website.

① **ECTT : Energy Consumption Target calculating Tool**

Finds the effect of energy consumption target calculated for commercial building as several energy saving measures are introduced.

② **ESUM : Energy Specific Unit Management tool**

Simulation of energy consumption many detail conditions (local weather data of the date) for commercial building.

③ **Setsudensim : Electricity saving measure simulator**

Finds the measure which reduces the maximums of electric power for commercial building.

④ **Ene-CAT : Energy Conservation Assist Tool**

To find the energy saving measures by visualizing Energy flow & loss rate in factory and building. Target items and energy to be saved can be clarified to revise EM Manual and Operation Manual.

⑤ **Others :**

- TECTT (Tennant building Energy Consumption Target calculating Tool)
- TUBE (energy tuning for building equipment)

International Cooperation

< Policy Proposal Assistance >

- Investigation of energy and energy conservation policy.
- Potential survey and feasibility study on energy conservation and reduction of GHG emission.

< Capacity-Building >

- Training course in Japan and abroad.
- Dispatching experts to overseas for seminars.

< Technical Cooperation >

- Factory diagnosis and improving advise based on measurements (plant survey, energy audit)
- Cooperation and support to establish and operate EE&C Centers or related organizations.

Training Program in Japan

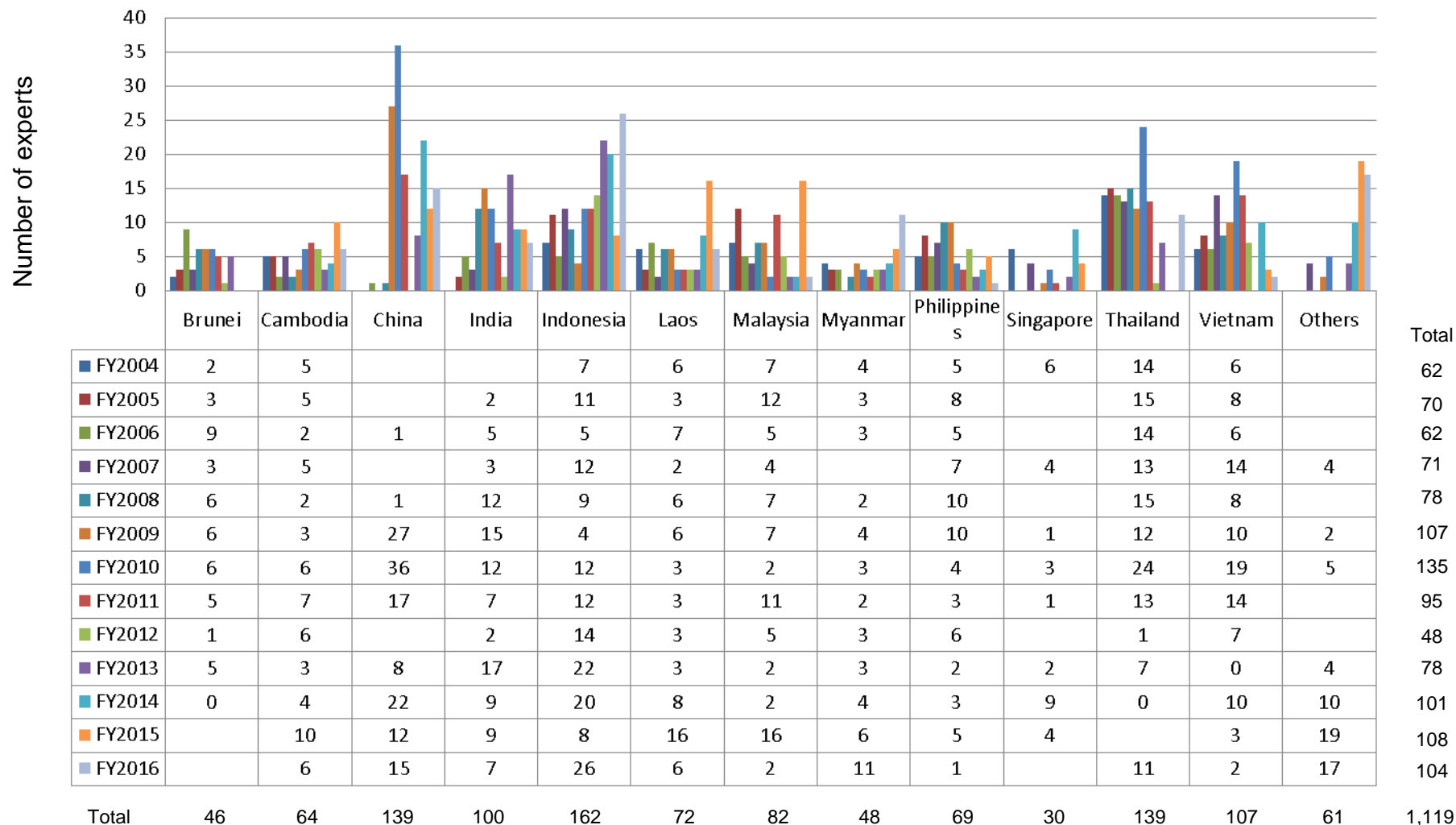


Energy Audit



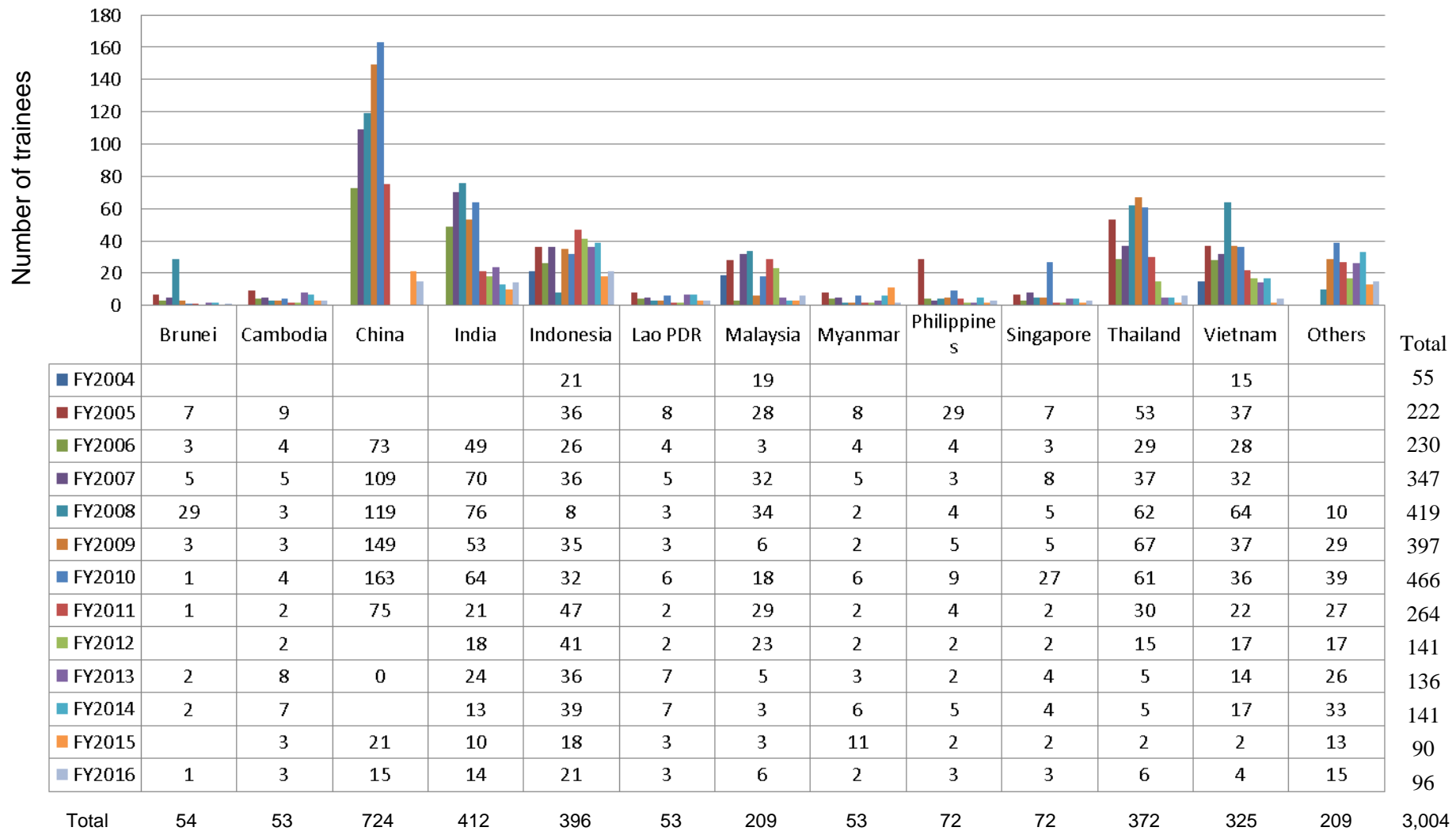
Dispatch of experts

ECCJ operates a program called “Dispatch of experts for factories and buildings” under government’s (METI’s) support. The chart below shows the record of the dispatch from FY2004 to FY2016.



Training Program in Japan

ECCJ operates training program related to energy conservation between the two nations and multilateral under government's (METI's) support. The chart below shows the number of trainees from FY2004 to FY2016.



International Cooperation (2)

➤ Japanese Business Alliance for Smart Energy Worldwide (Jase-World)

- Surveillance & Investigation on Energy Conservation Business
- Promoting introduction of energy efficiency equipment
- Participation to International exhibitions in the foreign countries

➤ Others

- IPEEC
- SEforALL
- Asia Energy Efficiency & Conservation Collaboration Center(AEEC)
 - Information service on EE&C.

Overseas visitors



Seminar presentations



International exhibition

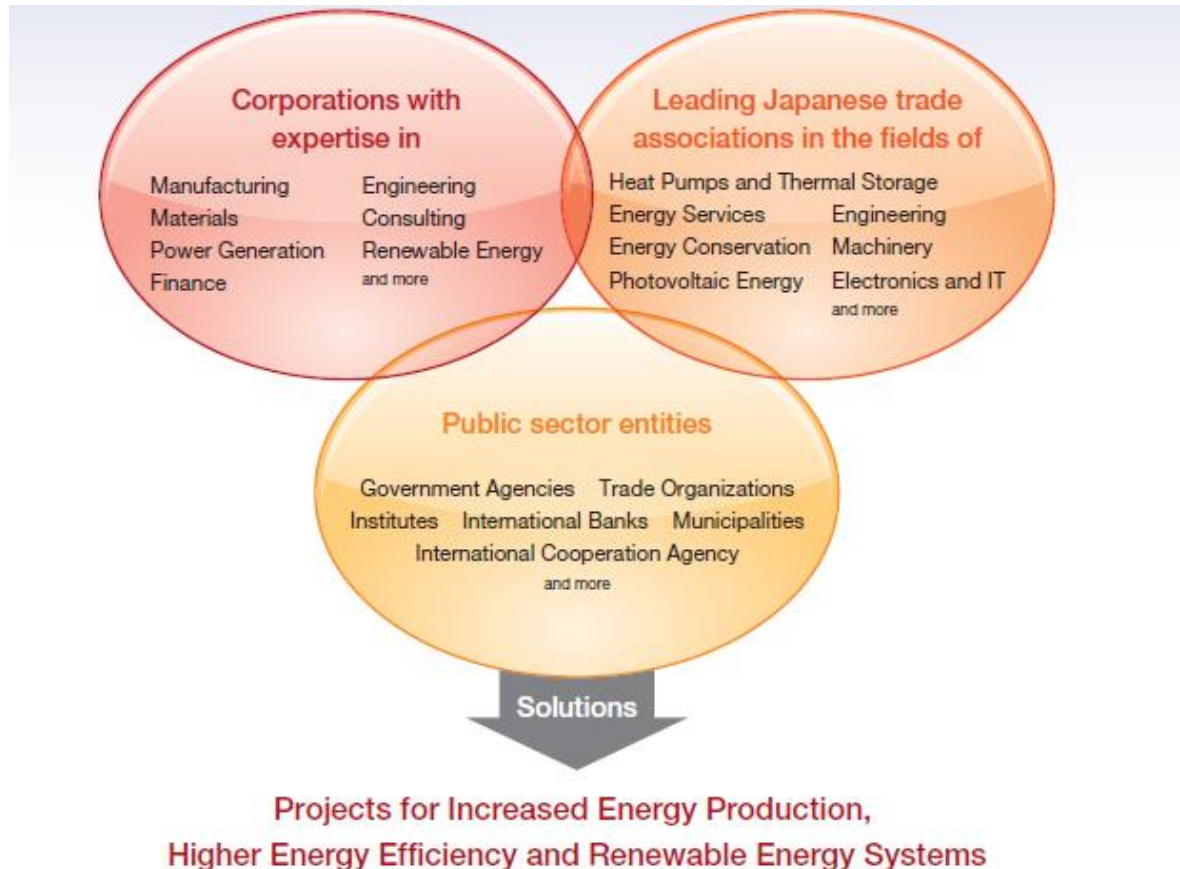


EC-workshop



Objectives of JASE-World

➤ Applying the Synergy of Japan's Private and Public Sectors to Create Solutions

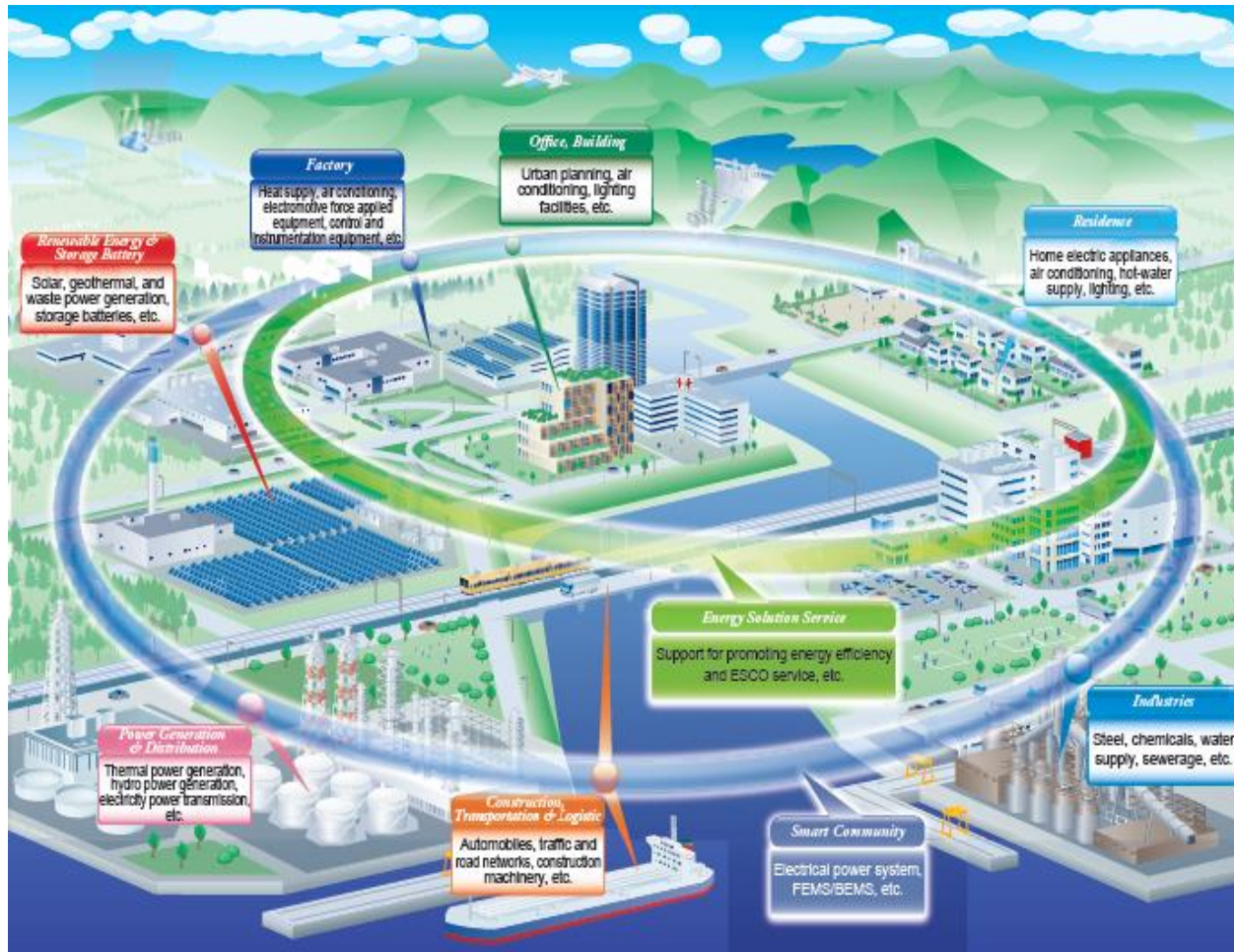
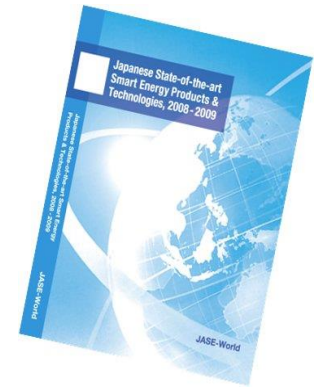


- JASE-World, was founded in 2008 to promote advanced energy initiatives and implement them in partnership with governments around the world.
- One of its major goals is to contribute to solving global-scale issues such as climate change, energy security and so on.

Japanese Smart Energy Products & Technologies

Accessible at website shown below;

<http://www.jase-w.eccj.or.jp/technologies/index.html>



- 187 Technologies
- 8 Business Fields in Industry, Commercial, Transport and residential Sectors
- Contacts Shown in Each Technology
- Easy Downloading from Website
- Widely Distributed through Embassies

International collaboration activities

➤ IPEEC, SEforALL and AEEC related activities

IPEEC/ EMAK Workshop (EMAK : Energy Management Action Network)

- The Eighth Workshop of Energy Management Action Network (EMAK), one of the IPEEC task group, was held as follows in Jakarta on February 3, 2017, organized by ECCJ and ACE.
- Theme: Recognized Energy Management Best Practices and Award Programs for Best Practices
- Participants: 90 persons including Indonesian government-related persons, and building and industry sector company-related persons
- Representative cases selected from BPs which received Energy Conservation Grand Prize, ASEAN Energy Award and Energy Management Leadership Award, were introduced to share the information of energy management best practices and strong points of each award system.



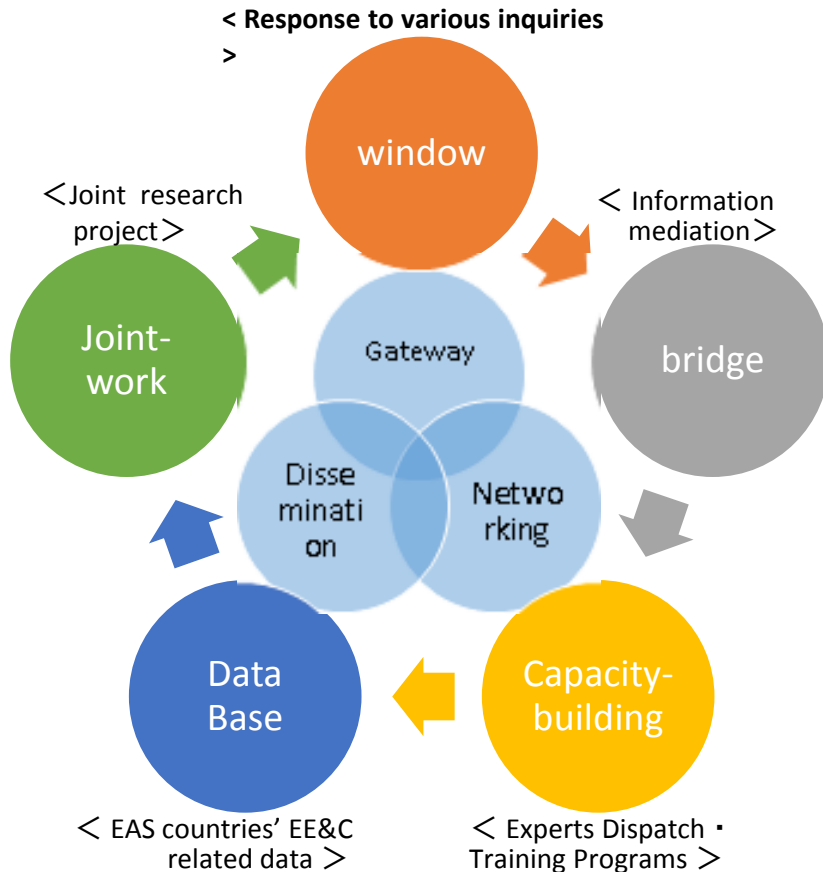
SE for ALL Workshop (SE for ALL : Sustainable Energy for All)



- Following the activities in the previous fiscal year, the SE for ALL Workshop organized by ECCJ, was held in Tokyo, between February 14 and 16, 2017, as described below.
- Theme: Discussion on building energy efficiency
- Participants: ASEAN eight countries, ACE, C2E2 (Copenhagen Centre on Energy Efficiency) etc.
- In Japan, the application of building energy standards will be made mandatory from 2017, and the benchmarking systems relating to building energy efficiency are also being gradually introduced. Although each ASEAN country has different condition, the workshop contributes to the improvement of building energy efficiency in ASEAN countries.

AEEC (Asia EE & C Collaboration Center)

- AEEC was founded in 2007 to provide one-stop window service for various inquiries concerning EE&C in order to contribute to the promotion of effective use of energy in Asian countries through information sharing.
- Our aim is to provide one stop solution to the EE&C problems and issues at one point of contact.



< outline of one-stop service >

1. Gateway Function

Contact window (a last-resort) for anybody regarding any kind of EE&C related inquiries to work out the first-aid solution

<2016FY Results>

- WEB Access : 7,160
- Inquiries : 35

2. Networking Function

Providing prompt services based on a broad and in-depth network with various organizations that ECCJ has in the world including cooperation with JASE-World

3. Dissemination Function

Collecting EE&C related information to disseminate to relevant countries in terms of introductions of laws and policies succeeded in Japan, including the introduction of EE&C best practices in the area of buildings and factories, etc.

Information from
partnering institution



Qualification of Energy Manager

* ECCJ is assigned as the organization to carry out the state examination and training course by the government.

1. Examination to Qualify for Energy Manager

- ✓ Once a year
- ✓ 1 day

Applicants: 12,700 (2017)
Passed : 3,000
(persons/year)

Exam. Subjects

<General Knowledge>

<Thermal subjects>

<Electrical Subjects>

2. Training Course to Qualify for Energy Manager

- ✓ Once a year
- ✓ 6 day training &
1 day qualifying examination
- ✓ Background : 3 years experience

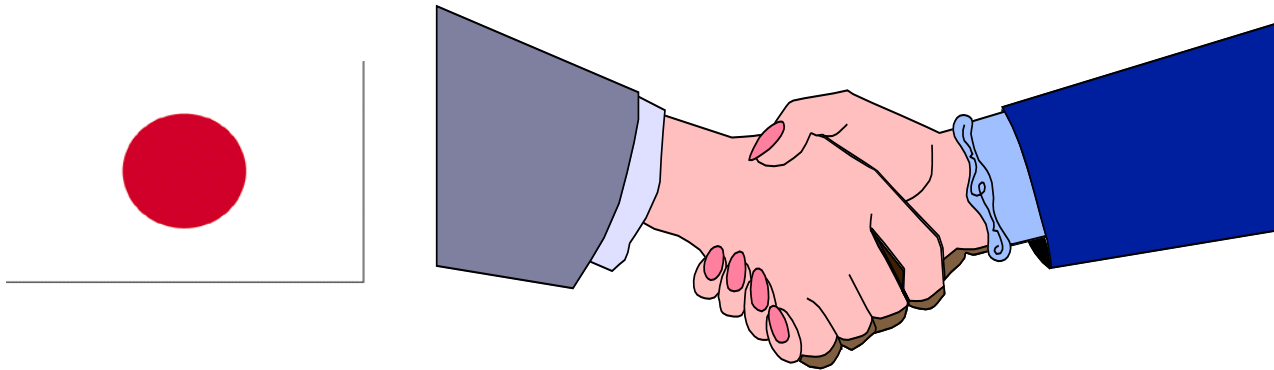
Applicants: 1,200 (2017)
Passed: 700
(Persons/year)

3. Training Course to Qualify for Energy Management Officers

- * Twice/year
- * 1-day training

Qualified persons: Approx. 7,000 (2017) persons/year

Thank You Very Much



省エネのシンボルです
SMART CLOVER

For More Information;
The Energy Conservation Center, Japan
<https://www.eccj.or.jp> <from 1996>

Asia Energy Efficiency and Conservation Collaboration Center
(Established in April 2007)
<https://www.asiaeec-col.eccj.or.jp>

Japanese Business alliance for Smart Energy-Worldwide
(Established in October 2008)
<https://www.jase-w.org/>

*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.

<Disclaimer>

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